



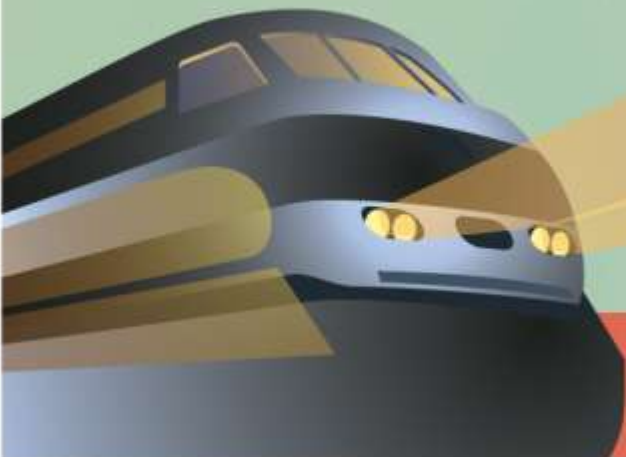
Central  
Florida  
Commuter  
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Second  
Supplemental  
Environmental  
Assessment  
with  
Second Addendum to  
Finding of No Significant  
Impact

Prepared by:  
U.S. Department of Transportation  
Federal Transit Administration  
  
and  
Florida Department of Transportation

Pursuant to:  
National Environmental Policy Act of 1969, 42 U.S.C.  
4332 (2)(c), and 49 U.S.C. 303; and in compliance with  
23 CFR Part 771

**September 2010**



U.S.DEPARTMENT OF TRANSPORTATION  
FEDERAL TRANSIT ADMINISTRATION

SECOND ADDENDUM TO THE FINDING OF NO SIGNIFICANT IMPACT

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Project: Central Florida Commuter Rail Transit Project  
Applicant: Florida Department of Transportation  
Project Location: Volusia, Seminole, Orange, and Osceola Counties, Florida

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## **INTRODUCTION**

The Federal Transit Administration (FTA) determined on April 27, 2007, that the Central Florida Commuter Rail Transit (CFCRT) North/South Corridor Project serving metropolitan Orlando in Volusia, Seminole, Orange, and Osceola Counties, Florida, and sponsored by the Florida Department of Transportation (FDOT) will not have any significant impact on the environment. Subsequent to that Finding of No Significant Impact (FONSI), a Supplemental Environmental Assessment (SEA) was performed due to several Project scope changes to the Full Build Alternative evaluated in the original Environmental Assessment (EA). The FTA reviewed these changes and approved the first SEA on May 8, 2008 and issued an Addendum to the FONSI on July 22, 2008.

Several changes have been made to the project since that time, including a change in the type of vehicles that will be used and a number of modifications to the project scope that resulted from requests made by local funding partners and further coordination with CSXT. FTA and FDOT reviewed the Project changes in the Second SEA and issued the document on April 20, 2010. With the exception of the proposed changes cited herein, the original FONSI approved on April 27, 2007, and the Addendum to the FONSI approved on July 22, 2008, remains in effect. FTA, as joint lead agency with FDOT, has participated in preparing and independently evaluating the Second SEA. FTA has determined that it adequately and accurately assesses the environmental issues and impacts of the changes to the proposed Project. Such documents provide sufficient evidence and analysis for determining that an Environmental Impact Statement is not required for the proposed project.

## **PROPOSED PROJECT**

### **Project Description**

The FDOT and the FTA have prepared an EA and two SEAs for the CFCRT Project, the Second SEA being the subject of this Second Addendum to the FONSI. The Project study limits have been consistent, and extend from north to south, along the existing CSX Transportation A-Line railroad corridor beginning at the DeLand Amtrak station in Volusia County to Poinciana Industrial Park in Osceola County. This 61-mile corridor is the same as that described in the original CFCRT North/South Corridor Project EA approved on December 15, 2006 that resulted in the FONSI on April 27, 2007 and the first SEA approved on May 8, 2008 that then resulted in an Addendum to the FONSI on July 22, 2008.



### **Supplemental Environmental Evaluation**

The purpose of this Second SEA is to evaluate additional changes made to the original CFCRT North/South Corridor Project EA Full Build Alternative approved December 15, 2006 and the first SEA approved May 8, 2008. The Full Build Alternative is the maximum Project that would be built and operated, given the current limits of the CRT Project. The Full Build is the 61-mile line between DeLand Amtrak Station and Poinciana Industrial Park.

A re-evaluation of the information previously provided in the original EA and 2008 SEA documents was performed based on the requests and coordination. The revisions in the Second SEA include changes to the DeLand Amtrak, Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, Kissimmee Amtrak, and Poinciana Industrial Park Stations; and a change in vehicle technology from Diesel Multiple Units (DMUs) to Federal Railroad Administration (FRA) compliant locomotives and Americans with Disabilities Act (ADA) compliant coach and cab car train sets. This change in vehicle technology resulted from the inability of the sole vendor to provide the DMU vehicles.

This Second Addendum to the FONSI recognizes that certain measures will be implemented to mitigate environmental and community impacts for the Full Build Alternative, as presented in the original EA and the 2008 SEA. These measures are summarized in Attachment A, Table 1 and Table 2. Attachment A is a reiteration of commitments made in the environmental record and is intended for monitoring purposes only. It shall not be interpreted as changing any of the pertinent impact evaluations and commitments presented in the original EA and FONSI; the 2008 SEA and Addendum to the FONSI; nor as subjecting the original EA and FONSI and 2008 SEA and Addendum to the FONSI to renewed opportunity for claims seeking judicial review.

### **Metropolitan Transportation Planning Requirements**

The CFCRT Project is included in the metropolitan transportation plan approved by METROPLAN Orlando (the Orange Seminole and Osceola County Metropolitan Planning Organization {MPO}) and the Volusia County MPO. These two groups comprise the Central Florida region's metropolitan planning organizations for the CFCRT Project. The Project is also included in the State Transportation Improvement Program (STIP) for the State of Florida.

### **AGENCY COORDINATION AND PUBLIC OPPORTUNITY TO COMMENT**

Changes to the CFCRT Project precipitated a Second SEA, and additional public and agency outreach was completed. The CFCRT Second SEA was approved by FTA on April 20, 2010. A legal advertisement was published in the Florida Administrative Weekly on April 30, 2010. Display advertisements were published two times in the local newspapers. The Second SEA was made available for public review from April 30, 2010 through June 8, 2010.

## **Comments to the April 20, 2010 Second Supplemental Environmental Assessment**

Public hearings on the Second SEA were held in Orange and Volusia Counties on May 25, 2010 and Seminole and Osceola Counties on May 27, 2010. A total of 311 residents, property owners, and/or other interested parties attended the public hearings. These meetings were held to provide information to stakeholders about the Project changes as well as to listen to and document their concerns and suggestions about how the Second SEA was conducted.

A total of 17 people provided statements during the public testimony portion of the public hearings. Eight people spoke in support of the CFCRT Project, and three of those speakers offered suggestions to improve the Project. Two people expressed concerns about how other modes of transit will connect to SunRail; two spoke against the Project; two voiced concerns over noise impacts; one urged the use of different vehicle technology; one was concerned about improved grade crossings; and one requested additional coordination with utilities in Phase II of the Project. Comments received in support of the Project focused on: misinformation about the Project in the City of Winter Park; how the commuter rail would assist in reducing traffic; the environmental and mobility benefits of SunRail; TOD opportunities along the corridor; and opportunities that SunRail provides for future rail transit connections to fully develop a multi-modal transportation system in Central Florida.

Following the public hearings, 21 written comment forms were filled out and submitted either at the hearings or via mail. Approximately eight were in favor of the commuter rail; two were against the Project; two expressed concern about potential flooding at the Altamonte Springs station; one was concerned about noise impacts; two expressed concerns about connectivity to other transportation modes; one was concerned about traffic impacts; one suggested use of alternate technology; and there were several requests for additional information.

An additional 88 comments or questions were submitted electronically or via the Project website (<http://www.sunrail.com>). The majority of the comments (31) received during the comment period were requests for information about jobs and procurement associated with the Project. An additional 11 people inquired about right-of-way issues and how the Project might affect their property; 20 requested more information; nine expressed support; two opposed the Project; three were concerned about additional noise and vibration; one was concerned about traffic; two had questions about vehicle emissions; five were interested in future connectivity options; one was concerned about fares; and one urged the use of different technology. Two inquiries were unrelated to the SunRail Project. The public hearing transcripts, comment forms, and comments received through the Project website is included in the *Comments and Coordination Report* (June 2010) prepared for the Second SEA.

The comment period was held open through June 8, 2010. A summarized synopsis of the comments and responses received as part of the public comment period are included in Attachment B of the FONSI.

In addition to the public hearings, the community participation effort included the Central Florida Commuter Rail Commission meetings, Technical Advisory Committee meetings, presentations with residents and local agencies, design team meetings with local governments, local government briefings, as well as meetings with adjacent property owners and special interest groups (refer to Chapter 7 of the Second SEA).

### **Continuing Coordination**

During final design, FTA and FDOT will continue to coordinate and consult with the FRA, Amtrak, CSXT, federal, state, and local agencies as well as other corridor stakeholders to ensure that CFCRT facilities and infrastructure construction meet all regulatory requirements.

The FDOT will continue to coordinate the design of the proposed improvements (e.g. stations) with the Florida State Historic Preservation Officer (SHPO) so that potential adverse visual and aesthetic effects can be avoided and the historic integrity of nearby historic properties and districts is maintained.

### **MEASURES TO MINIMIZE HARM**

FDOT will implement all measures to minimize harm that are described in the Second SEA and this Second Addendum to the FONSI. The FTA will require that in any grant documents for the CFCRT, that the Project shall be built as described in the Second SEA and the Project Description above, and that all commitments shall be carried out in accordance with the original EA and FONSI, the 2008 SEA and Addendum to the FONSI and the Second SEA and subsequent Second Addendum to the FONSI as described in Attachment A. The FTA finds that with the implementation of the commitments and measures to minimize harm, as described in Attachment A: Mitigation Monitoring Plan Table 1 and Table 2, the FDOT will have taken all reasonable and prudent means to avoid or minimize the potential for adverse impacts to occur as a result of the changes to the originally described Project. The CFCRT Second SEA is incorporated by reference into this FONSI and its environmental considerations are summarized in Attachment A. This FONSI assumes that the fully described commitments and measures to minimize harm in the Second SEA, as supplemented and outlined in Attachment A, will be implemented.

### **DETERMINATION AND FINDINGS**

This Second Addendum to the FONSI excludes from the discussion resource areas that have proven to not be impacted by the changes to station areas and the change in vehicle technology. Findings regarding these resources in the original EA and the 2008 SEA remain unchanged. Screening, background research, and technical documentation completed on several of these resource areas as part of earlier environmental analysis shall be considered part of the administrative record and are adopted by reference into this environmental evaluation. These resource areas include: Community Cohesion, Environmental Justice, Public Safety, Security and Community Services, Economic Impacts, Utilities, Railroads, Archaeological and Historic Resources, Recreation and Parkland Resources, Pedestrian and Bicycle Facilities Access, Ecosystems, Visual and Aesthetic Resources, Farmlands, Transit and Construction Impacts.

This Second Addendum to the FONSI also excludes from the discussion transportation components that have proven to not be impacted by the changes to station areas and the change in vehicle technology. Findings regarding these resources in the original EA and the 2008 SEA remain unchanged. These transportation components include: roadway at-grade crossing delays, station pedestrian and bicycle connections, parking, and transit.

### **Land Use and Zoning**

#### **DeLand Amtrak Station**

After the original EA was approved, Volusia County officials and major stakeholders revised the development plans around the DeLand Station such that the station land use has been modified. The station park-and-ride layout with the Full Build requirement of 180 spaces was redesigned to accommodate the Transit Oriented Development (TOD) and stormwater requirements. The additional area for stormwater treatment and TOD adjustments is 13.7 acres, and is addressed in the Second SEA.

#### **Altamonte Springs Station**

Since the original EA, additional storage capacity for stormwater has necessitated the use of underground storm chambers. The existing land use within the Altamonte Springs Station area is now vacant except for the US Post Office building, which is not an historic structure. US Post Office officials have approached the City, County and FDOT about the sale of their property. This would allow for a more efficient design of the park-and-ride lot. An existing pond and vacant property on the east side of the CSXT tracks has been identified as a potential additional stormwater treatment area. The revised Altamonte Springs Station layout includes the post office land and the added stormwater location. An additional 5.7 acres are required to accommodate this design, which includes 650 parking spaces for the Full Build Alternative. This additional area is addressed in the Second SEA.

#### **Sand Lake Road Station**

Since the approval of the original EA, changes to South Florida Water Management District (SFWMD) stormwater treatment and discharge requirements have necessitated additional land for the water treatment. The current design includes storm chambers beneath the parking lot. Discussions with Orange County indicated a preference for the expansion of the parking area and ponds to the north side of the current location.

The revised station layout accommodates the Full Build park-and-ride lot with 650 spaces. The added area for these revisions is 8.3 acres, which is the subject of the Second SEA.

#### **Meadow Woods Station**

The original EA identified the station parking lot on the west side of the CSXT tracks located on land identified as retention pond and wetlands. Since the approval of the original EA, changes to SFWMD stormwater treatment and discharge requirements has limited the use of these parcels that were proposed for the station.

The proposed station parking lot on the east side would minimize the resizing of the existing county pond located on the west side of Orange Avenue to approximately 4.8 acres. Utilization of the existing wetland mitigation area on the west side of the CSXT tracks would not be required, based on the station modification described herein. The additional area required (8.5 acres) for the modified site is necessary to meet the Full Build requirement of 390 parking spaces. This additional area is addressed in the Second SEA.

#### Osceola Parkway Station

As a result of discussions with Osceola County, an additional station area and park-and-ride location were identified and evaluated on the west side of the CSXT tracks on property owned by the Tupperware Corporation. As evaluated in the original EA, the station would remain at the same location on the north side of Osceola Parkway. Osceola County indicated they will change the future land use for this area to the appropriate zoning and land use designation as necessary. The property owner has indicated that they would change the approved Osceola Corporate Center Development of Regional Impact (DRI) land use plan to conform to TOD practices and principles.

The station layout will be designed to accommodate TOD and the stormwater requirements to meet new treatment criteria. This includes a park-and-ride lot with 200 spaces that meets the Full Build requirement. The additional 32.2 acres for stormwater treatment and adjustments for the potential TOD was evaluated in the Second SEA.

#### Kissimmee Amtrak Station

Since the original EA, a new mixed use residential/office and retail condominium, including a parking garage with 100 spaces designated for City of Kissimmee, has been constructed on a portion of the block bounded by Dakin Avenue, Monument Avenue, and the CSXT tracks.

The revised station site plan for the Kissimmee Amtrak Station includes a LYNX bus transfer station and a park-and-ride lot with the Full Build requirement of 390 spaces. The added area is 5.8 acres and is addressed in the Second SEA. There are 308 existing parking spaces at the Kissimmee Civic Center / Public Library parking lot. Sixty (60) parking spaces will be used jointly (shared parking) for commuters, adjacent Kissimmee Civic Center patrons and City of Kissimmee parking.

#### Poinciana Industrial Park Station

Changes to SFWMD stormwater treatment and discharge requirements led to a need for additional area for the proposed station site. This additional area will also be used for the layover facility once the south segment is added. The existing land use is predominately vacant or agricultural.

The revised station layout with an additional 17.5 acres is sized to accommodate stormwater treatment and the Full Build parking requirement of 250 spaces and is addressed in the Second SEA.

## Zoning

The station sites in Altamonte Springs and Poinciana will be rezoned, and the Meadow Woods and Osceola Parkway stations will require amendments to existing planned unit development (PUD) zoning.

## **Displacements and Relocation**

A total of nine businesses and no residences are proposed to be relocated due to the scope changes addressed in the Second SEA. This includes two businesses at DeLand, one business at Altamonte Springs, four businesses at Sand Lake Road, and two businesses at Meadow Woods. An additional 67.5 acres may be impacted as a result of these station modifications. FDOT will seek to reduce the required right-of-way through the final design process.

In order to minimize the unavoidable effects of right of way acquisition and displacement of people, FDOT is committed to carrying out a Right-of-Way Acquisition and Relocation Program in accordance with Florida Statute 339.09 and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646 as amended by Public Law 100-17).

The brochures which describe in detail FDOT's Relocation Assistance Program and Right-of-Way Acquisition Program are: *Your Relocation: Residential*; *Your Relocation: Businesses, Farms and Nonprofit Organizations*; and *The Real Estate Acquisition Process*. All of these brochures were distributed at the public hearings for the proposed changes and have been made available upon request to any interested persons.

## **Air Quality**

A revised air quality analysis was conducted to reflect the change in vehicle technology from DMUs, as described in the original EA (which were unavailable due to vendor issues), to FRA-compliant locomotives and ADA-compliant coaches and cab cars.

Under the updated air quality analysis using FRA-compliant locomotives, the Full Build Alternative will result in minor additional amounts of total annual emissions of Nitrogen Oxides and particulate matter (PM<sub>2.5</sub>) than that of either the No Build or TSM Alternatives. This reflects the use of FRA-compliant diesel locomotives and ADA-compliant coaches and cab car train sets in place of the diesel-powered DMUs for the Project. The air quality analysis has demonstrated that the Project alternatives differ very little from one another in both regional emissions and local carbon monoxide (CO) concentrations. All estimated CO concentrations are less than the National Ambient Air Quality Standards (NAAQS).

Although NO<sub>x</sub> and PM<sub>2.5</sub> emissions are predicted to increase slightly with the Full Build Alternative due to additional diesel emission sources in the Project area, the emission increases are not expected to create any adverse air quality impacts.

The modeled 1-hour and 8-hour CO concentrations were compared to the NAAQS and the Florida AAQS and the estimated CO concentrations are less than the NAAQS for all alternatives analyzed. The results show no CO concentrations above the standards. The Project is located in an area which is designated as an attainment area for all pollutants under



the criteria provided in the Clean Air Act. Therefore, the Clean Air Act conformity requirements do not apply to the Project. No mitigation measures are required as a result of the proposed Project scope change items for compliance with the NAAQS.

### **Noise and Vibration**

A detailed noise and vibration assessment was performed along the A-Line Project corridor for the original EA. A second detailed noise assessment and a general vibration assessment were performed along the Project Corridor to reflect the change in vehicle technology from DMUs, as described in the original EA (which were unavailable due to vendor issues), to FRA-compliant locomotives and ADA-compliant coaches and cab cars.

#### **Noise**

For the purpose of the second supplemental noise impact assessment, it was assumed that all existing freight and passenger operations will continue to exist in the CFCRT Project Corridor. The results of the analysis indicate that the only noise impacts in the corridor are due to the use of warning horns as trains approach the grade crossings. The noise analysis completed in the original EA and subsequent analysis completed for this Second SEA included the use of warning horns and applied the same FRA horn noise criteria.

In the original EA, without mitigation, it was estimated there would be 217 receptors impacted by the CFCRT Project. In this Second SEA, without mitigation, there are 303 receptors that would be impacted by the CFCRT Project. Severe impacts would increase by thirty (30) to 84 and the moderate impacts would increase by fifty-six (56) to 219. Because the estimated noise level is a cumulative measure from various noise sources (e.g. warning horns, engine noise, wheel to rail noise, etc.), this increase in impacts is due solely to the comparatively higher noise generated by the FRA-compliant locomotives relative to the DMU vehicles. Fifty-nine (59) of the 84 severe impacts in this Second SEA have a noise level of 3 dBA or less above the FTA severe impact criteria and fifteen (15) of the severe impacts are between 3 dBA and 5 dBA. The remaining 10 of the 84 severe impacts have a noise level between 5 dBA and 10 dBA above the FTA severe impact criteria.

To mitigate the horn noise impacts, the CFCRT Project will use the same mitigation measure as applied to horn noise in the original EA. The train horn will be relocated from the roof to a location approximately three (3) feet above top of rail and incorporate a metal horn shroud with high absorption acoustic insulation to reduce the sideline noise. Using this method, no horn noise impacts are predicted.

During the start-up period of the commuter rail operations, FDOT will test the horn shroud to determine its effectiveness and to ensure that there will be minimal community noise impact from the warning horns. If noise monitoring during the start-up period reveals that the selected mitigation does not adequately control noise, FDOT as the Project sponsor is committed to adopting additional measures to reduce noise. All impacts in the severe range will be eliminated and the number of impacts in the moderate range will be minimized pursuant to the noise criteria in FTA's guidance entitled "Transit Noise and Vibration Impact Assessment" (1995). Such an outcome is consistent with FTA's original EA and resultant FONSI for the Project. The full measure of commuter rail noise mitigation measures can be

found in Attachment A, Table 1, Summary of Environmental Impacts and Mitigation Measures.

### Vibration

In estimating ground borne vibration from the heavier push-pull technology, it was assumed the freight and Amtrak operations were absent from the Project Corridor. The results of the vibration assessment indicate that 99 receptors along the 61-mile CFCRT Corridor are predicted to have vibration levels that are above the FTA annoyance criterion. In the previous vibration assessment for the DMU vehicles, no vibration impacts were predicted to occur along the Project Corridor because the DMUs are lighter than a diesel locomotive.

It should be noted that the 99 vibration impacted receptors are already impacted by the existing freight and Amtrak trains that operate along the Project Corridor. Although the number of daily train trips is predicted to increase by 56 for the Full Build CFCRT Alternative, the vibration levels generated by each CFCRT train is projected to be equal to or less than the vibration levels generated by each freight or passenger train currently operating in the Project corridor.

The most recent FTA guidance manual states that vibration control measures developed for rail transit systems are not effective for freight trains.<sup>1</sup> As a result, there are no practical measures for mitigating vibration levels from existing and future presence of freight and Amtrak trains on shared tracks. Standard maintenance-of-way operational procedures such as regular wheel truing and rail grinding for the CFCRT Project vehicles will be implemented to minimize vibration impacts to the levels predicted by this analysis.

The temporary noise impacts and proposed mitigation measures related to construction have not changed as was documented in the original EA/FONSI and 2008 SEA, Addendum to FONSI. Temporary noise impacts will be attenuated by the mitigation measures described in Chapter 3, Section 3.3.4 of the original EA and outlined in Attachment A.

### Wetlands

In accordance with Executive Order 11990 (Protection of Wetlands) and USDOT Order 5660.1A, the proposed Project changes were evaluated for any wetlands that have potential involvement with the proposed improvements.

A total of approximately 21 acres of wetlands and water features are anticipated to be impacted as a result of the station modifications. The maximum “worst case” direct impact to wetlands has been assumed for the modified station sites (that is, impacts are assumed to the full extent of the station footprint). Therefore, the modified station sites could impact up to an additional 3.9 acres of water features (ditches and reservoirs) and 17.1 acres of wetlands.

As such, wetland impacts that will result from the construction of this Project will be mitigated pursuant to Section 373.4137 of Florida Statutes (F.S.) to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. 1344. Under Section 373.4137 of Florida Statutes,

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<sup>1</sup> Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006, Section 8.1.3, p. 8-6.

mitigation of FDOT wetland impacts will be implemented by the appropriate Water Management District where the impacts occur. Each Water Management District will develop a regional wetland mitigation plan on an annual basis that addresses the estimated mitigation needs of FDOT. The Water Management District will then provide wetland mitigation for specific FDOT project impacts through a corresponding mitigation project within the overall approved regional mitigation plan. FDOT will provide funding to the Water Management District for implementation of such mitigation projects.

Wetland impacts resulting from the construction of the modified DeLand Amtrak Station site within the jurisdiction of the St. Johns River Water Management District (SJRWMD) will be mitigated, as required, pursuant to Section 373.4137, F.S. to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. 1344 as previously indicated in the original EA. Altamonte Springs and Sand Lake Road Stations, also within the jurisdiction of SJRWMD, do not contain wetlands and the surface water impacts will not require mitigation.

Wetland impacts at Osceola Parkway permitted through the SFWMD will be mitigated, as required, through the purchase of mitigation credits from approved mitigation banks and/or in basin wetland creation to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. 1344. The proposed changes to the station sites for the Meadow Woods, Kissimmee Amtrak and Poinciana Industrial Park Stations are not anticipated to impact any new wetlands; therefore, no mitigation will be required.

Based upon the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

### **Contamination**

*A Contamination Screening Evaluation Report (CSER) Second Addendum* (November 2009) was completed to re-evaluate site conditions associated with the proposed changes to the station sites that are the subject of the Second SEA.

The DeLand Amtrak, Sand Lake Road, Meadow Woods, Osceola Parkway and Poinciana Industrial Park Stations retain the same contamination risk ratings as in the original EA. Level 2 contamination assessment activities conducted since the original EA have resulted in a change in the contamination risk ratings for Kissimmee Amtrak and Altamonte Springs Stations from High to Medium. These locations, depending on the level of risk, will be further evaluated as described below.

For locations identified as having Medium or High contamination risks, a further review of public records will be performed and preliminary soils screening evaluation will take place to detect the presence of contaminants in soil or groundwater prior to acquisition of property or initiation of construction activities.

Depending upon the nature and extent of contamination as determined by these contamination assessment activities, risk analysis for impacts to the general public will be performed, cost estimates for remediation will be developed and a communication plan with applicable regulatory agencies will be devised. Specific recommendations for the proposed Project scope

changes have been developed and can be found in Chapter 3, Section 3.5 of the Second SEA and are described in Attachment A, Table 1.

Based upon the above considerations, it is determined that there is no practical alternative to the proposed action and that all practical measures have been included to eliminate or minimize all possible impacts from contamination involvements.

### **Energy**

The DMU vehicle energy usage was discussed in the original EA. The change in vehicle technology to diesel locomotives resulted from the inability of the sole vendor to provide the DMU vehicles. Fuel use for the diesel locomotive alternative is greater than for the DMU. The change in vehicle technology resulted in an increase in the direct energy usage and a minimal impact to the indirect energy usage.

### **Maintenance of Traffic**

Traffic operations were updated at the seven modified stations and study intersections and roadways to reflect Projected Year 2030 conditions. Due to the proposed Project scope changes, vehicle access has been modified at the Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, and Kissimmee Amtrak stations. The vehicle turning movements have been modified at these stations to reflect access and circulation changes. Access was not changed at the remaining stations.

The modifications to the seven stations will not change traffic analysis findings from the original EA analysis. The Project will shift a small amount of traffic away from existing roadways to origin stations. The level of Project-related traffic is low compared with traffic on adjacent roadways. In addition, no stations will divert traffic to sensitive areas such as residential neighborhoods, historic districts or hospital zones or interfere with truck or marine traffic. FDOT is committed to measures to mitigate potential impacts as stated in Attachment A, Table 1.

## **NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) AND 49 U.S.C.**

### **5324(b):**

The original EA (December 15, 2006), the first SEA (May 8, 2008) and the Second SEA (April 20, 2010) constitute the environmental record of the proposed Project and present the alternatives to the proposed Project that have been considered and the environmental impacts of the alternatives, including any adverse environmental effects and irreversible and irretrievable impacts. Although the original EA, 2008 SEA and 2010 SEA were made available to the public before the public hearings, the Second Addendum to the FONSI was made after consideration of all comments received as a result of public availability and the public hearings. FTA finds that, with the mitigation presented in the EA, 2008 SEA and 2010 SEA, the commitments made in the 2007 FONSI and the 2008 Addendum to the FONSI, and the commitments made herein, no significant environmental impacts will result from the Project.

The FTA also finds, in accordance with Federal Transit Law, 49 USC Section 5324(b), that an adequate opportunity to present views was given to all parties with a significant economic, social, or environmental interest; that the preservation and the enhancement of the environment, and the interest of the community in which the Project is located were considered; and that, with the mitigation presented in the original EA, the 2008 SEA and 2010 SEA, and summarized herein, no unavoidable adverse environmental effects are likely to result from the Project.

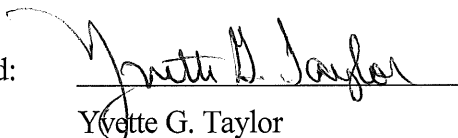
#### **Notice of Limitation on Claims**

On November 2, 2007, FTA published a Notice of Limitations on Claims in the Federal Register that started the 180-day period pursuant to 23 U.S.C. 139(l) for challenges to the original EA and FONSI issued for the Project (the EA was approved on December 15, 2006 and the FONSI was approved on April 27, 2007). The period for initiating litigation on the original EA has expired. Thus, any challenges to the original EA and FONSI made after April 29, 2008 are barred.

On July 30, 2008, FTA also published a Notice of Limitations on Claims in the Federal Register for challenges to the 2008 SEA and Addendum to the FONSI issued for the Project (the first SEA was approved on May 8, 2008 and the Addendum to the FONSI was approved on July 22, 2008). The period for initiating litigation on the 2008 SEA has expired. Thus, any challenges to the 2008 SEA and Addendum to the FONSI made after January 26, 2009 are barred.

FTA intends to publish a new notice in the Federal Register to start the 180-day period for claims against the limited Project changes described herein and in the Second SEA. That notice will limit the filing of any claim challenging the specific portions of the CFCRT Project undergoing NEPA review in the Second SEA and in this Second Addendum to the FONSI to 180 days after its publication in the Federal Register.

Approved: \_\_\_\_\_

  
Yvette G. Taylor  
Regional Administrator  
Federal Transit Administration, Region IV

Date: \_\_\_\_\_

9-10-10

## **ATTACHMENT A**

### **MITIGATION MONITORING PLAN**

The purpose of this attachment is to facilitate, during final design and construction of the Project, the implementation by FDOT of all mitigation commitments in the original EA and FONSI, in the 2008 SEA and Addendum to the FONSI, and the 2010 Second SEA and Second Addendum to the FONSI in accordance with FTA law [49 U.S.C. 5324(b)] and regulation [23 CFR part 771.109(b)]. The mitigation table below is also intended to serve as a mechanism for monitoring the implementation of the mitigation measures by FTA and FDOT.

The mitigation measures and other Project features that reduce adverse impacts, to which FTA and FDOT committed in the original EA and FONSI, the 2008 SEA and Addendum to the FONSI and 2010 Second SEA and Second Addendum to the FONSI, which six documents serve as the environmental record for the Project, are summarized in Table 1 and Table 2 below. However, the original EA and FONSI, the 2008 SEA and Addendum to the FONSI, and the 2010 Second SEA and Second Addendum to the FONSI provide the full description of all mitigation measures that are included in the Project. The FDOT has established a program for monitoring the implementation of the mitigation measures as part of the CFCRT Project Management Plan (PMP).

The FDOT is prohibited from eliminating or altering any of the mitigation commitments identified in the environmental record for the Project without express written approval by FTA. In addition, any change to the Project that may involve new or changed environmental or community impacts not considered in the environmental record must be reviewed in accordance with FTA environmental procedures (23 CFR Part 771.130). The FDOT will immediately notify FTA of any change to the Project that differs in any way from the environmental record. If a change is needed, the FTA will determine the appropriate level of environmental review (i.e., a written re-evaluation, another supplemental EA of the change, or a supplemental environmental impact statement), and the NEPA process for this supplemental environmental review will conclude with a separate NEPA determination, or, if appropriate, another addendum to the FONSI.

This Attachment is a reiteration of commitments made in the environmental record and is intended for monitoring purposes only. It shall not be interpreted as changing any of the pertinent impact evaluations and commitments presented in the original EA and FONSI, the 2008 SEA and Addendum to the FONSI and 2010 Second SEA and Second Addendum to the FONSI nor as subjecting the original EA and FONSI, the 2008 SEA and Addendum to the FONSI and 2010 Second SEA and Second Addendum to the FONSI to renewed opportunity for claims seeking judicial review.



## Attachment A

**Table 1 Summary of Potential Environmental Impacts and Mitigation Measures**

Mitigation No.	Potential Environmental Impact	Mitigation Approach
Land Use		
LU-1	The stations at Lake Mary, Longwood and Altamonte Springs have mixed zoning which needs to be rezoned to be compatible for use as a CFCRT station.	Local governments, as required by the Florida Department of Community Affairs, amend their respective comprehensive plans to include provisions for commuter rail development and to encourage transit oriented development around station sites.
LU-2	The Meadow Woods and Osceola Parkway Stations will require amendments to existing Planned Unit Development (PUD) zoning. The PUD zoning allows permitted uses and development standards to be defined for each particular development.	Local governments, as required by the Florida Department of Community Affairs, amend their respective comprehensive plans to include provisions for commuter rail development and to encourage transit oriented development around station sites.
LU-3	Extensive coordination with the City of Maitland, private property owners and developers to provide pedestrian crossings and public access; transit access and bus drop-off facilities and structured parking.	Local governments, as required by the Florida Department of Community Affairs, amend their respective comprehensive plans to include provisions for commuter rail development and to encourage transit oriented development around station sites.
Displacements and Relocations		
DR-1	Nine (9) additional businesses are proposed to be relocated due to the scope changes in the Second SEA. This is in addition to 19 businesses in the EA and 2008 SEA, for a total of 28 businesses.	FDOT will seek to reduce the required right-of-way through the final design process. FDOT will comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and relocation resources will be available for all acquisitions and relocations without discrimination.
	10 single-family residences, none due to the Second SEA	
DR-2	An additional 67.5 acres may be impacted as a result of the scope changes in the Second SEA. This is in addition to the 122.7 acres of partial acquisitions from approximately 94 properties in the EA and 2008 SEA, for a total of 190.2 acres of partial acquisitions from approximately 103 properties.	
Railroads		

## Attachment A

**Table 1 Summary of Potential Environmental Impacts and Mitigation Measures**

Mitigation No.	Potential Environmental Impact	Mitigation Approach
RR-1	Ability of CFCRT service to operate at 15-minute peak hour service.	FDOT will provide up to 42 miles of new double-track and a new railway signal system along the existing CSXT right-of-way from DeLand to Poinciana Boulevard. There will be no double-track through Maitland and at the St. Johns River Bridge. The proposed operating plan will maintain the ability of CSXT and other freight rail operators to provide service to commercial and industrial users, and will accommodate existing Amtrak long-distance intercity passenger service.
<b>Public Safety and Security and Community Services</b>		
PS-1	The formulation of a Dam Safety Plan is necessary at Fort Florida Station (renamed DeBary Station).	FDOT will coordinate with Florida Power and Light to formulate the implementation of a plan prior to construction.
<b>Noise</b>		

## Attachment A

**Table 1 Summary of Potential Environmental Impacts and Mitigation Measures**

Mitigation No.	Potential Environmental Impact	Mitigation Approach
N-1	<p>The number of predicted wayside noise impacts along the Project corridor is 219 moderate impacts and 84 severe impacts due to the use of the FRA-compliant diesel locomotive warning horns at the grade crossings. Fifty-nine (59) of the 84 severe impacts in the Second SEA have a noise level of 3 dBA or less above the FTA severe impact criteria and fifteen (15) of the severe impacts are between 3 dBA and 5 dBA. The remaining 10 of the 84 severe impacts have a noise level between 5 dBA and 10 dBA above the FTA severe impact criteria.</p>	<ul style="list-style-type: none"> <li>• Warning horns will be relocated from the roof to a location approximately three (3) feet above top of rail and re-designed with a sheet metal shroud and foam rubber insulation to reduce the sideline noise while still maintaining the FRA's minimum noise requirement of 96 dBA <math>L_{max}</math> measured at a distance of 100 feet from the centerline of the horn.</li> <li>• During the start-up period of commuter rail operations, FTA, with the assistance of FDOT, will prepare a detailed noise assessment. If the detailed noise analysis determines that the presence of the CFCRT Project has no impacts pursuant to its noise guidance, the FTA and FDOT will be satisfied that all noise mitigation measures have been successful.</li> <li>• If noise monitoring during the start-up period reveals that the selected mitigation does not adequately control noise, FDOT is committed to adopting additional measures to reduce noise. Sound insulation or other appropriate mitigation measures will be installed as required at any remaining impacted noise receptors to mitigate to the "moderate" range all potential noise impacts of the CFCRT Project. In this case, all impacts in the severe range will be eliminated and the number of impacts in the moderate range will be minimized. Such an outcome is consistent with FTA's original EA and resultant FONSI for the Project.</li> <li>• Specific locations and applications of these mitigation measures will be identified and evaluated as the Project design progresses.</li> </ul>
N-2	<p>Uncalibrated audible on-board warning devices can produce noise impacts.</p>	<p>Prior to Project start-up, all on-board horns will be calibrated to sound at minimum FRA noise requirements.</p>
<b>Vibration</b>		

## Attachment A

**Table 1 Summary of Potential Environmental Impacts and Mitigation Measures**

Mitigation No.	Potential Environmental Impact	Mitigation Approach
V-1	Vibration assessments in the Second SEA indicate that 99 receptors along the 61-mile CRT Corridor are predicted to have vibration levels that are above the FTA annoyance criterion.	The FTA guidance manual states that vibration control measures developed for rail transit systems are not effective for freight trains. <sup>2</sup> As a result, there are no practical measures for mitigating vibration levels from existing and future presence of freight and Amtrak trains on shared tracks. Standard maintenance-of-way operational procedures such as regular wheel truing and rail grinding will be implemented for the CFCRT Project to minimize vibration impacts to the levels predicted by this analysis.
<b>Wetlands</b>		
W-1	At the Deland Amtrak Station, a total of 2.5 acres of wetlands are anticipated to be impacted as a result of the station modifications within the jurisdiction of the St. Johns River Water Management District (SJRWMD)	Wetland impacts resulting from the construction of the modified DeLand Amtrak Station site within the jurisdiction of the SJRWMD will be mitigated, as required, pursuant to Section 373.4137, Florida Statutes to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. 1344 as previously indicated in the original EA.

<sup>2</sup> Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006, Section 8.1.3, p. 8-6.

## Attachment A

**Table 1 Summary of Potential Environmental Impacts and Mitigation Measures**

Mitigation No.	Potential Environmental Impact	Mitigation Approach
W-2	At the Osceola Parkway Station, a total of 14.6 acres of wetlands are anticipated to be impacted as a result of the station modifications within the jurisdiction of the South Florida Water Management District (SFWMD)	Wetland impacts at Osceola Parkway permitted through SFWMD will be mitigated, as required, through the purchase of mitigation credits from approved mitigation banks and/or in basin wetland creation to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. 1344.
<b>Maintenance of Traffic</b>		
MT-1	A total of four study intersection crossings (CR 427/Longwood Lake Mary, Reagan Blvd./Altamonte Drive, Poinciana Blvd./US 17-92 and Sligh Blvd./Columbia Street) located adjacent to stations may experience increased vehicle delay as a result of additional gate down times.	Measures may include re-striping, adding or modifying left turn lanes and signalizing intersections.
MT-2	A total of three at-grade crossings (Lake Mary Station, Altamonte Springs Station, and Poinciana Industrial Park Station) located adjacent to stations may experience increased vehicle delay as a result of additional gate down times.	Optimize train signals by implementing a new Constant Warning Time signal system to reduce gate down time.
<b>Contamination</b>		
C-1	There is a High risk of soil and/or groundwater contamination at the following station locations: Fort Florida Road, Sanford/SR 46, Lake Mary, Longwood and Meadow Woods.	Further soil and groundwater investigations including preliminary soils screening, auger borings and Organic Vapor Analyzer screenings as well as soil and groundwater sampling and testing will be completed and appropriate mitigation devised.
C-2	There is a Medium risk of soil and/or groundwater contamination at the following station locations: DeLand Amtrak, Church Street, Maitland, Orlando Amtrak/ORMC, and Sand Lake Road Station.	Further soil and groundwater investigations including preliminary soils screening, auger borings and Organic Vapor Analyzer screenings as well as soil and groundwater sampling and testing will be completed and appropriate mitigation devised.
C-3	Rand Yard Maintenance Facility	In addition to the investigations cited above, investigations will take place in areas of probable buried hazardous materials cited in the original EA. Asphalt, railroad ties and other hazardous materials discovered during surveys will be disposed of properly.

## Attachment A

**Table 1 Summary of Potential Environmental Impacts and Mitigation Measures**

Mitigation No.	Potential Environmental Impact	Mitigation Approach
C-4	Level 2 contamination assessment activities conducted since the original EA have resulted in a change in the contamination risk ratings for Kissimmee Amtrak and Altamonte Springs Stations from High to Medium.	For locations identified as having Medium or High contamination risks, a further review of public records will be performed and preliminary soils screening evaluation will take place to detect the presence of contaminants in soil or groundwater prior to acquisition of property or initiation of construction activities.
<b>Pedestrian and Bicycle Facilities/Access</b>		
PB-1	Pedestrian and bicycle facilities/access.	A provision for bicycles will be provided on CFCRT trains to accommodate bicycle commuters. Similar bicycle accommodations are provided on existing LYNX bus routes within the CFCRT corridor. Bicycle racks will also be provided at each station. Maitland Station will provide access to the bikeway that connects Maitland Community Park and the existing Maitland City Hall and include a pedestrian pathway across the tracks to the adjoining residential area.
<b>Historical, Archaeological, and Paleontological Resources</b>		
HAP-1	DeLand Amtrak, Orlando Amtrak/ORMC and Church Street stations.	<ul style="list-style-type: none"> <li>• FDOT will provide design plans of the proposed DeLand Amtrak, Orlando Amtrak/ORMC and Church Street stations at the 30, 60, and 90 percent stages of completion for SHPO review and comment. The FDOT will coordinate with the SHPO office so that potential visual and aesthetic effects to these properties (8VO2653, 8OR139, 8OR422 and 8OR25) can be avoided or minimized.</li> <li>• FDOT will provide a sensitive design treatment for the three proposed stations and will ensure that the design, materials and locations of station platforms and canopies are architecturally and aesthetically compatible with the design of nearby historic resources.</li> <li>• FDOT will consult with SHPO office to determine appropriate landscaping treatments designed to reduce the potential visual effects of parking lots and ancillary features at the proposed stations.</li> <li>• Make every reasonable effort to minimize physical alterations</li> </ul>



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**Table 1 Summary of Potential Environmental Impacts and Mitigation Measures**

Mitigation No.	Potential Environmental Impact	Mitigation Approach
		<p>to the historic properties. Where required, alterations will be made in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i> (36 CFR Part 68).</p> <ul style="list-style-type: none"> <li>• Should there be any changes to previously reviewed and agreed upon design plans, FDOT will contact SHPO and provide the opportunity for review and comment.</li> </ul>
HAP-2	DeLand Amtrak Station	FDOT will make every reasonable effort to maintain the rural character of the DeLand Amtrak Station through the use of environmentally compatible elements, such as vegetative screening, in the design of parking lots and sidewalks
HAP-3	Historic properties in the vicinity of several CFCRT station sites, including the Florida Hospital, LYNX Central Station, Orlando Amtrak/ORMC, and Kissimmee Amtrak stations.	The SHPO has suggested that careful station design including use of compatible elements and materials would minimize any potential visual impacts. Should there be any changes to previously reviewed and agreed upon design plans, FDOT will contact SHPO and provide the opportunity for review and comment. The SHPO will have a period of 30 days upon receipt of acceptable plans to complete their review.
HAP-4	Interface with the Americans with Disabilities Act (ADA) compliance at existing facilities varies depending on location.	As designs are developed to comply with the Department of Transportation's Americans with Disabilities Act Accessibility Guidelines (November 29, 2006) any platform or accessibility modifications at historic sites will include coordination with the SHPO.
<b>Construction Impacts</b>		

## Attachment A

**Table 1 Summary of Potential Environmental Impacts and Mitigation Measures**

Mitigation No.	Potential Environmental Impact	Mitigation Approach
CST-1	Short term increases in noise and vibration levels due to heavy equipment movement and construction activities such as pile driving and vibratory compaction of embankments.	Noise control measures will include those contained in FDOT's "Standard Specifications for Road and Bridge Construction". Adherence to the local construction noise and/or construction vibration ordinances by the contractor will also be required where applicable. The results of the construction noise and vibration assessment indicated that construction noise and vibration levels from the CFCRT Project will not exceed the FTA construction noise limits described in Chapter 12 of the FTA guidance manual.
CST-2	Impacts on surface waters resources during construction activities.	A Stormwater Pollution Prevention Plan, including an Erosion and Sedimentation Control Plan will be prepared and implemented during construction. The plan will specify measures to be implemented to minimize sedimentation impacts to surface waters and municipal drainage systems that are ultimately tributary to surface waters. The plan will be legally binding through the NPDES construction stormwater General Permit to be obtained for the Project.
CST-3	Short term potential for fugitive dust impacts.	Contractors will initiate "good housekeeping practices" such as water sprays during demolition; wetting, paving, landscaping or chemically treating exposed earth areas; covering dust-producing materials during transport; limiting dust-producing construction activities during high-wind conditions and providing street sweeping and washes for trucks leaving the site.
CST-4	Potential for encountering unknown hazardous materials such as contaminated soils or groundwater during construction activities.	Contaminated soil typically will be stockpiled in designated areas along the alignment, and then transported from the stockpile area for further treatment or disposal. Contaminated groundwater removed as a result of dewatering may be stored in tanks on the construction site, discharged to a local storm drain or sewer in compliance with discharge permit requirements or transported from the site for treatment or disposal.

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**Table 1 Summary of Potential Environmental Impacts and Mitigation Measures**

<b>Mitigation No.</b>	<b>Potential Environmental Impact</b>	<b>Mitigation Approach</b>
CST-5	Temporary impacts to traffic, pedestrians, and bicyclists could include construction delays, re-routing, and temporary lane closures.	FDOT contractors will develop and implement site-specific traffic management plans during construction to assure access to residences, businesses, community facilities and services, and local roads are maintained.

**Attachment A****Table 2 Station Parking Supply and Impact Summary**

<b>Station Location</b>	<b>Opening Day Parking Supply</b>	<b>Full Build Parking Supply (Maximum)</b>	<b>Type</b>
DeLand	90	180	Surface Parking
Ft Florida Road (Renamed DeBary Station)	140	275	Surface Parking
Sanford	150	300	Surface Parking
Lake Mary	325	650	Surface Parking
Longwood	180	354	Surface Parking
Altamonte Springs	325	650	Surface Parking
Maitland	125	250	Shared parking garage
Sand Lake Road	325	650	Surface Parking
Meadow Woods	195	390	Surface Parking
Osceola Parkway	100	200	Surface Parking
Kissimmee	195	390	Surface and shared Parking
Poinciana Industrial Park	125	250	Surface Parking
<b>Total:</b>	<b>2275</b>	<b>4539</b>	

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<p>This synopsis to the Comments and Coordination Report is a reiteration of the comments made both orally and written and included as part of the official public record. Those comments received that are not directly related to the Proposed Action which is the subject of the Second SEA and Second Addendum to the FONSI, shall not be interpreted as changing any of the pertinent impact evaluations and commitments as presented in the original EA and FONSI or the 2008 SEA and Addendum to the FONSI; nor as subjecting the original EA and FONSI and 2008 SEA and Addendum to the FONSI to renewed opportunity for claims seeking judicial review.</p>		
<b>Name</b>	<b>Issues</b>	<b>Response</b>
Marcus Kostolich	Thank you for the newsletter; SunRail makes sense	Thank you for your comments
Dorothy Stratton	Thank you for the newsletter; please continue sending	Thank you; will do
Debra Forsythe	Job inquiry	Provided contracting information
Charlotte Everbach	Please add to mailing list	Added to mailing list; provided quarterly newsletter
Larry Savage	Job/subcontracting inquiry	Provided contracting information and Project Manager contact info
Michael Sims	OIA Connector too close to home; how was this decision reached; noise will be intolerable; change stations to locate OIA connector south of the Bee-Line	OIA Connector is NOT a part of the SunRail project; Concerns on noise were related solely to the OIA Connector project; Referred to OIA Connector Alternatives Analysis on <a href="http://www.sunrail.com">www.sunrail.com</a> website, which is currently proposed to connect the Orange County Convention Center to Orlando International Airport with a stop at the SunRail Sand Lake Road station; FDOT working with MPO to explore funding options to advance studies for the OIA Connector, as well as other options that would provide SunRail connections to Orlando International Airport; no further studies done since AA in 2005; LPA is reached following public hearings and input from various agencies; study process encourages and requires public involvement in the decision-making process, as well as environmental review of project impacts on surrounding areas; answered questions
Matt Orosz	Wanted map of stations	Fulfilled request
Pam Rogers	Wanted systems map	Fulfilled request
Elenor Gill	Will home be affected by eminent domain; wanted meeting information	No, home will not be affected; provided Public Liaison contact information
John Mans	Asked about the location of the rail line relative to his property. Asked whether a map was available with lot/block numbers showing the rail line.	No, property will not be affected; the project will run along the existing CSXT freight line by the subject property; property is located five parcels (or approximately 375 feet) from the CSXT rail tracks that SunRail will utilize, according to Volusia County Property Appraiser records; people were notified to encourage public participation

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Paul Palmer	Where is the rail going in relation to home in DeBary; why were people who live 500 feet from rail line notified about the Public Hearings when the letter stated that it was going to homes within 300 feet?	Provided information regarding where the tracks are located, roughly at the intersection of West Highbanks Road and Dutchman's Bend Road near the subject property; people were notified who owned property within 500 feet of the rail line, even though 300 feet is the required notification, to encourage public participation in the Public Hearing process; provided time, dates and location of Public Hearing; encouraged attendance
H. Endicott	Requested information about City of Orlando Jobs Fair	Provided information
Mr. Cobbin McGee	Wants to walk alignment in support of SunRail; inquired about getting a job with the project; asked about need for alternate Sanford station for property he owns; requested information on bus connectivity agreements	Urged to stay off tracks; thanks for support; provided contracting information; no need for alternate Sanford station site as the current station plans are 100% complete; provided information about bus connectivity and links to bus agreements on <a href="http://www.sunrail.com">www.sunrail.com</a> website for review; provided Operation Lifesaver information and dangers of fouling track; provided information about Public Involvement contract and future potential for SunRail promotions.
Krissy Bland	Job inquiry	Provided contracting information
Paula Edwards	Job inquiry	Provided contracting information
Danna Olivo	Job/subcontracting inquiry	Provided contracting information
Nicole Oliver	Job/subcontracting inquiry	Provided contracting information
Mrs. Murphy	Phone message asking whether home will be affected by eminent domain.	Responded in e-mail requesting address to see whether it is on the list of impacted parcels and potential relocations; Provided <a href="http://www.sunrail.com">www.sunrail.com</a> link and attached to e-mail 2 <sup>nd</sup> SEA Appendix F (Impacted Parcels and Potential Relocations) information for review. Never received a response back.
Heather Torre	Inquired whether questions can be asked at the Public Hearings about environmental impacts of diesel locomotives and "increased toxin exposure"?	Yes. Project staff will be available to answer questions at the Public Hearings, between 6-7 p.m. Provided directions to Chap. 3.2 in 2 <sup>nd</sup> SEA for information on air quality issues associated with the change in technology from Diesel Multiple Units to more traditional push-pull locomotives.
James Graber	Questioned whether locomotives coaches and cab cars will meet EPA emission standards; why engines be purchased that are listed as EPA Tier 2 over the cleaner Tier 3 or 4 engines from Motive Power? Tier 0-2 engines, if received now, should be unacceptable.	Responded with detailed information about EPA compliance. Multiple engine emission tier alternatives were evaluated during the selection process for SunRail locomotives. However, the pricing proposals received for the higher level emissions standards had a significant impact on the project budget, so FDOT opted to pursue purchase of locomotives with lower emission standards, which still fall within EPA guidelines. All aspects of the project will comply with applicable



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		statutes, rules and regulations; One engine will be Tier III and the other will be Tier 0+; both fully comply with EPA 40 CFR Parts 9, 85, et al. Control of Emissions of Air Pollution from Locomotive Engines and Marine Compression-Ignition Engines Less than 30 Liters per cylinder; Republication; Final Rule, June 30, 2008
Jeffrey York	Supports SunRail; thought plan was for electrically operated light rail, not conventional diesel locomotive engines running 40-50-year-old technology	Thanked for support; SunRail is a commuter rail project that will utilize traditional diesel-electric locomotive engines, which came into prominence in North America after the Second World War due to lower maintenance costs, operational flexibility and environmental benefits. New and remanufactured diesel-electric locomotives utilizing advanced state-of-the-art diesel-electric technology will be used for SunRail, and are currently in widespread use for passenger and freight rail service throughout the nation. SunRail will share the same track with Amtrak and freight trains (both using diesel electric locomotives); provided a picture of Utah Fronrunner trains as a point of reference; provided historical information on previous light rail project (that did not share same track with Amtrak and freight trains) to clarify that light rail technology was not approved by community leaders in 1999 and that SunRail commuter rail technology is now the locally preferred project; provided information about different rail projects also under review (SunRail/HSR); provided information on future light rail projects under consideration that are planned to link up with SunRail, such as the OIA Connector. Referred to <a href="http://www.floridahighspeedrail.org">www.floridahighspeedrail.org</a> website for more information on high speed rail connections.
Mr. Elsaghir	Inquiring whether property will be affected	Visited with him in person; reviewed App. F in 2 <sup>nd</sup> SEA; followed up with ROW and responded via e-mail that property will not be affected
George McClure	Why is the City of Winter Park agreement with Orange County not on <a href="http://www.sunrail.com">www.sunrail.com</a> website	City of Winter Park agreement is with Orange County, not with FDOT. Provided appropriate contact assistance.
Vic Smirnow	Job inquiry	Provided contracting information
Darren Connery	Inquired whether there is a bus or train that would go from Largo to Disney World	Provided SunRail route information (four counties, Volusia, Seminole, Orange and Osceola counties); will not serve Largo or Disney World; provided information on High Speed Rail that will connect downtown Tampa to Walt Disney World; provided <a href="http://www.Amtrak.com">www.Amtrak.com</a> link
David Philipsen	Inquired whether SunRail will help	Provided information on SunRail, which will

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	Pasco County, as well as the state as a whole? I never had a chance to take a survey about SunRail, is there one?	operate in four Central Florida counties (Volusia, Seminole, Orange and Osceola); will not provide direct transportation benefit to Pasco County; provided <a href="http://www.sunrail.com">www.sunrail.com</a> website information on economic development studies and benefit to the state; a survey was taken a couple of years ago to name and brand the project, but no survey is currently available to take
Chance Fridriksson	Supports SunRail; will it be built?	Phase I of SunRail should be operational by 2013
Tony Smith	Inquired how Texas was affected by Annie Webb Blanton	Provided Internet resource
David Williams	Company owns vacant commercial property near the Kissimmee/Osceola station; is there a land acquisition plan for this land?	Provided information on the upcoming Public Hearings; provided Phase II schedule information for the acquisition of property, which includes Kissimmee/Osceola; referred to <a href="http://www.sunrail.com">www.sunrail.com</a> website to Appendix F, "Impacts and Relocations" for Phase II stations, which details preliminary land acquisition plan for Phase II; Provided links for station concept plans on Phase II.
Ray Kajma	SunRail is a great idea; can help with traffic; complete it	Thanks for your support; service should begin on Phase I in 2013
Jaye Bonner	Political candidate staffer looking for information on SunRail	Provided web site address and Public Liaison contact information
Terence Kornegay	Job/subcontracting inquiry; requested list of TAC officials	Provided contracting information and TAC list
Danna Olivo	Requested list of subcontractors interested in Public Involvement contract	Provided list
Dexter Hall	Job inquiry	Provided contracting information
Yayson Valencia	Job inquiry	Provided contracting information
Trudy Reams	Job inquiry	Provided contracting information
Carmen Dominguez	Job inquiry/contracting inquiry	Provided contracting information and list of Public Involvement subcontractor inquiries
Matt deJager	Job inquiry/contracting opportunity; requested SunRail presentation	Provided presentation
Valerie Mundy	Requested information about High Speed Rail	Provided <a href="http://www.floridahighspeedrail.org">www.floridahighspeedrail.org</a> website link and contact information
Arlene Elrod	Inquired as to the location of the Longwood station and how it will affect land at certain property in Longwood.	The Longwood Station is located roughly at the intersection of Ronald Reagan Boulevard and Church Avenue in Longwood. Property in question is not slated for relocation and will not be otherwise impacted by SunRail. Provided Public Hearing location information.
Rodney Hughes	Job/subcontracting inquiry	Provided contracting information
Aveinash Persaud	Job/subcontracting inquiry	Provided contracting information
Mary Smith	Job/subcontracting inquiry	Provided contracting information
Jeffrey Eichacker	Job/subcontracting inquiry	Provided contracting information
Scott Wright	Proposed a transit center merging SunRail, Amtrak, OIA in one location	FDOT is working closely with the airport and local leaders to explore future connectivity

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	near the airport, which would help Amtrak attract more riders to the Orlando/Kissimmee stop, and connect to Disney	options for SunRail. OIA is planning an intermodal center that would provide connections to high speed rail, commuter rail and eventual light rail. It would be up to Amtrak to decide whether to provide a direct connection to the airport. Directed to <a href="http://www.sunrail.com">www.sunrail.com</a> website for more information on the OIA Connector and to <a href="http://www.floridahighspeedrail.org">www.floridahighspeedrail.org</a> for more information on High Speed Rail. Provided information on bus bridges that SunRail will provide to the airport when service begins in 2013.
Jim Munro	Job/subcontracting inquiry	Provided contracting information
Ada Almonte	Inquired whether personal property will be affected	No; provided information about upcoming Public Hearings
Sophia Persaud	Job/subcontracting inquiry	Provided contracting information
Debra Stoodt	Job/subcontracting inquiry	Provided contracting information
Paul Wyche	Requested information about SunRail and High Speed Rail	Provided <a href="http://www.sunrail.com">www.sunrail.com</a> and <a href="http://www.floridahighspeedrail.org">www.floridahighspeedrail.org</a> website links
Roxana Jiawan	Job/subcontracting opportunity	Provided contracting information
Paul Moore	Has read noise and vibration report; disappointed that "because of the presence of freight and Amtrak rail, it is not practical or recommended to mitigate vibration for this project," as detailed in 2 <sup>nd</sup> SEA; shifting freight to overnight hours will be disruptive, cause additional noise and vibration when people are trying to sleep, and is not acceptable	<p>Thanks for your comments and for reading the report. Invited to attend Public Hearings, where experts will be available to answer any additional questions. You are correct that vibration will not be mitigated. Because of the presence of freight on shared tracks, there are no practical measures for mitigating vibration, as detailed in Section 3.6 of the Second Supplemental Environmental Assessment Noise and Vibration Analysis Technical Report Appendix G.</p> <p>Only two to three existing local freight operations are expected to be moved from day-time to night-time operations in 2030. These night-time operations will occur only in limited areas of the corridor and were not included in CRT noise prediction. Also see table 3-7 on page 3-14 in Second SEA.</p>
Zahide Carmaco	Job/subcontracting inquiry	Provided contracting information and list of interested Public Involvement subcontractor inquiries
Mike Horner	What is the capacity of SunRail? What is the capacity for 2 lanes on I-4; what is the cost to the state for SunRail; what would be the cost to add an extra lane each way on I-4; Is SunRail going to increase taxes? Is SunRail ever expected to be profitable? How is SunRail going to rebuild the job market when it does not go to any key	Capacity: Opening day ridership is projected at 4,300 per day for the IOS, escalating to 7,400 trips by 2030; Capacity of I-4: two lanes on I-4 is about 2,000 cars, per lane, per hour; SunRail cost: 25 percent of \$615 million for capital costs and all operations and maintenance deficit costs for the first 7 years of operation (which currently average about \$9 million per year) plus \$432 million for acquisition of the CSX

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	destination? Why did Florida taxpayers pay CSX \$432 million for train tracks appraised at \$61 million? How is Osceola County going to pay for operations and maintenance costs when revenues are down by 25% and expected to worsen?	corridor; Cost of I-4: 20 miles of four lanes to I-4 would cost \$3.5 billion; Any new taxes: That would be up to Osceola County, when local governments take over from the Florida Department of Transportation the operations and maintenance costs for SunRail in year 8 of operations; Will SunRail be profitable: No; one of the roles of government is to provide a safe and reliable transportation system. Interlocal agreements are structured to provide required ongoing operations and maintenance subsidies by FDOT for the first seven years of operation and then by local funding partners; Economic impact: SunRail will be the spine of future connections, with employment destinations that include downtown Orlando and Florida Hospital with bus connections to OIA at the inception of service; future rail service under study; Why pay for the corridor: Two independent appraisals valued the corridor at \$430 and \$439 million respectively. How will Osceola pay: Local governments have up to 8 years to set budget priorities to determine how best to finance operations and maintenance costs.
Sanford Weinberg	When will RFP for ticket vending machines be issued? Does FDOT need any additional info?	In legal review and hope to advertise shortly; do not need additional info at this time
Kathy Evernham	Can't attend Public Hearings but is 100% against SunRail	Thank you for your comments
Baltazar Sotomayor	Spanish speaking caller asked whether his business would be affected by SunRail construction.	Responded via phone conversation that business would not be affected and received pertinent contact information.
Michael Frank	Where is the Public Hearing; will SunRail connect to High Speed Rail?	Provided Public Hearing location information and attached Public Hearing notice to e-mail; SunRail will initially connect to High Speed Rail via bus bridges from the Sand Lake Road station with future rail connections to Orlando International Airport and High Speed Rail under study by the Florida Department of Transportation
Tim Satkus	Proposed \$2.50 SunRail fare (with \$1 per county surcharge) is too high – higher than LYNX and Votran fares	Proposed fare is in keeping with LYNX and Votran bus fares and with other commuter rail operations in the country. For example, Express Bus fares operated by Votran and LYNX between Orange City and downtown Orlando now cost about \$3.50, which is in line with SunRail fares for premium transit. Fares are structured on a zoned basis to help offset the operations and maintenance costs of SunRail; the \$2.50 fare is the average contemplated for the system with discounts anticipated for passholders, seniors and others; FDOT is working with LYNX and Votran on

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		development of seamless “fair fare” policies for transfers between the two systems.
Robert Koger/American Legion	Will an additional set of tracks be laid between Oak Ridge Road and Sand Lake Road? If so, will the new tracks be laid on the west side or on the east side of the existing CSX tracks?	Yes, a second set of tracks will be added; preliminary plans call for 2 <sup>nd</sup> set of tracks potentially on east side; all work will be performed within the CSXT right-of-way; the final location of the 2 <sup>nd</sup> set of tracks will be determined by DBM contractor once final design plans for the tracks are completed.
Zahid Ahmad	Supports SunRail; Provide a great link between High Speed Rail, the Convention Center and Disney	Initial SunRail connections to airport will be via bus bridges, with future rail connections under study
Belinda Ortiz	Requested public hearing presentation	Provided information
Carnot Evans	What are bus routes from Sand Lake Road station to Kissimmee	Provided graphic of the proposed bus route
Arnold Stein	Any changes to the Altamonte Springs station? Site layout on <a href="http://www.sunrail.com">www.sunrail.com</a> is outdated. Is information available on-line? If not, when will it be available on-line? Will FDOT buy the Post Office property?	Proposed changes to the Altamonte Springs station are posted on the <a href="http://www.sunrail.com">www.sunrail.com</a> website on the “Station Concepts” tab. Changes are for full-build, presuming 15 minute service to add capacity for stormwater retention and parking. Attached the station concept for Altamonte Springs to the e-mail; Revised concept plans do include the Post Office land, in addition to vacant land on the east side of the CSXT tracks.
Roger Schmitt	The DeLand station must be moved so it doesn't interfere with traffic on old New York Avenue; has spoken to FDOT Director of Transportation Development George Lovett, but concerns have “fallen on deaf ears.”	Attached a map of the planning station site in DeLand to e-mail; FDOT will work closely with Volusia County and city officials to refine station site concepts to best fit the needs of the community. The Second SEA clears additional land to provide additional flexibility as the preliminary engineering and design of the DeLand Station progresses. Public Hearings were held May 25 and 27 to review information; Directed to Chap. 4 of the original EA and Chap. 4, Section 4.1 of the Second SEA, which state that SunRail is not expected to negatively impact traffic in the DeLand area; directed to <a href="http://www.sunrail.com">www.sunrail.com</a> website for full EA documents; Amtrak operations were accounted for in the SunRail operating plan and original EA; SunRail platforms are proposed to be located to the north of Amtrak platforms (further away from New York Avenue), will be shorter in length to avoid causing congestion, and will not block New York Avenue traffic; Mr. Lovett fully appreciates your involvement and input in the planning and design of all FDOT projects, including SunRail. Your comments and concerns, along with those of many other stakeholders and interested folks, are fully considered throughout the planning and design process.

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Amee Gardner	Is there currently an application to turn your mobile phone into a digital scale?	If you have questions about SunRail, please don't hesitate to contact Public Liaison.
John Henning	Job/subcontracting inquiry	Provided contracting information
Britni Hart	Expressed confusion whether SunRail is running or still being built?	SunRail is expected to begin Phase I of operations in 2013
Christopher Sileo (state Rep. Chris Dorworth's office)	Please mail information presented at the Public Hearings	Provided website links and e-mailed hard copies of all information
Richard Hensch	Responded to telephone inquiry asking why trains have to blow horn whistles. Said that FRA rules are stupid; is not afraid to "fight City Hall" and would take on FRA horn rules, as government is a senseless bureaucracy.	E-mailed FRA Train Horn Rule Fact Sheet during phone conversation. Provided information on SunRail horn shrouds and location of horns, monitoring of horn noise once SunRail is operational; and future mitigation measures, if any, that may be required.
Rick Mackowiak	Job/subcontracting inquiry	Provided contracting information
Robert Wetmore	Requested municipal contacts for SunRail	Provided requested information
Cole Schwein	Jobs/subcontracting inquiry	Provided contracting information
Richard Bell	Suggested using American firms to build rail cars in Florida – not New York and Iowa; FDOT should lead efforts to develop next generation of high-tech, low weight, energy efficient Commuter Rail industry	Vendor selections were procured using standard FDOT policy and procedures; provided links to economic benefits on <a href="http://www.sunrail.com">www.sunrail.com</a> website and links to 2 <sup>nd</sup> SEA. Vehicle procurements for SunRail conform to federal Buy America provisions.
Sue Nelson	Asked to be sent links to the "revised" interlocal agreements. Was having trouble finding them on the SunRail website.	The revised agreements will be posted on the <a href="http://www.sunrail.com">www.sunrail.com</a> website once they are approved by the Central Florida Commuter Rail Commission. Provided information about the CFCRC meeting on June 25 at 1:30 p.m. at Metroplan Orlando, 315 E. Robinson Street, Suite 355, Orlando.
Robert Koger	Inquired whether there was a need to fill out a comment form in addition to e-mailed comments following the Public Hearing?	No.
Fred Hawkins	Osceola County Commission Chairman verbally requested additional information on job generation and the economic impact from Charlotte's LYNX line at Osceola County Commission workshop	Provided attachments to e-mail from Charlotte/LYNX detailing actual development activity associated with the rail line, as well as an analysis of property value increases around station stops and the new tax base generated by the rail project. Also attached information from Charlotte about some Transit-Oriented Development projects that have occurred near station stops. The city has not analyzed the specific types of jobs generated as a result of the development, other than general construction, building management and maintenance jobs.
Ken Zinck	Supportive of SunRail, but would like the DeLand station moved so as not to impact traffic on New York Avenue as	Attached a map of the planning station site in DeLand to the e-mail; FDOT will be working closely with Volusia and city officials to refine



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	Amtrak trains cause delays in excess of 20 minutes. Amtrak should not block New York Avenue. SunRail stations should be built on sites that mitigate road congestion.	station site concepts to best fit the needs of the community. The Second SEA provides information to environmentally clear additional land to provide additional flexibility as the preliminary engineering and design of the DeLand Station progresses. Public Hearings were held May 25 and 27 to review information. SunRail trains will be a maximum of four cars in length whereas Amtrak trains are 10-12 car lengths; As detailed in Chap. 4 of the original EA and Second SEA, Section 4.1, SunRail is not expected to negatively impact traffic in the DeLand area; Amtrak operations were accounted for in the SunRail operating plan and original EA; SunRail platforms are proposed to be located to the north of Amtrak platforms (further away from New York Avenue), will be shorter in length to avoid causing congestion; and will not block New York Avenue when stopped at the platform; provided links to documents on <a href="http://www.sunrail.com">www.sunrail.com</a> website; FDOT does not control the location or operation of Amtrak trains, which are operated by Amtrak.
Sabrina Miranda	Build SunRail connections as they do in Europe, South American and Asia; revised operations plan to mirror New York and Rome	Provided information on connectivity options, High Speed Rail, light rail.
Ernest Devey	Inquired as to whether bonds will be sold to private citizens to support SunRail?	No bonds will be sold
Leo T	Inquired whether there it was possible to take the OIA Connector and I-Drive circulator from OIA to Sanford?	No. Those projects are still in the planning phase
Mark Ryan	Opposes SunRail. NO!NO!NO!	Thanks for your comment
Steve	Inquired whether there will be parking and asked how to get an annual permit?	Explained location of parking lots that will be free of charge to commuters
Alta Jones	Jobs/contracting inquiry	Provided contracting information
Wayne Wittenberg	Asked when the track became mixed use freight and commuter. Recalled that ALL freight would be moved to the S-Line and 61 miles through Orlando would be commuter only.	FDOT's original agreement with CSXT, announced in August of 2006, provided for continued use of the tracks for freight during certain hours, primarily to service local businesses. That remains the case today. The agreement calls for exclusive passenger rail service between 5 a.m. and 10 a.m. and 3 p.m. to 10 p.m., mixed use at other times and exclusive freight from midnight to 5 a.m.; CSXT is building a new intermodal center in Winter Haven and will pay FDOT for use of the corridor in the future. Provided links to agreements on <a href="http://www.sunrail.com">www.sunrail.com</a> website.

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Bob Koger	<p>Attended Public Hearings and is concerned about how SunRail will impact the American Legion Post 286 in Pine Castle, as new tracks will be barely 75 feet from meeting hall; eliminate some 30 parking slots and a driveway; and horn noise will be very disruptive to meetings. Post has been located on the property for 35 years and provides a number of community service benefits. Will FDOT help relocate the Post to a different building; will FDOT purchase the facility; will FDOT place shock and vibration monitors at the facility to more accurately reflect impacts.</p>	<p>FDOT SunRail team met with Mr. Koger and American Legion members on June 11 at the American Legion Hall to address concerns. Explained SunRail operating hours; double-tracking components of SunRail project. FDOT right-of-way representative reported that the parking spaces and driveway access are encroachments on CSXT property; FDOT researched and reviewed lease arrangements that American Legion has with CSXT; explained why the Post does not qualify for relocation assistance; performed field survey to ascertain ROW boundaries; explained how noise and vibration monitors are placed and information extrapolated to determine noise impacts along the entire corridor; SunRail horns will be modified with shrouds and acoustic insulation. The SunRail horns will be mounted lower on the train (approximately 3" feet above top of rail). These two modifications will be used to mitigate noise impacts on surrounding communities by lowering sideline noise while still meeting the minimum Federal Railway Administration requirement of 96 dBA measured 100 feet on the centerline of the horn. FDOT will monitor noise impacts to ensure that train noise does not exceed acceptable levels and will mitigate if required; committed to work with the Post to minimize disruptions. Will provide additional information once DBM contractor is on board and track design is advanced.</p>
Matthews Fenderson	<p>Lawyer representing property owners within 300 feet of ROW asking about any studies to determine the effects of fumes and gases emitted by SunRail power sources; how often residents can expect SunRail to pass their homes within a 24-hour span; what can be done to reduce the noise and vibration levels near homes; is there any history of illness associated with fumes or gases emitted from locomotives or diesel; if there have been problems, what has been done to address or rectify; what remedies are being offered to property owners who live within 150 feet of the track and is severely negatively impacted by the noise and vibration from the trains?</p>	<p>Thanks for your interest in Central Florida's SunRail project. Yes there have been environmental studies performed with regard to emissions from SunRail trains, with no appreciable difference in terms of air quality or energy use between the alternatives proposed (including the no-build alternative). Those documents can be found on the <a href="http://www.sunrail.com">www.sunrail.com</a> website, on the "Updates and Documents" tab, in the Second Supplemental Environmental Assessment, Chap. 3.2.3 Air Quality. Additionally, all locomotives will meet applicable EPA emissions standards for locomotives. The initial operating segment of SunRail (12 stations between DeBary and Sand Lake Road with half-hour peak service and two-hour off-peak service) contemplates 32 trains per day. The "Full Build" plan (from DeLand to Poinciana with 15-minute service during peak periods and hourly service off-peak) contemplates 56 trains per day. The</p>



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		Florida Department of Transportation has performed an extensive noise and vibration analysis associated with the project, which again is included in the Second Supplemental Environmental Assessment. The Department does plan to mount horns on trains closer to the ground and encase horns in shrouds to better direct warning signals and reduce noise in surrounding neighborhoods. The Department will monitor the effectiveness of these noise reduction measures once SunRail is operational and perform additional mitigation, if required, in order to mitigate to the moderate impact level specified in FTA's guidance. Please refer to the EPA emissions standards discussion above for information on fumes or gases emitted from locomotives.
Kerry Thomas	Requested information on the status of the project; capital and operating cost projections; length of the line and number of stations; projected passenger trips	The project is applying for a Full Funding Grant Agreement from the FTA; capital costs are \$615 million; operations and maintenance costs are currently under review; SunRail will operate on a 61.5-mile stretch of track used by CSXT; 17 stations are planned for the Full Build Alternative; opening year ridership projections for the 31-mile initial operating segment are estimated at 4,300 passenger trips per day.
James Novak	Environmental statements were dauntingly big; orientation of corridor boards was confusing as they were not vertical reflecting north-south alignment; required notices exceeded actual communication; very pro light rail; stay on schedule	Study team conferred with all attendees at the Public Hearings.
Valerie Novak	Very detailed presentation; excited about construction of SunRail	Thank you for your comments
Stephanie Criner	You have wasted our money; cheaper to pay for gas; everyone who wants SunRail should have to use it every day; this plan is a bust	Thank you for your comments
Nicolas Colonado	Agree with this project	Thank you for your comments
John Frawley	Provided history of failed Central Florida rail projects; about 10 years ago a meeting was held at Larsons Lodge to determine options on light rail, everyone favored it except for one official in Orlando who returned federal grant money; "how stupid"; favors rail project; "state representative from Lakeland continued to vote against it until her husband got a "piece of the pie" when the feds decided to put in high speed rail, she changed her vote";	Please contact us with ideas; provided Project Manager contact information.

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	both CSX and SunRail should be responsible for liability insurance; has lots of suggestions how to improve the project because he was a city bus driver in Pittsburgh and a tour bus driver here in Florida and a dispatcher for TransStar, which is no longer in business. Is willing to discuss his ideas.	
No name/address	No comment	No response
Nancy Tait	Concerned about horn noise; please use same horns as Amtrak uses; a car horn sounds like an upcoming crash; CSX is terrible; Amtrak is pleasant and still adheres to the regulations.	Yes, the horns will be similar but with two modifications. Unlike Amtrak or CSXT, SunRail horns will be modified with shrouds and acoustic insulation. The SunRail horns will be mounted lower on the train (approximately 3" feet above top of rail). These two modifications will be used to mitigate noise impacts on surrounding communities by lowering sideline noise while still meeting the minimum Federal Railway Administration requirement of 96 dBA measured 100 feet on the centerline of the horn. FDOT will monitor noise impacts to ensure that train noise does not exceed acceptable levels and will mitigate if required.
Nathaniel and Christine Watkins	Concerned about Altamonte Springs residents who live near dry pond, which will be converted to wet pond. How will this impact the residents?	FDOT is proposing a combination of treatment methods to meet stormwater needs; a proposed dry pond and storm chambers under the parking surface will be constructed to allow stormwater to percolate on site; the dry pond is designed to be wet temporarily after larger storm events while the stormwater percolates on site; also side slopes and shapes of the existing neighborhood pond east of the station may be altered to provide additional wet retention volume. Ponds are designed to limit maximum water elevations so it does not overflow into surrounding properties. No impact on nearby residents is anticipated.
Ellen Williams	The Greenwood Gardens neighborhood strongly supports SunRail and hopes that it proves successful. For that to happen, the corridor must be attractive, clean and well maintained. The neighborhood has been unsuccessful in getting CSX to clean up the right of way, which is littered with fallen tree limbs, weeds and trash. Is glad that FDOT owns the right of way and will be responsible for maintaining it, as it will be a boost to the neighborhood.	When FDOT takes ownership of the corridor, slated for the end of 2010, the Department will be responsible for all maintenance activities and will maintain the railroad right-of-way to the same standards now used to maintain the state's vast road network. FDOT looks forward to coordinating that upcoming effort with communities all along the right-of-way.
No name/address	There is a flooding problem at Morse and Station Street in Altamonte	FDOT will let the project stakeholders (City and County) know of the concern. When and if the

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	Springs	station is expanded to the northeast, in close proximity to this flooding location, FDOT will review existing conditions and eliminate any civil site issues. No properties have been identified at present that may be potentially affected by SunRail construction at Morse and Station Streets in Altamonte Springs.
William R. Bell	Wants locomotives, coaches and cab cars manufactured in Florida – not by a Canadian company in Iowa and New York; Push-pull engines are dirty, old tech diesels. Florida has all the technical and industrial potential to design and built the next generation of high tech/light weight energy efficient propulsion systems and coaches. Florida clearly missed a great opportunity to create a new important industry, not only in Florida but in support of national rail transportation; may be cost effective to use existing rolling stock to jump start SunRail, but hopes that someone is at least starting a dialogue to move the state into the industry. Please clarify that everything does not stop at the end of peak hours at 6:30 p.m. and that more trains will run at a less frequent schedule; ask major employers about hours of operation; looks like CSX has better negotiators than DOT.	Noted that commenter's concerns with regard to Florida establishing high-tech vehicle manufacturing plan were previously responded to in an earlier e-mail; SunRail procurements will comply with federal Buy America provisions; SunRail's initial operating plan calls for trains to run every half hour from 5:30 to 8:30 a.m. and from 3:30 to 6:30 p.m. weekdays, with service every two hours during off-peak times (from 8:30 a.m. to 3:30 p.m. and from 6:30 p.m. to midnight on weekdays).
Harriet Thomas	Needs brochures	Mailed brochures
No name/address	Info provided in media unclear	FDOT provided information about the public hearings to media outlets, but does not control how the media chooses to present information provided. FDOT monitors media releases to correct and/or clarify misinformation reported about the project in a timely fashion.  The project website at <a href="http://www.sunrail.com">www.sunrail.com</a> provides an additional source of information with extensive detailed coverage (maps, updates and documents; news and events; etc.) of the project and includes a page to submit comments and questions and receive responses from FDOT.
John Pugh	Get started and get the entire 61 miles completed sooner than five years	FDOT is working with local funding partners and the Federal Transit Administration to advance the SunRail project as quickly as possible. Preliminary Engineering on Phase II station sites is expected to begin later this year. However, due to needed construction within the corridor, including double-tracking and a

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		new signal system, as well as platform and station construction, Phase II is not expected to begin passenger revenue service until 2015.
Joan Cornett	Full support SunRail; preserve historic station in DeLand	DeLand Amtrak will not be affected by SunRail
No name/no address	Information on travel time; train frequency; connectivity; getting people out of cars; consider jitney service on main roads and links to Daytona Airport; public hearing was bureaucratic and boring	Travel times between DeLand and Downtown Orlando is expected to be about 57 minutes; trains will run every half hour during peak periods between 5:30 a.m. and 8:30 a.m. and 3:30 p.m. and 6:30 p.m., with off-peak service every two hours; full schedules will be developed closer to the start of passenger rail service in 2013; FDOT is currently working with Votran to develop and refine bus operating agreements to service all stations in Volusia County, including the DeLand station. Those preliminary agreements are posted on the <a href="http://www.sunrail.com">www.sunrail.com</a> website; SunRail offers a safe, reliable alternate mode of transportation to automobile travel; FDOT is working with LYNX and Votran to discuss potential feeder services (including potential connections to Daytona) and will be conducting extensive business outreach as part of an upcoming Public Involvement contract to businesses along the corridor; FDOT is required by state and federal law to include required legal information in all Public Hearing presentations and materials.
No name/no address	DeLand Station will create a traffic problem; move station	FDOT will work closely with Volusia County and city officials to refine station site concepts to best fit the needs of the community. The Second SEA provided information to environmentally clear additional land to provide additional flexibility as the preliminary engineering and design of the DeLand Station progresses. Public hearings were held May 25 and 27 to review information; Chap. 4 of the original EA and the Second SEA state that SunRail is not expected to negatively impact traffic in the DeLand area; SunRail stop will be located north of the existing Amtrak station (further from New York Avenue) and will not block traffic on New York Avenue when stopped at the station; documents are posted on the <a href="http://www.sunrail.com">www.sunrail.com</a> website.

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Frank Kinsley	Very much in support of SunRail	Thank you for your comments
Jean Olson	<p>SunRail is “a money pit” into which Floridians will have to shovel even more money for the foreseeable future in a probably continuing bad economy.” Up to six buses serving the Kissimmee station will slow traffic in Kissimmee’s downtown as there is only one street with two lanes in each direction and speed humps slowing traffic flow; two buses now snarl traffic considerably; proposed speed and cost of SunRail sounds good but unless one works or lives at the train stations, riders may have a very long way to go to reach their actual destination; some of the stations seem to be nowhere near anything anyone would want to get to, particularly the Osceola Parkway Station and Poinciana area station; even downtown Kissimmee is quite a ways from where the bulk of passengers wish to end up; future development is further down the road than can even be seen from here, making ridership less than expected and public financial support higher than projected.</p>	<p>Chap. 4 of the original EA and the Second SEA (Section 4.1) states that SunRail is not expected to negatively impact traffic in the proposed Kissimmee Station area; Future development of a LYNX “Super Stop” at the downtown Kissimmee station will provide an intermodal mass transit center within close proximity to the downtown corridor and provide SunRail passengers with numerous bus connectivity options to reach their final destinations. A detailed traffic analysis for the LYNX bus transfer stop was conducted. Trip generation, trip distribution and the intersection capacity on the adjacent streets were analyzed. The conclusion using the <i>2000 Highway Capacity Manual</i> was that the study area roadways have sufficient capacity to serve the traffic generation from the additional buses.</p> <p>Osceola County is currently talking with potential developers about establishing “transit villages” within close proximity to SunRail station stops, particularly for the Osceola Parkway station stop. All development around station stops will be decided by local government officials, not FDOT.</p>
Crews Real Estate	Move Sand Lake Road station to Taft Vineland Road, since Taft Vineland is in the process of being widened and it is also the right of way for the High Speed Rail system.	Sand Lake Road Station was coordinated with Orange County and is planned for intermodal connections with a proposed East-West light rail (OIA Connector) linking the University of Central Florida to Orlando International Airport and the Orange County Convention Center with a stop at the Sand Lake Road station; future rail connections to HSR at the Airport’s planned intermodal center also are under study.
Jennifer Stults, Polk County TPO	Consider expanding SunRail to Polk County south of Poinciana; the Polk County LRTP shows connecting rail service between SunRail and TBARTA	SunRail has the potential to expand into Polk County and beyond in the future.

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	on either side of us. Keep the Poinciana SunRail station open to the possibility of a future extension into Polk County.	
Monarcha Marcet	Supports SunRail; would like to incorporate personal electric vehicles into connectivity plans as her company markets Personal Electronic Transportation vehicles. Pleased that SunRail will be ADA compliant; personal electric transportation vehicles should be accommodated within the SunRail system and be allowed on trains to decrease the parking load, allow individuals more flexibility and increase ridership.	SunRail trains will be equipped to accommodate bicycles and wheelchairs only at this time. Other personal electric vehicles would be subject to review and hazard analysis/threat vulnerability analysis, including physical characteristics and logistics with respect to boarding, securing on train, space requirements, impact on passenger circulation and emergency issues. The FRA would need to be involved in any decision to accept personal electric vehicles (other than electric wheel chairs)
Dori Madison	Please bear with city of Winter Park to make SunRail a reality	Thank you for your comments
Doug Littleton	SunRail is a communist plot	Thank you for your comments
Anthony Ulrich	Supports SunRail; please consider rest room facilities on platform; keeping Amtrak station open during SunRail operating hours so that restrooms can be utilized; was told that there would not be any wildlife underpasses under the existing rail corridor, but would like to see if it's at all possible.	Primarily for security and maintenance reasons, as well as budget consideration, restrooms were included on SunRail trains as opposed to platforms; if a community so desire, restrooms can be added at local expense on platforms; FDOT does not have authority to determine when Amtrak stations are open or closed to the traveling public; no wildlife corridors are contemplated at this time, as SunRail will utilize an existing rail bed.
Steve Norgress	Noise and vibration study is incomplete because it did not include quiet zones; does not believe that decibel levels will be 90 decibels; SunRail should include quiet zones; he has spoken to FDOT about quiet zones and has been told that it is cost prohibitive within the SunRail budget; "that little horn box is not going to be that good" in reducing noise impacts; will get with City Council representative to set up quiet zones in his neighborhood.	The noise and vibration analysis accounted for impacts associated with the introduction of SunRail service to an active rail corridor and provided mitigating measures, such as horn shrouds and horns that will be mounted lower on trains, to mitigate noise impacts in surrounding neighborhood. In addition, the Florida Department of Transportation has committed to monitor noise impacts once SunRail operations begin and provide additional mitigation if required. More information about noise impacts is detailed in the Second SEA, posted on the <a href="http://www.sunrail.com">www.sunrail.com</a> website. While quiet zones were not included in the project, local governments do have the option of applying to the Federal Railroad Administration for quiet zone status.
Harley Strickland, Mayor of Orange City	Volusia County needs to pursue dedicated funding for SunRail operations and maintenance now rather than in the future; wants SunRail to connect to bike paths; wants Orange City station that would be a	Any action for funding subsequent to the initial seven year period during which FDOT funds SunRail operations and maintenance should be addressed to Volusia County or the Central Florida Commuter Rail Commission. FDOT is currently working with local government

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	destination station stop	partners on multi-modal connections to SunRail, including enhanced bike path links; Orange City could be considered for an additional SunRail station stop, in consultation with Volusia County officials, who would be required to pay a local match to qualify for additional federal funds.
Bryan Smathers	Would like FDOT to erect plastic sound barriers along the east side of the track north of the Longwood station and S.R. 434 to prevent additional foreclosures in existing neighborhood. Trains will point horns toward homes that are within 200 feet of the tracks and it will have a negative cyclical impact to the surrounding neighborhood.	FDOT plans to install horn shrouds on SunRail trains and mount them lower on the train to mitigate noise impacts on surrounding communities. In addition, FDOT will monitor noise levels to ensure that train noise does not exceed acceptable levels. If additional mitigation is required, FDOT will examine how best to address individual circumstances.
Robert Storke	Please add a station stop in Orange City	FDOT looks forward to coordinating with Volusia County on all potential expansion issues
Jim Cameron, Daytona Regional Chamber of Commerce	Fully supports SunRail; will help improve safety on roads; would eventually like to see a leg coming to the Daytona Beach area; how many spaces at DeLand station; how fast will trains go?	There will be 180 spaces in DeLand; trains can travel up to 79 mph; future rail and/or bus links to the Daytona Beach area could certainly be considered in consultation with Volusia County officials, who would be required to pay a local match to qualify for additional federal funds.
Win Adams, Seminole County Commission candidate	Running for Seminole County Commission District 4 and has been "studying" this issue for a couple of decades. Helped lead initiative to fight gambling in Seminole County in 1996 and will do the same for SunRail. Supports economic development, but public schools drive economic development – not SunRail; is a Realtor and the most important thing about homes is curb appeal. SunRail will rob money from roads and that will drive down property values. Money should be spent instead on public schools.	Thank you for your comments
Phil Laurien, executive director, East Central Florida Regional Planning Council	Strong supporter of SunRail; urged that local governments plan now for future development around station stops; local governments plan now for future connections to SunRail station stops.	Thank you for your comments
Jerry McCollum, Seminole County Engineer	Strong support for SunRail; supports changes in 2 <sup>nd</sup> SEA; looking forward to completion	Thank you for your comments
Kelley Teague, Metroplan Orlando	SunRail is cheaper and more environmentally friendly than adding	Thank you for your comments

**Attachment B**  
**Central Florida Commuter Rail**  
**Comments and Coordination Report Synopsis Comment Resolution**

	more lane miles; SunRail is the spine of future connections; strong support	
Sarah McClendon, Seminole County League of Women Voters	State league has not reached a consensus; but now would be the time to introduce solar power, solar hydrogen or methane-powered trains to improve air quality as NASA is conversant with hydrogen and has workers waiting for jobs. Florida Solar Energy Center at UCF will agree. She attended a presentation a few years ago of a solar hydrogen train.	FDOT examined many different types of potential vehicles for use with the SunRail project. Because DMUs were no longer available because the sole manufacturer went out of business, traditional "push-pull" technology was selected. Because SunRail trains will operate on an open, active freight corridor, the vehicles must comply with the Federal Railroad Administration rules. The push-pull diesel electric technology selected for SunRail already meets FRA safety requirements.  The emission increases due to the full build using diesel electric push pull technology are not expected to create any adverse air quality impacts in the Project area.
Leona Blair	Grade crossings at Old Tampa Highway and Poinciana Blvd. and Old Tampa Highway and Pleasant Hill Road should be fixed because it's not safe.	All grade crossings are currently "safe" according to Federal Railroad Administration safety standards. These two grade crossings would benefit from some minor repairs to approaches and crossing surfaces. FDOT does not currently own the corridor; until that time, all maintenance activities (including grade crossing repairs) remain the responsibility of CSXT. When FDOT becomes the owner of the Corridor, grade crossing maintenance responsibilities transfer to FDOT and at that time maintenance needs will be assessed and safety concerns will be addressed.
Paul Julian, Kinder Morgan Central Florida Pipeline	Need to coordinate with utilities in Phase II re two petroleum pipelines that will be in possible conflict with the proposed station, including a 10-inch fuel line that runs along CSXT right-of-way; we don't want any ruptures or leaks due to vibration from SunRail trains.	Thank you for your comments; which will be included in the public record; FDOT expects to begin Preliminary Engineering on Phase II of SunRail later this year. As that effort progresses, and station construction designs are developed, FDOT will coordinate with utility providers in the area (including Kinder Morgan) to minimize any potential service disruptions. FDOT shares your concerns with regard to safety.



CENTRAL FLORIDA COMMUTER RAIL TRANSIT  
SECOND SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

Prepared by

U.S. DEPARTMENT OF TRANSPORTATION (US DOT)  
FEDERAL TRANSIT ADMINISTRATION (FTA)

And

FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT)

In cooperation with

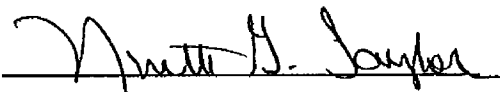
VOLUSIA, SEMINOLE, ORANGE, AND OSCEOLA COUNTIES  
METROPOLITAN ORLANDO (MPO) and VOLUSIA COUNTY MPO;  
CENTRAL FLORIDA REGIONAL TRANSPORTATION AUTHORITY/LYNX;

Pursuant to

National Environmental Policy Act of 1969, (42 U.S.C. 4332 (2)(c) and 49 U.S.C. 303; and  
in compliance with 23 CFR Part 771

Date: 4-20-10

For FTA:



Yvette G. Taylor  
Administrator, Region IV

Date: 4-20-10

For FDOT:



Noranne B. Downs, P.E.  
Secretary, FDOT District Five

## CENTRAL FLORIDA COMMUTER RAIL TRANSIT

### SECOND SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

#### Abstract

The Florida Department of Transportation (FDOT) in close coordination with the Federal Transit Administration (FTA) is proposing to introduce commuter rail transit service to the Central Florida area. The Central Florida Commuter Rail Transit (CFCRT) Project is proposed to operate on the existing CSX Transportation, Inc. (CSXT) A-Line rail corridor from the existing DeLand Amtrak Station in Volusia County, south through downtown Orlando and Kissimmee until its terminus at Poinciana Industrial Park in Osceola County.

This 61-mile corridor is the same as that described in the original Central Florida Commuter Rail Transit North/South Corridor Project Environmental Assessment (EA) approved on December 15, 2006 that resulted in the Finding of No Significant Impact (FONSI) on April 27, 2007. A Supplemental Environmental Assessment (SEA) was subsequently performed due to several Project scope changes to the Full Build Alternative as evaluated in the original EA. The FTA reviewed these changes and approved the first Supplemental EA on May 8, 2008 and issued an Addendum to the FONSI on July 22, 2008.

The purpose of this Second Supplemental EA is to evaluate additional changes made to the Project's Full Build Alternative. The Full Build is the 61-mile corridor between DeLand Amtrak Station and Poinciana Industrial Park. The limits of the Full Build Alternative have not changed from the original EA. However, modified configurations for the DeLand Amtrak, Meadow Woods, Kissimmee Amtrak, and Poinciana Industrial Park Stations have resulted and the proposed Osceola Parkway Station is proposed to be expanded to the west side of the tracks at the same location along the Corridor. The revisions also include increased parking lot footprints at the Altamonte Springs and Sand Lake Road Stations to accommodate stormwater and to meet the Full Build requirements for parking. In addition, an updated air quality, energy, noise and vibration analysis was performed for the entire Corridor due to a change in vehicle technology from Diesel Multiple Units (DMUs) to FRA-compliant locomotives and ADA-compliant coach and cab car train sets. This change in vehicle technology resulted from the inability of the sole vendor to provide the DMU vehicles.

For the purpose of the proposed scope changes analysis, the CRT service includes seventeen station stops with a bi-directional service (on weekdays only) at 15-minute peak period and 60-minute midday and evening service frequencies in the Year 2030. The Locally Preferred Alternative (LPA) includes sixteen stations with 30-minute bi-directional service during weekday peak hours and 120-minute service during the midday and evening hours.

#### Comments

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Comments on this document were made orally at the public hearings or submitted in writing at the above address. All comments were accepted no later than June 8, 2010.

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## EXECUTIVE SUMMARY

### **S.1. Purpose and Need for Proposed Action**

#### **S.1.1. Proposed Action**

The Commuter Rail Transit (CRT) Project is proposed to operate on the existing CSX Transportation, Inc. (CSXT) A-Line rail corridor from the existing DeLand Amtrak Station in Volusia County, south through downtown Orlando and Kissimmee until its terminus at the Poinciana Industrial Park at the intersection of US 17-92 and the CSXT tracks in Osceola County. This corridor generally parallels Interstate 4 and US 17-92, and contains some of the area's most intensely and densely developed land use. The width of the study area generally includes the major north-south arterial roadways serving downtown Orlando and other major activity centers, principally Interstate 4, US Route 17-92, and SR 434/Forest City Road in the northern portion of the corridor and State Routes 421, 441, 423, 527, and the Florida Turnpike in the southern portion of the corridor.

This 61-mile corridor is the same as that described in the Central Florida Commuter Rail Transit (CFCRT) North/South Corridor Project Environmental Assessment (EA) approved in December 15, 2006 that resulted in the Finding of No Significant Impact (FONSI) of April 27, 2007. A Supplemental Environmental Assessment (SEA) was subsequently performed due to several Project scope changes to the Full Build Alternative evaluated in the original EA. The Federal Transit Administration (FTA) reviewed these changes and approved the first SEA on May 8, 2008 and issued an Addendum to the FONSI on July 22, 2008. The Project is currently in Final Design for Phase 1. FTA granted Entry into Final Design on August 11, 2008.

The purpose of this Second Supplemental EA is to evaluate additional changes made to the original Central Florida Commuter Rail Transit (CFCRT) North/South Corridor Project EA Project's Full Build Alternative approved December 15, 2006 and the first SEA approved May 8, 2008. The Full Build Alternative is the maximum Project that would be built and operated, given the current limits of the CRT Project. The Full Build is the 61-mile line between DeLand Amtrak Station and Poinciana Industrial Park.

In July 2007, the five local funding partners including the counties of Volusia, Seminole, Orange, and Osceola as well as the City of Orlando voted unanimously to enter into Interlocal Agreements with each other and with the Florida Department of Transportation (FDOT). These Interlocal Agreements include commitments by FDOT and the local funding partners to fund 50% of the capital improvements; to fund the anticipated operations and maintenance deficit; and to create a governance structure for the Central Florida Commuter Rail system.

As a result of requests made by local funding partners and further coordination with CSXT, several changes to the Project scope have occurred. A re-evaluation of the information previously provided in the original EA and 2008 SEA documents was performed based on the requests and coordination. The revisions, discussed throughout this document, include changes to the DeLand Amtrak, Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, Kissimmee Amtrak, and Poinciana Industrial Park Stations; and a change in vehicle technology from Diesel Multiple Units (DMUs) to Federal Railroad Administration



(FRA) compliant locomotive and Americans with Disabilities Act (ADA) compliant coach and cab car train sets. This change in vehicle technology resulted from the inability of the sole vendor to provide the DMU vehicles.

Requests made by local funding partners and further coordination with CSXT since the original EA and 2008 SEA were approved have lead to some changes in the CRT Full Build Alternative. The limits of the Full Build Alternative alignment have not changed from the original EA. However, modified configurations for the DeLand Amtrak, Meadow Woods, Kissimmee Amtrak, and Poinciana Industrial Park Stations have resulted from these requests and the Osceola Parkway Station is proposed to be expanded to the west side of the tracks at the same location along the Corridor. The revisions also include increased parking lot footprints at the Altamonte Springs and Sand Lake Road Stations to accommodate stormwater and to meet the Full Build requirements for parking. Preliminary Concept Plans for these above referenced changes are included as Appendix A of this document.

In addition, an updated air quality, energy, noise and vibration analysis was performed for the entire Corridor due to a change in vehicle technology from Diesel Multiple Units (DMUs) to FRA-compliant locomotives and ADA-compliant coach and cab car train sets. This change in vehicle technology resulted from the inability of the sole vendor to provide the DMU vehicles.

For the purpose of the proposed Project scope changes analysis, the CRT service includes seventeen station stops with a bi-directional service (on weekdays only) at 15-minute peak period and 60-minute midday and evening service frequencies in the Year 2030. The Locally Preferred Alternative (LPA) includes sixteen stations with 30-minute bi-directional service during weekday peak hours and 120-minute service during the midday. Commuter rail service would be operated with FRA-compliant locomotives and ADA-compliant coach and cab car train sets.

### **S.1.2. Purpose and Need for Action**

There has been no change to the CRT purpose and need, and goals identified in the original EA. The Commuter Rail Transit Project proposes an alternative mode of transportation to improve the mobility of travelers along the Study Corridor, which is the primary travel corridor in the region. This Corridor is highly congested and experiences poor highway levels of service all during the day, especially in the morning, mid-day and afternoon peak hours. This traffic congestion inhibits travel mobility, causes longer and more frequent delays, emergency response time delays, impairs air quality, wastes fuel and personal time, stifles economic growth and diminishes the overall quality of life. The proposed CRT Project would connect the region's primary residential communities of Volusia, Seminole, and Osceola Counties, to the urban core in Orange County and the City of Orlando.

## **S.2. Alternatives**

Continued coordination with local funding partners and CSXT since the original EA and 2008 SEA were approved has lead to additional modifications to the Full Build Alternative. The limits of the Full Build Alternative alignment, railway infrastructure upgrades, station locations (with the exception of the Osceola Parkway Station parcel expanding to include the west side of the tracks), and operating plan have not changed from the original EA and 2008 SEA. However, modifications to the station footprints and a change in vehicle technology have occurred. The revisions include changes to the DeLand Amtrak, Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, Kissimmee Amtrak, and Poinciana Industrial

Park Stations; and a change in vehicle technology from Diesel Multiple Units (DMUs) to FRA-compliant locomotive and ADA-compliant coach and cab car train sets. This change in vehicle technology resulted from the inability of the sole vendor to provide the DMU vehicles.

### **S.3. Environmental Consequences**

The proposed Project would improve the 61-mile rail route within existing railroad right-of-way. This supplement considers impacts associated with revisions to the DeLand Amtrak, Meadow Woods, Osceola Parkway, Kissimmee Amtrak, and Poinciana Stations. The footprints have also increased for the park-and-ride lots at the Altamonte Springs and Sand Lake Road Stations. Table S- 1 summarizes impacts to the natural and social environment at the modified station sites that would result from the proposed Project scope changes. In addition, there has been a change in vehicle technology from Diesel Multiple Units (DMUs) to FRA-compliant locomotive and ADA-compliant coach and cab car train sets.

This supplemental environmental evaluation excludes from the discussion resource areas that have proven to not be impacted by the changes to station areas and the change in vehicle technology. Findings regarding these resources in the original EA and the 1st Supplemental EA remain unchanged. Screening, background research, and technical documentation completed on several of these resource areas as part of earlier environmental analysis shall be considered part of the administrative record and are adopted by reference into this environmental evaluation. These resource areas include: Community Cohesion, Environmental Justice, Public Safety, Security and Community Services, Economic Impacts, Utilities, Railroads, Archaeological and Historic Resources, Recreation and Parkland Resources, Pedestrian and Bicycle Facilities Access, Ecosystems, Visual and Aesthetic Resources, Farmlands, Transit and Construction Impacts.

#### **S.3.1. Land Use and Zoning**

Land use patterns vary across the Corridor and have not changed significantly since the approval of the original EA.

##### *DeLand Amtrak Station*

After the original EA was approved, Volusia County officials and major stakeholders revised the development plans around the DeLand Station such that the station land use has been modified. The station park-and-ride layout with the Full Build requirement of 180 spaces was redesigned to accommodate the Transit Oriented Development (TOD) and stormwater requirements. The additional area for stormwater treatment and TOD adjustments is 13.7 acres.

##### *Altamonte Springs Station*

Since the original EA, additional storage capacity for stormwater has necessitated the use of underground storm chambers. The existing land use within the Altamonte Springs Station area is now vacant except for the U S Post Office building, which is not an historic structure. US Post Office officials have approached the City, County and FDOT about the sale of their property. This would allow for a more efficient design of the park-and-ride lot. An existing pond and vacant property on the east side of the CSXT tracks has been identified as a potential additional stormwater treatment area. The revised Altamonte Springs Station layout includes the post office land and the added stormwater location. An additional 5.7 acres are required to accommodate this design, which includes 650 parking spaces. This additional area is addressed in this SEA.

*Sand Lake Road Station*

Since the approval of the original EA, changes to South Florida Water Management District (SFWMD) stormwater treatment and discharge requirements have necessitated additional land for the water treatment. The current design includes storm chambers beneath the parking lot. Discussions with Orange County indicated a preference for the expansion of the parking area and ponds to the north side of the current location.

The revised station layout accommodates the Full Build park-and-ride lot with 650 spaces. The added area for these revisions is 8.3 acres, which is the subject of this SEA.

*Meadow Woods Station*

The original EA identified the station parking lot on the west side of the CSXT tracks located on land identified as retention pond and wetlands. Since the approval of the original EA, changes to SFWMD stormwater treatment and discharge requirements has limited the use of these parcels that were proposed for the station.

The proposed station parking lot on the east side would minimize the resizing of the existing county pond located on the west side of Orange Avenue to approximately 4.8 acres. Utilization of the existing wetland mitigation area on the west side of the CSXT tracks would not be required, based on the station modification described herein. The additional area required (8.5 acres) for the modified site is necessary to meet the Full Build requirement of 390 parking spaces. This additional area is addressed in this SEA.

As stated in the original EA, the Meadow Woods station site will require amendments to existing Planned Unit Development (PUD) zoning.

*Osceola Parkway Station*

As a result of discussions with Osceola County, an additional station area and park-and-ride location were identified and evaluated on the west side of the CSXT tracks on property owned by the Tupperware Corporation. As evaluated in the original EA, the station would remain at the same location on the north side of Osceola Parkway. Osceola County would change the future land use for this area to the appropriate zoning and land use designation if necessary. The property owner has indicated that they would modify the Osceola Corporate Center Development of Regional Impact (DRI) land use plan to conform to Transit Oriented Development practices and principles.

The station layout will be designed to accommodate TOD and the stormwater requirements to meet new treatment criteria. This includes a park-and-ride lot with 200 spaces that meets the Full Build requirement. The additional 32.2 acres for stormwater treatment and adjustments for the potential TOD was evaluated in this SEA.

*Kissimmee Amtrak Station*

Since the original EA, a new mixed use residential/office and retail condominium, including a parking garage with 100 spaces designated for City of Kissimmee, has been constructed on a portion of the block bounded by Dakin Avenue, Monument Avenue, and the CSXT tracks.

The revised station site plan for the Kissimmee Station includes a LYNX bus transfer station and a park-and-ride lot with the Full Build requirement of 390 spaces. The added area is 5.8 acres. There are 308 existing parking spaces at the Kissimmee Civic Center / Public Library parking lot. Sixty (60) parking spaces will be used jointly (shared parking) for commuters, adjacent Kissimmee Civic Center patrons and City of Kissimmee parking.

### Poinciana Industrial Park Station

Changes to SFWMD stormwater treatment and discharge requirements led to a need for additional area for the proposed station site. This additional area will also be used for the layover facility once the south segment is added. The existing land use is predominately vacant or agricultural.

The revised station layout with an additional 17.5 acres is sized to accommodate stormwater treatment and the Full Build parking requirement of 250 spaces.

## **S.3.2. Displacements and Relocations**

The acquisition and relocation program will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and relocation resources will be available to all relocated business and residents without discrimination. For this SEA, a total of nine businesses and no residences are proposed to be relocated due to the scope changes. This includes two businesses at DeLand, one business at Altamonte Springs, four businesses at Sand Lake Road, and two businesses at Meadow Woods.

Appendix L of the original EA contained a list of impacted parcels, relocations and easements cleared. Since the original EA, additional title and boundary survey information has further defined the ownership of these parcels. Appendix F contains a list of impacted parcels and potential relocations for the seven modified station sites.

## **S.3.3. Air Quality**

A revised air quality analysis was conducted to reflect the change in vehicle technology as described in the original EA from DMUs, which are unavailable due to vendor issues, to FRA-compliant locomotives and ADA-compliant coaches and cab cars.

Under the updated air quality analysis using FRA-compliant locomotives, the Full Build Alternative will result in minor additional amounts of total annual emissions of Nitrogen Oxides and particulate matter (PM<sub>2.5</sub>) than that of either the No Build or TSM Alternatives. This reflects the use of FRA-compliant diesel locomotive and ADA-compliant coaches and cab car train sets in place of the diesel-powered DMUs for the project. The air quality analysis has demonstrated that the project alternatives differ very little from one another in both regional emissions and local CO concentrations, as illustrated in Table 3-2. All estimated CO concentrations are less than the National Ambient Air Quality Standards (NAAQS). A summary of the detailed analysis performed is included in Air Quality Subsection of Chapter 3 and in the Air Quality Technical Report (January 2010).

Although NO<sub>x</sub> and PM<sub>2.5</sub> emissions are predicted to increase slightly with the Full Build Alternative due to additional diesel emission sources in the project area, the emission increases are not expected to create any adverse air quality impacts.

The modeled 1-hour and 8-hour CO concentrations were compared to the NAAQS and the Florida AAQS and the estimated CO concentrations are less than the NAAQS for all alternatives analyzed. The results show no CO concentrations above the standards. The Project area is located in an area which is designated as an attainment area for all pollutants under the criteria provided in the Clean Air Act. Therefore, the Clean Air Act conformity

requirements do not apply to the Project. No mitigation measures are required as a result of the proposed Project scope change items for compliance with the NAAQS.

### **S.3.4. Noise and Vibration**

A detailed noise assessment and a general vibration assessment were performed along the Project Corridor based on replacing the DMU vehicles with FRA-compliant diesel locomotives and standard passenger rail cars.

The existing CSX A-Line freight and passenger corridor currently operates 26 trains per day – 6 Amtrak passenger trains, 10 local freight trains and 10 road freights (or through) trains. The through freight trains include Intermodal trains, Autorack trains, Merchandise trains and Bulk, Coal and Rock unit trains with consists that include two or three locomotives per train pulling more than 100 freight cars.

#### Noise

For the purpose of the supplemental noise impact assessment, it is assumed that all existing freight and passenger operations will continue to exist in the CRT Corridor. The results of the analysis indicate that the only noise impacts in the corridor are due to the use of warning horns as trains approach the grade crossings. The noise analysis completed in the original EA and subsequent analysis completed for this Supplemental EA included the use of warning horns and applied the same FRA horn noise criteria.

In the original EA, without mitigation, it was estimated there would be 217 receptors impacted by the CRT Project. In this SEA, without mitigation, there are 303 receptors that would be impacted by the CRT Project. Severe impacts would increase by thirty (30) to 84 and the moderate impacts would increase by fifty-six (56) to 219. Because the estimated noise level is a cumulative measure from various noise sources (e.g. warning horns, engine noise, wheel to rail noise, etc.), this increase in impacts is due solely to the comparatively higher noise generated by the FRA-compliant locomotives relative to the DMU vehicles. Fifty-nine (59) of the 84 severe impacts in this SEA have a noise level of 3 dBA or less above the FTA severe impact criteria and fifteen (15) of the severe impacts are between 3 dBA and 5 dBA. The remaining 10 of the 84 severe impacts have a noise level between 5 dBA and 10 dBA above the FTA severe impact criteria.

To mitigate the horn noise impacts, the CRT Project will use the same mitigation measure as applied to horn noise in the original EA. The train horn will be relocated from the roof to a location approximately three (3) feet above top of rail and incorporate a metal horn shroud with high absorption acoustic insulation to reduce the sideline noise. Using this method, no horn noise impacts are predicted.

During the start-up period of the commuter rail operations, FDOT will test the horn shroud to determine its effectiveness and to ensure that there will be minimal community noise impact from the warning horns. If noise monitoring during the start-up period reveals that the selected mitigation does not adequately control noise, FDOT as the Project sponsor is committed to adopting additional measures to reduce noise. In this case, all impacts in the severe range will be eliminated and the number of impacts in the moderate range will be minimized. Such an outcome is consistent with FTA's original EA and resultant FONSI for the Project.

### Vibration

In estimating ground borne vibration from the heavier push-pull technology, it was assumed the freight and Amtrak operations were absent from the Project Corridor. The results of the vibration assessment indicate that 99 receptors along the 61-mile CRT Corridor are predicted to have vibration levels that are above the FTA annoyance criterion. In the previous vibration assessment for the DMU vehicles, no vibration impacts were predicted to occur along the Project Corridor because the DMUs are lighter than a diesel locomotive.

It should be noted that the 99 vibration impacted receptors are already impacted by the existing freight and Amtrak trains that operate along the Project Corridor. Although the number of daily train trips is predicted to increase by 56 for the Full Build CRT Alternative, the vibration levels generated by each CRT train is projected to be equal to or less than the vibration levels generated by each freight or passenger train currently operating in the Project corridor.

The FTA guidance manual states that vibration control measures developed for rail transit systems are not effective for heavy-weight, higher axle load freight trains.<sup>3</sup> As a result, because of the existing and future presence of freight on shared tracks, there are no practical measures for mitigating vibration. Standard maintenance-of-way operational procedures such as regular wheel truing and rail grinding will be implemented to minimize vibration impacts to the levels predicted by this analysis.

### **S.3.5. Wetlands**

A total of approximately 21 acres of wetlands and water features are proposed to be impacted as a result of the station modifications. The maximum “worst case” direct impact to wetlands has been assumed for the modified station sites (that is, impacts are assumed to the full extent of the station footprint). Therefore, the modified station sites could impact up to an additional 3.9 acres of water features (ditches and Reservoirs) and 17.1 acres of wetlands. As such, wetland impacts that will result from the construction of this project will be mitigated pursuant to Section 373.4137 of Florida Statutes to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. 1344. Under Section 373.4137 of Florida Statutes, mitigation of FDOT wetland impacts will be implemented by the appropriate Water Management District where the impacts occur. Each Water Management District will develop a regional wetland mitigation plan on an annual basis that addresses the estimated mitigation needs of FDOT. The Water Management District will then provide wetland mitigation for specific FDOT project impacts through a corresponding mitigation project within the overall approved regional mitigation plan. FDOT will provide funding to the Water Management District for implementation of such mitigation projects.

Wetland impacts resulting from the construction of the modified DeLand Amtrak Station site within the jurisdiction of the St. Johns River Water Management District (SJRWMD) will be mitigated, as required, pursuant to Section 373.4137, Florida Statutes to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. 1344 as previously indicated in the original EA. Altamonte Springs and Sand Lake Road Stations, also within the jurisdiction of SJRWMD, do not contain wetlands and the surface water impacts will not require mitigation.

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<sup>3</sup> Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006, Section 8.1.3, p. 8-6

Wetland impacts at Osceola Parkway permitted through the South Florida Water Management District (SFWMD) will be mitigated, as required, through the purchase of mitigation credits from approved mitigation banks and/or in basin wetland creation to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. 1344. The proposed changes to the station sites for the Meadow Woods, Kissimmee Amtrak and Poinciana Industrial Park Stations are not anticipated to impact any new wetlands; therefore, no mitigation will be required.

### **S.3.6. Contamination**

*A Contamination Screening Evaluation Report (CSER) Second Addendum* (November 2009) was completed to re-evaluate site conditions associated with the proposed changes to the station sites that are the subject of this Second SEA.

The DeLand Amtrak, Sand Lake Road, Meadow Woods, Osceola Parkway and Poinciana Industrial Park Stations retain the same contamination risk ratings as in the original EA. Level 2 contamination assessment activities conducted since the original EA have resulted in a change in the contamination risk ratings for Kissimmee Amtrak and Altamonte Springs Stations from High to Medium. For locations identified as having Medium or High contamination risks, a further review of public records will be performed and preliminary soils screening evaluation will take place to detect the presence of contaminants in soil or groundwater prior to acquisition of property or initiation of construction activities.

Depending upon the nature and extent of contamination as determined by these contamination assessment activities, risk analysis for impacts to the Project and the general public will be performed, cost estimates for remediation will be developed and a communication plan with applicable regulatory agencies will be devised. Mitigation measures, dependent on the results of additional site-specific assessments of soils and groundwater will be developed, as appropriate.

### **S.3.7. Energy**

The DMU vehicle energy usage was discussed in the original EA. The change in vehicle technology to diesel locomotives resulted from the inability of the sole vendor to provide the DMU vehicles. Table 3-2 shows fuel use for the diesel locomotive alternative is greater than for the DMU. The change in vehicle technology resulted in an increase in the direct energy usage and a minimal impact to the indirect energy usage. However, despite the increase in fuel consumption from the change in vehicle technology, there will be a minimal impact to the indirect energy usage. Table 3-4 illustrates the indirect energy impacts reflected by the Emissions Analysis.

The overall locomotive emissions in the Full Build Alternative are offset by the removal of passenger motor vehicle emissions due to the shift from the single occupant automobile to CRT for longer haul trips, as had been the case when the project was designed with DMUs.

## **S.4. Transportation Impacts**

This supplemental environmental evaluation excludes from the discussion transportation components that have proven to not be impacted by the changes to station areas and the change in vehicle technology. Findings regarding these resources in the original EA and the 1st Supplemental EA remain unchanged. These transportation components include:

roadway at-grade crossing delays, station pedestrian and bicycle connections, parking, and transit.

#### **S.4.1. Traffic and Roadway**

Traffic operations were updated at the seven modified stations and study intersections and roadways to reflect Projected Year 2030 conditions. Due to the proposed Project scope changes, vehicle access has been modified at the Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, and Kissimmee Amtrak stations. The vehicle turning movements have been modified at these stations to reflect access and circulation changes. Access was not changed at the remaining stations.

The modifications to the seven stations will not change traffic analysis findings from the original EA analysis. FDOT is committed to measures to mitigate potential impacts as stated in Section 4.1.6 of the original EA.

#### **S.4.2. Summary of Impacts**

Table S- 1 demonstrates that no substantial changes will occur in air quality, noise, vibration and energy usage due to a change in vehicle technology from DMUs to FRA-compliant locomotives and ADA-compliant coach and cab car train sets for the CRT Project. Table S- 2 demonstrates that no substantial changes have occurred in the social, economic, or environmental effects of the proposed action that would significantly impact the quality of the human environment in the area surrounding the station sites.

**Table S- 1 - Corridor Level Impact Summary**

<b>Category</b>	<b>Description of Change</b>	<b>CRT Impact After Mitigation</b>
Air Quality	Increase in air pollution	No exceedences of NAAQs
Noise	Additional noise Impacts	No exceedences of noise impact criteria
Vibration	Additional vibration impacts	99 receptors with vibration impacts
Energy	Increase in energy consumption	No overall increase in energy usage from the project



**Table S- 2 -Station Impact Summary**

<b>Category</b>	<b>Description of Impact</b>	<b>DeLand Amtrak Station Impacts</b>	<b>Altamonte Springs Station Impacts</b>	<b>Sand Lake Road Station Impacts</b>	<b>Meadow Woods Station Impacts</b>	<b>Osceola Parkway Station Impacts</b>	<b>Kissimmee Amtrak Station Impacts</b>	<b>Poinciana Industrial Park Station Impacts</b>
Displacements and Relocations	Displacement of residences and/or businesses; impacted area	2 Businesses 10.9 acres additional take area	1 Business 5.7 acres additional take area	4 Businesses 7.2 acres additional take area	2 Businesses 9.2 acres additional take area	Vacant Land 11.8 acres additional take area	Vacant Land 5.2 acres additional take area	Vacant land 17.5 acres additional take area
Wetlands	Impacts to jurisdictional wetlands	2.6 acres	1.8 acres	0.01 acres	1.7 acres	14.7 acres	0.3 acres	None
Contamination	Risk potential rating caused by the presence of hazardous waste	Medium <sup>1</sup>	Risk potential downgraded from High to Medium	Medium <sup>1</sup>	High <sup>1</sup>	Low <sup>1</sup>	Risk potential downgraded from High to Medium	Low <sup>1</sup>

Note: 1. No change from original EA.

# 1 PURPOSE AND NEED FOR PROPOSED ACTION

## 1.1 Project Background and Description

The Federal Transit Administration (FTA) approved the Central Florida Commuter Rail Transit (CFCRT) North/South Corridor Project Environmental Assessment (EA) on December 15, 2006. Public hearings on the original EA were held January 16, 2007 in Volusia and Seminole Counties and January 18, 2007 in Orange and Osceola Counties. The purpose of these hearings was to give the public an opportunity to express views concerning the location, conceptual design, and social, economic and environmental effects of the proposed Project. On March 12, 2007, the Project received approval from FTA to enter into Preliminary Engineering for Phase 1 and Phase 2. On April 27, 2007, FTA issued a Finding of No Significant Impact (FONSI) for the Project.

A Supplemental Environmental Assessment (SEA) was subsequently performed due to several Project scope changes to the Full Build Alternative as evaluated in the original EA. FTA approved the SEA on May 8, 2008. Public hearings on the SEA were held on June 12, 2008 in both Orange and Seminole Counties. These meetings were held to provide information to stakeholders about the Project changes as well as listen to and document their concerns and suggestions about the Project and how the SEA was conducted. On July 22, 2008, FTA issued an Addendum to the FONSI. FTA granted the Project entry into Final Design for Phase 1 on August 11, 2008.

The CRT Project sponsors include the Florida Department of Transportation (FDOT), in association with the Central Florida Regional Transportation Authority (LYNX), Volusia County Public Transit System (VOTRAN), METROPLAN ORLANDO (MPO), Volusia County Metropolitan Planning Organization (MPO), and the counties of Orange, Osceola, Seminole and Volusia and the City of Orlando.

The Commuter Rail Transit (CRT) Project is proposed to operate on the existing CSX Transportation, Inc. (CSXT) A-Line rail corridor from the existing DeLand Amtrak Station in Volusia County, south through downtown Orlando and Kissimmee until its terminus in Poinciana at the intersection of US 17-92 and the CSXT tracks in Osceola County. A regional map (Figure 1-1) identifies the study limits of the Project. The first phase of the Project will be a 32-mile North Corridor with twelve stations between DeBary (formerly known as Fort Florida Road) in Volusia County and Sand Lake Road in unincorporated Orange County. Phase 1 is referred to as the Initial Operating Segment (IOS). The second phase is the south portion of the Project Corridor that extends service from Sand Lake Road to Poinciana Boulevard in Osceola County. This includes four stations and is approximately 17 miles in length. When combined, the Corridor is referred to as the Locally Preferred Alternative (LPA). A twelve mile extension of the LPA further north to the DeLand Amtrak Station in Volusia County defines the 61-mile long Full Build Alternative.

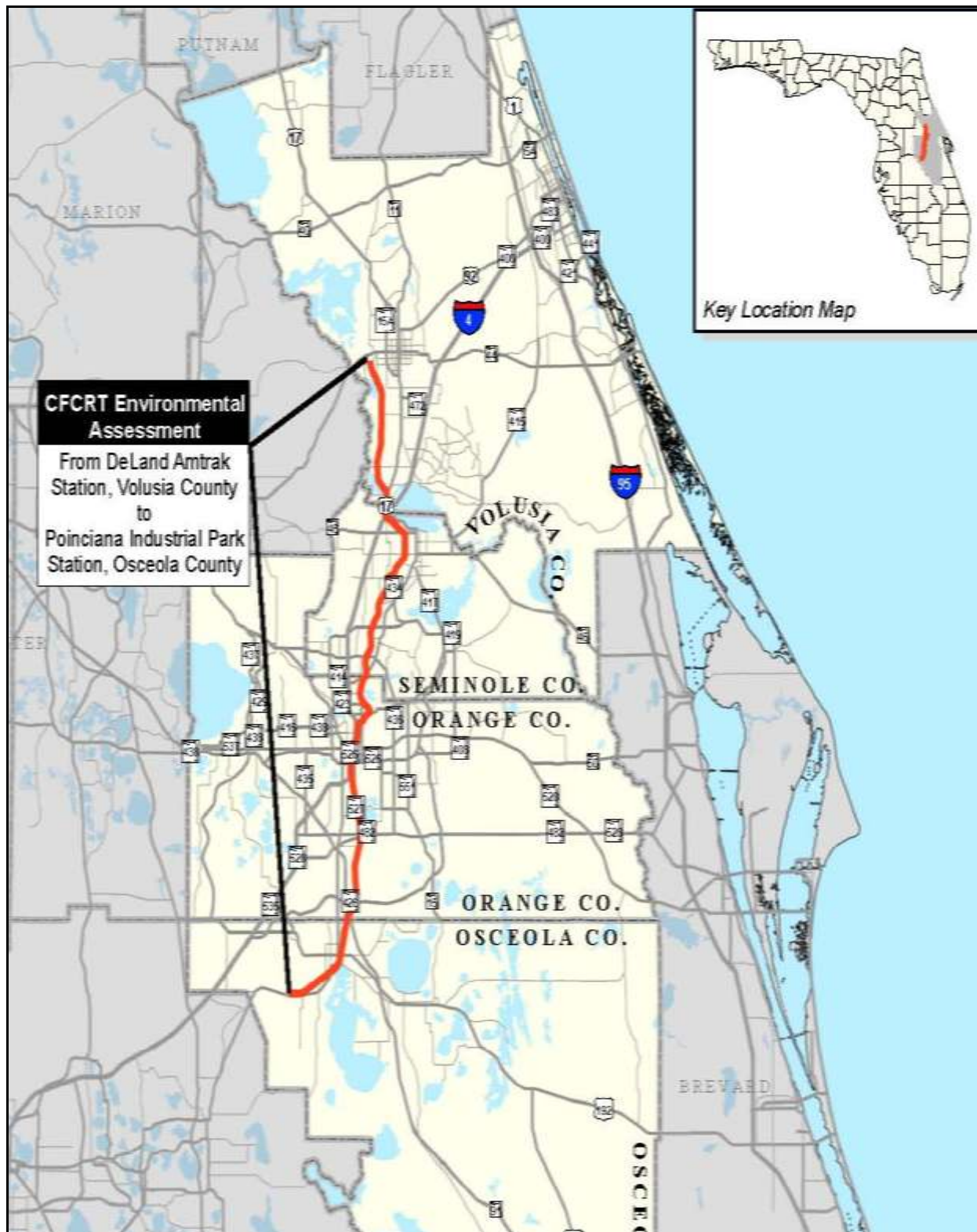


Figure 1-1 - Regional Location Map

In July 2007, the five local funding partners including the counties of Volusia, Seminole, Orange, and Osceola as well as the City of Orlando voted unanimously to enter into Interlocal Agreements with each other and with FDOT. These Interlocal Agreements include commitments by FDOT and the local partners to fund 50% of the capital improvements; to fund the anticipated operations and maintenance deficit; and to create a governance structure for the Central Florida Commuter Rail system.

As a result of requests made by local funding partners and further coordination with CSXT, several changes to the Project scope have also occurred. A re-evaluation of the information previously provided in the original EA and 2008 SEA documents was performed based on the requests and coordination. The revisions, discussed throughout this document, include changes to the DeLand Amtrak, Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, Kissimmee Amtrak, and Poinciana Industrial Park Stations; and a change in vehicle technology from Diesel Multiple Units (DMUs) to FRA-compliant locomotive and ADA-compliant coach and cab car train sets. This change in vehicle technology resulted from the inability of the sole vendor to provide the DMU vehicles. A map showing the location of the station changes is shown in Figure 2-1.

## **1.2 Need for Second Supplemental Environmental Assessment**

This second SEA documents the changes made to the original Central Florida Commuter Rail Transit (CFCRT) North/South Corridor Project EA approved December 15, 2006 and the subsequent SEA approved May 8, 2008.

Specific changes that have been made include:

- Modified station configurations for the DeLand Amtrak, Meadow Woods, Kissimmee Amtrak, and Poinciana Industrial Park Stations,
- Expanded Osceola Parkway Station to include area on the west side of the tracks near the intersection of Osceola Parkway and Orange Avenue,
- Renamed Fort Florida Road Station to DeBary Station at the request of local stake holders,
- Increased parking lot footprint at the Altamonte Springs and Sand Lake Road Stations to accommodate stormwater and to meet the Full Build requirements for parking,
- Modified/added right-of-way and relocation information for station changes,
- Revised information on impacted wetlands for station changes,
- Revised information about potential contamination impacts for station changes,
- Updated air quality, energy, noise and vibration analysis for the entire corridor due to change in vehicle technology for commuter rail vehicles from Diesel Multiple Units (DMUs) to FRA-compliant locomotives and ADA-compliant coach and cab car train sets, and
- Updated public involvement information.

### **1.3 Purpose**

The purpose and need of the Project as identified in the original EA (approved December 15, 2006), has not changed with the proposed design modifications. The CRT Project proposes an alternative mode of transportation to improve the mobility of travelers along the Study Corridor, which is the primary travel corridor in the region. This Corridor is highly congested and experiences poor highway levels of service all during the day, especially in the morning, mid-day and afternoon peak hours. This traffic congestion inhibits travel mobility, causes longer and more frequent delays, emergency response time delays, impairs air quality, wastes fuel and personal time, stifles economic growth and diminishes the overall quality of life. The proposed CRT Project would connect the region's primary residential communities of Volusia, Seminole, and Osceola Counties to the urban core in Orange County and the City of Orlando.

Since completion of the original EA and 2008 SEA, continued support and need for the Project is reflected in the December 2008 and December 2009 amendments to the aforementioned Interlocal Agreements. In addition, several resolutions of support from the local governments and MPOs have been received. Finally, the Florida Legislature passed legislation supporting the Project in December 2009. A summary of this continued collaboration is included in Chapter 7 of this document.

### **1.4 Needs Previously Considered**

Needs were identified and summarized in the original EA (Sections 1.4 through 1.6), and the role of the original EA in Project development was discussed. These needs have not changed with the Project scope changes documented herein. These topics are well described in the original EA and include:

- Need for Transportation Improvements: Roadways and Traffic (Existing and Future Conditions) and Transit Services (LYNX, VOTRAN and Amtrak)
- Needs for Population and Employment
- Land Use: Activity Centers and Developments of Regional Impacts (DRI)

## 2 ALTERNATIVES

This chapter discusses changes made to the CFCRT Full Build Alternative since the approval of the original EA and resulting FONSI on April 27, 2007 and SEA and corresponding Amendment to the FONSI on July 22, 2008. Preliminary Concept Plans for the Full Build Alternative alignment are included in a separately bound Appendix K of the original EA and Appendix A of the 2008 SEA.

As indicated in Chapter 1 of this Second SEA, continued coordination with local funding partners and CSXT since the original EA and 2008 SEA were approved has lead to additional modifications to the Full Build Alternative. The limits of the Full Build Alternative alignment, railway infrastructure upgrades, station locations, and operating plan (with the exception of the Osceola Parkway Station parcel expanding to include the west side of the tracks) have not changed from the original EA and 2008 SEA. However, modifications to the station footprints and a change in vehicle technology have occurred. The revisions include changes to the DeLand Amtrak, Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, Kissimmee Amtrak, and Poinciana Industrial Park Stations; and a change in vehicle technology from Diesel Multiple Units (DMUs) to FRA-compliant locomotive and ADA-compliant coach and cab car train sets. This change in vehicle technology resulted from the inability of the sole vendor to provide the DMU vehicles. Preliminary Concept Plans for these above referenced station changes are included as Appendix A of this document.

This Second SEA will address the Project scope changes and discuss impacts of those Project scope changes to the CRT Full Build Alternative.

### 2.1 Alternatives Analysis

#### 2.1.1 Alternatives Previously Considered

Transportation alternatives previously considered for the CRT Project include a wide range of alternatives identified in the Central Florida North/South Commuter Corridor Alternatives Analysis Final Report<sup>4</sup> (AA) completed in May 2004. This AA provided the starting point of the alternatives definition in the original EA. The AA was completed in accordance with FTA requirements for program planning and evaluation. A complete discussion of the AA is found in Section 2.1.1 of the original EA.

An intensive local government coordination effort and public outreach process during the original EA resulted in modification and further definition of the alternatives to improve their ability to address Project purpose and need and goals. Chapter 2, Alternatives, of the original EA defines and summarizes the development of the No-Build, Transportation System Management (TSM), and Build Alternatives. These alternatives are defined in conformance with the requirements of the National Environmental Policy Act (NEPA), and the FTA's New Starts process. Figure 2-1 depicts the CRT Build Alternative as approved in the 2006 EA and 2008 SEA.

<sup>4</sup> "Central Florida North/South Commuter Corridor Alternatives Analysis – Final Report," Central Florida Regional Transportation Authority (LYNX), Florida Department of Transportation, Volusia County MPO, METROPLAN ORLANDO, May 2004.

### **2.1.2 Modifications to CRT Build Alternative**

The Build Alternative features all of the transit services and Projects included in the No-Build Alternative with the addition of commuter rail services along the CSXT A-Line and are fully discussed in Section 2.3.4 of the original EA. The Project scope changes relating to the Full Build Alternative of the CRT is the subject of this supplement to the original EA.

#### **Full Build CRT Alternative**

The Full Build Alternative would extend from the DeLand Amtrak Station in Volusia County through Seminole and Orange Counties to Poinciana Industrial Park in Osceola County, a distance of 61 miles, via the CSXT A-Line. A total of 17 stations are proposed in the Full Build Alternative and would be located at DeLand Amtrak, DeBary (previously known as Fort Florida Road), Sanford, Lake Mary, Longwood, Altamonte Springs, Maitland, Winter Park, Florida Hospital, LYNX Central Station, Church Street (in downtown Orlando), Orlando Amtrak/ORMC, Sand Lake Road, Meadow Woods, Osceola Parkway, Kissimmee Amtrak, and Poinciana Industrial Park. Figure 2-2 shows the station locations on the existing track alignment and the existing double track sections.

As previously stated in the original EA, the proposed service plan at build-out would provide 15-minute bi-directional service during morning and evening peak periods and 60-minute service in the midday, Monday through Friday (approximately 260 days per year). The primary infrastructure improvements include a new signal system and 40 miles of new 2nd track bringing the total double track to approximately 59 miles in the 61-mile corridor. The 2030 CRT Full Build Double Track Alternative is depicted in Figure 2-3.

#### **Full Build Feeder Bus Operations**

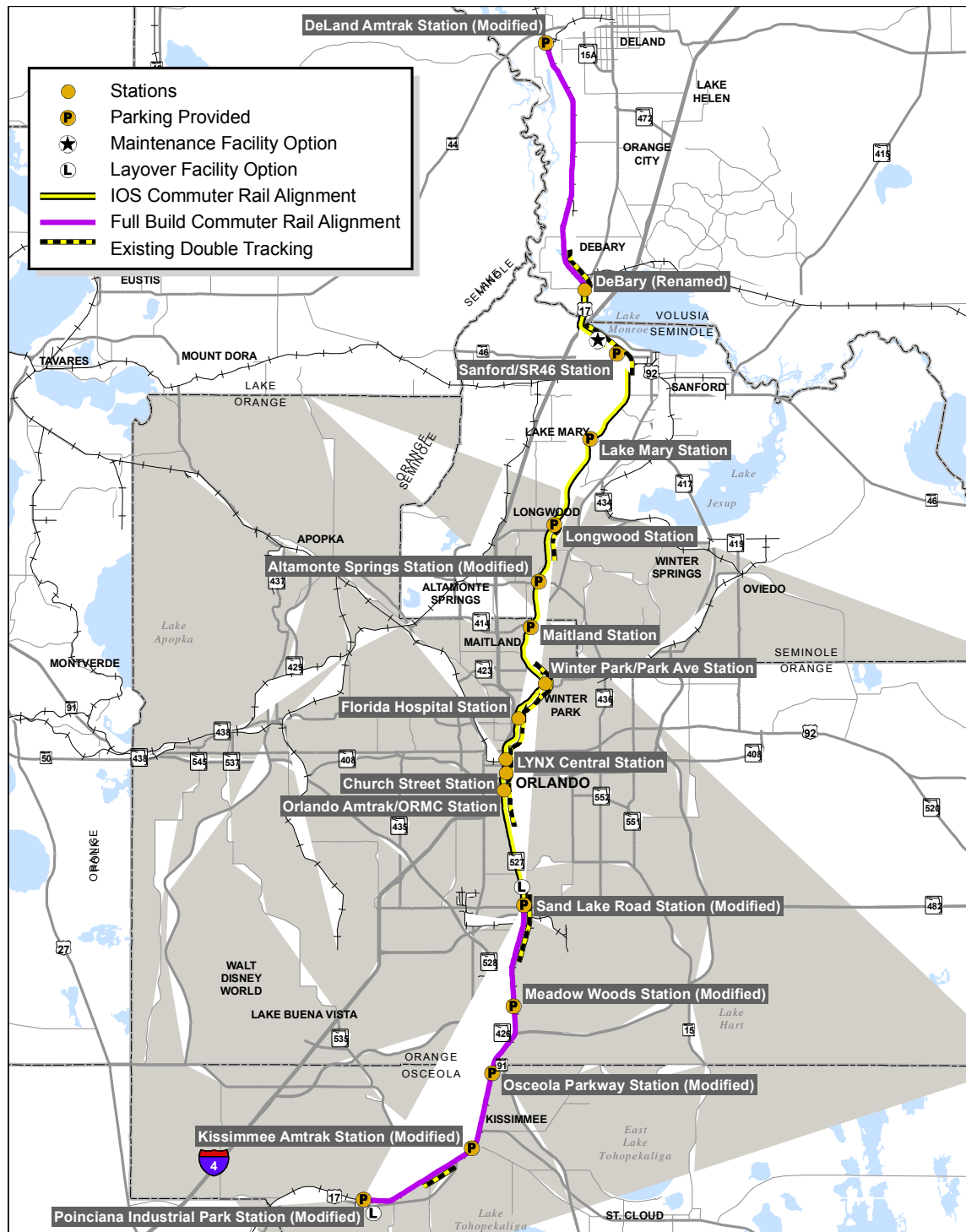
A full discussion of the fixed route bus transit operated by LYNX and VOTRAN is referenced in Section 2.3.4 of the original EA. No modifications to the new fixed routes as described in the original EA have been proposed in this second SEA.

#### **Full Build Parking Requirements**

There are no changes in on-street or station area parking from the original EA.

#### **Full Build Operating Requirements**

The Full Build Alternative operating requirements are unchanged from the originally original EA and are included below. All trains are proposed to be dispatched from the Operations Control Center (OCC) that would be located in the CRT Rand Yard VSMF location. The only change is the replacement of the DMU train sets with FRA-compliant locomotive and ADA-compliant coach and cab cars train sets. As a result of this change, the Full Build peak period schedules would require 14 FRA-compliant locomotives and 28 bi-level ADA-compliant coaches and cab cars. The total available fleet, including maintenance spares, would be 17 locomotives and 34 bi-level coaches and cab cars.





SunRail and corridor-wide operations plans are further discussed in the Noise and Vibration section of this document.

### **Negotiated Operating Windows with CSXT**

- 5 AM to 10 AM exclusive passenger trains
- 10 AM to 3 PM mixed passenger and freight trains
- 3 PM to 10 PM exclusive passenger trains
- 10 PM to 12 AM mixed passenger and freight trains
- 12 AM to 5 AM exclusive freight trains

### **Initial Operating Segment (IOS) Service Plan**

- 30-minute bi-directional service during morning/evening peak hours
- 120-minute bi-directional service in the mid-day off-peak hours
- Weekday (Monday – Friday) service only

### **Full Build Service Plan**

- 15-minute bi-directional service during morning/evening peak hours
- 60-minute bi-directional service in the mid-day off-peak hours
- Initial service to be provided during weekdays, with potential for additional service on the weekends at some point in the future
- NEPA work cleared Full Build Service Plan

### **Existing Freight Operations**

- Maximum of 26 trains/day (10 through freight trains, 10 local trains and up to 6 Amtrak passenger trains) on the A-Line
- Previous NEPA approvals environmentally cleared all freight trains and Amtrak passenger trains plus growth

### **Proposed Freight Relocation Plan**

- As part of CSXT's strategic business plan, up to a total of 9 freight trains may be diverted from the A-Line (runs through Central Florida's urban core) to the S-Line which is to the west
  - Relocates six daily through trains off A-Line to S-Line
  - Re-routes three daily trains to S-Line, but will access A-Line from the south to the Stanton Spur in Orange County

## **2.1.3 Vehicle Storage and Maintenance and Layover Facilities**

Section 2.3.7 of the original EA provided an overview of the Rand Yard VSMF originally identified in the AA document. The proposed configuration of the CRT VSMF (within the limits of the CSXT Rand Yard) is shown in the 2008 SEA, Appendix A. The necessary layover facility functions and the recommended location identified were also described in the original EA.

Subsequent to the original EA, a Technical Memorandum – Assessment of Amtrak Auto-Train Yard and Maintenance Facility (August 2007) was produced and the Project sponsors

coordinated with Amtrak. Since the VSMF Technical Memorandum was developed, Amtrak indicated a willingness to enter into contractual services with FDOT to offer maintenance services for the commuter rail vehicles at their Auto Train facility. An MOU with Amtrak was reached that includes Amtrak providing intermediate/heavy vehicle maintenance at their existing Sanford maintenance shop facility; and use of the Amtrak vehicle wash facility at the same location. A full description of the Sanford Amtrak Auto Train Facility is provided in Section 2.1.4 of the 2008 SEA.<sup>5</sup>

The VSMF will be constructed to primarily perform daily inspections and running repairs. In addition, this new facility will also be able to serve as a mid-day storage facility for the IOS. The Sand Lake Road Station will be the south layover facility for the IOS Terminus. For the Full Build Alternative, the south layover facilities will be located in close proximity to the Poinciana Industrial Park Station.

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<sup>5</sup> "Memorandum of Understanding between State of Florida Department of Transportation and National Railroad Passenger Corporation" dated July 17, 2008.

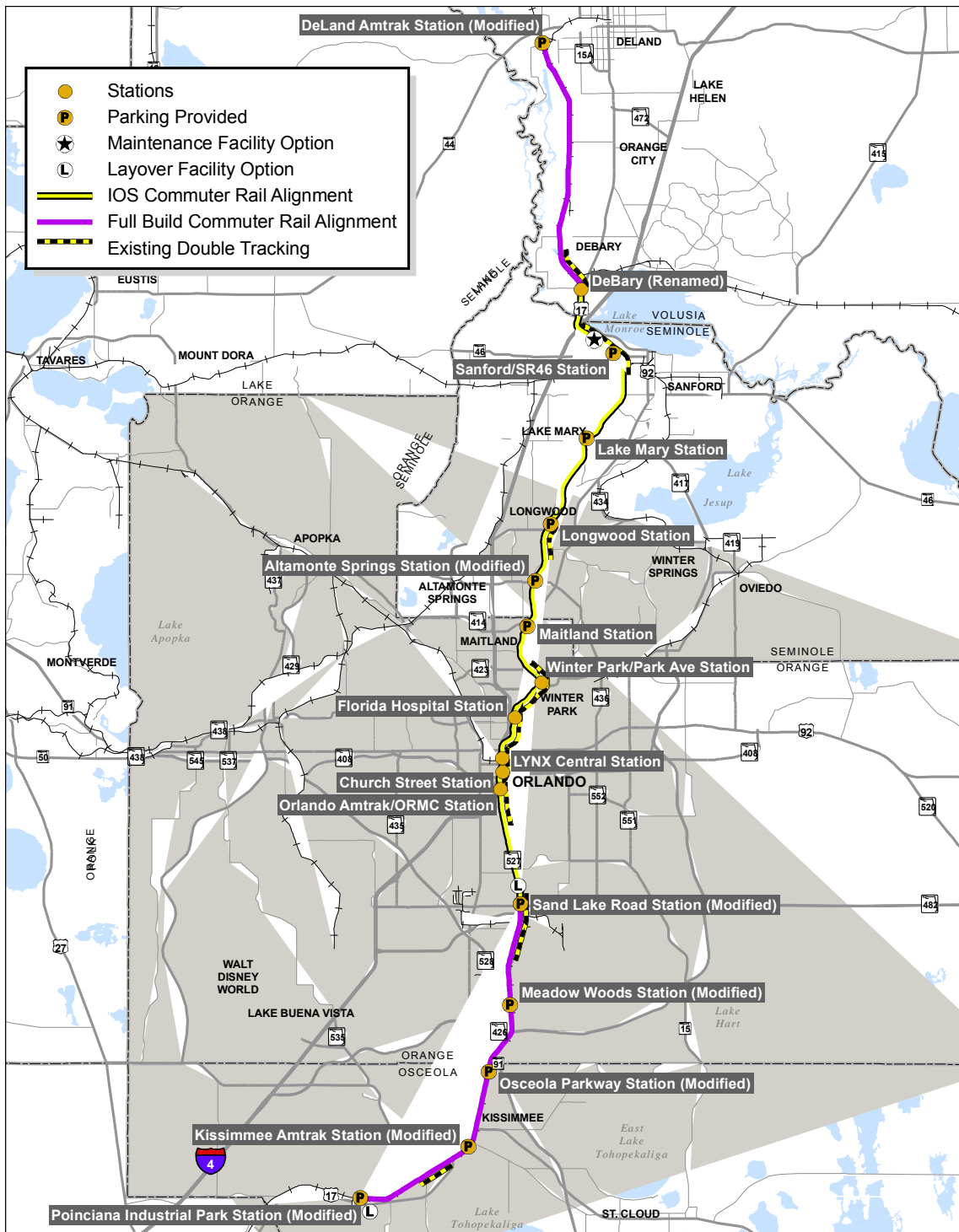


Figure 2-2 - Proposed CRT Stations and Existing Double Track Sections

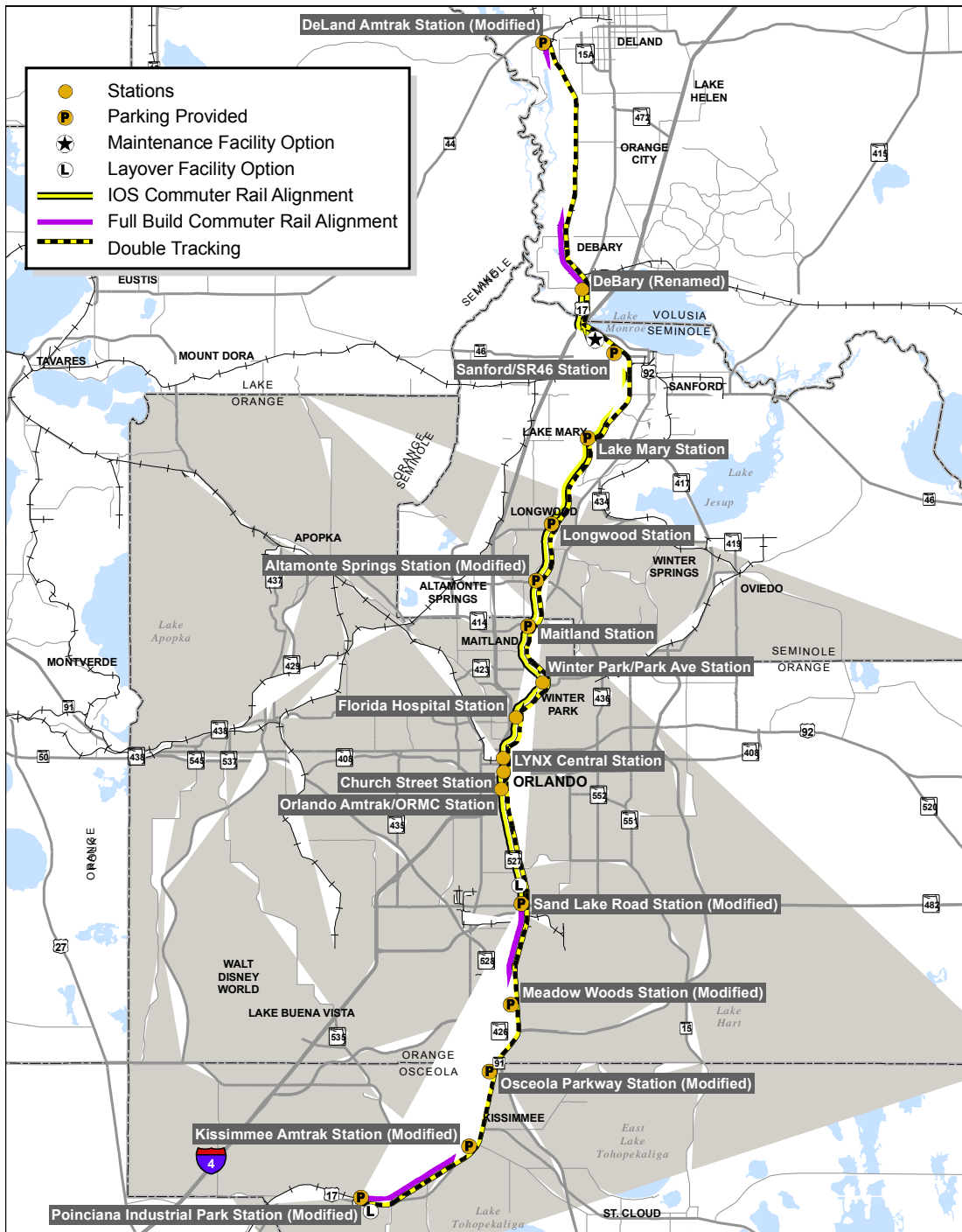


Figure 2-3 - 2030 CRT Full Build and Proposed Double Track

### 3 ENVIRONMENTAL CONSEQUENCES

This section describes changes to the potential impacts on social, cultural and historic, natural and physical resources in the Project Corridor reported in the original EA and 2008 SEA as a result of the proposed modifications to the DeLand Amtrak, Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, Kissimmee Amtrak and Poinciana Industrial Park Stations; and a change from DMUs to FRA-compliant locomotive and ADA-compliant coach and cab car train sets.

Included within each environmental resource subsection is the background information, existing conditions along the Project Corridor, predicted impacts and impact assessment for the proposed Project scope modifications. Mitigation measures to reduce or eliminate potential environmental impacts are described where necessary.

This SEA excludes from the discussion resource areas that have proven to not be impacted by the changes to station areas and the change in vehicle technology. Findings regarding these resources in the original EA and the 2008 SEA remain unchanged. Further screening, background research and technical documentation completed on several of these resource areas, shall be considered part of the administrative record and are adopted by reference into this environmental evaluation. These resource areas include: Community Cohesion, Environmental Justice, Public Safety, Security and Community Services, Economic Impacts, Utilities, Railroads, Archaeological and Historic Resources, Recreation and Parkland Resources, Pedestrian and Bicycle Facilities Access, Ecosystems, Visual and Aesthetic Resources, Water Quality, Farmlands, Transit and Construction Impacts.

#### 3.1 Land Use and Related Socio-Economic Characteristics

##### 3.1.1 Land Use

Land use patterns vary across the Corridor and have changed little for the seven modified station sites since the original EA. However, there are minor modifications surrounding the Osceola Parkway Station and Altamonte Springs Station. Existing and future land use mapping for each of the changed conditions in the area adjacent to the DeLand Amtrak, Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, Kissimmee Amtrak and Poinciana Industrial Park Stations is included in Appendix A.

For both the existing and future land use analyses, data were compiled and analyzed within a one-half mile radius of the rail alignment and from each proposed Project scope station modification.

##### Changed Conditions

DeLand Amtrak Station: The existing land use remains agricultural and light industrial as indicated in the original EA. On the east and west side of the CSXT tracks are several small businesses.

Volusia County's future land use plan classifies the area adjacent to the CRT station as medium density residential. Since the original EA, the County has received preliminary plans

for a residential and mixed-use development called Pelham Square, which would be oriented to provide direct access to the station.

In early 2008, local officials in Volusia County held a series of workshops to better define Transit Oriented Development (TOD) in and around the DeLand station. This included the public, city and county staff and stakeholders. The result was the December 2008 document entitled "Volusia County Central Florida Commuter Rail Transit Oriented Development Planning – DeLand Amtrak Station Area". Plans for the Pelham Square development adjacent to the station on the northeast side include revising the land use plan to include higher density residential, mixed-use commercial development near the station, and increasing pedestrian connections to the proposed commuter rail station. Volusia County will amend their Comprehensive Plan to allow for this future TOD. Joint use of parking and stormwater management would be considered as part of this concept.

The station park-and-ride layout with the Full Build requirement of 180 spaces will be designed to accommodate the TOD and the stormwater requirements. Refer to Appendix A-1 for the revised DeLand Station site plan. The additional area for stormwater treatment and TOD adjustments is 13.7 acres.

While most of the potential riders will utilize the park-and-ride lot or access the station by feeder bus, many will walk from new development surrounding the proposed site. The continued growth in this area will be guided by the local comprehensive planning process and enhanced by the introduction of commuter rail.

*Altamonte Springs Station:* Additional storage capacity for stormwater has necessitated the use of underground storm chambers. The existing land use within the Altamonte Springs Station area is now vacant except for the US Post Office building, which is not an historic structure. US Post Office officials have approached the City, County and FDOT about the sale of their property. This would allow for a more efficient design of the park-and-ride lot. An existing pond and vacant property on the east side of the CSXT tracks has been identified as a potential additional stormwater treatment area.

The proposed commuter rail station is located in the East Town Activity Center which allows for future intense mixed-use development. The City's Multi-Modal Transportation Element of the Comprehensive Plan identifies the station location as a preferred bus transit hub for a proposed Bus Rapid Transit (BRT) system that would serve the Altamonte Springs Business Center and north Orange County businesses located in Maitland.

The revised Altamonte Springs Station layout that includes the post office land and the added stormwater location is shown in Appendix A-3. An additional 5.7 acres are required to accommodate this design which includes 650 total parking spaces for the Full Build, as specified in the original EA.

*Sand Lake Road Station:* This station is located in unincorporated Orange County. The existing land use is a mixture of commercial, office and light industrial uses. The industrial uses are directly adjacent to the eastside of the CSXT tracks. Since the original EA, changes to South Florida Water Management District (SFWMD) stormwater treatment and discharge requirements have necessitated additional land for the water treatment. The current design includes storm chambers beneath the parking lot.

This requirement expands the station area footprint to include property on the north side of the proposed station park-and-ride lot bounded by the CSXT tracks on the west and Orange Avenue on the east and along the Office Court roadway. The revised station layout is included in Appendix A-5 and accommodates the Full Build park-and-ride lot with 650 spaces. The added area for these revisions is 8.3 acres.

The future land use in the Orange County Comprehensive Plan contains policies that encourage increased land use densities and mixed use to enhance the feasibility of transit and to promote alternative transportation modes.

*Meadow Woods Station:* Current land uses on the east side of Orange Avenue in the immediate vicinity of the station is low density and low-medium density residential. The west side of Orange Avenue and the CSXT tracks is open or vacant land. The original EA located the proposed station parking lot on the west side of the CSXT tracks on land identified as retention pond and wetlands. Since the original EA, changes to SFWMD stormwater treatment and discharge requirements have limited the use of these parcels that were proposed for the station.

After consultation with Orange County, it was determined that the best configuration for the station site is to utilize land on the east side of the CSXT tracks. The current land use of the proposed station is a convenience store, a private day care facility and a shopping center, the majority of which are vacant, and a parking lot. The proposed station parking lot on the east side would minimize the resizing of the existing county pond located on the west side of Orange Avenue to approximately 4.8 acres. Utilization of the existing wetland mitigation area on the west side of the CSXT tracks would not be required, based on the station modification described herein. The additional area required (8.5 acres) for the modified site is necessary to meet the Full Build requirement of 390 parking spaces. This additional area is addressed in this SEA and is included in Appendix A-7.

The future land use indicates the development of a mixed-use activity center on the northeast side of the station. Along Orange Avenue adjacent to the proposed station, the future land use plan is commercial and medium density residential. As stated in the original EA, the Meadow Woods station site will require amendments to existing Planned Unit Development (PUD) zoning.

*Osceola Parkway Station:* Since the original EA, the vacant land on the east side of the CSXT tracks and the location of the proposed park-and-ride lot has been developed with a small strip commercial center. As a result of discussions with Osceola County, an additional station area and park-and-ride location were identified and evaluated on the west side of the CSXT tracks on property owned by the Tupperware Corporation. As evaluated in the original EA, the station would remain at the same location on the north side of Osceola Parkway.

The current land use plan for this area is industrial and warehouse. Meetings with Osceola County and discussions with Tupperware Corporation officials resulted in a potential to change the approved Osceola Corporate Center DRI. The new plan would include mixed use and medium/high density residential in the area nearest to the station. The Osceola Parkway Station park-and-ride lot would be accessed from Orange Avenue and there would be potential for joint use of parking spaces.

The station layout will be designed to accommodate TOD and the stormwater requirements to meet new treatment criteria. Refer to Appendix A-9 for the revised Osceola Parkway Station site plan. This includes a park-and-ride lot with 200 spaces that meets the Full Build requirement. The added area for stormwater treatment and adjustments for the potential TOD is 32.2 acres.

*Kissimmee Amtrak Station:* The existing land use near the proposed station site includes the Amtrak Station and two adjacent blocks in Downtown Kissimmee comprised of commercial and a variety of civic and governmental uses. Since the original EA, a new mixed use residential/office and retail condominium, including a parking garage with 100 spaces designated for City of Kissimmee, has been constructed on a portion of the block bounded by Dakin Avenue, Monument Avenue, and the CSXT tracks. Also, the City of Kissimmee and LYNX have advanced the initial phase of the Kissimmee Intermodal Plan, a proposed downtown intermodal transportation center, which includes a section that was shown as parking in the original EA.

The “Concept Plan for Alternative to the Kissimmee Intermodal Transportation Center Report” described the proposed downtown intermodal transportation center and depicts parking on the land next to the Civic Center. Additional parking is shown on the east side of the tracks next to Kissimmee Civic Center.

The revised station site plan for the Kissimmee Amtrak Station is shown in Appendix A-11. The site includes a LYNX bus transfer station and a park-and-ride lot with the Full Build requirement of 390 spaces. This added area for the additional park-and-ride lot for commuter rail is 5.8 acres.

There are 308 existing parking spaces at the Kissimmee Civic Center / Public Library parking lot. Sixty (60) parking spaces will be used jointly (shared parking) for commuters, adjacent Kissimmee Civic Center patrons and City of Kissimmee parking.

Kissimmee’s future land use plan for the station area includes expansion of medium density residential/office as well as governmental uses. The downtown commercial area will continue to expand toward the Osceola Regional Medical Center, located to the west side of the proposed CRT station.

*Poinciana Industrial Park:* The existing land use is predominately vacant or agricultural. Changes to SFWMD stormwater treatment and discharge requirements led to a need for additional area for the proposed station site. This additional area will also be used for the layover facility once the south segment is added.

The future land use plan for this area indicates industrial use on the north and west side of the current CSXT tracks. However, the County has indicated they would work with the developer to change the land use designation for a more transit oriented use.

This additional area will also be used for the layover facility once the south segment is added. The revised station layout is found in Appendix A-13. The added 17.5 acres is sized to accommodate stormwater treatment and the Full Build parking requirement of 250 spaces.



### Impacts

As stated in the original EA, the proposed Altamonte Springs site has mixed zoning which needs to be rezoned to be compatible for use as a CRT station. The Meadow Woods and Osceola Parkway Stations will require amendments to existing Planned Unit Development (PUD) zoning. The PUD zoning allows permitted uses and development standards to be defined for each particular development.

### Mitigation

Local governments, as required by the Florida Department of Community Affairs, amend their comprehensive plans to include provisions for commuter rail development and to encourage TOD around station sites. The Altamonte Springs and Poinciana Industrial Park station sites will be rezoned and the Meadow Woods and Osceola Parkway station sites will require amendments to existing PUD zoning. Local governments have been very supportive of these efforts and are actively engaged in accommodating TOD.

#### **3.1.2 Displacements and Relocations**

The acquisition and relocation program will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and relocation resources will be available to all relocated business and residents without discrimination. A total of nine businesses and no residences are proposed to be relocated due to the proposed scope changes. Refer to Table 3-1 for a summary of property takings associated with this SEA.

Appendix F contains a list of impacted parcels and potential relocations for the seven modified station sites.

DeLand Amtrak Station: Two (2) small businesses will need to be relocated. One vacant business will be purchased. This will require the purchase of 10.9 additional acres.

Altamonte Springs Station: One (1) business will be relocated and 5.7 additional acres will be acquired.

Sand Lake Road Station: Four (4) businesses will be relocated. This will require the purchase of 7.2 additional acres.

Meadow Woods Station: Two (2) businesses will be relocated. The vacant shopping center will be purchased. This will require 9.2 additional acres

Osceola Parkway Station: This will require the purchase of 11.8 acres of vacant land for the park-and-ride lot and access roadway. An additional 20.4 acres underwent environmental analysis since the impacted area is a conservation area. There are no residences or businesses proposed for relocation.

Kissimmee Amtrak Station: This will require an additional 5.2 acres of vacant land for use as a park-and-ride lot. There are no residences or businesses proposed for relocation. Sixty (60) parking spaces will be used jointly (shared parking) for commuters, adjacent Kissimmee Civic Center patrons and City of Kissimmee parking.

**Poinciana Industrial Park Station:** This will require an additional 17.5 acres of vacant land for the park-and-ride lot. There are no residences or businesses proposed for relocation.

**Table 3-1 - Summary of Property Takings for the Proposed Project Scope Changes**

County	Station	Parcel Area (Acres)	Additional Take Area (Acres)	Relocations Required?
Volusia County	DeLand Amtrak	13.7	10.9	Yes 2 active businesses
Seminole County	Altamonte Springs	5.7	5.7	Yes-1 active business
Orange County	Sand Lake Road	8.3	7.2	Yes-4 active businesses
	Meadow Woods	8.5	9.2	Yes- 2 active businesses
Osceola	Osceola Parkway	32.2	11.8	No
	Kissimmee Amtrak	5.8	5.2	No
	Poinciana Industrial Park	17.5	17.5	No
	TOTALS	91.7	67.5	

In summary, as shown in Table 3-1, an additional 91.7 acres have been environmentally assessed and 67.5 acres may be impacted as a result of these station modifications. FDOT is committed to carrying out a Right-of-Way and Relocation Program in accordance with Florida Statute 339.09 and the Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970 (Public Law 91-646 as amended by Public Law 100-17). The brochures that describe in detail the Department's Relocation Assistance Program and Right-of-Way Acquisition Program were made available upon request, as previously documented in the original EA.

### **3.2 Natural and Physical Impacts**

#### **3.2.1 Air Quality**

##### **Change in Impacts Due to Vehicle Change**

A revised air quality analysis was conducted to reflect the change in vehicle technology from DMUs which are unavailable due to vendor issues, to FRA-compliant locomotives and ADA-compliant coaches and cab cars. Although both rail vehicles are diesel-powered, there are differences in their pollutant emission rates and fuel use characteristics. Table 3-2 provides a comparison of annual emissions, in tons per year (tpy), and fuel use, in gallons per year, between the train types in the Full Build Alternative. Fuel use and emissions for all pollutants, with the exception of carbon monoxide (CO), are higher using the diesel locomotives than DMU technology.

The revision also allowed for updating the air quality analysis with the most recent modeling methodologies and guidance, which are discussed in the Methodology section below. The air quality study consisted of two main components: an emissions inventory (or mesoscale)

analysis for the project study area, and a dispersion modeling (ambient concentrations or microscale) “hot spot” analysis to estimate ambient CO concentrations at key roadway intersections in the study area. The study included the existing conditions and the three future alternatives: the No-Build, TSM, and the Full Build Alternative.

**Table 3-2 - DMU and Diesel Locomotive Comparison**

Pollutant (tpy)	Total Emissions and Fuel Use for the Full Build Alternative <sup>1</sup>	
	DMU <sup>2</sup>	Diesel Locomotive <sup>3</sup>
NOx	90.5	167.6
VOC	3.7	9.6
PM2.5	3.2	5.9
PM10	3.3	6.1
SO <sub>2</sub>	0.1	0.2
CO	82.3	45.7
CO <sub>2</sub>	12,717	16,479
Fuel Use (gallons)	1,144,387 <sup>4</sup>	1,482,447

- Notes:
1. DMU data is from the previous 2025 analysis and diesel locomotive data is from current the 2030 analysis.
  2. DMU train set includes 3 1200 hp DMUs and no coaches.
  3. Diesel locomotive train set includes one 3200 hp locomotive, up to two coaches and one cab car.
  4. Not provided in original EA/FONSI.

The EPA established the National Ambient Air Quality Standards (NAAQS) as described in the Code of Federal Regulations (at 40 CFR 50 §121) for several “criteria” pollutants. Primary standards are established to protect public health, and Secondary standards are established at levels designed to protect the public welfare by accounting for the effects of air pollution on vegetation, soil, materials, visibility, and other aspects of the general welfare. The State of Florida’s Ambient Air Quality Standards (AAQS) are similar to the NAAQS.

Of the criteria pollutants, transportation sources primarily emit oxides of nitrogen (NOx), volatile organic compounds (VOC), particulate matter with a nominal aerodynamic diameter of 2.5 micrometers and smaller (PM2.5), particulate matter with an aerodynamic diameter of 10 micrometers and smaller (PM10), CO, and to a lesser extent, sulfur dioxide (SO<sub>2</sub>) and lead (Pb).

The EPA designates regions in which ambient pollutant concentrations are in compliance with the NAAQS as attainment areas, and areas not in compliance with the NAAQS as nonattainment areas. Projects in nonattainment areas must comply with the EPA Transportation Conformity Rule (40 CFR Part 51 Subpart T).

### 3.2.2 Existing Conditions

The CRT Project is located in an area which is designated as an attainment area for all pollutants under the criteria provided in the Clean Air Act. Therefore, the Clean Air Act conformity requirements do not apply to the Project.

Existing air quality conditions in the affected environment were evaluated using measured ambient air pollutant concentrations data. In order to evaluate the effectiveness of emission controls and determine compliance with the NAAQS, the Florida Department of

Environmental Protection (DEP) operates several continuous monitoring sites that measure ambient concentrations of criteria pollutants. The Project area is currently an attainment area for all pollutants and the most current measured concentrations in the region are below the NAAQS.

### **3.2.3 Updated Air Quality Analysis**

#### Emissions Inventory Analysis

The emissions inventory was prepared in order to compare the relative impacts of the project alternatives for purposes of disclosure and public information as mandated under the NEPA. As the Project region is not in a nonattainment area for any criteria air pollutant, the EPA Transportation Conformity Rule does not apply and the emission inventory is not required for conformity purposes.

The emissions inventory was developed for motor vehicles, including transit buses, on affected roadways and for FRA-compliant diesel locomotives in the Project Corridor. The roadway network for the analysis was defined based on the Project traffic studies. The emission inventory was prepared in accordance with guidance issued by EPA, FDOT, and the Florida Department of Environmental Protection (DEP).

Emissions were calculated for NO<sub>x</sub>, VOC, PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, CO and CO<sub>2</sub>. Estimates of energy use among the different alternatives were also calculated. The emission factors and miles per gallon rates used to estimate the motor vehicle emissions and fuel use (gasoline and diesel) were calculated using the most recent approved emissions factor model (currently MOBILE 6.2). The specific MOBILE 6.2 input values were developed from DOT and DEP guidance. Regional summary level emissions were calculated by multiplying the ADT volumes by vehicle type as supplied from regional model outputs.

A similar procedure was used to calculate diesel locomotive emissions. The FRA-compliant locomotives for this analysis are assumed to be new or re-manufactured and subject to EPA's Tier 2 exhaust emission standards (40 CFR 1033). The standards for each pollutant, except for SO<sub>2</sub> and CO<sub>2</sub> for which there are no standards, were used as emission factors in the calculations. The locomotives will be powered with ultra-low sulfur diesel fuel. An average duty-cycle weighted horsepower was derived using the most recent EPA guidance. Based on the projected route and train operations schedule for the Full Build Alternative, an average annual operating time was derived. The emissions were calculated by multiplying the emission standards (as emission factors) by the average weighted horsepower and average annual operating times. SO<sub>2</sub> and CO<sub>2</sub> emissions and locomotive fuel use were calculated using EPA's April 2009 guidance methodology.

#### Ambient Concentrations Analysis

The intersections modeled in the ambient concentrations analysis are listed in Table 3-3. The dispersion modeling analysis demonstrates the air quality impacts of the Project in the vicinity of selected roadway intersections included in Chapter 4 Transportation Impacts of this SEA for the same Project Alternatives as the emission inventory. A three-step screening and analysis process was used.

In the initial step of the process, local air pollutant levels associated with the Project were evaluated in terms of potential CO concentrations. Motor vehicles emit CO at high rates

when they are operating at low speeds or idling in queues. For this reason, the potential for adverse air quality impacts is greatest at intersections where traffic is most congested. EPA has specified criteria based on traffic Level of Service (LOS) and volume for screening the intersections in the study area and selecting locations for detailed air quality analysis. This initial or “worst-case” EPA screening criterion is the first step of the analysis process and is accepted by FDOT.

LOS is a measure of the performance of the intersection in processing the volume of vehicles attempting to pass through it. Level of service is expressed as a letter rating based largely on the overall average delay during the highest volume hour at the intersection, where LOS A is best and LOS F worst. The EPA’s criteria state that intersections that currently operate at LOS D or worse, or would operate at LOS D or worse under future conditions, should be considered for air quality analysis. Adverse air quality impacts are extremely unlikely at locations that operate at LOS C or better, and EPA and FDOT do not require air quality analysis of such locations.

In applying the EPA/FDOT screening procedure to the project, the intersections in the traffic study area that were ranked LOS D or worse were selected for further air quality analysis. Table 3-3 lists the locations that were ranked LOS D or worse in this step. These intersections were selected for modeling in the second step of the ambient concentrations analysis.

**Table 3-3 - Intersections Selected for Air Quality Screening Modeling**

Location/Station Name	Intersection Description	Municipality/County
Sanford	SR46/Airport Blvd	Sanford/Seminole
Lake Mary Blvd	Lake Mary Blvd/Country Club Rd	Lake Mary/Seminole
Longwood	Reagan Blvd/Church Ave	Longwood/Seminole
Altamonte Springs	Longwood/Reagan Blvd (427)/Altamonte Dr (436)	Altamonte Springs/Seminole
Lynx Central Station	Garland/Amelia	Orlando/Orange
Lynx Central Station	Orange/Livingston	Orlando/Orange
Lynx Central Station	Garland/Robinson	Orlando/Orange
Sand Lake Road	Sand Lake Rd(SR 525)/Orange Ave	Orange/Orange
Sand Lake Road	Jetport/Orange Ave	Orange/Orange
Osceola Pkwy	Osceola Pkwy/Michigan Ave	Kissimmee/Osceola
Kissimmee	Broadway/Drury	Kissimmee/Osceola
Kissimmee	Monument/Central/Broadway	Kissimmee/Osceola
Poinciana Blvd	Poinciana Blvd/17-92 (S. Orange Blossom Trail)	Poinciana/Osceola
Non-Station Locations		
Longwood	Sanlando Springs(SR 434)/Reagan Blvd (CR 427)	Longwood/Seminole
CR 427 (Xing #3)	Reagan Blvd (CR 427)/Longwood Lake Mary Rd	Longwood/Seminole
Lynx (Xing #4)	N. Orange/Colonial SR50	Orlando/Orange

The second step is the use of COSCREEN, FDOT's official screening model, to estimate maximum CO concentrations at the intersections identified in the initial screening. The most recently approved version of COSCREEN (currently CO Florida 2004) was used to evaluate each intersection. The CO Florida 2004 default input values for the Central Florida region were used for meteorology inputs, MOBILE6.2 parameters, persistence factors, and background CO concentrations. The screening modeling was applied for the same alternatives and analysis years as described above for the emission inventory. The output of this step is the predicted maximum CO concentration at each intersection.

Predicted concentrations were compared to the NAAQS and the Florida AAQS for CO. The National and Florida standards are the same for CO.

The third step is detailed dispersion modeling. If predicted concentrations at any of the intersections had exceeded the NAAQS, detailed site-specific analysis for those intersections would have been conducted using the EPA CAL3QHC and MOBILE6.2 models in accordance with EPA, FDOT, and DEP guidance. However, since none of the intersections that were analyzed in the screening analysis exceeded the NAAQS, the detailed analysis was not necessary.

The results of the emission inventory analysis consist of the total emissions in tons per year of NO<sub>x</sub>, VOC, PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, CO, and CO<sub>2</sub> for motor vehicles and diesel locomotives in the study area. Because of the mix of gasoline and diesel motor vehicles, the energy use comparison among the alternatives is based on British Thermal Units (BTUs). The results of the dispersion modeling analysis consist of maximum one-hour and eight-hour CO concentrations at each intersection analyzed.

### Emissions Inventory

The regional emissions inventory is provided for purposes of disclosure and information in accordance with NEPA.

Year 2030 emissions of NO<sub>x</sub>, VOC, PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, CO, and CO<sub>2</sub> and energy use for the No-Build Alternative are compared to emissions and energy use from the TSM Alternative and the Full Build Alternative in Table 3-4, which identifies and assesses the relative impacts of the project alternatives. There are no appreciable differences among the alternatives in terms of air quality or energy use.

**Table 3-4 - CRT Emissions Analysis**

Pollutant (tpy)	Total Emissions and Energy Use - 2030		
	No-Build	TSM	Full-Build
NO <sub>x</sub>	13,632	13,628	13,865
VOC	18,315	18,307	18,313
PM <sub>2.5</sub>	524	524	532
PM <sub>10</sub>	1,148	1,147	1,155
SO <sub>2</sub>	396	395	395
CO	439,218	439,003	438,865
CO <sub>2</sub>	21,992,761	21,988,364	21,996,219
Energy Use (MMBtu)	286,361,881	286,299,401	286,339,025

The analysis results show that differences in emissions and energy use among the alternatives is minimal. Most of the results vary by less than 0.1 percent. This is due to the offsetting of the additional locomotive emissions in the Full Build Alternative by the removal of passenger motor vehicle emissions. However, due to the addition of more diesel emission sources in the Full Build Alternative, a slightly larger difference in NOx and PM2.5 emissions are anticipated when compared to the No-Build and TSM Alternatives.

When compared to the No-Build Alternative, NOx emissions are approximately 233 tons per year, or about 1.7%, higher in the Full Build Alternative. This reflects the increases in NOx emissions estimated for diesel locomotives. Also, PM2.5 emissions are expected to be approximately 8 tons per year higher in the Full Build than for either the TSM or No-Build Alternatives. This is an increase of about 1.6% in emissions.

### Ambient Concentrations Analysis

Modeled 1-hour and 8-hour CO concentrations are compared to the NAAQS in Table 3-5 and Table 3-6 respectively. The results presented include FDOT and DEP recommended background concentrations for Central Florida urban land use of 5.0 parts per million (ppm) for the 1-hour concentrations and 3.0 ppm for the 8-hour concentrations. The results show that there are no CO concentrations above the standards. The Project is located in an area which is designated as an attainment area for all pollutants under the criteria provided in the Clean Air Act. Therefore the Clean Air Act conformity requirements do not apply to the Project.

**Table 3-5 - Predicted 1-Hour CO Concentrations (including 5.0 ppm background)**

Location/Station Name	3.2.3.1.1 Intersection Description	Municipality/County	No-Build	TSM	Full Build
Sanford	SR46/Airport Blvd	Sanford/Seminole	7.2	7.2	7.2
Lake Mary Blvd	Lake Mary Blvd/Country Club Rd	Lake Mary/Seminole	8.8	8.8	8.8
Longwood	Reagan Blvd/Church Ave	Longwood/Seminole	7.5	7.5	7.5
Altamonte Springs	Longwood/Reagan Blvd (427)/Altamonte Dr (436)	Altamonte Springs/Seminole	10.3	10.3	10.3
Lynx Central Station	Garland/Amelia	Orlando/Orange	9.7	9.7	9.7
Lynx Central Station	Orange/Livingston	Orlando/Orange	10.3	10.3	10.3
Lynx Central Station	Garland/Robinson	Orlando/Orange	9.9	9.9	9.9
Sand Lake Road	Sand Lake Rd (SR 525)/Orange Ave	Orange/Orange	10.9	10.9	10.9
Sand Lake Road	Jetport/Orange Ave	Orange/Orange	7.2	7.2	7.2
Osceola Pkwy	Osceola Pkwy/Michigan Ave	Kissimmee/Osceola	9.3	9.3	9.3
Kissimmee	Broadway/Drury	Kissimmee/Osceola	7.3	7.3	7.4
Kissimmee	Monument/Central/Broadway	Kissimmee/Osceola	7.4	7.4	7.4
Poinciana Blvd	Poinciana Blvd/17-92 (S. Orange Blossom Trail)	Poinciana/Osceola	8.4	8.4	8.4
<b>Non-Station Locations</b>					
Longwood	Sanlando Springs (SR 434)/Reagan Blvd (CR 427)	Longwood/Seminole	9.1	9.1	9.1
CR 427 (Xing #3)	Reagan Blvd (CR 427)/Longwood Lake Mary Rd	Longwood/Seminole	7.0	7.0	7.0
Lynx (Xing #4)	N. Orange/Colonial 50	Orlando/Orange	9.3	9.3	9.3
<b>National and Florida Ambient Air Quality Standard</b>			35.0	35.0	35.0

Note: All results are in parts per million (ppm)

The air quality analysis has demonstrated that the project alternatives differ very little from one another in both regional emissions and local CO concentrations. All estimated CO concentrations are less than the NAAQS.

Although NO<sub>x</sub> and PM<sub>2.5</sub> emissions are expected to increase slightly in the Full Build Alternative due to additional diesel emission sources in the project area, the emission increases are small and not expected to create any adverse air quality impacts.

### 3.2.4 Mitigation

Given the similar impacts between the different alternatives, no mitigation is required for regional emissions due to the Project.

**Table 3-6 - Maximum Predicted 8-Hour CO Concentrations (including 3.0 ppm background)**

Location/Station Name	Intersection Description	Municipality/County	No-Build	TSM	Full Build
Sanford	SR46/Airport Blvd	Sanford/Seminole	4.3	4.3	4.3
Lake Mary Blvd	Lake Mary Blvd/Country Club Rd	Lake Mary/Seminole	5.3	5.3	5.3
Longwood	Reagan Blvd/Church Ave	Longwood/Seminole	4.5	4.5	4.5
Altamonte Springs	Longwood/Reagan Blvd (427)/Altamonte Dr (436)	Altamonte Springs/Seminole	6.2	6.2	6.2
Lynx Central Station	Garland/Amelia	Orlando/Orange	5.8	5.8	5.8
Lynx Central Station	Orange/Livingston	Orlando/Orange	6.2	6.2	6.2
Lynx Central Station	Garland/Robinson	Orlando/Orange	5.9	5.9	5.9
Sand Lake Road	Sand Lake Rd (SR 525)/Orange Ave	Orange/Orange	6.6	6.6	6.6
Sand Lake Road	Jetport/Orange Ave	Orange/Orange	4.3	4.3	4.3
Osceola Pkwy	Osceola Pkwy/Michigan Ave	Kissimmee/Osceola	5.6	5.6	5.6
Kissimmee	Broadway/Drury	Kissimmee/Osceola	4.4	4.4	4.5
Kissimmee	Monument/Central/Broadway	Kissimmee/Osceola	4.5	4.5	4.5
Poinciana Blvd	Poinciana Blvd/17-92 (S. Orange Blossom Trail)	Poinciana/Osceola	5.1	5.1	5.1
<b>Non-Station Locations</b>					
Longwood	Sanlando Springs (SR 434)/Reagan Blvd (CR 427)	Longwood/Seminole	5.5	5.5	5.5
CR 427 (Xing #3)	Reagan Blvd (CR 427)/Longwood Lake Mary Rd	Longwood/Seminole	4.2	4.2	4.2
Lynx (Xing #4)	N. Orange/Colonial 50	Orlando/Orange	5.6	5.6	5.6
<b>National and Florida Ambient Air Quality Standard</b>			9.0	9.0	9.0

Note: All results are in parts per million (ppm)



### **3.3 Noise and Vibration**

#### **3.3.1 Noise and Vibration Background**

The noise and vibration study was performed for the year 2030 along the Full Build Project Corridor from DeLand in Volusia County to Poinciana Boulevard in Osceola County. The noise and vibration analyses were performed in accordance with the methodology contained in the FTA Transit Noise and Vibration Impact Assessment<sup>6</sup> guidelines and in the FDOT Project Development & Environmental Manual (PD&E) and Rail Noise Standards at 40 CFR Part 201<sup>7</sup>. The results presented in this report have been revised to include trains with diesel FRA-compliant locomotives and standard passenger rail cars, rather than the Diesel Multiple Units (DMU) used in the original Environmental Assessment.

In the original EA, without mitigation, it was estimated there would be 217 receptors (54 severe and 163 moderate) impacted by the CRT Project. In this SEA, without mitigation, there are 303 receptors (84 severe and 219 moderate) that would be impacted by the CRT Project. FDOT as the Project sponsor is committed to adopting additional measures to reduce noise. In this case, all impacts in the severe range will be eliminated and the number of impacts in the moderate range will be minimized. Such an outcome is consistent with FTA's original EA and resultant FONSI for the Project.

The noise and vibration criteria from the FTA's 1995 guidance manual was used in this analysis to be consistent with the previous assessment that was completed prior to the revisions to the FTA guidance manual issued in 2006.

For the purpose of this noise impact assessment, it is assumed that all existing freight and passenger operations will continue to exist in the CRT Corridor. As stipulated by FTA guidance for the purpose of this vibration analysis, it is assumed the freight and Amtrak operations were absent. The existing CSX A-Line freight and passenger corridor currently operates 26 trains per day – 6 Amtrak passenger trains, 10 local freight trains and 10 road freights (or through) trains. The through freight trains include Intermodal trains, Auto-rack trains, Merchandise trains and Bulk, Coal and Rock unit trains with consists that include two or three locomotives per train pulling more than 100 freight cars.

The CFCRT Noise and Vibration Analysis, dated April 2010, provides supporting technical documentation for this analysis. This technical documentation is included as Appendix G.

#### **3.3.2 Operational Noise**

Operational criteria are used to assess noise impacts from the Project alternatives when they are fully operational. These criteria are, therefore, typically evaluated against the Project operations that occur in the design year (2030).

In predicting the impacts of future rail operations, it is necessary to understand the probable future rail operations throughout the corridor. The existing freight and passenger corridor currently operates 26 trains per day – 6 Amtrak passenger trains, 10 local freight trains and 10 road freights (or through) trains. The Full Build Alternative of the CRT Project will include

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<sup>6</sup> "Transit Noise and Vibration Impact Assessment", Federal Transit Administration, (DOT-T-95-16), April 1995.

<sup>7</sup> FDOT 40 CFR 201 Rail Noise Standards, Updated July 1 2001.

17 stations and will operate 56 trains per day at 15-minute bi-directional headways during peak-hour periods with 60 minute off-peak service. Amtrak operation will continue to operate throughout the CRT Corridor. As part of the purchase agreement between CSXT and FDOT, passenger rail traffic will be allowed access for 19 hours per day with exclusive passenger rail access for 12 hours per day. Freight rail traffic will be allowed for 12 hours per day with exclusive freight access for 5 hours per day.

Table 3-7 presents a summary of weekly train operations for the existing, 2012 Opening Day and the 2030 Full Build conditions.

**Table 3-7 - Summary of Weekday Train Operations -Existing, 2012 Opening Year, and 2030 Build**

	Amtrak Passenger <sup>1</sup>	Amtrak Auto Train <sup>2</sup>	Through Freight Trains <sup>3 5</sup>	Local Freight Trains <sup>3 5</sup>	CRT Trains <sup>5</sup>	Total All Trains
<b>Existing Conditions - 2005<sup>6</sup></b>						
Daytime Hrs (7AM – 10PM)	4.9	1.9	5.4	5.8	0	18
Nighttime Hrs (10PM - 7AM)	0.8	0	5.6	2.2	0	8.6
<b>Total</b>	5.7	1.9	11	8	0	26.6
AM Peak Hour	0	0.2	1.2	1.4	0	2.8
PM Peak Hour	1.5	1.1	1.5	1.4	0	5.5
<b>Build – 2012</b>						
Daytime Hrs (7AM – 10PM)	4.9	1.9	6.6	6	27	46.4
Nighttime Hrs (10PM – 7AM)	0.8	0	4.4	3.8	5	14
<b>Total</b>	5.7	1.9	11	9.8	32	60.4
AM Peak Hour	0	0.2	0	0	12	12.2
PM Peak Hour	1.5	1.1	0	0	12	14.6
<b>Full Build – 2030<sup>7</sup></b>						
Daytime Hrs (7AM – 10PM)	4.9	1.9	5.6	6	48	66.4
Nighttime Hrs (10PM – 7AM)	0.8	0	5.4	4.8	8	19
<b>Total</b>	5.7	1.9	11	10.8	56	85.4
AM Peak Hour	0	0.2	0	0	16	16.2
PM Peak Hour	1.5	1.1	0	0	16	18.6

**Notes:**

- Three northbound and three southbound Amtrak passenger trains per day along the entire length of the project corridor based on schedules in effect early 2005 (pre-Katrina). The Sunset Limited has not returned to service since Katrina but the train service is still included for Build 2012 and 2030. The proposed CRT signal system is designed for 7.5 minute headways to allow for Amtrak to have access in the corridor during 2030 Build peak periods with 15 minute headways. The Amtrak Orlando Station will have a 3<sup>rd</sup> station track added to prevent delays. There is no growth expected for Amtrak on the A Line.
- One northbound and one southbound Amtrak Auto Train per day between DeLand Station and Amtrak Auto Train Station, travelling 16 miles from the north of the project corridor.
- The data analyzed indicated there is an average of nineteen freight trains operating on the corridor daily. The through trains either terminate in Taft Yard and return or travel through the corridor. Five of these operations occur during daytime hours, and six of these operations occur during nighttime hours. The data also indicated there are eight local trains servicing carload customers along the corridor. These service patterns vary depending on customer deliveries with the highest concentration between Taft Yard and Kaley Yard Trains (4 mile trip length) and customers near Rand Yard. There are many locomotive only trips during the month.
- CRT Trains statistics for the Build 2012 and Build 2030 were obtained from the Transit Operating Plans Report schedules.
- The 2012 Build and 2030 Build freight train operations were also assumed to not change from their average current level of operations except that in the Full-Build some of the freight train operations will shift from peak-hour operations to off-peak daytime operations to avoid conflict with the project related DMU commuter rail operations.

6. Data used for Environmental Assessment – No Build
7. Data used for Environmental Assessment – 2030 Full Build

For purposes of determining the noise impacts of CRT commuter service, future nighttime operations must be distinguished from future daytime operations. For noise modeling purposes, the presumption is that total future non-CFCRT operations will not change in the corridor from the existing 26 trains. Only two (2) to three (3) existing local freight operations are expected to be moved from daytime to nighttime operations in 2030. These nighttime operations will occur in limited areas of the corridor and will not be included in CRT noise prediction. The day-night average sound level (Ldn) will be calculated to predict cumulative noise exposure from all events over a full 24 hours. Based upon the CRT Operations Plan Schedule, 2030 corridor conditions will include the addition of 48 daytime CRT trains and eight (8) nighttime CRT trains. The eight CRT nighttime trains occur between the hours of 5:30 AM and 7:00 AM.

A 10-decibel penalty is added to events that occur during the nighttime hours (10:00 PM to 7:00 AM) to account for people's increased sensitivity to noise while they are sleeping.

In the 2030 Full Build, the addition of 56 SunRail trips to the existing 26.6 freight and Amtrak trains represents a significant increase in the number of train trips per day. However, the total rail traffic does not increase proportionally due to the short length of the SunRail train consists (1 locomotive with 3 coaches) as compared to the ten approximately 100 car through freight train and the six Amtrak train consists.

#### Federal Noise Guidelines

The FTA's guidance manual (April 1995) presents the basic concepts, methods, and procedures for evaluating the extent and severity of noise impacts from transit projects. Transit noise impacts are assessed based on land use categories and sensitivity to noise from transit sources. These land use categories are described in Table 3-8.

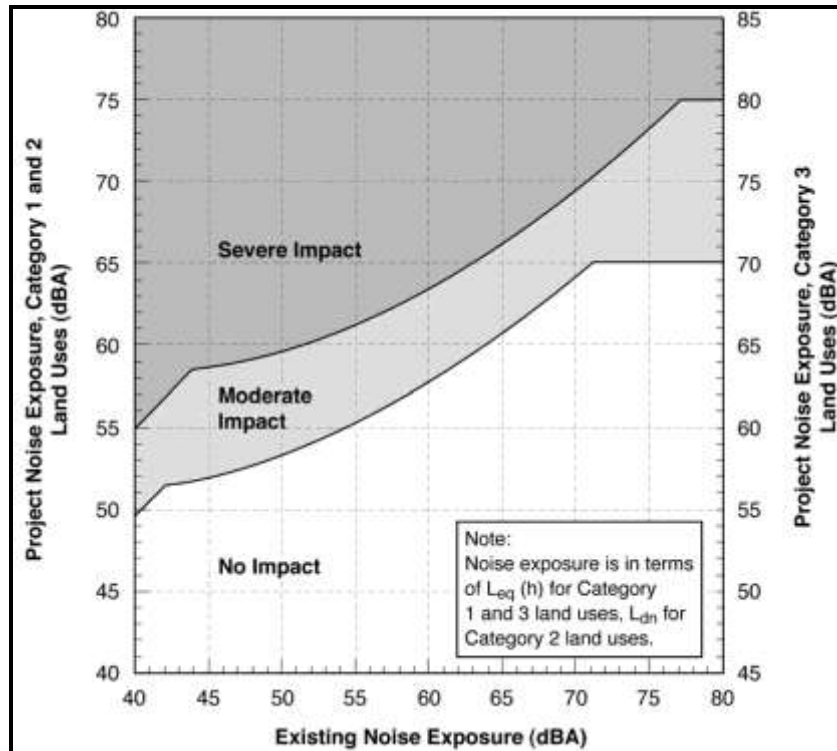
The FTA noise impact criteria are defined by two curves that allow increasing Project noise levels as existing noise increases up to a point, beyond which impact is determined based on Project noise alone. These curves are delineated into two categories: "moderate" impact and "severe" impact. The "moderate" impact threshold defines areas where the change in noise is noticeable but may not be sufficient to cause a strong, adverse community reaction. The "severe" impact threshold defines the noise limits above which a significant percentage of the population would be highly annoyed by new or additional noise. Where "no impact" is anticipated, a project, on average, would result in an insignificant increase in the number of people highly annoyed by new noise.

**Table 3-8 - FTA Land Use Categories and Metrics for Transit Noise Impact Criteria**

<b>LAND USE CATEGORY</b>	<b>NOISE LEVEL</b>	<b>DESCRIPTION</b>
1	$L_{EQ}(h)$	Tracts of land set aside for serenity and quiet, such as outdoor amphitheaters, concert pavilions, and historic landmarks.
2	$L_{DN}$	Buildings used for sleeping such as residences, hospitals, hotels, and other areas where nighttime sensitivity to noise is of utmost importance.
3	$L_{EQ}(h)$	Institutional land uses with primarily daytime and evening uses including schools, libraries, churches, museums, cemeteries, historic sites, and parks, and certain recreational facilities used for study or meditation.

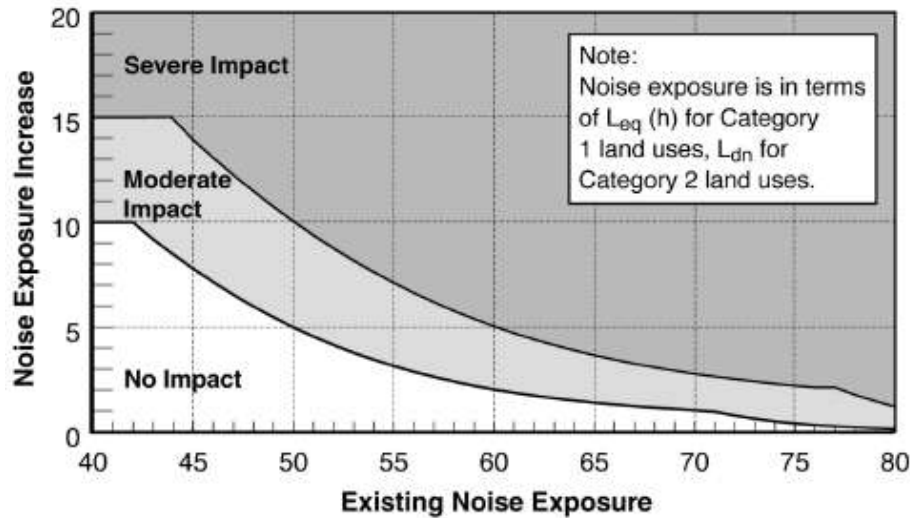
Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, Washington, D.C., April 1995.

The level of impact at any specific site can be established by comparing the predicted project noise level at the site to the existing noise level at the site. The FTA May 2006 Noise Impact Criteria for all three land use categories are shown in Figure 3-1. Figure 3-2 demonstrates two points; 1.) The cumulative noise exposure of existing noise and increased noise, and 2.) The total amount of acceptable additional noise exposure diminishes with the increase in existing noise exposure.



Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, Washington, D.C., May 2006.

**Figure 3-1 - FTA Noise Impact Criteria for Transit Projects**



Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, Washington, D.C., May 2006.

Figure 3-2 - Increase in Cumulative Noise Levels Allowed by Criteria (Land Use Categories 1 and 2)

### 3.3.3 Modeling Methodology and Assumptions

A description of the modeling methodologies and the types of noise sources included in the modeling prediction are included in the following sub-sections.

#### 3.3.3.1 CRT Train Passbys

In this revised analysis, the CRT commuter trains will operate with diesel FRA-compliant locomotives and standard passenger coaches in a push-pull configuration. The reference source noise levels used in the analysis are from the FTA guidance manual and are shown in Table 3-9. Train consists include one locomotive and up to three passenger rail cars that operate on continuously welded rail tracks. Adjustments to the predicted noise levels for each passby included the following:

- Track type;
- Train speed;
- Day/night operations;
- Consist size; and;
- Period volumes.

The proposed track infrastructure upgrades and train operations (both freight and passenger) are unchanged from the original EA. In accordance with the Federal Railroad Administration's Final Rule on the "Use of Locomotive Horns at Highway-Rail Grade Crossings" (49 CFR Parts 222 and 229; April 2005), the minimum allowable warning horn  $L_{MAX}$  level of 96 dBA at a distance of 100 feet was used in the noise modeling analysis. The warning horn on the locomotive is sounded for a duration time of 15-seconds as the train approaches the grade crossing. The sounding of the warning horn ends when the train enters the grade crossing. The speed of the train and the 15-second duration time are used to determine the impact zone within which receptors located along the rail corridor could be impacted by the warning horn. For example, for a train traveling at 40 mph as it approaches

the grade crossing, the train would have to start sounding the warning horn at a distance of 880 feet from the grade crossing to meet the FRA's 15-second duration time requirement.

**Table 3-9 - Summary of Noise Source Reference Data**

NOISE SOURCE		NOISE LEVEL (dBA)	
NAME	DESCRIPTION	L <sub>MAX</sub>	SEL
LOCOMOTIVE	From FTA Guidance Manual	88	92
STANDARD RAILCAR	From FTA Guidance Manual	80	82
WARNING HORN*	FRA Lower Noise Limit	96	99
AUXILIARY EQUIPMENT	Stations (FTA Guidance manual)	65	101

\* Warning horn levels based on (a) 96 dBA at 100 feet in front of horn (and an SEL of 99 dBA at a distance of 100 feet), the minimum level established by the FRA, (b) zone of impact determined by FRA established minimum warning duration of 15 seconds from grade crossing and estimated speed of train in vicinity of grade crossing (courtesy of Harris Miller Miller & Hanson Inc. – FRA Grade Crossing Noise Model)

[Note: All other noise levels in Table 3-9 are based on a reference distance of 50 feet and a speed of 50 mph for mobile sources]

Using the peak- and 24-hour CRT volumes, passby noise levels from commuter rail vehicles were predicted at each of the identified receptor locations along the Project Corridor using the FTA fixed-guideway algorithm.

### 3.3.3.2 Existing Conditions

Existing noise along the Project Corridor was measured to characterize ambient background levels in the community as well as to document transit, freight and passenger rail sources that currently operate along the CRT Corridor. The scope and the results of the noise measurement program are described in the following subsections. Figure 1-1 shows a regional map of the CRT Corridor, and Figure 2-1 shows a map with the proposed CRT stations and existing double track sections.

### 3.3.3.3 Background Ambient Noise Levels

In accordance with FTA noise guidelines, a noise-monitoring program was conducted along the CRT Corridor to (1) establish the existing ambient background levels within the Project area and (2) develop Project criteria noise limits.

As shown in Figure 3-3, noise measurements were obtained at 12 receptor locations along the Project Corridor. The measurements at 10 of the locations consist of 24 hours of continuous noise monitoring at residential receptors. The remaining 2 locations were in public parks where hour-long noise measurements were collected. The results were used to establish baseline noise levels for both residential and non-residential receptors. The existing noise environment was characterized according to the FTA land use categories shown in Table 3-8.

Existing land uses along the CRT Corridor are exposed to a variety of noise sources ranging from vehicular traffic along major roads and cross streets to noise generated by existing freight and Amtrak passenger operations along the railway corridor.

The selection process used to determine monitoring locations began with the study of land use maps, USGS maps, and aerial photography. First, 10 preliminary locations were

selected that would be (1) evenly distributed in the Corridor, (2) representative of typical land use for the various communities adjacent to the Corridor, and (3) were close enough to the existing railway corridor so that existing railway operations noise would be a significant component of the noise measurements. Further review resulted in two additional measurement locations to be selected (Lake Lily Park and Cypress Grove Park) to represent public parkland adjacent to the Corridor. Finally, after the noise measurement technicians visited the actual sites, some adjustments were made to a few of the locations for logistical reasons.

The results of the community noise-monitoring program were used to establish the existing background noise levels and to develop the allowable Project criteria using the FTA guidelines. The noise-monitoring program was conducted in May 2005 to establish existing peak hour  $L_{EQ}$  noise levels at non-residential locations and 24-hour  $L_{DN}$  noise levels at residences. The results of the noise-monitoring program are summarized in Table 3-10 for each of the 12 measurement locations. The measured 24-hour  $L_{DN}$  noise levels ranged from 66 dBA at location 9 to 74 dBA at location 4. This range in measured noise level is due to the distance of the receptor from the rail corridor and the proximity of the receptor to a grade crossing where the warning horns from the trains approaching the grade crossing is the dominant noise source.

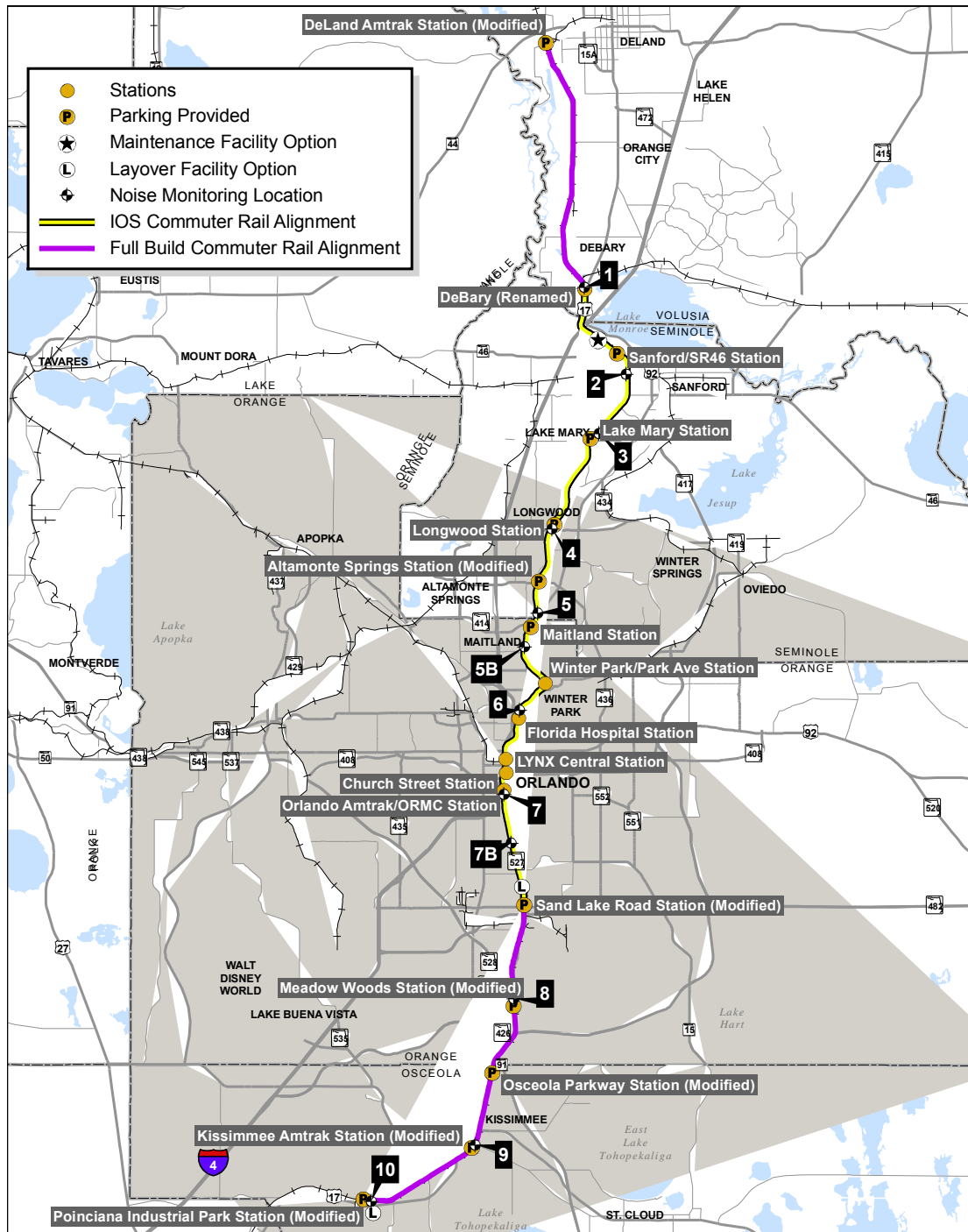


Figure 3-3 - Noise-Vibration Monitoring Locations in the CRT Corridor



**Table 3-10 - Summary of Noise Measurements**

<b>NUMBER</b>	<b>DESCRIPTION</b>	<b>TOWN</b>	<b>FTA CATEGORY</b>	<b>DISTANCE FROM RAIL CORRIDOR</b>	<b>MEASURED NOISE LEVEL (dBA)</b>
1	25 Jason Drive	Debary	2	130 feet	68 L <sub>DN</sub>
2	121 Yale Drive	Sanford	2	100 feet	70 L <sub>DN</sub>
3	202 Melissa Court	Sanford	2	100 feet	70 L <sub>DN</sub>
4	115 West Pine Avenue	Longwood	2	70 feet	74 L <sub>DN</sub>
5	425 Lake Seminary Circle	Maitland	2	150 feet	68 L <sub>DN</sub>
5B	Lake Lily Park	Maitland	3	150 feet	56 L <sub>EQ</sub>
6	719 Nottingham Street	Orlando	2	110 feet	70 L <sub>DN</sub>
7	Orlando Amtrak Station	Orlando	3	75 feet	74 L <sub>EQ</sub>
7B	Cypress Grove Park	Orlando	3	100 feet	66 L <sub>EQ</sub>
8	12165 Sandal Creek	Orlando	2	110 feet	69 L <sub>DN</sub>
9	42 Neptune Road	Kissimmee	2	150 feet	66 L <sub>DN</sub>
10	4894 Old Tampa Highway	Kissimmee	2	150 feet	68 L <sub>DN</sub>

Source: CFCRT Noise and Vibration Technical Report, 2005.

**3.3.3.4 Predicted Impacts and Noise Assessment**

A noise assessment was completed to determine the potential noise impacts at sensitive receptor locations along the CRT Project Corridor. The measured noise levels in Table 3-10 were used to determine the FTA criteria for moderate and severe impact from the curves in and Figure 3-1.

The noise levels predicted at each of the discrete receptors along the Project Corridor were determined using the FTA guidelines and noise modeling methodologies. These levels were then compared to the FTA criteria to determine impact. Impacts from operations were evaluated at noise-sensitive receptors within approximately 700 feet of the rail corridor.

**3.3.4 Predicted Noise Impacts**

The results of the noise impact assessment indicate that throughout the corridor predicted noise impacts are due to the use of warning horns (dominant noise source) as the trains approach the grade crossings as well as diesel engine noise and wheel-to-rail noise due to the use of heavier diesel rail technology. These impacts occur where residential receptors are situated within close proximity of grade crossings. These zones tend to occur within approximately 400 to 800 feet of the grade crossing, depending on the speed of the train. There are 126 active grade crossings along the full corridor. A number of receptors were determined to have noise levels that exceed FTA impact criteria.

As documented in the original EA, without mitigation, it was estimated using previous DMU train sets there would be 217 receptors (54 severe and 163 moderate) impacted by the CRT Project. The results of this noise assessment, using the push-pull diesel locomotives with coaches indicate that without mitigation, a total of 303 receptors would be impacted by the CRT Project. Of this total, 84 residential receptors would exceed the FTA's severe impact criteria, and 219 residential receptors would exceed the FTA's moderate impact criteria. The distribution of the moderate and severe impacted receptors is described in Table 3-11, which

shows the number of impacted receptors without mitigation within the 17 regions that correspond approximately to the vicinity of each of the 17 proposed train stations along the Project corridor.

**Table 3-11 - Distribution of Noise Impacts in CRT Corridor without Mitigation (DMUs vs. Diesel Locomotive and Rail Cars)**

<b>REGION</b>	<b>STATION VICINITY</b>	<b>DMU RAIL VEHICLES</b>		<b>DIESEL LOCOMOTIVE AND RAIL CARS</b>	
		<b>MODERATE IMPACTS</b>	<b>SEVERE IMPACTS</b>	<b>MODERATE IMPACTS</b>	<b>SEVERE IMPACTS</b>
1	Deland	2	0	3	0
2	Debary	0	0	1	0
3	Sanford	18	3	19	5
4	Lake Mary	16	2	29	3
5	Longwood	6	0	6	0
6	Altamonte Springs	20	10	29	14
7	Maitland	18	15	35	22
8	Winter Park	19	8	13	12
9	Florida Hospital	16	7	16	12
10	Lynx Central	0	0	0	0
11	Church Street	2	0	4	0
12	ORMC/Amtrak	0	0	0	0
13	Sand Lake	0	0	0	0
14	Meadow Woods	12	2	17	2
15	Osceola	0	0	0	0
16	Kissimmee	26	7	34	13
17	Poinciana	8	0	13	1
<b>Total</b>		<b>163</b>	<b>54</b>	<b>219</b>	<b>84</b>

Table 3-11 also includes a comparison of the noise impacts from the DMU vehicles that were proposed in the original EA with the FRA-compliant diesel locomotive and rail cars currently proposed for the CRT Project. Both analyses include the use of warning horns at the grade crossings and use the same on-board warning horn noise levels described in Table 3-9. Because the estimated noise level is a cumulative measure from various noise sources (e.g. warning horns, engine noise, wheel to rail noise, etc.) this increase in impacts is due solely to the comparatively higher noise generated by the heavier locomotives relative to the lighter DMU vehicles. The combination of warning horn noise and locomotive noise near grade crossings resulted in a higher noise level thereby increasing the number of impacts from the original EA.

Many of these receptors are currently exposed to noise from warning horns from the existing freight and Amtrak trains operating along the Project corridor. This exposure is captured in

the existing ambient noise levels. Receptors that experience impacts from freight and passenger operations and that are not predicted to experience impacts in the moderate or severe range from the Project are not listed as impacted receptors as part of this analysis.

**Table 3-12 - List of Analysis Regions Showing Station Vicinity and Corridor Markers**

<b>REGION</b>	<b>STATION VICINITY</b>	<b>START MARKER</b>	<b>END MARKER</b>
1	Deland	10000.0	10225.0
2	Debary	10225.0	10594.0
3	Sanford	10594.0	10963.0
4	Lake Mary	10963.0	11280.3
5	Longwood	11280.3	11440.6
6	Altamonte Springs	11440.6	11580.1
7	Maitland	11580.1	11710.0
8	Winter Park	11710.0	11836.5
9	Florida Hospital	11836.5	11930.7
10	Lynx Central	11930.7	12005.0
11	Church Street	12005.0	12050.7
12	ORMC/Amtrak	12050.7	12259.9
13	Sand Lake	12259.9	12500.3
14	Meadow Woods	12500.3	12699.0
15	Osceola	12699.0	12847.3
16	Kissimmee	12847.3	12962.0
17	Poinciana	12962.0	13261.0

Table 3-12 shows the approximate reference markers for the start and end point of each of the 17 regions. Figure 3-4 shows the general distribution of the severe impacted receptors along the entire Project Corridor. Figures 3-5 through 3-12 show the location of the severe impacted receptors on more detailed maps of the Project Corridor. These figures also include a receptor identification number that can be used to locate this receptor in the table of impacted receptors located in Table 3-14. Table 3-14 also contains a complete listing of all the impacted receptors, including receptor identification number, distance from rail corridor, approximate mile marker, train speed, impact criteria, and calculated noise level from the proposed CRT Project.

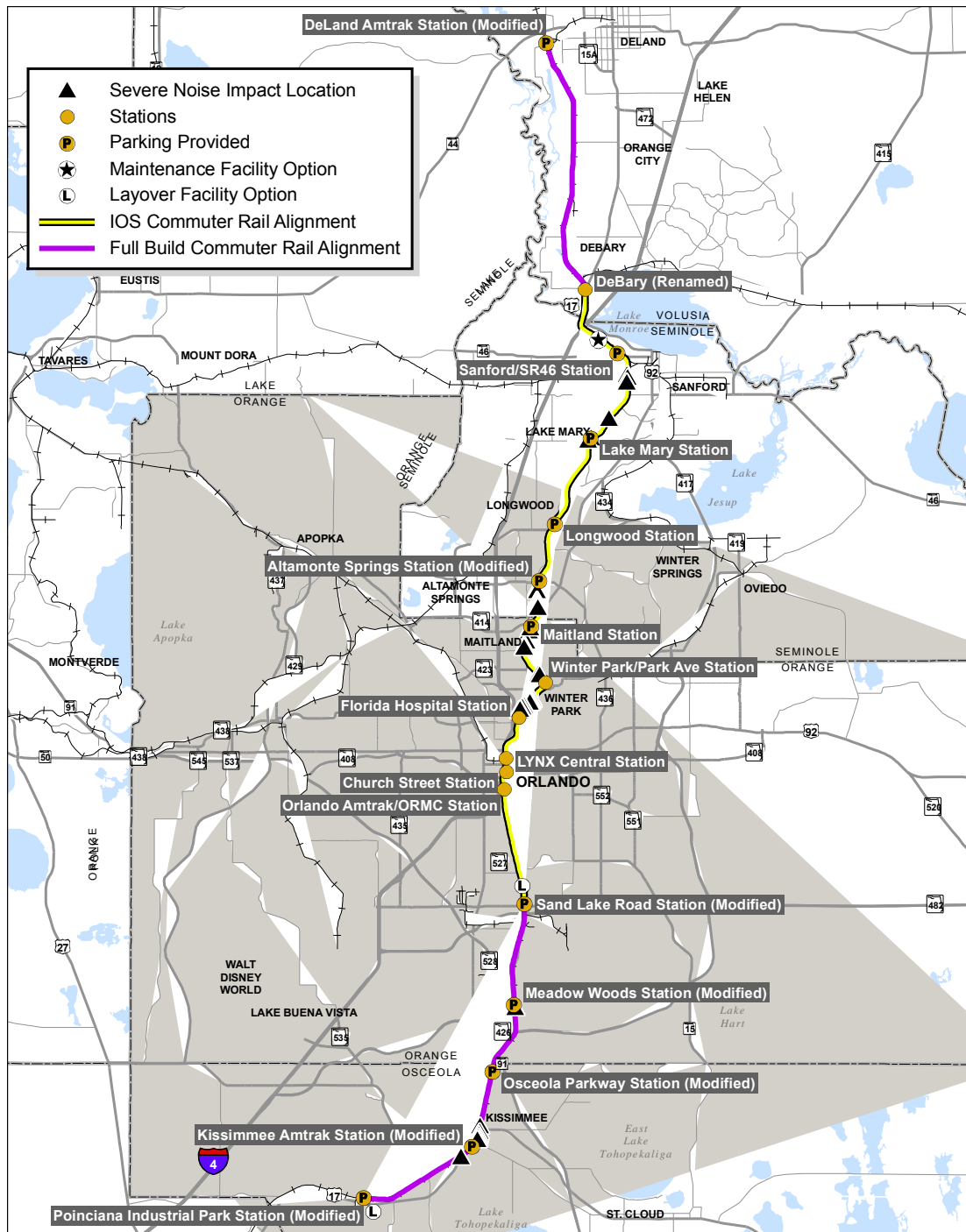


Figure 3-4 - General Distribution of Severe Noise Impacts in the Corridor

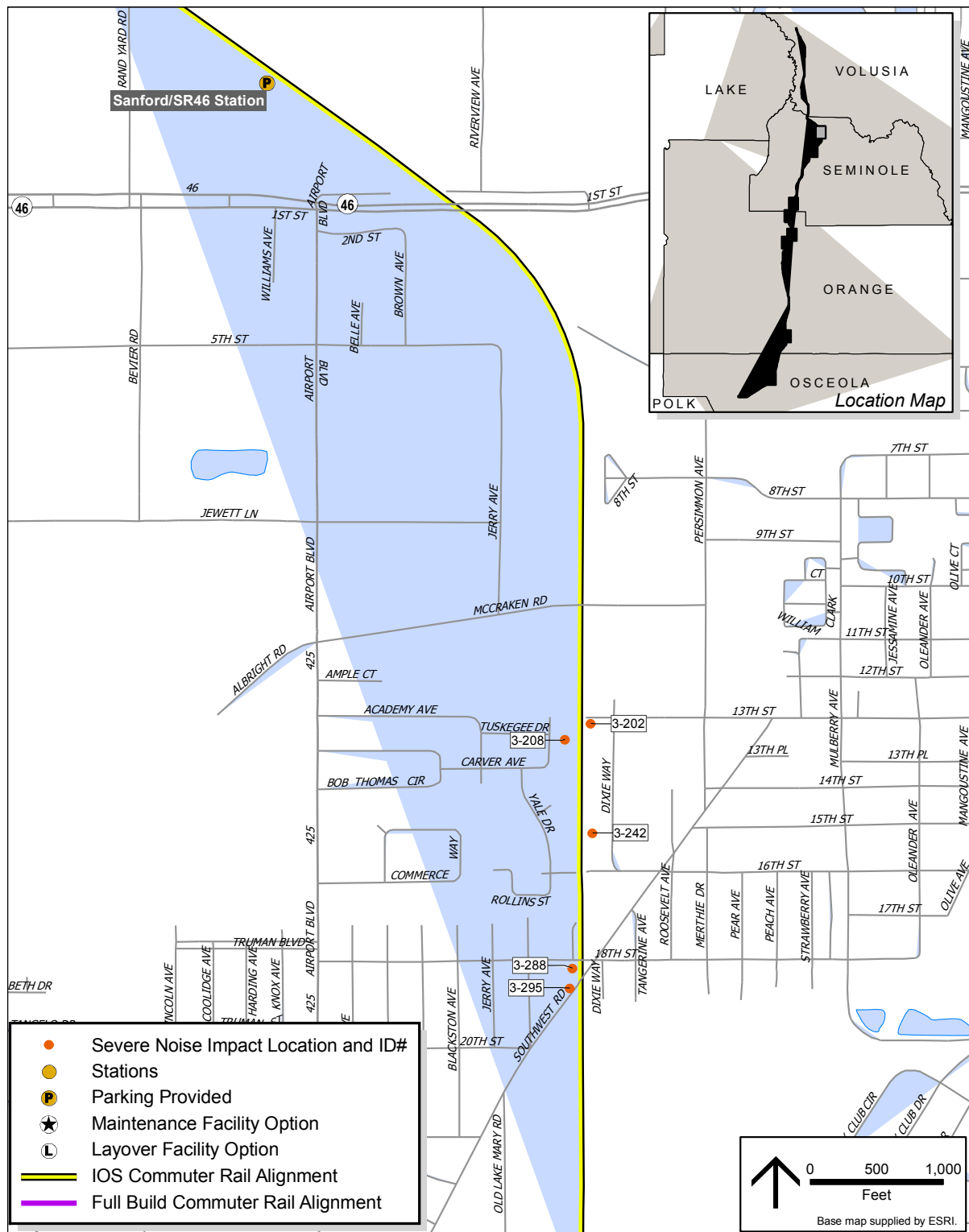


Figure 3-5 - Severe Noises Impacts - Sanford

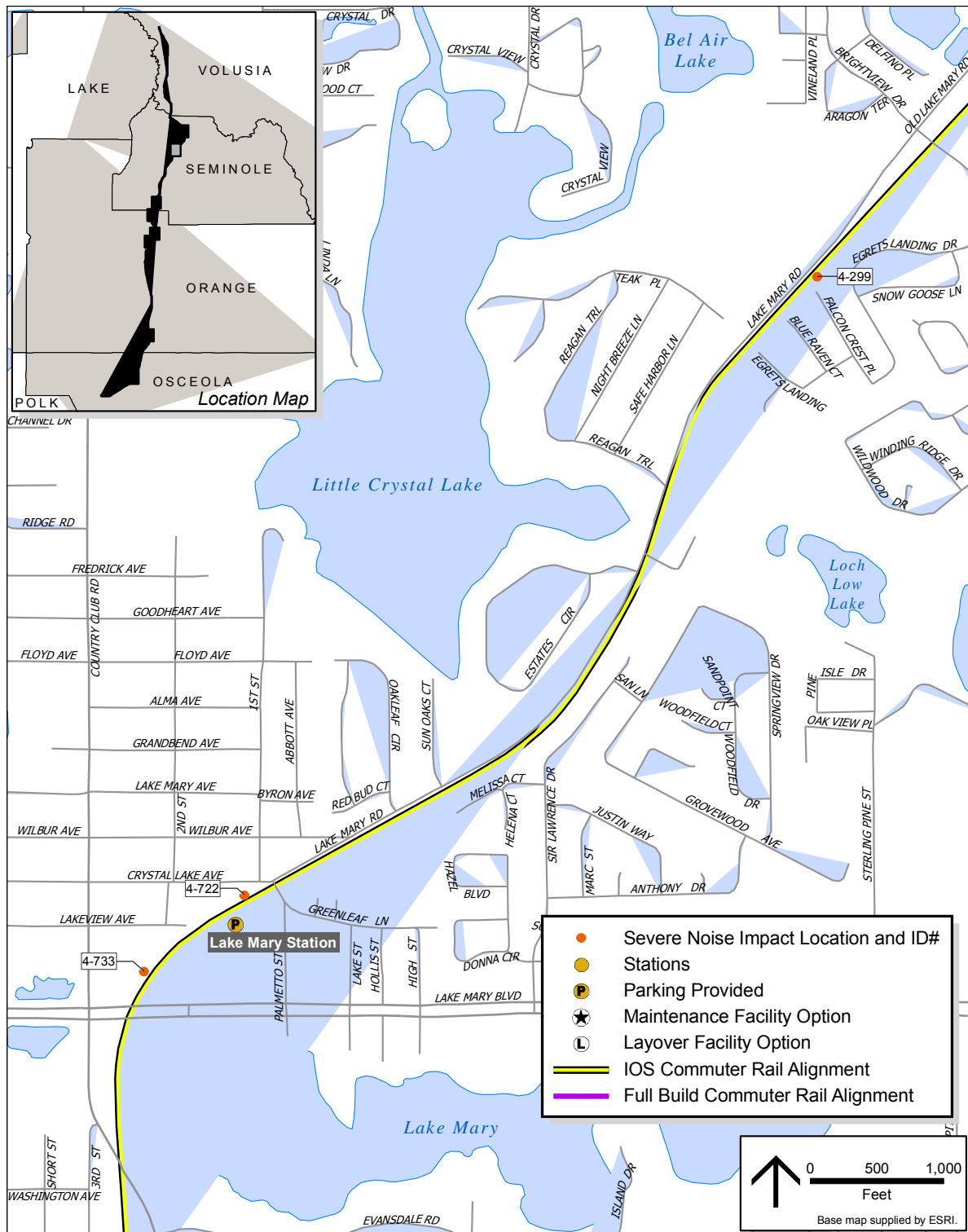


Figure 3-6 - Severe Noises Impacts - Lake Mary

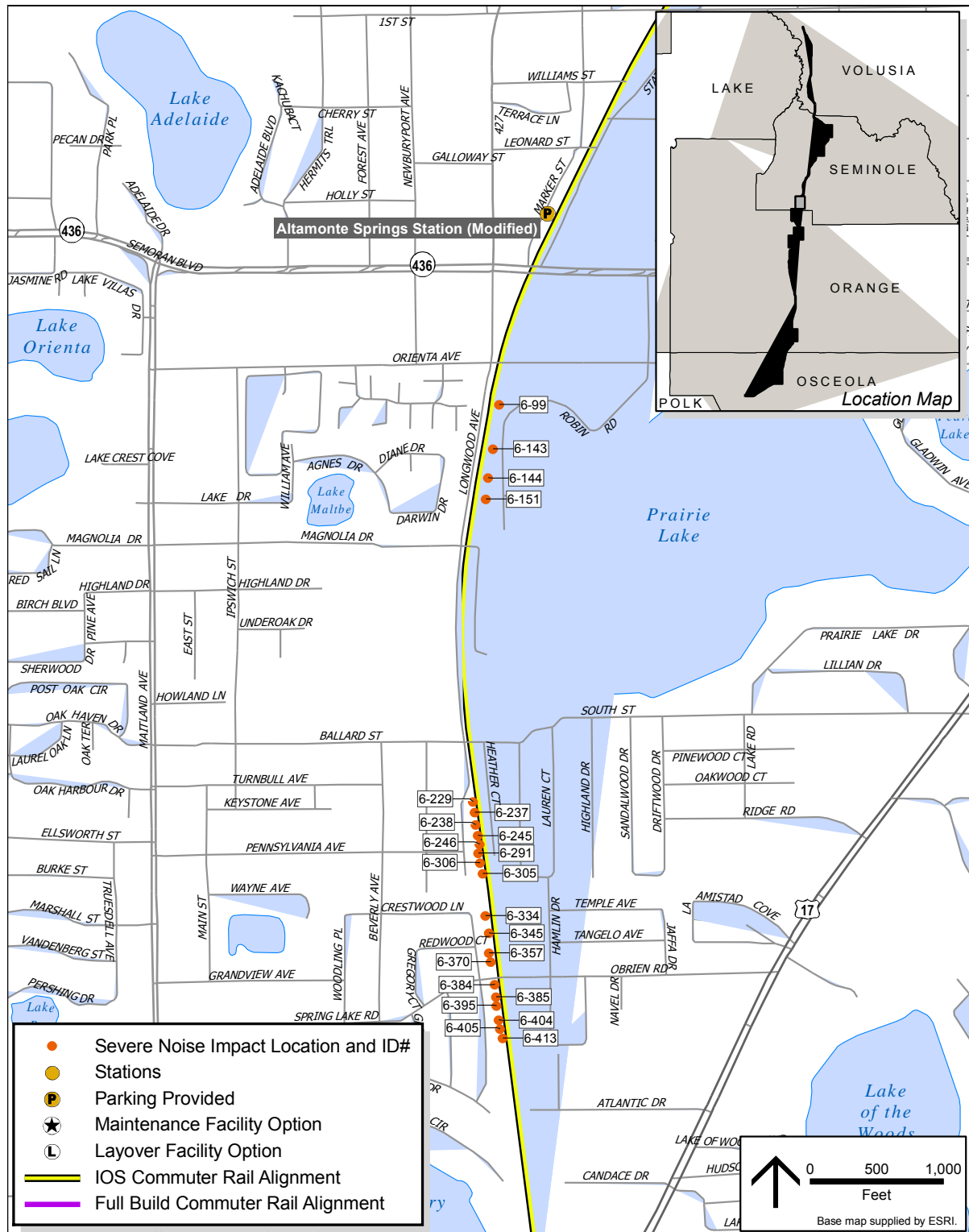


Figure 3-7 - Severe Noises Impacts - Altamonte Springs

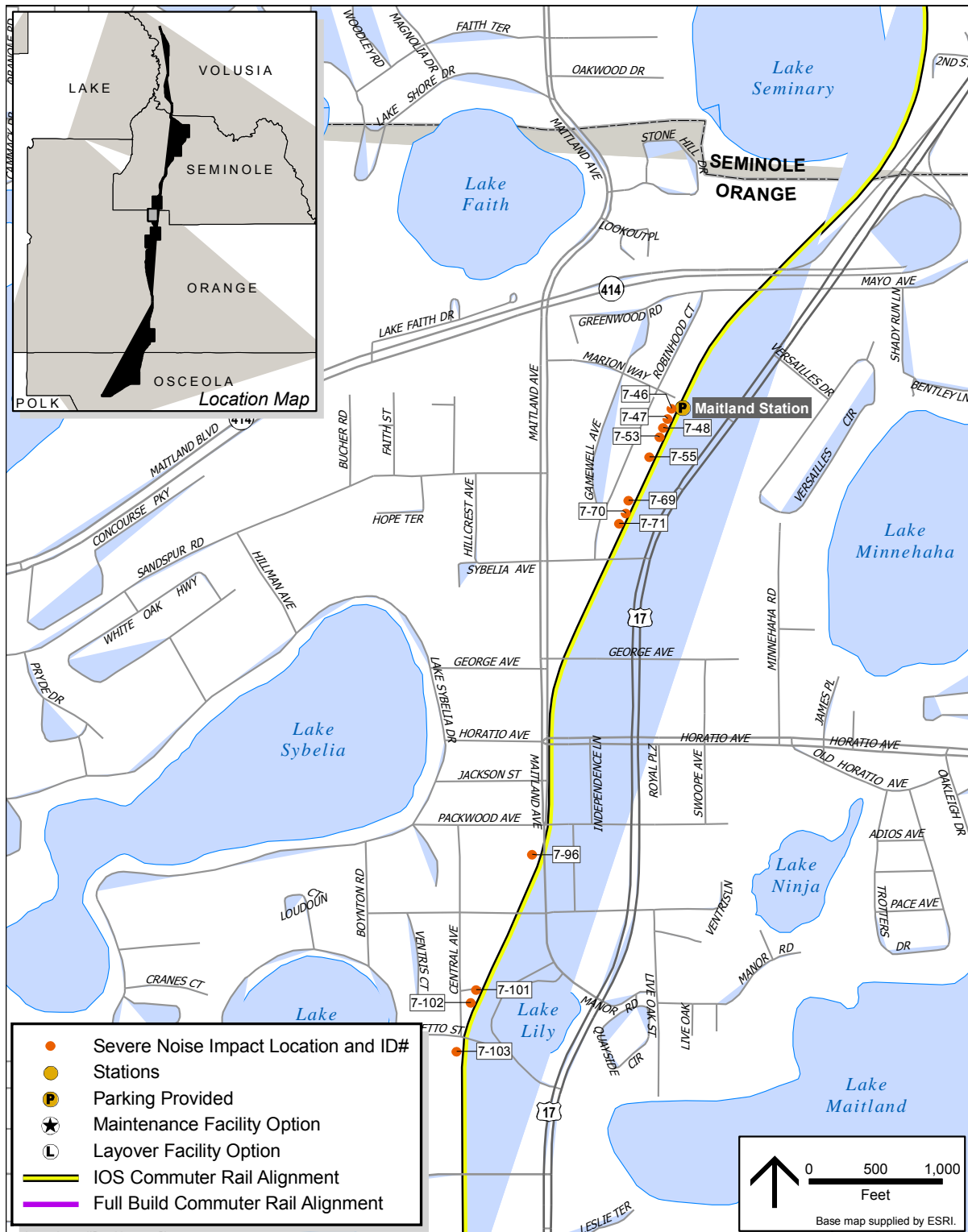


Figure 3-8 - Severe Noises Impacts - Maitland



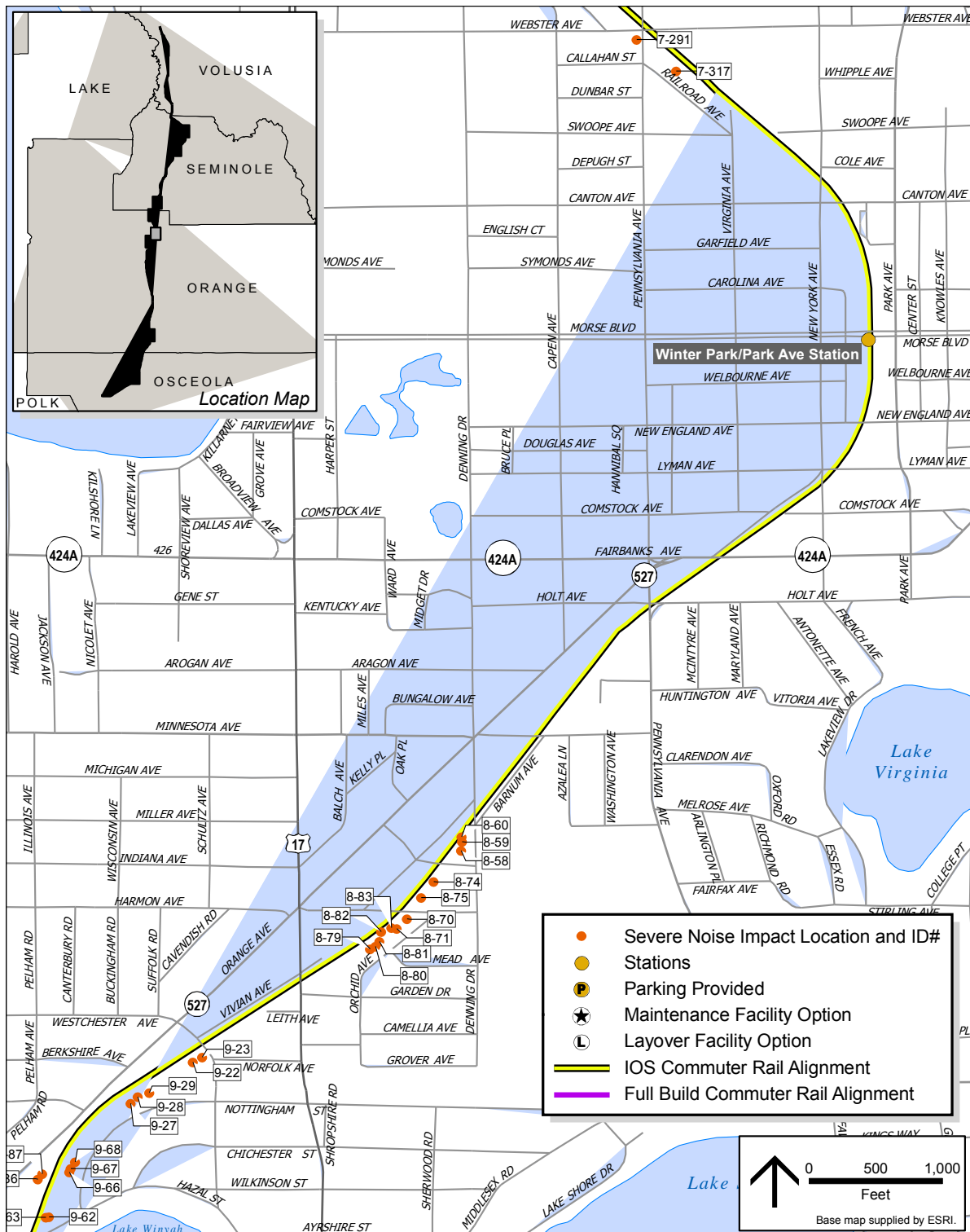


Figure 3-9 - Severe Noises Impacts - Winter Park

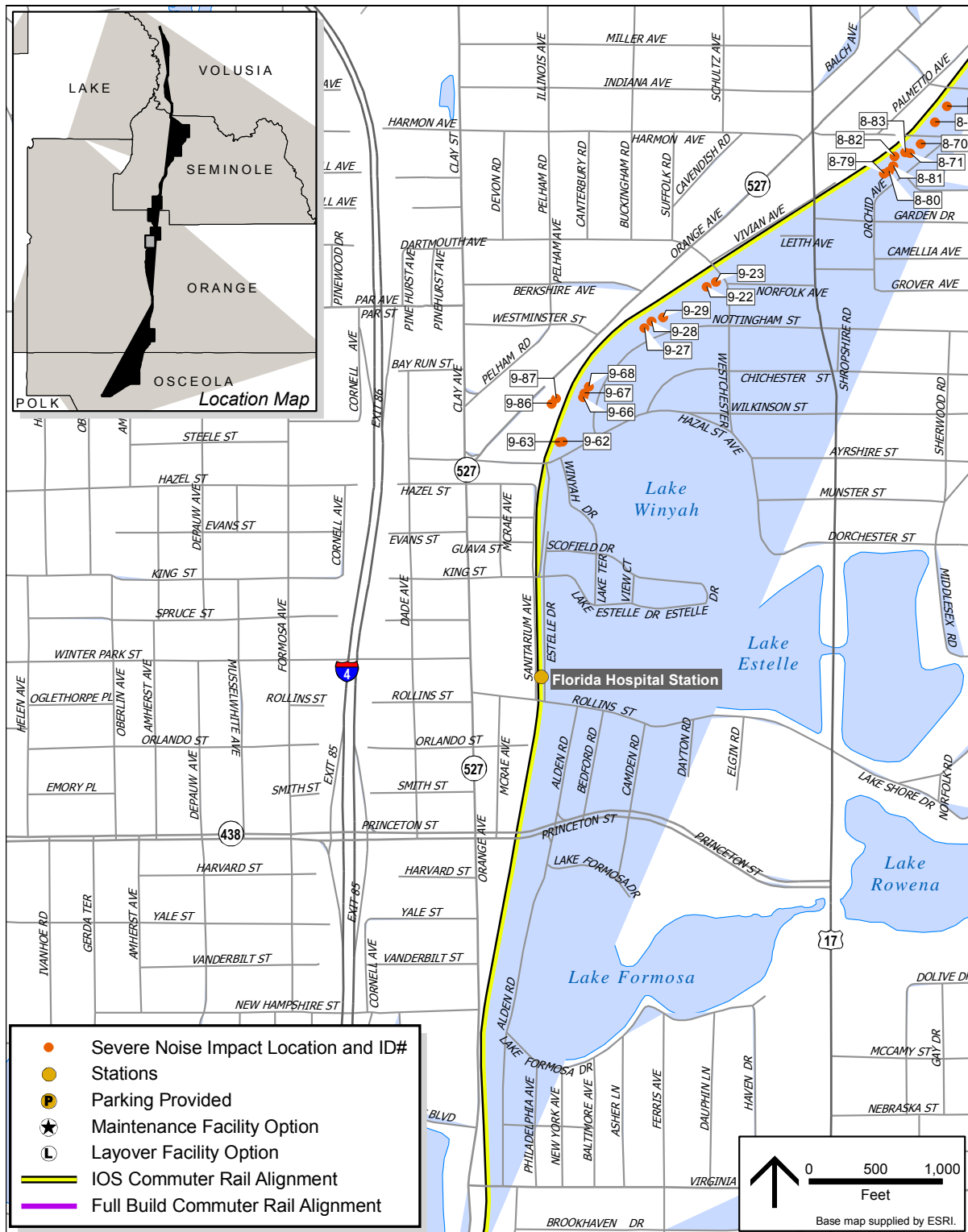
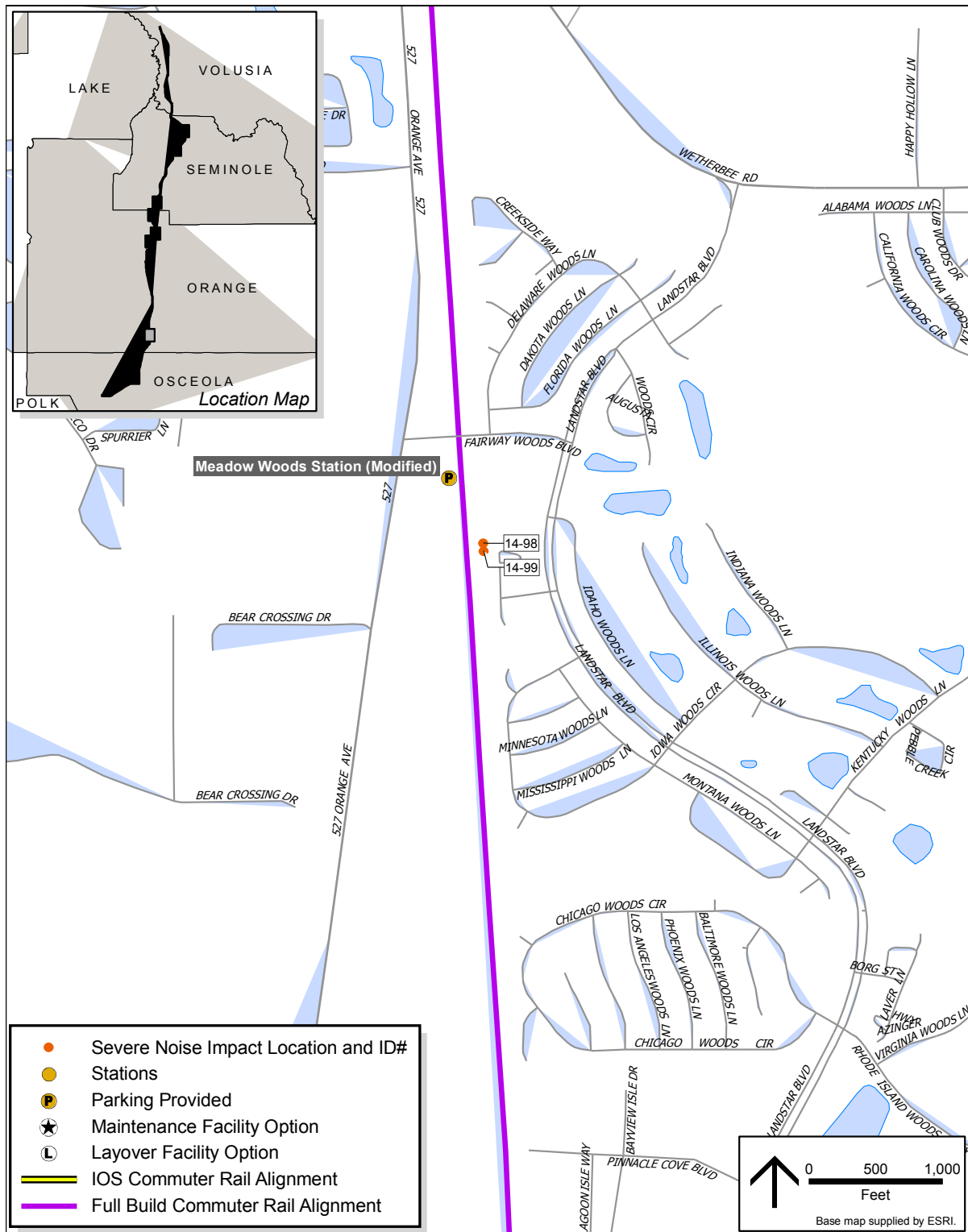


Figure 3-10 - Severe Noises Impacts - Florida Hospital



**Figure 3-11 - Severe Noises Impacts - Meadow Woods**

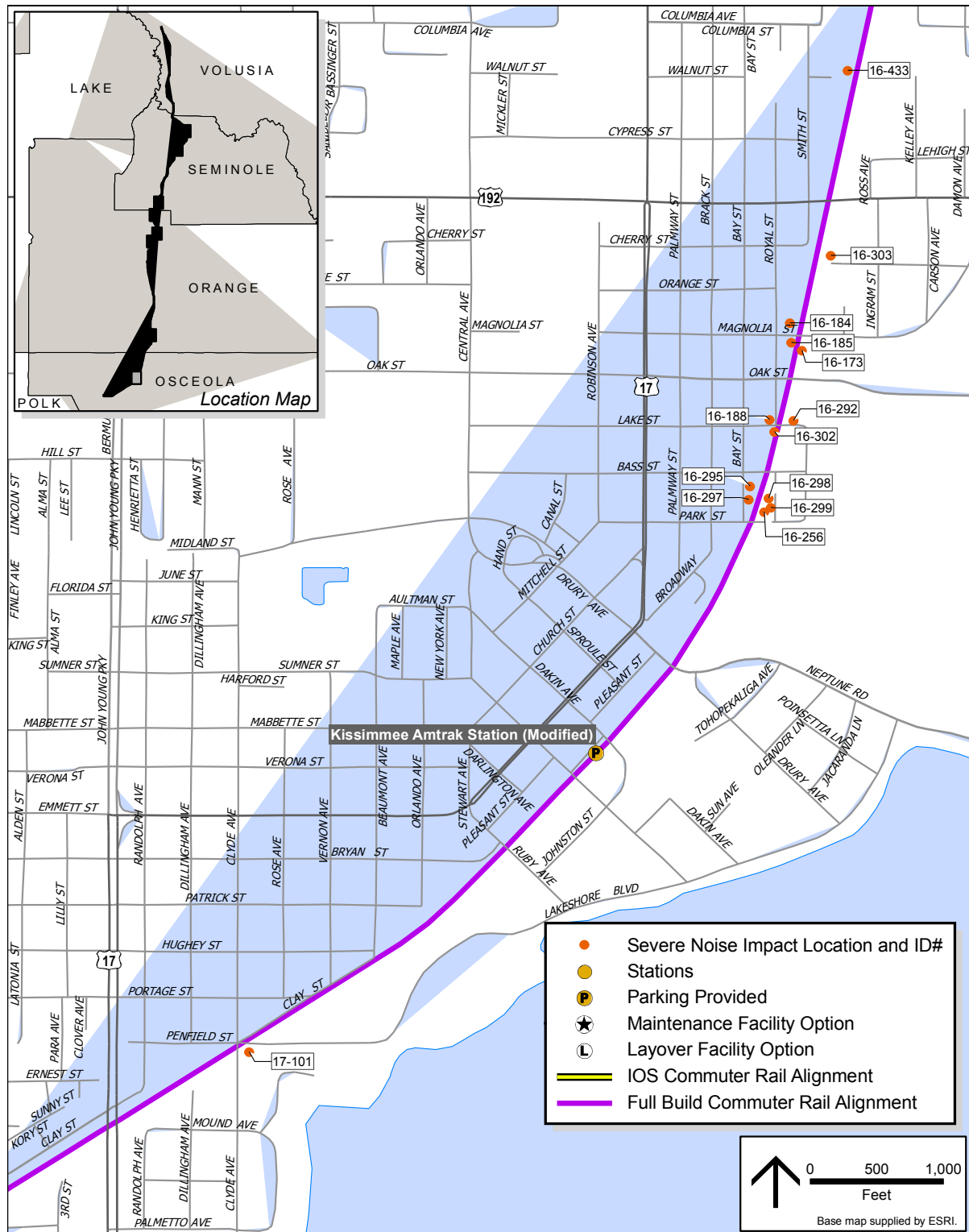


Figure 3-12 - Severe Noises Impacts - Kissimmee

### 3.3.5 Vehicle Storage and Maintenance Facility (VSMF) and Layover Facilities

The rail yard noise assessment was performed in accordance with the procedures contained in the FTA guidance manual. A noise assessment was performed for the VSMF facility located at Rand Yard and the layover facilities located at the DeBary Station north terminus and the Poinciana Industrial Park Station south terminus. With the change in equipment to FRA-compliant locomotives, coaches and cab cars, there are no predicted noise impacts from the VSMF.

### 3.3.6 Noise Mitigation

The results of the noise analysis indicate that a total of 84 residential receptors would be severely impacted by the warning horns. Fifty-nine (59) of these severely impacted receptors would have a noise level of 3 dBA or less above the FTA severe impact criteria, fifteen of them would have a noise level between 3 dBA and 5 dBA and ten of the severely impacted receptors would have a noise level between 5 to 10 dBA above the FTA severe impact criteria with the most severe impacted receptor having a noise level of 9.7 dB above the FTA severe impact criteria.

Standard warning horn mitigation measures include<sup>8</sup> changing the location of train horns on locomotives and changing the directivity of train horns. One method<sup>9</sup> of mitigation is changing the directivity of the horn by using a metal shroud with high absorption acoustic insulation. This horn shroud design has been estimated to reduce the sideline noise levels by up to 22 dBA (according to the noise study prepared for the UTA Project) while maintaining full level of on-axis output that would meet the FRA minimum sound level requirements. FTA has concluded<sup>10</sup> that FDOT can use up to 22 dBA for mitigation of horn noise. However, the noise analysis for this SEA has found that a reduction of overall noise (including horn noise and operational noise) of 10 dBA would be necessary to reduce the noise levels at all of the severe impacted receptors to below the FTA severe impact criteria.

To mitigate the horn noise impacts, the CRT Project will relocate the locomotive train horn from the roof to a location approximately three (3) feet above top of rail and incorporate a metal horn shroud with high absorption acoustic insulation to reduce the sideline noise. For the CRT Project, an up to 22 dBA reduction is projected to reduce the total 303 combined severe and moderate impacts to zero (0) total impacts. These results are also summarized in Table 3-13. Prior to project start-up, all on-board horns will be calibrated to sound at minimum FRA noise requirement of 96 dBA  $L_{max}$  measured at a distance of 100 feet from the centerline of the horn. Applying these mitigation techniques to reduce sideline noise of the warning horns is expected to eliminate all moderate and severe impacts of the CRT.

<sup>8</sup> "Approaches to Reducing Noise Impact from Train Horns", Lance Meister, Harris Miller Miller & Hanson Inc.

<sup>9</sup> FEIS Prepared for Utah Transit Authority Weber County to Salt Lake City Commuter Rail Project (April 2005).

<sup>10</sup> Federal Transit Administration, Letter to FDOT District V Secretary, Re: CFCRT SEA Technical Documentation, December 18, 2009

**Table 3-13 - Estimated Reduction in Number of Impacted Receptors**

Region	Station Vicinity	Without Mitigation		Horn Shroud with Estimated Reduction – 10 dBA	
		Moderate Impacts	Severe Impacts	Moderate Impacts	Severe Impacts
1	DeLand	3	0	0	0
2	Debary/Saxon	1	0	0	0
3	Sanford	19	5	0	0
4	Lake Mary	29	3	0	0
5	Longwood	6	0	0	0
6	Altamonte Springs	35	22	0	0
7	Maitland	29	14	0	0
8	Winter Park	13	12	0	0
9	Florida Hospital	16	12	0	0
10	Lynx Central	0	0	0	0
11	Church Street	4	0	0	0
12	ORMC/Amtrak	0	0	0	0
13	Sand Lake	0	0	0	0
14	Meadow Woods	17	2	0	0
15	Osceola	0	0	0	0
16	Kissimmee	34	13	0	0
17	Poinciana	13	1	0	0
<b>Totals</b>		<b>219</b>	<b>84</b>	<b>0</b>	<b>0</b>

During the start-up period of commuter rail operations, FTA, with the assistance of FDOT, will prepare an on-site detailed noise assessment. This assessment will verify the predicted project noise levels in the original EA and test the efficacy of its operational and horn noise analysis and mitigation measures to ensure that there will be minimal community noise impacts from the project. If the detailed noise analysis determines that the presence of the CRT project has no impact on project noise levels, the FTA and FDOT will be satisfied that all noise mitigation measures have been successful.

If noise monitoring during the start-up period reveals that the selected mitigation does not adequately control noise, FDOT is committed to adopting additional measures to reduce noise. Sound insulation or other appropriate mitigation measures will be installed as required at any remaining impacted noise receptors to mitigate to the “moderate” range all potential noise impacts of the CFCRT project, as specified in the original FONSI. Specific applications of these mitigation measures will be identified and evaluated as the project design progresses.

It should be noted that some of the freight trains and Amtrak trains are predicted to continue operating along the Project Corridor and sounding their warning horns when approaching grade crossings at their current noise level. The CFCRT Project will not mitigate the noise from freight and Amtrak passenger trains.

**Table 3-14 - List of All Noise Impacted Receptors (both FTA 'Moderate Impact' and FTA 'Severe Impact')**

Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
1	1	138	1007	40	68	65	63	68	2		
2	1	152	1008	20	68	67	63	68	4		
3	1	142	1023	50	68	64	63	68	1		
4	2	140	2103	50	70	65	64	69	1		
5	3	133	3012	40	70	65	64	69	1		
6	3	133	3201	20	70	67	64	69	3		
7	3	86	3202	20	70	71	64	69	7	2	YES
8	3	147	3207	20	70	67	64	69	3		
9	3	107	3208	20	70	70	64	69	6	1	YES
10	3	150	3220	20	70	67	64	69	3		
11	3	172	3231	20	70	66	64	69	2		
12	3	122	3234	20	70	68	64	69	4		
13	3	123	3236	20	70	68	64	69	4		
14	3	190	3241	20	70	65	64	69	1		
15	3	99	3242	20	70	70	64	69	6	1	YES
16	3	136	3246	20	70	67	64	69	3		
17	3	125	3248	20	70	68	64	69	4		
18	3	131	3255	20	70	68	64	69	4		
19	3	133	3256	20	70	67	64	69	3		
20	3	159	3267	20	70	66	64	69	2		
21	3	162	3268	20	70	66	64	69	2		
22	3	162	3269	20	70	66	64	69	2		
23	3	178	3282	20	70	65	64	69	1		
24	3	212	3287	20	70	65	64	69	1		
25	3	54	3288	20	70	74	64	69	10	5	YES
26	3	73	3295	20	70	72	64	69	8	3	YES
27	3	162	3296	20	70	66	64	69	2		
28	3	152	3305	20	70	66	64	69	2		
29	4	87	4006	50	70	67	64	69	3		

Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
30	4	112	4247	50	70	65	64	69	1		
31	4	91	4248	50	70	66	64	69	2		
32	4	81	4249	50	70	67	64	69	3		
33	4	80	4250	50	70	67	64	69	3		
34	4	88	4251	50	70	67	64	69	3		
35	4	28	4299	50	70	75	64	69	11	6	YES
36	4	87	4300	50	70	67	64	69	3		
37	4	81	4307	50	70	67	64	69	3		
38	4	114	4349	50	70	65	64	69	1		
39	4	108	4358	50	70	65	64	69	1		
40	4	97	4359	50	70	66	64	69	2		
41	4	45	4504	50	70	66	64	69	2		
42	4	59	4508	50	70	65	64	69	1		
43	4	58	4509	50	70	65	64	69	1		
44	4	56	4565	50	70	65	64	69	1		
45	4	59	4566	50	70	65	64	69	1		
46	4	112	4646	50	70	65	64	69	1		
47	4	101	4647	50	70	66	64	69	2		
48	4	109	4648	50	70	65	64	69	1		
49	4	97	4649	50	70	66	64	69	2		
50	4	98	4721	50	70	66	64	69	2		
51	4	57	4722	50	70	70	64	69	6	1	YES
52	4	60	4733	20	70	73	64	69	9	4	YES
53	4	74	4739	60	70	67	64	69	3		
54	4	109	4740	60	70	65	64	69	1		
55	4	107	4768	60	70	65	64	69	1		
56	4	103	4769	60	70	65	64	69	1		
57	4	107	4770	60	70	65	64	69	1		
58	4	89	4771	60	70	66	64	69	2		
59	4	109	4772	60	70	65	64	69	1		
60	4	85	4773	60	70	66	64	69	2		



Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
61	5	63	5112	60	74	68	65	73	3		
62	5	58	5113	60	74	69	65	73	4		
63	5	55	5114	60	74	69	65	73	4		
64	5	54	5115	60	74	69	65	73	4		
65	5	75	5162	60	74	67	65	73	2		
66	5	75	5243	30	74	70	65	73	5		
67	6	138	6033	60	68	64	63	68	1		
68	6	108	6044	60	68	64	63	68	2		
69	6	135	6067	60	68	64	63	68	1		
70	6	94	6071	60	68	66	63	68	3		
71	6	122	6072	50	68	65	63	68	2		
72	6	129	6081	30	68	66	63	68	3		
73	6	90	6090	50	68	67	63	68	4		
74	6	56	6099	50	68	70	63	68	7	2	YES
75	6	64	6143	50	68	69	63	68	6	1	YES
76	6	64	6144	50	68	69	63	68	6	1	YES
77	6	73	6151	50	68	69	63	68	6	1	YES
78	6	153	6152	50	68	64	63	68	1		
79	6	151	6153	50	68	64	63	68	1		
80	6	152	6165	50	68	64	63	68	1		
81	6	143	6182	50	68	64	63	68	1		
82	6	151	6183	50	68	64	63	68	1		
83	6	148	6184	50	68	64	63	68	1		
84	6	144	6185	50	68	64	63	68	1		
85	6	144	6186	50	68	64	63	68	1		
86	6	142	6187	50	68	63	63	68	1		
87	6	135	6188	50	68	63	63	68	1		
88	6	126	6189	50	68	64	63	68	1		
89	6	151	6190	50	68	64	63	68	1		
90	6	114	6194	50	68	65	63	68	2		
91	6	112	6195	50	68	65	63	68	2		

Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
92	6	116	6203	50	68	65	63	68	2		
93	6	112	6212	50	68	65	63	68	2		
94	6	115	6213	50	68	65	63	68	2		
95	6	125	6220	50	68	65	63	68	2		
96	6	134	6221	50	68	64	63	68	1		
97	6	43	6229	50	68	72	63	68	9	4	YES
98	6	40	6237	50	68	73	63	68	10	5	YES
99	6	46	6238	50	68	72	63	68	9	4	YES
100	6	37	6245	50	68	73	63	68	10	5	YES
101	6	33	6246	50	68	74	63	68	11	6	YES
102	6	50	6291	50	68	71	63	68	8	3	YES
103	6	40	6305	50	68	73	63	68	10	5	YES
104	6	49	6306	50	68	71	63	68	8	3	YES
105	6	79	6312	50	68	68	63	68	5		
106	6	81	6322	50	68	68	63	68	5		
107	6	144	6323	50	68	64	63	68	1		
108	6	59	6334	50	68	70	63	68	7	2	YES
109	6	50	6345	50	68	71	63	68	8	3	YES
110	6	69	6357	50	68	69	63	68	6	1	YES
111	6	64	6370	50	68	69	63	68	6	1	YES
112	6	56	6384	50	68	70	63	68	7	2	YES
113	6	59	6385	50	68	70	63	68	7	2	YES
114	6	62	6395	50	68	70	63	68	7	2	YES
115	6	60	6404	50	68	70	63	68	7	2	YES
116	6	58	6405	50	68	70	63	68	7	2	YES
117	6	48	6413	50	68	71	63	68	8	3	YES
118	6	77	6414	50	68	68	63	68	5		
119	6	83	6423	50	68	67	63	68	4		
120	6	102	6424	50	68	66	63	68	3		
121	6	92	6429	50	68	67	63	68	4		
122	6	136	6437	50	68	64	63	68	1		

Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
123	6	67	6438	50	68	64	63	68	1		
124	7	69	7046	50	68	69	63	68	6	1	YES
125	7	63	7047	50	68	69	63	68	6	1	YES
126	7	67	7048	50	68	69	63	68	6	1	YES
127	7	63	7053	50	68	69	63	68	6	1	YES
128	7	103	7054	50	68	66	63	68	3		
129	7	69	7055	50	68	69	63	68	6	1	YES
130	7	73	7069	50	68	68	63	68	5		YES
131	7	52	7070	50	68	71	63	68	8	3	YES
132	7	63	7071	50	68	69	63	68	6	1	YES
133	7	81	7072	50	68	68	63	68	5		
134	7	153	7078	50	68	64	63	68	1		
135	7	85	7096	40	68	69	63	68	6	1	YES
136	7	136	7098	40	68	65	63	68	2		
137	7	142	7099	40	68	65	63	68	2		
138	7	99	7100	40	68	67	63	68	4		
139	7	60	7101	40	68	71	63	68	8	3	YES
140	7	59	7102	40	68	71	63	68	8	3	YES
141	7	66	7103	40	68	70	63	68	7	2	YES
142	7	120	7179	40	68	66	63	68	3		
143	7	101	7180	40	68	67	63	68	4		
144	7	99	7181	40	68	67	63	68	4		
145	7	98	7182	40	68	67	63	68	4		
146	7	97	7190	40	68	67	63	68	4		
147	7	251	7222	20	68	64	63	68	1		
148	7	263	7255	20	68	64	63	68	1		
149	7	249	7256	20	68	64	63	68	1		
150	7	265	7257	20	68	64	63	68	1		
151	7	262	7258	20	68	64	63	68	1		
152	7	257	7264	20	68	64	63	68	1		
153	7	256	7265	20	68	64	63	68	1		

Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
154	7	259	7266	20	68	64	63	68	1		
155	7	259	7267	20	68	64	63	68	1		
156	7	260	7287	20	68	64	63	68	1		
157	7	250	7289	20	68	64	63	68	1		
158	7	188	7290	20	68	65	63	68	2		
159	7	120	7291	20	68	69	63	68	6	1	YES
160	7	147	7292	20	68	67	63	68	4		
161	7	229	7293	20	68	64	63	68	1		
162	7	248	7296	20	68	64	63	68	1		
163	7	100	7317	20	68	70	63	68	7	2	YES
164	7	229	7337	20	68	64	63	68	1		
165	7	157	7338	20	68	67	63	68	4		
166	7	248	7348	20	68	64	63	68	1		
167	8	177	8020	20	70	65	64	69	1		
168	8	113	8035	20	70	69	64	69	5		
169	8	127	8036	20	70	68	64	69	4		
170	8	178	8049	20	70	65	64	69	1		
171	8	128	8057	20	70	68	64	69	4		
172	8	87	8058	20	70	71	64	69	7	2	YES
173	8	52	8059	20	70	74	64	69	10	5	YES
174	8	28	8060	20	70	79	64	69	15	10	YES
175	8	200	8061	20	70	65	64	69	1		
176	8	213	8065	20	70	65	64	69	1		
177	8	162	8066	20	70	66	64	69	2		
178	8	99	8070	20	70	70	64	69	6	1	YES
179	8	96	8071	20	70	70	64	69	6	1	YES
180	8	137	8072	20	70	67	64	69	3		
181	8	126	8073	20	70	68	64	69	4		
182	8	66	8074	20	70	72	64	69	8	3	YES
183	8	67	8075	20	70	72	64	69	8	3	YES
184	8	150	8076	20	70	67	64	69	3		

Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
185	8	142	8077	20	70	67	64	69	3		
186	8	115	8078	20	70	69	64	69	5		
187	8	98	8079	20	70	70	64	69	6	1	YES
188	8	103	8080	20	70	69	64	69	5		YES
189	8	92	8081	20	70	70	64	69	6	1	YES
190	8	39	8082	20	70	76	64	69	12	7	YES
191	8	68	8083	20	70	72	64	69	8	3	YES
192	9	142	9015	20	70	67	64	69	3		
193	9	211	9016	20	70	65	64	69	1		
194	9	175	9020	20	70	65	64	69	1		
195	9	88	9022	20	70	70	64	69	6	1	YES
196	9	97	9023	20	70	70	64	69	6	1	YES
197	9	96	9027	20	70	70	64	69	6	1	YES
198	9	84	9028	20	70	71	64	69	7	2	YES
199	9	105	9029	20	70	69	64	69	5		YES
200	9	133	9030	20	70	67	64	69	3		
201	9	204	9056	20	70	65	64	69	1		
202	9	176	9059	20	70	65	64	69	1		
203	9	151	9060	20	70	67	64	69	3		
204	9	109	9061	20	70	69	64	69	5		
205	9	74	9062	20	70	72	64	69	8	3	YES
206	9	51	9063	20	70	74	64	69	10	5	YES
207	9	141	9064	20	70	67	64	69	3		
208	9	114	9065	20	70	69	64	69	5		
209	9	99	9066	20	70	70	64	69	6	1	YES
210	9	94	9067	20	70	70	64	69	6	1	YES
211	9	100	9068	20	70	70	64	69	6	1	YES
212	9	140	9083	20	70	67	64	69	3		
213	9	167	9084	20	70	66	64	69	2		
214	9	120	9085	20	70	68	64	69	4		
215	9	97	9086	20	70	70	64	69	6	1	YES

Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
216	9	81	9087	20	70	71	64	69	7	2	YES
217	9	191	9088	20	70	65	64	69	1		
218	9	172	9099	20	70	66	64	69	2		
219	9	145	9100	20	70	67	64	69	3		
220	11	97	11058	60	74	66	65	73	1		
221	11	92	11059	60	74	66	65	73	1		
222	11	73	11060	60	74	67	65	73	2		
223	11	95	11069	60	74	66	65	73	1		
224	14	123	14039	60	69	64	63	68	1		
225	14	124	14042	60	69	64	63	68	1		
226	14	123	14063	60	69	64	63	68	1		
227	14	150	14097	20	69	67	63	68	4		
228	14	129	14098	10	69	71	63	68	8	3	YES
229	14	129	14099	10	69	71	63	68	8	3	YES
230	14	134	14100	20	69	67	63	68	4		
231	14	128	14101	20	69	68	63	68	5		
232	14	128	14102	30	69	66	63	68	3		
233	14	128	14103	30	69	66	63	68	3		
234	14	265	14104	10	69	66	63	68	3		
235	14	315	14105	10	69	64	63	68	1		
236	14	373	14106	10	69	64	63	68	1		
237	14	123	14123	40	69	65	63	68	2		
238	14	119	14124	40	69	65	63	68	2		
239	14	119	14125	40	69	65	63	68	2		
240	14	119	14126	40	69	65	63	68	2		
241	14	118	14127	50	69	64	63	68	1		
242	14	57	14219	60	69	64	63	68	1		
243	16	136	16002	60	66	63	62	67	1		
244	16	141	16003	60	66	63	62	67	1		
245	16	147	16004	60	66	63	62	67	1		
246	16	150	16005	60	66	63	62	67	1		

Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
247	16	142	16006	60	66	63	62	67	1		
248	16	154	16007	60	66	63	62	67	1		
249	16	147	16040	60	66	63	62	67	1		
250	16	73	16122	60	66	63	62	67	1		
251	16	152	16155	40	66	64	62	67	2		
252	16	43	16173	40	66	73	62	67	11	6	YES
253	16	178	16180	40	66	63	62	67	1		
254	16	161	16181	40	66	64	62	67	2		
255	16	129	16182	40	66	65	62	67	3		
256	16	130	16183	40	66	65	62	67	3		
257	16	88	16184	40	66	68	62	67	6	1	YES
258	16	48	16185	40	66	72	62	67	10	5	YES
259	16	179	16186	40	66	63	62	67	1		
260	16	103	16187	40	66	67	62	67	5		
261	16	82	16188	40	66	69	62	67	7	2	YES
262	16	168	16189	40	66	63	62	67	1		
263	16	162	16241	40	66	64	62	67	2		
264	16	195	16242	40	66	63	62	67	1		
265	16	193	16252	40	66	63	62	67	1		
266	16	124	16254	40	66	66	62	67	4		
267	16	63	16256	40	66	70	62	67	8	3	YES
268	16	155	16263	40	66	64	62	67	2		
269	16	185	16272	40	66	63	62	67	1		
270	16	190	16275	40	66	63	62	67	1		
271	16	103	16276	40	66	67	62	67	5		
272	16	153	16277	40	66	64	62	67	2		
273	16	110	16286	40	66	66	62	67	4		
274	16	138	16287	40	66	65	62	67	3		
275	16	128	16288	40	66	65	62	67	3		
276	16	103	16289	40	66	67	62	67	5		
277	16	93	16292	40	66	68	62	67	6	1	YES

Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
278	16	166	16293	40	66	63	62	67	1		
279	16	100	16295	40	66	67	62	67	5		YES
280	16	122	16296	40	66	66	62	67	4		
281	16	80	16297	40	66	69	62	67	7	2	YES
282	16	59	16298	40	66	71	62	67	9	4	YES
283	16	99	16299	40	66	68	62	67	6		YES
284	16	29	16302	40	66	76	62	67	14	9	YES
285	16	101	16303	40	66	68	62	67	6	1	YES
286	16	197	16304	40	66	63	62	67	1		
287	16	72	16433	60	66	68	62	67	6	1	YES
288	16	123	16436	40	66	66	62	67	4		
289	16	151	16451	40	66	64	62	67	2		
290	17	104	17003	40	68	67	63	68	4		
291	17	148	17024	40	68	64	63	68	1		
292	17	156	17036	40	68	64	63	68	1		
293	17	122	17041	40	68	66	63	68	3		
294	17	167	17050	40	68	64	63	68	1		
295	17	121	17073	60	68	64	63	68	1		
296	17	161	17075	40	68	64	63	68	1		
297	17	127	17086	40	68	65	63	68	2		
298	17	140	17100	40	68	65	63	68	2		
299	17	80	17101	40	68	69	63	68	6	1	YES
300	17	129	17214	60	68	64	63	68	1		
301	17	127	17218	60	68	64	63	68	1		
302	17	138	17223	60	68	64	63	68	1		
303	17	129	17224	60	68	64	63	68	1		



### **3.3.7 Vibration Background**

This section explains the FTA Vibration Criteria, the results of the existing source vibration measurement program, and the evaluation of impacts due to the change to FRA-compliant locomotives, coaches and cab cars from DMU vehicles along the Project Corridor. As stipulated by FTA guidance for the purpose of this SEA vibration analysis, it is assumed the freight and Amtrak operations were absent. It should be noted, however, that the existing CSXT A-Line freight and passenger corridor currently operates 26 trains per day – 6 Amtrak passenger trains, 10 local freight trains and 10 road freights (or through) trains. The through freight trains include Intermodal trains, Auto-rack trains, Merchandise trains and Bulk, Coal and Rock unit trains with consists that include two or three locomotives per train pulling more than 100 freight cars.

### **3.3.8 SunRail Vibration Evaluation Criteria**

As described in the following subsections, the FTA criteria will be used to assess annoyance due to vibration and ground borne noise from single event transit operations.

### **3.3.9 Federal Vibration Guidelines**

The FTA vibration criteria for evaluating ground borne vibration (and noise) impacts from train passbys at nearby sensitive receptors are shown in Table 3-15. These vibration criteria are related to ground borne vibration levels that are expected to result in human annoyance, and are based on RMS velocity levels expressed in VdB. The FTA's experience with community response to ground borne vibration indicates that when there are only a few train events per day, it would take higher vibration levels to evoke the same community response that would be expected from more frequent events. This is taken into account in the FTA criteria by distinguishing between Projects with frequent and infrequent events, where the frequent events category is defined as more than 70 events per day.

The vibration criteria levels shown in Table 3-15 are defined in terms of human annoyance for different land use categories such as high sensitivity (Category 1), residential (Category 2), and institutional (Category 3). The vibration criteria from the FTA's 1995 guidance manual was used in this analysis to be consistent with the previous vibration assessment prepared for the DMU vehicles that was completed prior to the revisions to the FTA guidance manual issued in 2006. These more recent revisions include a third impact category for occasional events (between 30 and 70 train events per day).

According to FTA guidance (1995, p. 8-4), the CFCRT will be implemented in a heavily-used rail corridor. For purposes of determining the vibration impacts of the project, FTA guidance assumes that the 56 SunRail operations per day constitute a significant increase in the number of ground-borne vibration or noise events. Since annoyance criteria are based upon the intensity and frequency of events, the standard vibration criteria are applied to the project.

In general, the vibration threshold of human perceptibility is approximately 65 VdB. In addition, the vibration levels shown in Table 3-15 are well below the onset of building damage criteria levels of approximately 95 to 100 VdB. It is extremely rare for vibration from train operations to cause any sort of building damage, including minor cosmetic damage.

**Table 3-15 - FTA Ground-Borne Vibration Impact Criteria for Annoyance (VdB)**

<b>RECEPTOR LAND USE</b>		<b>RMS VIBRATION LEVELS (VdB)</b>		<b>GROUND-BORNE NOISE LEVELS (dBA)</b>	
<b>CATEGORY</b>	<b>DESCRIPTION</b>	<b>FREQUENT EVENTS</b>	<b>INFREQUENT EVENTS</b>	<b>FREQUENT EVENTS</b>	<b>INFREQUENT EVENTS</b>
1	Buildings where low vibration is essential for interior operations	65	65	N/A	N/A
2	Residences and buildings where people normally sleep	72	80	35	43
3	Daytime Institutional and office use	75	83	40	48
Specific Buildings	TV/Recording Studios/Concert Halls	65	65	25	25
	Auditoriums	72	80	30	38
	Theaters	72	80	35	43

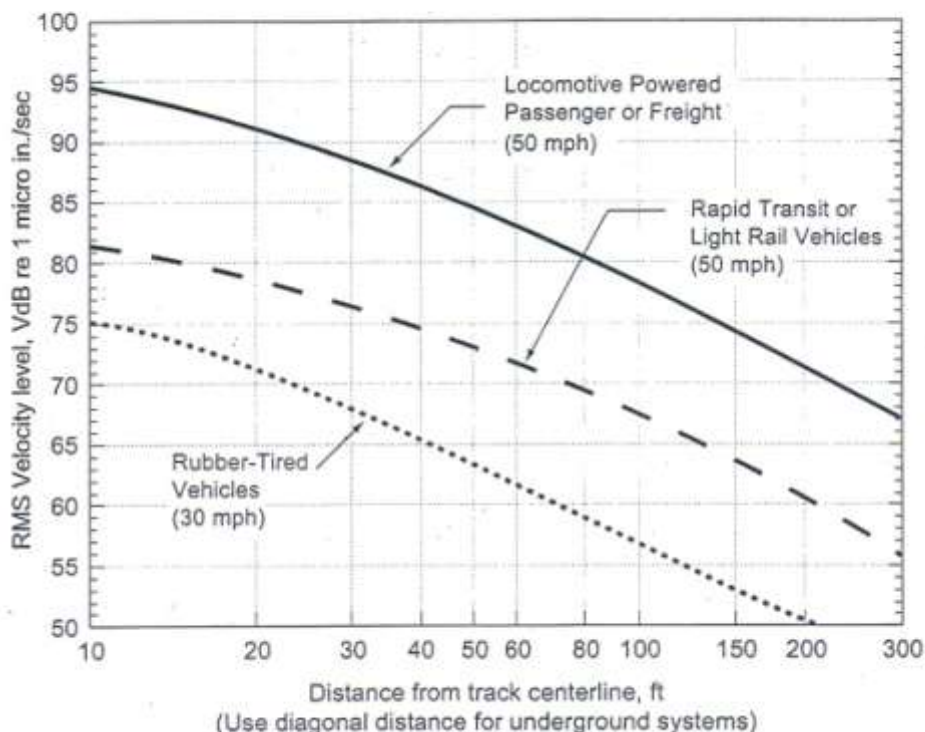
Note: N/A = not applicable. Vibration-sensitive equipment is not affected by ground-borne noise.

Source: *Transit Noise and Vibration Assessment*, Federal Transit Administration, Washington, D.C., April 1995.

While vibration criteria are generally used to assess annoyance from transit sources at the exterior facade of receptors, ground borne noise, or the rumbling sound due to vibrating room surfaces, is typically assessed indoors. In general, the relationship between vibration and ground borne noise depends on the dominant frequency of the vibration and the acoustical absorption characteristics of the receiving room. Typical soil conditions were assumed everywhere along the Corridor for computing ground-borne noise.

The reference vibration levels used in the impact assessment for the CRT passbys are based on the FTA's generalized ground surface propagation curve for locomotives as shown in Figure 3-13. The curves in Figure 3-13 are based on measurements of ground-borne vibration from representative North American transit systems. The top curve applies to locomotive powered trains traveling at 50 mph for generalized ground propagation conditions. The curves in Figure 3-13 represent the upper range of the measured data.

The locomotive vibration curve in Figure 3-13 was adjusted for train speed to determine the vibration level for the receptors along the Project Corridor. The predicted vibration levels were then compared to the FTA criteria in Table 3-15 to determine impact.



Source: *Transit Noise and Vibration Impact Assessment*, Federal Transit Administration, Washington, D.C., April 1995.

**Figure 3-13 - FTA Generalized Ground Surface Vibration Curves**

### 3.3.10 Existing Conditions

The scope and results of the vibration-monitoring program are described in the following section.

#### 3.3.10.1 Transit Source Levels

Vibration measurements were conducted at 6 of the 12 noise measurement locations as identified by number in Table 3-16 with the location shown in Figure 3-3. The measured vibration levels are indicative of either existing Amtrak passenger operations, or existing freight operations.

The results of the vibration measurements are summarized in Table 3-17. The measured vibration levels range from 74 to 83 VdB. The variation in the measured levels is mostly a function of distance and speed. However, the condition of the wheels on the locomotives and the rolling stock for the freight and Amtrak trains can have a large effect on the vibration levels, which may account for differences in level that would not be expected based on distance and speed alone.

**Table 3-16 - Summary of Vibration Measurement Results**

<b>NUMBER</b>	<b>DESCRIPTION</b>	<b>TOWN</b>	<b>FTA CATEGORY</b>	<b>DISTANCE FROM RAIL CORRIDOR</b>	<b>MEASURED VIBRATION LEVEL (VdB)</b>
2	121 Yale Drive	Sanford	2	100 feet	74
3	202 Melissa Court	Sanford	2	100 feet	82
5	425 Lake Seminary Circle	Maitland	2	150 feet	81
6B	Florida Hospital Complex <sup>1</sup>	Orlando	2	100 feet	75
7B	Cypress Grove Park	Orlando	3	100 feet	78
9	42 Neptune Road	Kissimmee	2	150 feet	83

<sup>1</sup>For practical reasons, this measurement could not be made exactly at noise measurement location 6. The location actually used was approximately 500 feet to the south.

### 3.3.11 Predicted Impacts and Vibration Assessment

Vibration impacts from CRT vehicles were evaluated at discrete receptors using the FTA criteria based on the maximum vibration level generated by single-event passbys. Unlike the cumulative noise criteria, vibration criteria are evaluated based on single-event passbys.

As shown in Table 3-15, the FTA methodology provides for two levels of criteria for impact assessment – one for “Frequent”, and one for “Infrequent” events. The total number of daily operations proposed in the CRT schedule is less than 70, and therefore, the FTA criteria level for “Infrequent” events was used in the vibration assessment. Referring to Table 3-15, the impact criteria for all of the residential receptors (Category 2) in the area is therefore 80 VdB (no Category 1 receptors were found within the Corridor).

The results of the vibration assessment indicate that 99 receptors along the CRT Corridor are predicted to have vibration levels that are above the FTA annoyance criterion of 80 VdB for residential receptors with infrequent train events. These receptors are all located within a distance of approximately 90 feet or less from the nearest tracks. Table 3-17 shows the distribution of the vibration impacts by region and station vicinity along the Project Corridor. A detailed list of the results of the vibration impact assessment is presented in Table 3-18. These results indicate that the predicted vibration levels for the 99 impacted receptors ranged from just above 80 VdB to 89 VdB. A total of 59 impacted receptors had predicted vibration levels that were only 1 or 2 VdB above the FTA impact criterion. Seven impacted receptors had predicted vibration levels that were more than 5 VdB above the FTA impact criterion. Figure 3-14 graphically shows the distribution of the vibration-impacted receptors along the Project Corridor. Figures 3-15 through 3-22 show the location of these vibration-impacted receptors on more detailed maps of the Project Corridor. These figures also include an identification number for each of the vibration-impacted receptors that can be referenced to the list of the impacted receptors in Table 3-18 that also contains the predicted vibration level for each of the impacted receptors.

In the previous vibration assessment for the DMU vehicles, no vibration impacts were predicted to occur along the Project Corridor. Because the DMUs are lighter than a

diesel locomotive, at a speed of 50 mph they would generate a vibration level of 80 VdB at a distance of 15 to 25 feet from the rail corridor depending on the axle loads and suspension parameters of the particular DMU vehicle design.

**Table 3-17 - Impacted Receptors with Vibration Levels above FTA Criterion**

<b>REGION</b>	<b>STATION VICINITY</b>	<b>NO. OF IMPACTS</b>
1	DeLand	0
2	Debary	0
3	Sanford	0
4	Lake Mary	23
5	Longwood	17
6	Altamonte Springs	26
7	Maitland	12
8	Winter Park	1
9	Florida Hospital	0
10	Lynx Central	0
11	Church Street	5
12	ORMC/Amtrak	0
13	Sand Lake	0
14	Meadow Woods	8
15	Osceola	0
16	Kissimmee	7
17	Poinciana	0
<b>Total</b>		<b>99</b>



### 3.3.12 Vibration Mitigation

It should be noted that the 99 vibration impacted receptors are already impacted by the existing freight and Amtrak trains that operate along the Project corridor. In addition, freight rail car wheel sets are generally more prone to operating with wheel flats than passenger rail cars that require regular maintenance (wheel-truing) to remove wheel flats to provide better passenger comfort. Because of wheel flats, freight cars can generate vibration levels that are equal to or even greater than the vibration levels generated by the heavier diesel locomotives. A typical through freight train in the Orlando area can have more than 100 rail cars being pulled by three 200-ton locomotives resulting in a train length of approximately 6,000 feet that will generate vibration levels for a much longer duration time than the vibration levels generated by the proposed CRT trains with one locomotive and up to three standard passenger rail cars.

The FTA guidance manual states that vibration control measures developed for rail transit systems are not effective for freight trains.<sup>11</sup> This is due to their heavier weight (when loaded), and higher axle wheel loads. Problems with wheel flats and rail surfaces can increase vibration levels by as much as 20 VdB, negating the effects of even the most effective vibration control measures. As a result, because of the presence of freight on shared tracks, there are no practical measures for mitigating vibration. Because of these issues, and because this is and will continue to be, an active freight and Amtrak rail corridor, it is not practical or recommended to mitigate vibration for the Project.

Although the number of daily train trips could increase by 56 for the Full Build 2030 CRT alternative, the vibration levels generated by each CRT train is projected to be equal to or less than the vibration levels generated by each freight or passenger train currently operating along the Project Corridor. Therefore, the addition of SunRail passenger trains in the rail corridor may add to the annoyance of residents directly abutting the corridor who are already impacted by existing freight and passenger trains.

The CFCRT Project Corridor maintenance-of-way (MOW) and the FRA-compliant locomotive and coach and cab car train vehicle maintenance programs will include preventative and corrective maintenance activities. The Project Corridor MOW plan commits to maintaining the mainline track at FRA Track Safety Standards Class 4 Track. The CRT Project is committed to constructing all new second mainline track with new timber cross ties and new continuous welded rail (CWR) and the existing track upgrades with new CWR. With the commencement of operations of commuter rail service, the rail maintenance program activities will include Corrective Rail Profile Grinding. The CRT operational service plan will include daily, 45-day, 92-day, 180-day, 365-day inspections in accordance with FRA requirements for all rolling stock to identify defects including flat spots, wheel tread shelling, and wheel flange wear. These wheel defects will be corrected by wheel truing. Suspension systems will be maintained and changed out as necessary to maintain ride quality.

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<sup>11</sup> Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006, Section 8.1.3, p. 8-6.

**Table 3-18 - List of All Vibration Impacted Receptors**

Count	Region	Distance (feet)	ID	Train Speed (mph)	Predicted Vibration Level (VdB)	Impact Level Criterion for Infrequent Events (VdB)	Vibration Level Above Infrequent Criterion (VdB)
1	4	81	4249	50	81	80	1
2	4	80	4250	50	81	80	1
3	4	28	4299	50	89	80	9
4	4	81	4307	50	81	80	1
5	4	63	4500	50	83	80	3
6	4	45	4504	50	85	80	5
7	4	73	4505	50	81	80	1
8	4	70	4506	50	82	80	2
9	4	65	4507	50	82	80	2
10	4	59	4508	50	83	80	3
11	4	58	4509	50	83	80	3
12	4	65	4510	50	82	80	2
13	4	56	4565	50	83	80	3
14	4	59	4566	50	83	80	3
15	4	70	4586	50	82	80	2
16	4	79	4587	50	81	80	1
17	4	81	4588	50	81	80	1
18	4	71	4597	50	81	80	1
19	4	75	4598	50	81	80	1
20	4	69	4610	50	82	80	2
21	4	57	4722	50	83	80	3
22	4	74	4739	60	83	80	3
23	4	84	4826	60	81	80	1
24	5	78	5100	60	82	80	2
25	5	82	5101	60	82	80	2
26	5	84	5102	60	81	80	1
27	5	77	5103	60	82	80	2
28	5	72	5104	60	83	80	3
29	5	71	5105	60	83	80	3
30	5	85	5106	60	81	80	1
31	5	86	5107	60	81	80	1
32	5	81	5108	60	82	80	2
33	5	80	5109	60	82	80	2
34	5	81	5110	60	82	80	2
35	5	77	5111	60	82	80	2
36	5	63	5112	60	84	80	4
37	5	58	5113	60	85	80	5
38	5	55	5114	60	85	80	5
39	5	54	5115	60	85	80	5
40	5	75	5162	60	82	80	2
41	6	56	6099	50	84	80	4
42	6	64	6143	50	82	80	2
43	6	64	6144	50	82	80	2
44	6	73	6151	50	81	80	1



Count	Region	Distance (feet)	ID	Train Speed (mph)	Predicted Vibration Level (VdB)	Impact Level Criterion for Infrequent Events (VdB)	Vibration Level Above Infrequent Criterion (VdB)
45	6	43	6229	50	86	80	6
46	6	40	6237	50	86	80	6
47	6	46	6238	50	85	80	5
48	6	37	6245	50	87	80	7
49	6	33	6246	50	88	80	8
50	6	50	6291	50	84	80	4
51	6	40	6305	50	86	80	6
52	6	49	6306	50	85	80	5
53	6	79	6312	50	81	80	1
54	6	81	6322	50	81	80	1
55	6	59	6334	50	83	80	3
56	6	50	6345	50	85	80	5
57	6	69	6357	50	82	80	2
58	6	64	6370	50	82	80	2
59	6	56	6384	50	83	80	3
60	6	59	6385	50	83	80	3
61	6	62	6395	50	83	80	3
62	6	60	6404	50	83	80	3
63	6	58	6405	50	83	80	3
64	6	48	6413	50	85	80	5
65	6	77	6414	50	81	80	1
66	6	67	6438	50	82	80	2
67	7	76	7035	50	81	80	1
68	7	69	7046	50	82	80	2
69	7	63	7047	50	82	80	2
70	7	67	7048	50	82	80	2
71	7	63	7053	50	82	80	2
72	7	69	7055	50	82	80	2
73	7	73	7069	50	81	80	1
74	7	52	7070	50	84	80	4
75	7	63	7071	50	82	80	2
76	7	81	7072	50	81	80	1
77	7	60	7101	40	81	80	1
78	7	66	7103	40	81	80	1
79	8	28	8060	20	81	80	1
80	11	85	11038	60	81	80	1
81	11	92	11059	60	81	80	1
82	11	73	11060	60	83	80	3
83	11	84	11061	60	81	80	1
84	11	95	11069	60	81	80	1
85	14	67	14217	60	83	80	3
86	14	57	14219	60	85	80	5
87	14	87	14262	60	81	80	1
88	14	79	14263	60	82	80	2

Count	Region	Distance (feet)	ID	Train Speed (mph)	Predicted Vibration Level (VdB)	Impact Level Criterion for Infrequent Events (VdB)	Vibration Level Above Infrequent Criterion (VdB)
89	14	84	14264	60	81	80	1
90	14	84	14265	60	81	80	1
91	14	81	14266	60	82	80	2
92	14	81	14292	60	82	80	2
93	16	86	16121	60	81	80	1
94	16	73	16122	60	83	80	3
95	16	48	16185	40	83	80	3
96	16	63	16256	40	81	80	1
97	16	59	16298	40	81	80	1
98	16	29	16302	40	87	80	7
99	16	72	16433	60	83	80	3

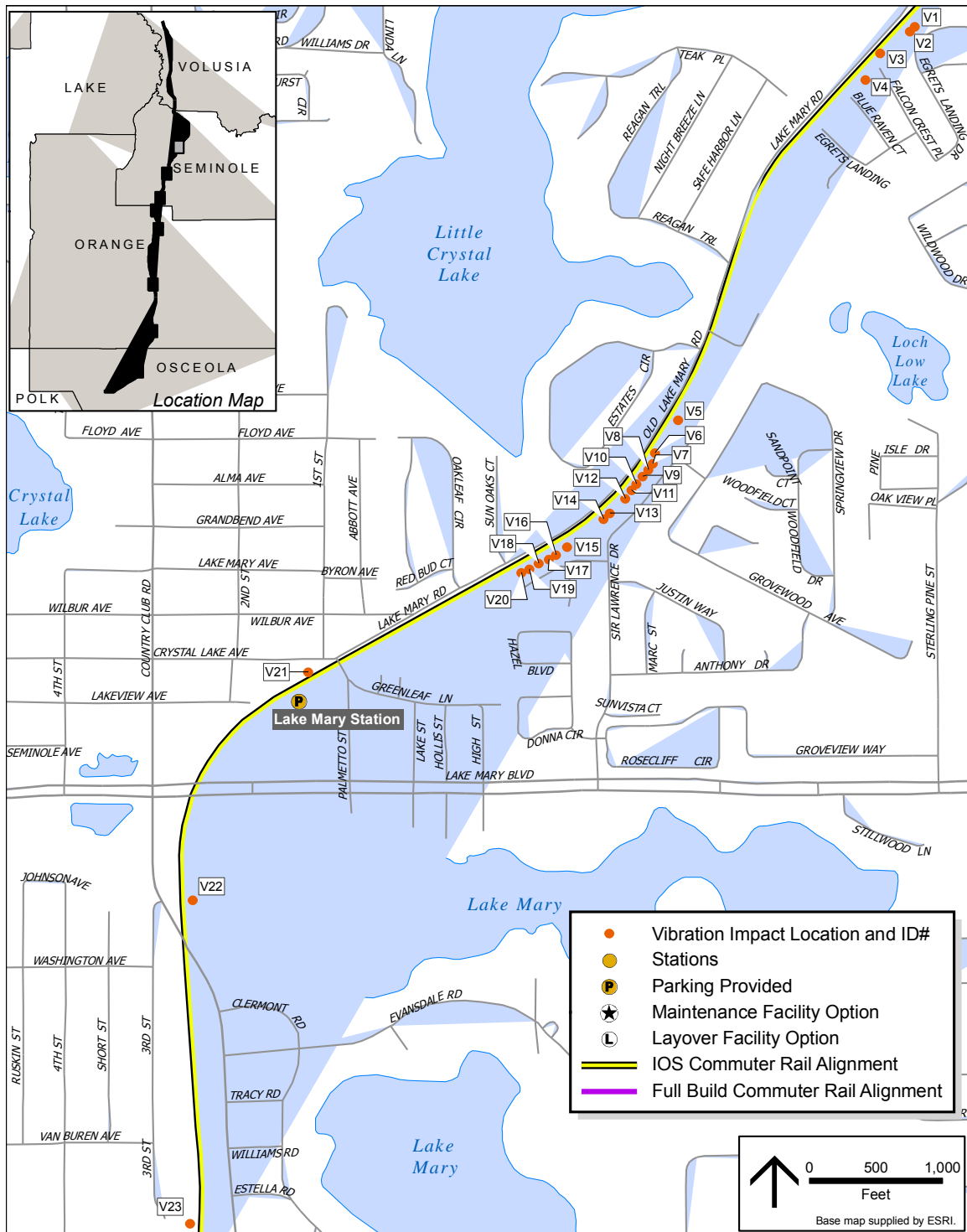


Figure 3-15 - Severe Vibration Impacts - Lake Mary





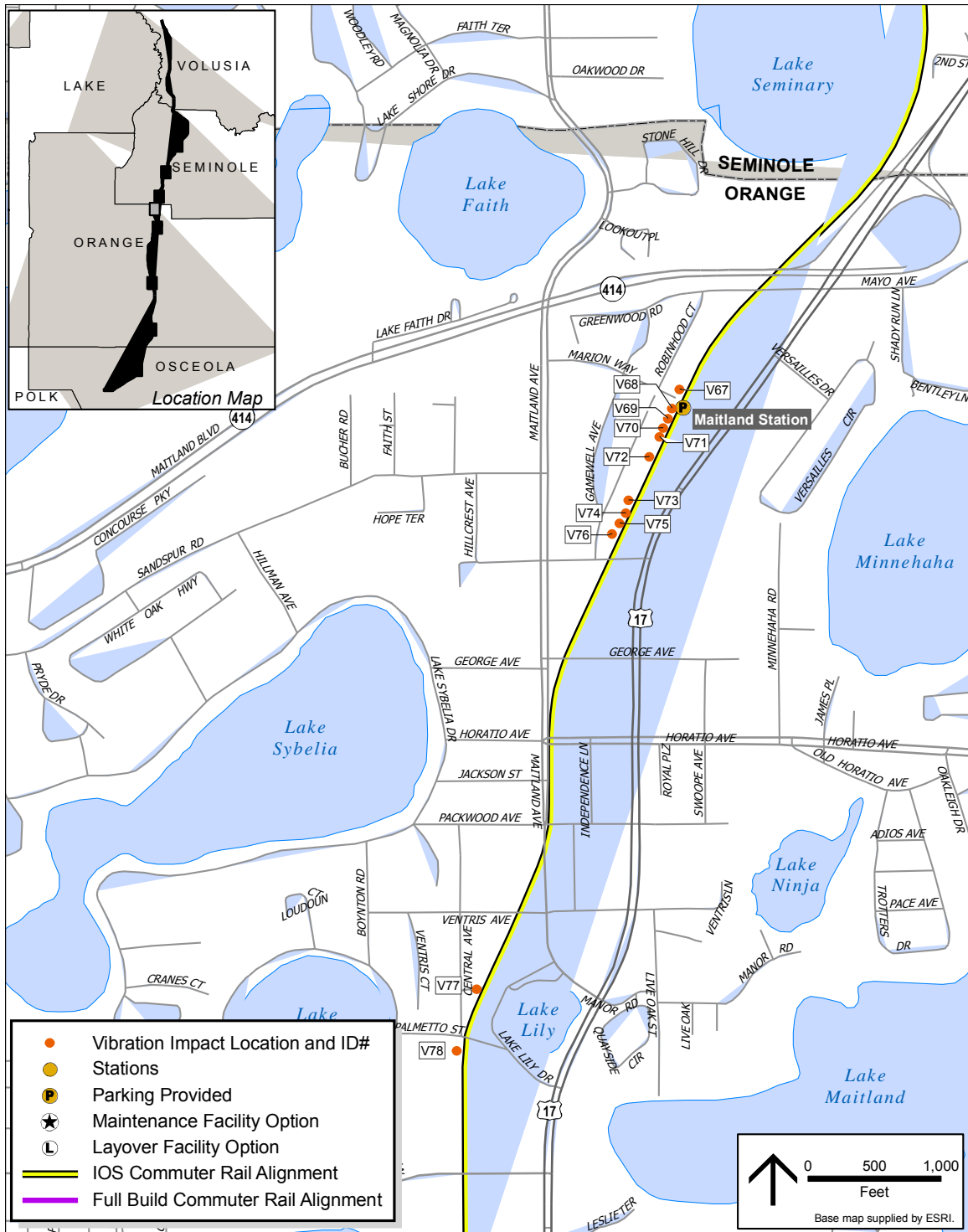


Figure 3-18 - Severe Vibration Impacts - Maitland

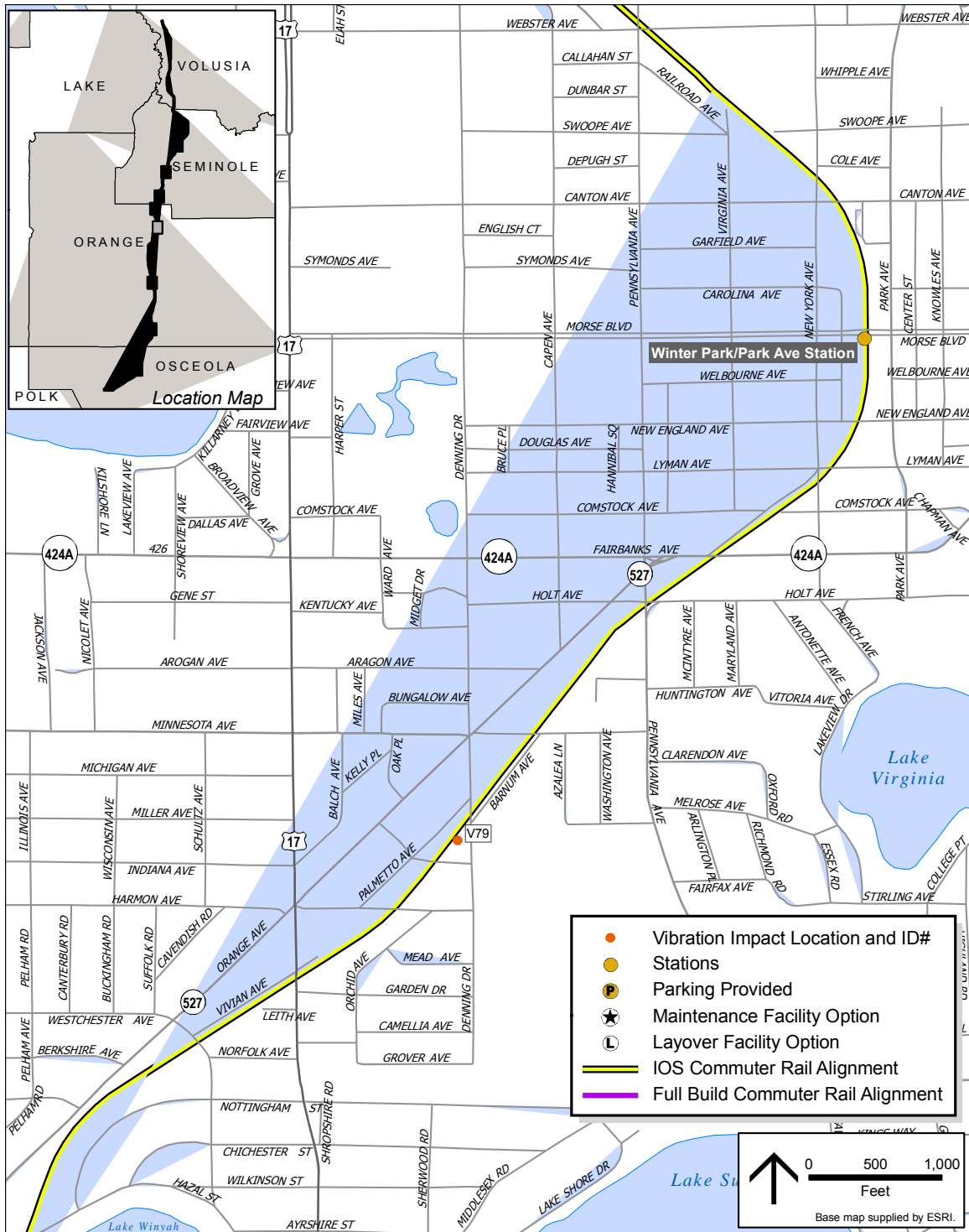


Figure 3-19 - Severe Vibration Impacts - Winter Park

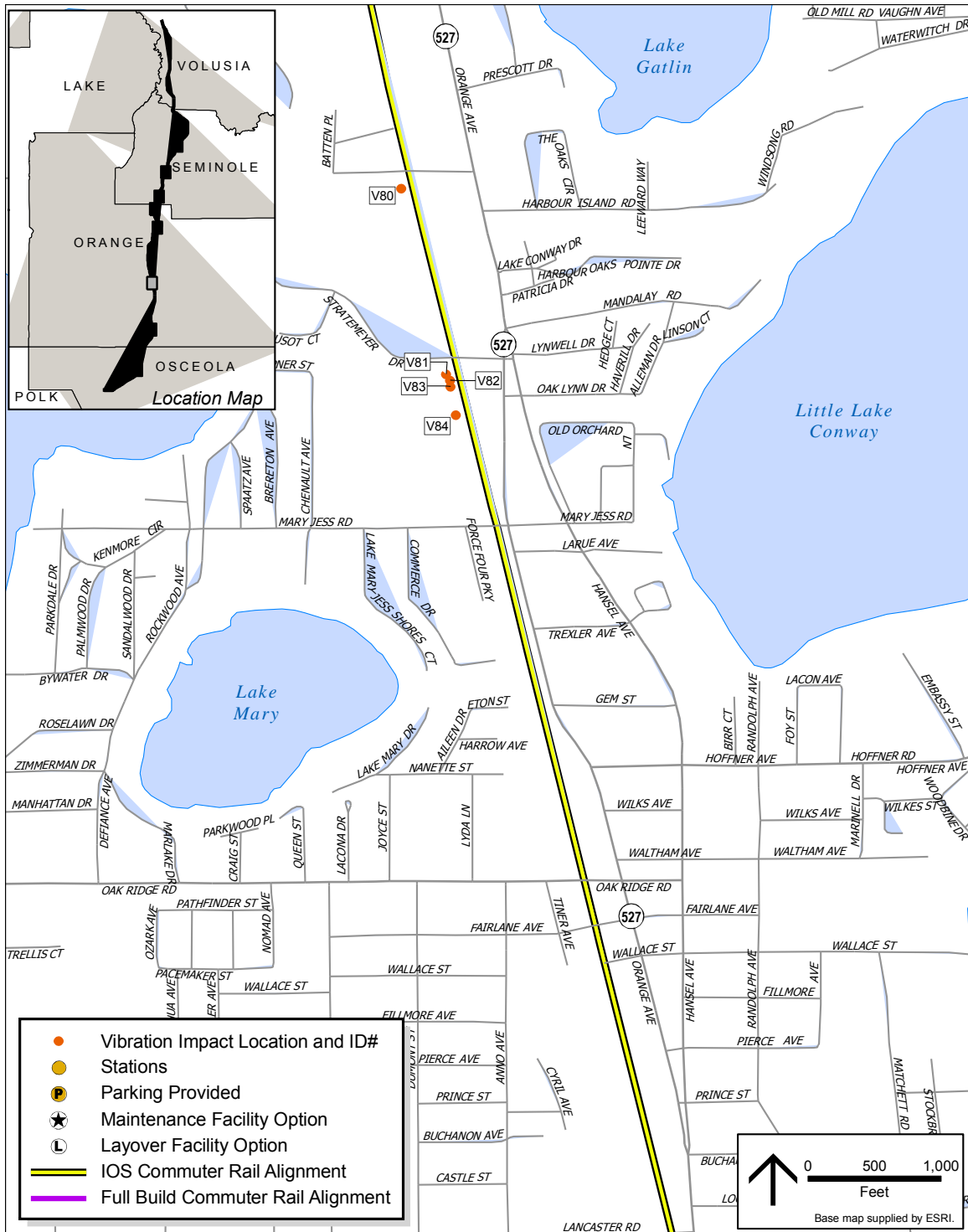
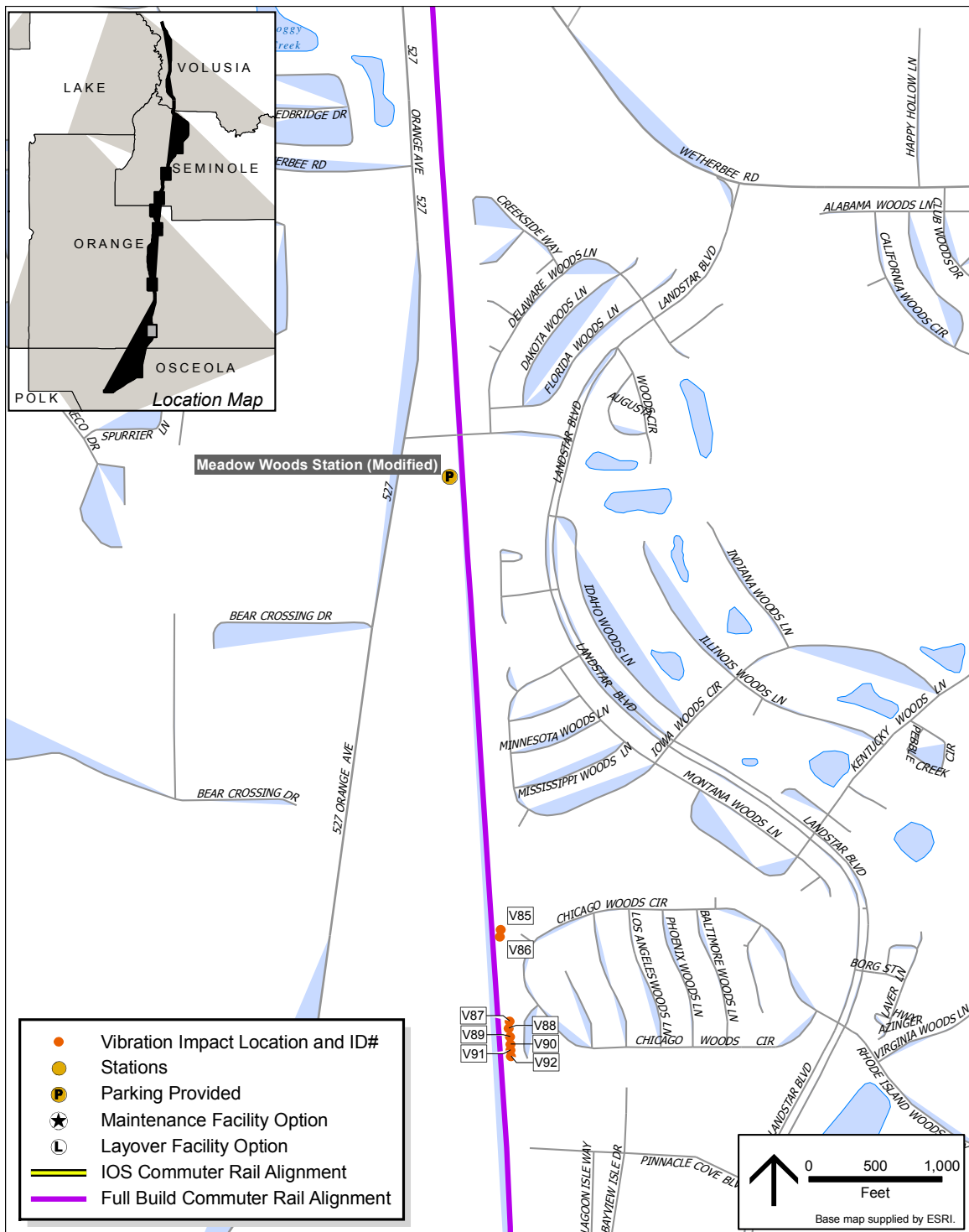


Figure 3-20 - Severe Vibration Impacts - N. Sand Lake





**Figure 3-21 - Severe Vibration Impacts - Meadow Woods**

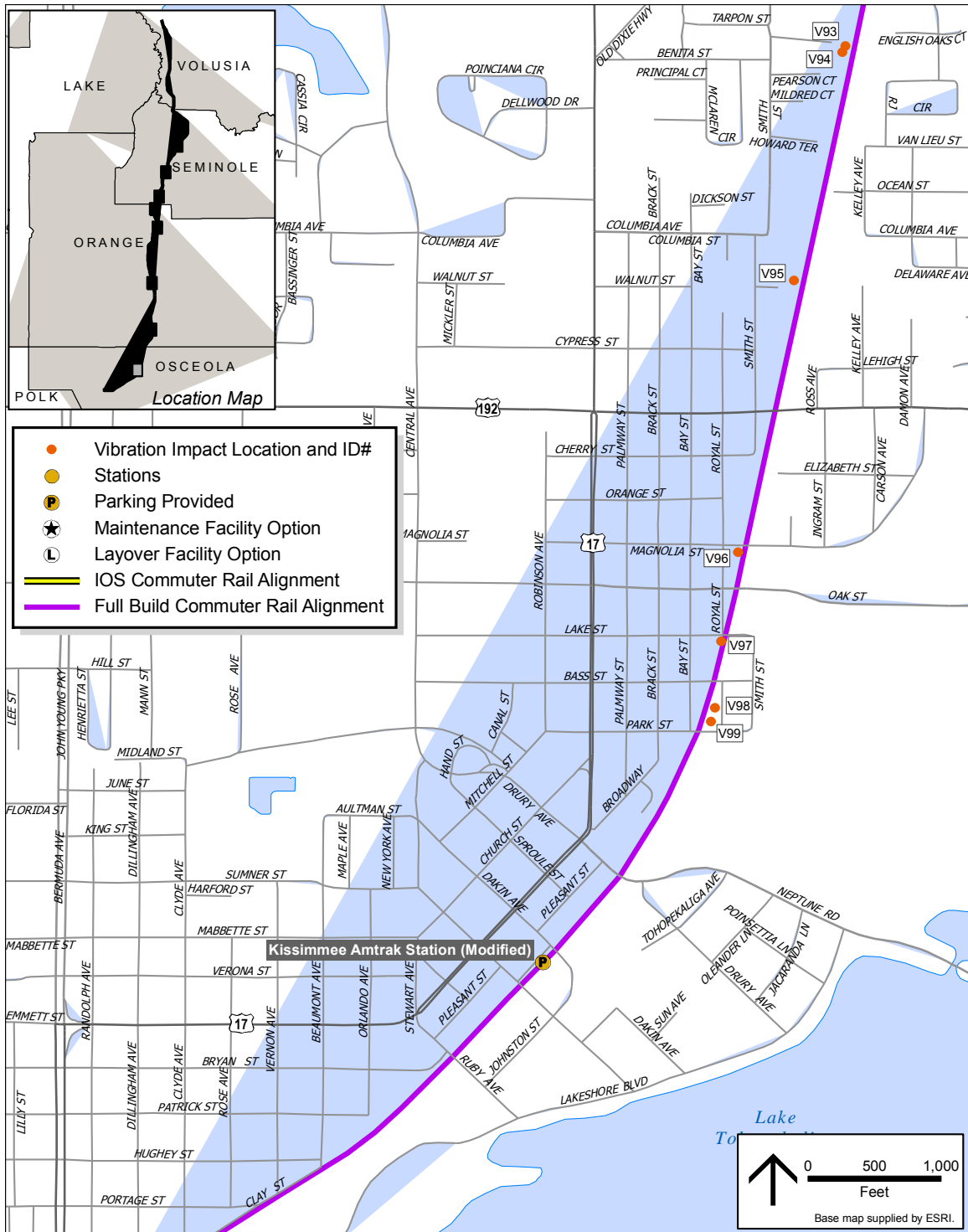


Figure 3-22 - Severe Vibration Impacts - Kissimmee

### 3.4 Wetlands

In accordance with Executive Order 11990 (Protection of Wetlands) and USDOT Order 5660.1A, the Project Corridor was evaluated for any wetlands that will be affected by the Project. The Wetland Evaluation Report (WER, January 2006) provided the background documentation on the wetlands and water features associated with the Project. Due to the station modifications, an *Addendum to the WER* (November 2009) was prepared to document the extent of wetlands and the potential impact to these systems as a result of the proposed improvements. A summary of these findings is provided below.

Field surveys of the modified station sites were conducted during October and November 2009 to map the wetland habitats and open water features on the new parcels associated with the station modifications. An estimated total of approximately 21.0 acres of wetlands and water features are proposed to be impacted as a result of the station modifications. A Key Sheet and figures located in Appendix E provide additional information for the individual sites.

#### Existing Conditions

DeLand Amtrak Station: In addition to the residential, commercial, and Improved Pasture land uses, and the native upland habitats, the modified DeLand Station area includes <0.1 acres of Streams and Waterways (i.e., ditches), 2.4 acres of Mixed Wetland Hardwoods, <0.1 acres of Freshwater Marshes and 0.1 acres of Wet Prairies. The Mixed Wetland Hardwood habitat was located in a few locations and has a canopy dominated by sugarberry (*Celtis laevigata*), red maple (*Acer rubrum*), laurel oak (*Quercus laurifolia*), sweetgum (*Liquidambar styraciflua*) and cabbage palm (*Sabal palmetto*) with a sparse understory of maidencane (*Panicum hemitomon*) and primrose willow (*Ludwigia peruviana*). A small area of Freshwater Marshes occurs along the railroad track and may represent an excavated area. This system is dominated by cattail (*Typha* sp.) and primrose willow. Two small areas of Wet Prairie are located within the Improved Pasture in the southwest parcel. Sedges dominate these very shallow systems, one of which is bisected by a ditch. These areas have all been disturbed to some degree through previous clearing, grazing, dumping and hydrologic alterations.

A Conservation Easement exists over a portion of the DeLand modified site and was granted to the SJRWMD during the permitting of a warehouse facility. Any proposed impacts or construction within the limits of the easement will require the SJRWMD to agree to amend or vacate the existing easement.

Altamonte Springs Station: The western out parcel that was included in the modified Altamonte Springs Station site does not contain any wetland habitat or water features. The new parcel to the east contains a 1.8 acre former borrow pit classified as Reservoir. Portions of the pond are vegetated with spatterdock (*Nuphar luteum*), Cuban bulrush (*Scirpus cubensis*) and cattail, with scattered Carolina willow (*Salix caroliniana*) located along some of the shoreline. This pond is man-made and fairly disturbed. The modified station boundary and the approximate limits of the Reservoir within this station site are depicted in Appendix E, revised sheets A-55 and A-56.

**Sand Lake Road Station:** A small <0.1 acre ditch (Streams and Waterways) is located at the north end of the modified area and represents the only water feature within the site. The modified station boundary and the approximate limits of the Streams and Waterways within this station site are depicted in Appendix E, revised sheets A-86 and A-87.

**Meadow Woods Station:** The northern extension of the existing Meadow Woods Station site contains 0.11 acres of Streams and Waterways (ditches). The modified area located east of the railroad corridor contains two stormwater ponds classified as Reservoirs (1.6 acres). These areas are disturbed man-made water features associated with the surrounding development, railroad and roadways. The expanded station boundary and the approximate limits of the ditches and Reservoirs within this expanded station site are depicted in Appendix E, revised sheets A-95 through A-97.

**Osceola Parkway Station:** The modified Osceola Parkway Station includes a variety of wetland types and a <0.1 acre ditch (Streams and Waterways) that bisects the two northerly extensions of this site. The wetland habitats consist of Cypress (11.3 acres), Freshwater Marshes (2.1 acres) and Wet Prairies (1.2 acres). The Cypress habitat is in very good condition, being dominated by cypress (*Taxodium* spp.) with a fringe of dahoon (*Ilex cassine*) and wax myrtle (*Myrica cerifera*). A small area of Mixed Wetland Hardwoods (with a canopy of sweetgum and laurel oak) is located just off-site along the roadway and is connected to the ditch. The Freshwater Marshes and Wet Prairie habitats represent cleared wetland areas along the gas and power line transmission corridors. The Freshwater Marshes habitat areas represent the more shallow systems and contain maidencane, sedges and red root (*Lachnanthes caroliniana*). The Wet Prairie depicted along the power line is a deeper wetland area dominated by pickerelweed (*Pontederia cordata*). The herbaceous wetlands reflect the somewhat disturbed nature expected from their previous clearing for the Corridor as well as vehicular use. The modified station boundary and the approximate limits of the wetland habitats within this station site are depicted in Appendix E, revised sheet A-102 and A-102A.

A Conservation Easement exists over a portion of the Osceola Parkway modified site and was granted to the SFWMD during the permitting of the Osceola Corporate Center DRI. Any proposed impacts or construction within the limits of the easement will require the SFWMD to agree to amend or vacate the existing easement.

**Kissimmee Amtrak Station:** The modified station area contains an open water feature (classified as Reservoirs) of 0.2 acres located in the southeast portion of the site. A small <0.1 acre ditch (Streams and Waterways) is located in the northeast portion of the parcel. Both of these systems are highly altered man-made water features. The modified station boundary and the approximate limits of the ditch and Reservoir within this station site are depicted in Appendix E, revised sheets A-108 and A-109.

**Poinciana Industrial Park Station:** No wetlands or man-made water features were observed within the modified Poinciana Industrial Park Station. A ditch (Streams and Waterways), located north of and off of the parcel, parallels the site and separates it from the adjacent roadway. The modified station boundary and the approximate limits of the adjacent ditch are depicted in Appendix E, revised sheets A-122 and A-123.

*Predicted Impacts:*

The modified station sites will increase the acreage of the wetland and water features affected by the Project by 21.0 acres from that previously reported in the original EA. The maximum “worst case” direct impact to wetlands has been assumed for the modified station sites (that is, impacts are assumed to the full extent of the station footprint). Therefore, the modified station sites could impact up to an additional 3.9 acres of water features (ditches and reservoirs) and 17.1 acres of wetlands.

The impact breakdown by habitat type is as follows:

- Streams and Waterways (Ditches) - 0.3 acres;
- Reservoirs – 3.6 acres;
- Mixed Wetland Hardwoods – 2.4 acres;
- Cypress – 11.3 acres;
- Freshwater Marshes – 2.1 acres; and
- Wet Prairies – 1.3 acres.

A majority of the wetlands and all of the water features have been previously disturbed to some degree through clearing, grazing, exotic species and nuisance species encroachment and hydrologic alterations.

Avoidance and minimization of wetland impacts is a requirement of State and Federal wetland permitting and it is unlikely that the final design of the station sites will require impact of 100% of the wetlands present.

*Mitigation:*

Wetland impacts resulting from the construction of this project will be mitigated pursuant to Section 373.4137 of Florida Statutes to satisfy all mitigation requirements of Part IV Chapter 373, of Florida Statutes and 33 U.S.C. 1344. Under Section 373.4137 of Florida Statutes, mitigation of FDOT wetland impacts will be implemented by the appropriate Water Management District where the impacts occur. Each Water Management District will develop a regional wetland mitigation plan on an annual basis that addresses the estimated mitigation needs of FDOT. The Water Management District will then provide wetland mitigation for specific FDOT project impacts through a corresponding mitigation project within the overall approved regional mitigation plan. FDOT will provide funding to the Water Management District for implementation of such mitigation projects.

Wetland impacts resulting from the construction of the modified DeLand Amtrak Station site within the jurisdiction of the St. Johns River Water Management District (SJRWMD) will be mitigated, as required, pursuant to Section 373.4137, Florida Statutes to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. 1344 as previously indicated in the original EA. Altamonte Springs and Sand Lake Road Stations, also within the jurisdiction of SJRWMD, do not contain wetlands and the surface water impacts will not require mitigation.

Wetland impacts at Osceola Parkway permitted through the South Florida Water Management District (SFWMD) will be mitigated, as required, through the purchase of mitigation credits from approved mitigation banks and/or in basin wetland creation

to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. 1344. The modified station sites for the Meadow Woods, Kissimmee Amtrak and Poinciana Industrial Park Stations do not contain any wetlands; therefore, no mitigation will be required.

### **3.5 Contamination**

A *Contamination Screening Evaluation Report (CSER) Second Addendum* (November 2009) was completed to re-evaluate site conditions associated with the proposed changes to the station sites that are the subject of this Second SEA.

There is a potential liability associated with acquisition of property that is contaminated. Additionally, contamination can have an impact on construction, particularly dewatering, since any contaminated groundwater that may be encountered will require treatment and special permitting. Contaminated soil will require appropriate treatment and disposal and could not likely be used as fill. The purpose of this contamination screening evaluation was to determine the risk of encountered petroleum or hazardous substance, contamination of soil, groundwater, surface water, or sediment in the vicinity of the station locations that could adversely affect property acquisition, permitting, and construction of this Project. Figure 3-23 and Figure 3-24 show the ratings for contamination risk by location.

For locations classified as having a Low contamination risk potential, it is recommended that an updated (Level 1) review should be conducted for those sites prior to ROW acquisition and construction. The update should include a re-review of the public record to determine if any significant changes in status have occurred since this report was prepared.

For locations classified as having a Medium or High contamination risk, a further review into the Public Record with regard to any contamination assessment or remedial action plans which were generated in the interim period between the date of this report and the date of property acquisition and construction, will be performed. A Level 2 preliminary soils screening evaluation including auger borings and Organic Vapor Analyzer (OVA) screening of soils, as well as soil and groundwater sampling and testing, will be performed to detect the presence of contaminants in soil or groundwater prior to acquisition of property, or initiation of construction activities, if needed. If contaminated media are encountered, additional investigations will be necessary to implement mitigation activities required to support construction.

Such activities may include design and operation of on-site groundwater treatment equipment, implementing special handling, characterization, and disposal procedures for contaminated soils or implementation of engineering controls (slurry walls, infiltration trenches, etc.) to prevent affecting natural fate and transport parameters of existing groundwater contaminant plumes. Additionally, the results of the contamination assessment activities will be utilized to assess the need for performance of a Level 2 contamination assessment or Remedial Action Plan for the potential contamination sites.

### Changed Conditions

DeLand Amtrak Station: As documented in the original EA, this station site was rated as Medium. The Corridor screening of the historic gas station parcel through the Level 2 Contamination Impact Assessment activities indicated the presence of groundwater contamination above FDEP target cleanup levels. Additional investigation to determine the extent of contamination on this site will be performed. Further Level 2 assessments to evaluate the presence of soil and/or groundwater contamination will also be performed if the adjacent properties (Cole Brothers – Clyde Beatty Circus Facility, Hanson Pipe & Precast and Florida Contracting Company) are needed for the station and park-and-ride lot. Overall, this site continues to be rated as Medium.

Altamonte Springs: The original EA rated this site as High during the Level 1 Contamination Assessment. Since the completion of the original EA, the station site was acquired by FDOT and a subsequent Level 2 contamination impact assessment concluded that these parcels are now rated as Medium. Due to the need for additional stormwater retention, two new areas were identified and evaluated as part of this SEA. These areas include the Post Office parcel and the property directly to the east side of the CSXT tracks (Formerly Range Paving). The new areas were assessed for current conditions. The Level 2 Contamination Impact Assessment activities on the property adjacent to the Post Office indicated the presence of groundwater contamination plumes on the western portion of the property extending under Ronald Reagan Boulevard and possibly into the Post Office property. FDOT has acquired the property adjacent to the Post Office and the contamination is being remediated in preparation for the station. Additional Level 2 Contamination Impact Assessment investigations will be performed to evaluate the presence of soil and/or groundwater contamination on the Post Office site and the Pep Boys parcel. Therefore, this site is now rated as Medium.

Sand Lake Road: As documented in the original EA, this site was rated as Medium. A portion of the additional area (ChemCentral and Express Countertops Plus) was included in the Corridor Level 2 Contamination Impact Assessment activities and found no indication of groundwater or soil contamination above FDEP target cleanup levels. Since the entire parcel and Ardaman & Associates business is now included within the station footprint, additional Level 2 Contamination Impact Assessment investigations will be performed. In addition, the parcels east of Orange Avenue will be evaluated further for the presence of soil and/or groundwater contamination. This site remains rated as Medium.

Meadow Woods Station: The original EA rated this site as High. The western portion of the Speedy Mart/Citgo parcel was included in the Corridor Level 2 Contamination Impact Assessment activities and found no indication of groundwater or soil contamination above FDEP target cleanup levels. Since the entire parcel is now included within the station area, additional Level 2 Contamination impact Assessment investigations will be carried out to evaluate the presence of soil and/or groundwater contamination on the entire parcel. This site remains rated as High.

Osceola Parkway Station: The original EA rated this site as Low. No additional investigations are recommended at this time. The current assessment of the

modified station areas to be included west of the railroad tracks continues to rate this area as Low.

*Kissimmee Amtrak Station:* The original EA rated this site as High. The western portion of the Kissimmee Civic Center parcel was included in the Corridor Level 2 Contamination Impact Assessment activities and found no indication of groundwater or soil contamination above FDEP target cleanup levels. Since the entire parcel (Civic Center parking lot and vacant lot) is now included within the station area, additional Level 2 Contamination Impact Assessment investigations will be carried out to evaluate the presence of soil/groundwater contamination. This site is now rated as Medium.

*Poinciana Industrial Park Station:* The original EA rated this site as Low. No additional investigations are recommended at this time. This site continues to be rated as Low.

### Mitigation

For locations identified as having Medium or High contamination risks, a further review of public records will be performed and preliminary soils screening evaluation will take place to detect the presence of contaminants in soil or groundwater prior to acquisition of property or initiation of construction activities.

Depending upon the nature and extent of contamination as determined by these contamination assessment activities, risk analysis for impacts to the general public and the Project will be performed, cost estimates for any remediation will be developed, and a communication plan with applicable regulatory agencies will be devised. Mitigation measures, dependent on the results of additional site specific assessments of soils and groundwater, will be developed during Final Design, as appropriate.



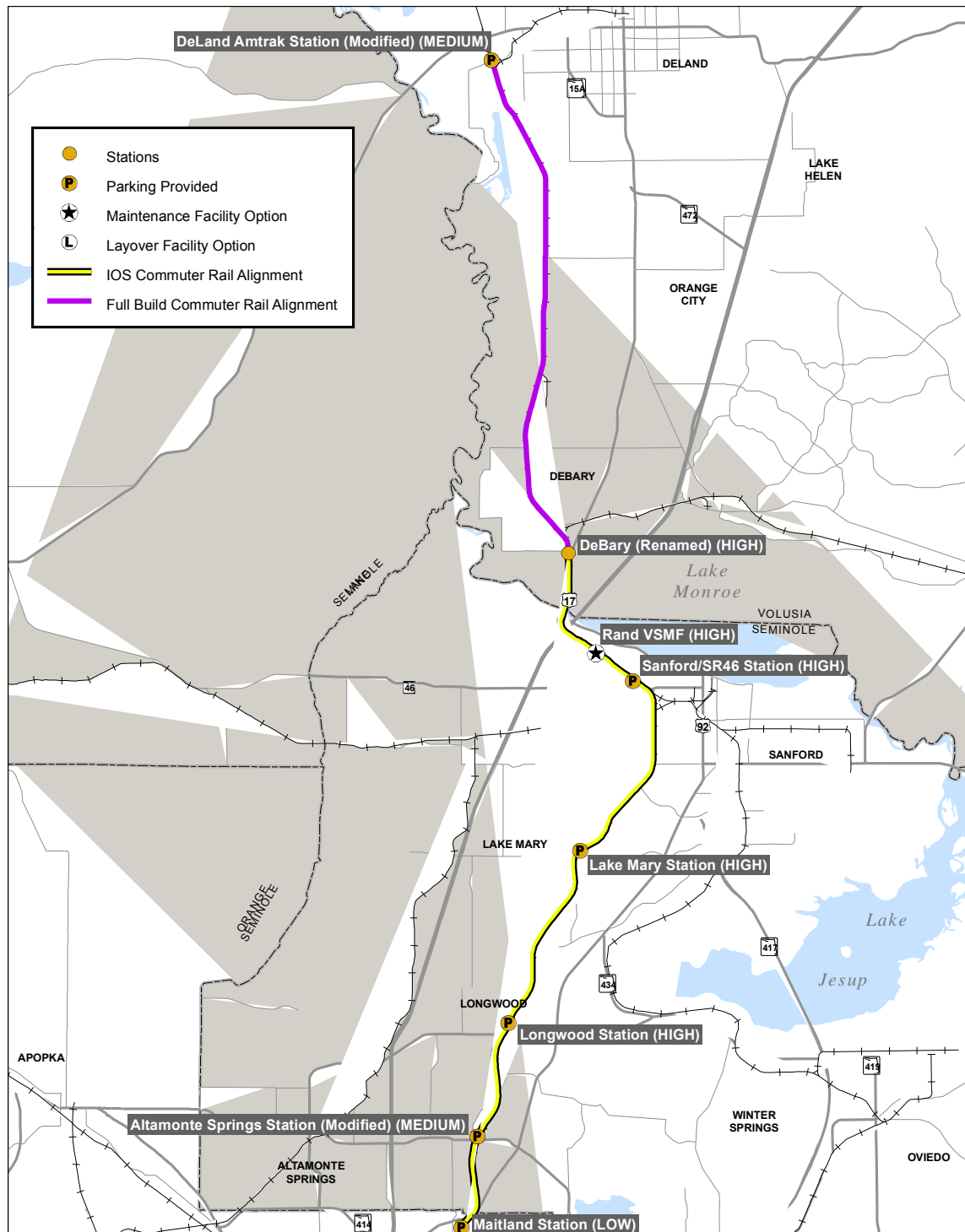


Figure 3-23 - Station Contamination Risk Potential Ratings - Figure 1 of 2

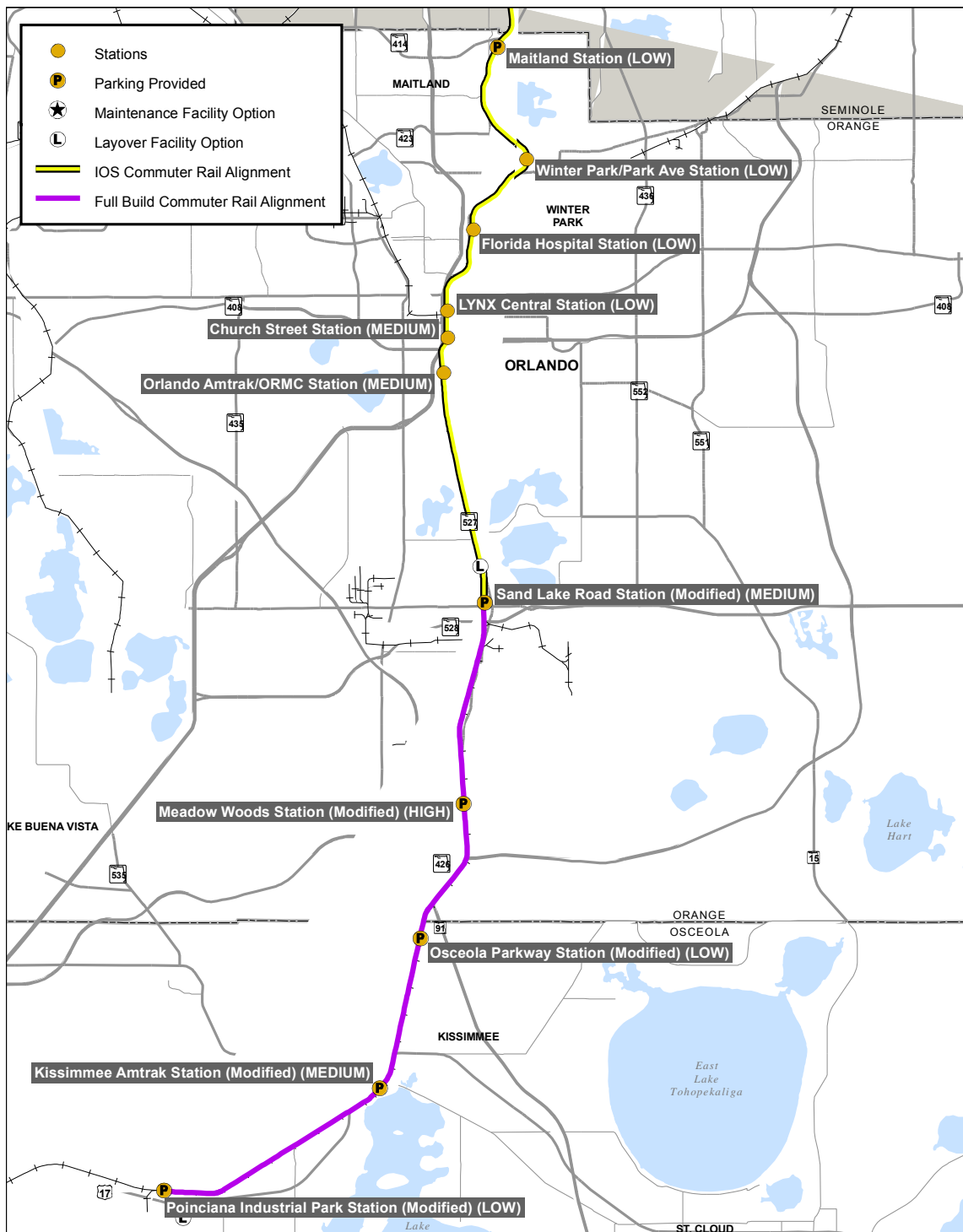


Figure 3-24 - Station Contamination Risk Potential Ratings - Figure 2 of 2

### **3.6 Energy**

Transportation is Florida's second largest energy use sector with 36 percent of the total. Automobile and truck use make up the vast majority of the transportation energy use total.

The DMU vehicle energy usage was discussed in the original EA. The change in vehicle technology to diesel locomotives resulted from the inability of the sole vendor to provide the DMU vehicles. As previously presented in Section 3.2.1, Table 3-2 shows fuel use for the diesel locomotive alternative is greater than for the DMU. Thus, the change in vehicle technology resulted in an increase in the direct energy usage and a minimal impact to the indirect energy usage. Table 3-4, presented previously in Section 3.2.3, illustrates the indirect energy impacts reflected by the Emissions Analysis. The overall locomotive emissions in the Full Build Alternative are offset by the removal of passenger motor vehicle emissions due to the shift from the single occupant automobile to CRT for longer haul trips, as had been the case when the project was designed with DMUs.

## 4 TRANSPORTATION IMPACTS

The existing and future baseline conditions of the transportation system and services in the CRT Study Corridor without the proposed CRT Full Build Alternative are summarized in Chapter 4 of the original EA. Also included in the original EA is the description and evaluation of the CRT Full Build impact on the following components of this baseline: traffic and roadways; parking at and near the station sites; public transportation; freight transportation patterns; and the St. Johns River marine traffic.

This SEA excludes from the discussion transportations components that have proven to not be impacted by the changes to station areas and the change in vehicle technology. Findings regarding these resources in the original EA and the 2008 SEA remain unchanged. These transportations components include: roadway at-grade crossing delays, station pedestrian and bicycle connections, parking, and transit.

The seven modified stations including DeLand Amtrak, Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, Kissimmee Amtrak, and Poinciana Industrial Park are the subject of this new supplemental environmental analysis. This chapter summarizes the potential transportation impacts for the seven modified stations.

### 4.1 Traffic and Roadways

#### 4.1.1 Existing Traffic Conditions

##### Traffic and Roadway Impact Analysis - Approach and Methodology

Section 4.1.2 of the original EA summarized the development of daily and peak hour traffic volumes that were used to analyze study roadways and intersections and the major roadway improvements assumed at the study grade crossings and intersections for 2025 No-Build and Build conditions. That section in the original EA described the approach/methodology used to estimate future traffic volumes for the 2025 No-Build and CRT Full Build Alternative, and presented the resulting roadway and intersection traffic volumes in the vicinity of the CRT route and stations.

In this Second SEA, traffic volumes at the seven modified stations and study intersections have been updated to reflect projected year 2030 conditions. Traffic volumes accessing the Project stations will be minimal as compared to background traffic on adjacent roadways. It should be noted that the stations do not generate any new trips per se; instead, the transit improvements divert traffic that is already on the adjacent roadway network to the station parking areas to utilize the alternative mode of transportation.

#### 4.1.2 Roadway and Intersection Turning Movement Analysis

Table 4-1 summarizes the vehicle trips at the seven modified stations during peak hours. Vehicle trips at stations would already be on the future roadway network and are not generated by the Project. With implementation of a new alternative mode of

transportation, these vehicle trips would instead be redirected from the adjacent roadway network to the stations.

The proposed stations are generally classified as either “origin” or “destination” (or “walk access”) stations. Origin stations are those locations where most CRT riders will originate their daily trip from, typically a commute trip. Origin stations are located outside the urban core of Orlando where riders will walk, drive or use a feeder bus from their home to the CRT station to board a train for travel to work, shopping or social/recreation activities. Destination stations are locations where CRT riders will alight to walk or connect with a bus to reach their place of employment or other destination. Generally, station-related vehicle trips are higher for origin stations than for destination stations. Station trips for the seven modified origin stations are shown in Table 4-1. The station trips for these seven stations are based on 2030 model projections.

**Table 4-1 - 2030 Vehicle Trips at Modified Stations in Peak Hours**

Station	A.M. Peak Hour			P.M. Peak Hour		
	Ins	Outs	Total	Ins	Outs	Total
DeLand Amtrak Station	106	48	154	48	106	154
Altamonte Springs Station	176	64	240	64	176	240
Sand Lake Road Station	432	152	584	152	432	584
Meadow Woods Station	207	122	329	122	207	329
Osceola Parkway Station	183	81	265	81	183	265
Kissimmee Amtrak Station	186	85	271	85	186	271
Poinciana Industrial Park Station	148	71	219	71	148	219

Source: Earth Tech Inc. and AECOM Consulting.

The Year 2030 CRT Full Build Alternative traffic volumes and turning movements at DeLand Amtrak, Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, Kissimmee Amtrak, and Poinciana Industrial Park Stations are shown in Figures 4-1 through 4-7.

Due to the proposed scope changes, vehicle access has been modified at the Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, and Kissimmee Amtrak stations. The vehicle turning movements have been modified at these stations to reflect necessary access and circulation changes. Access was not changed at the remaining stations. Traffic volumes at stations and intersections were updated to year 2030 conditions for all seven stations.

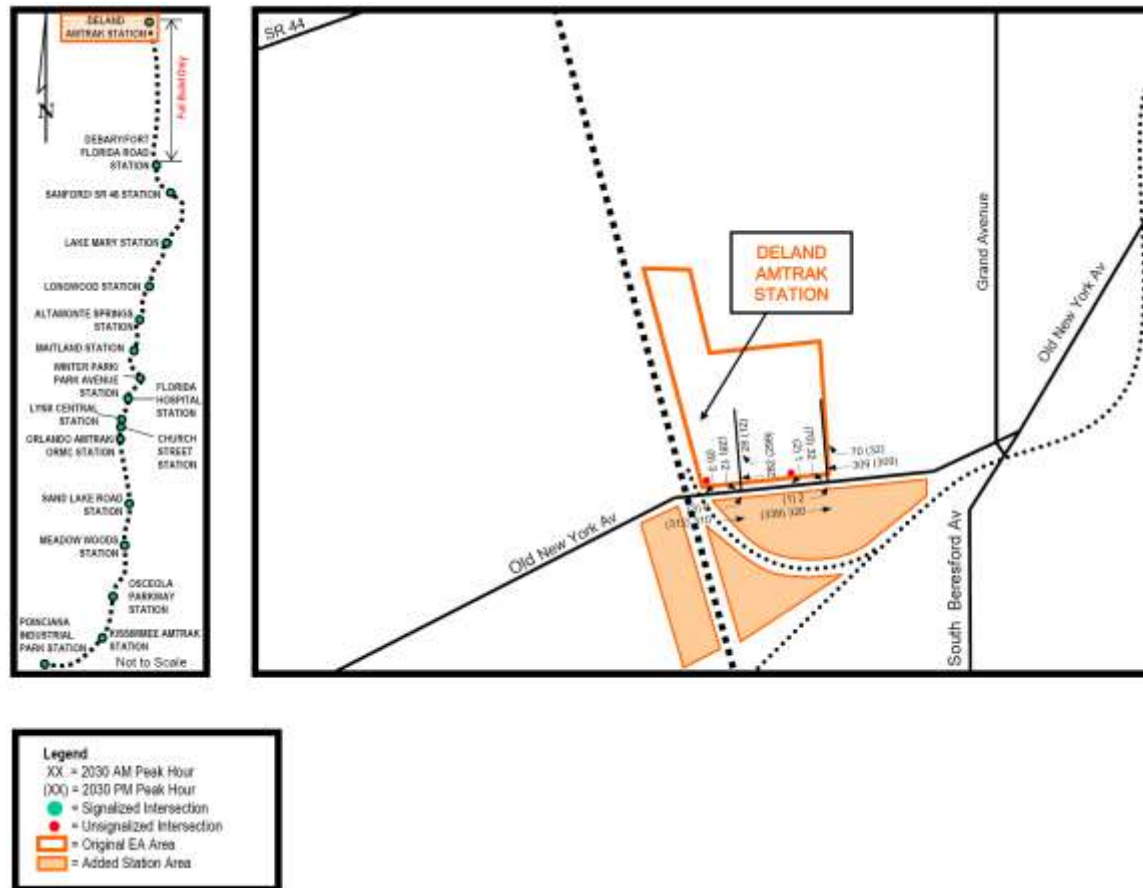


Figure 4-1 - DeLand Amtrak Station Turning Movement Volumes - 2030 Full Build

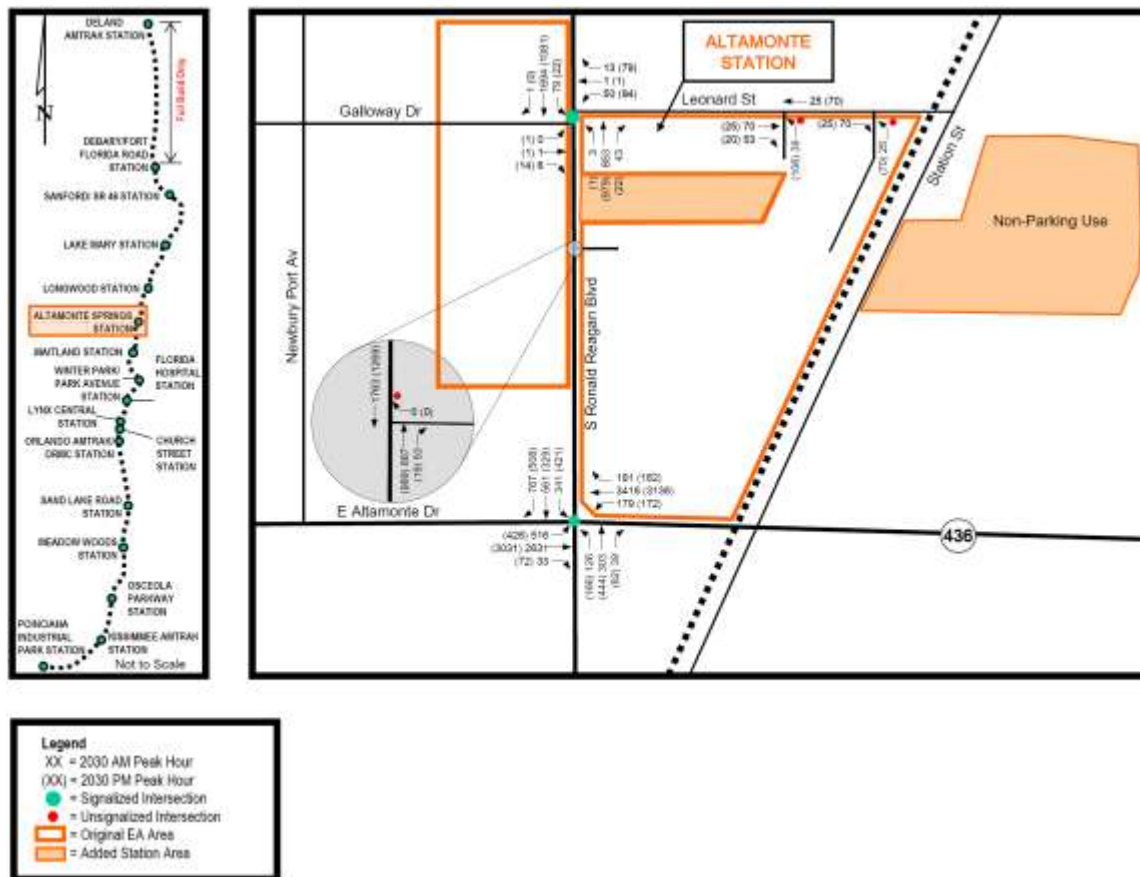


Figure 4-2 - Altamonte Springs Station Turning Movement Volumes - 2030 Full Build

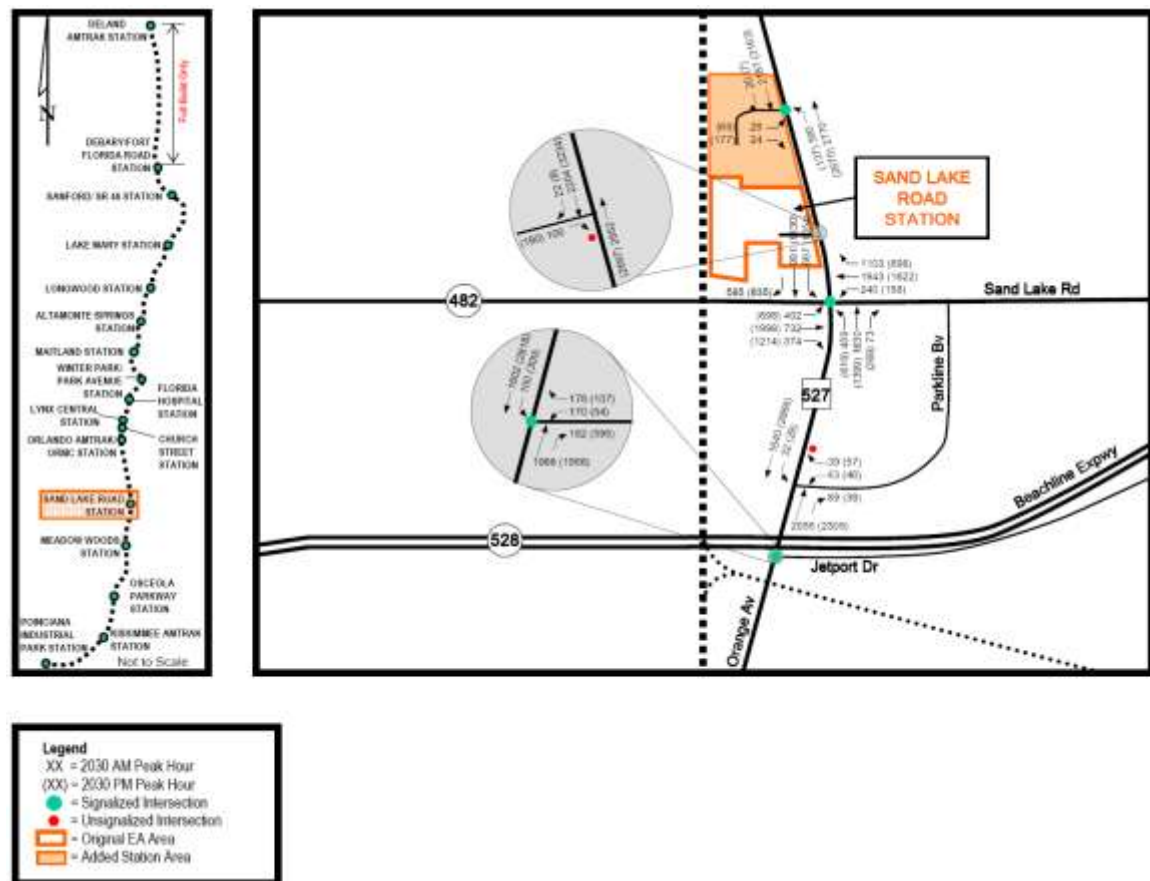


Figure 4-3 - Sand Lake Road Station Turning Movement Volumes - 2030 Full Build



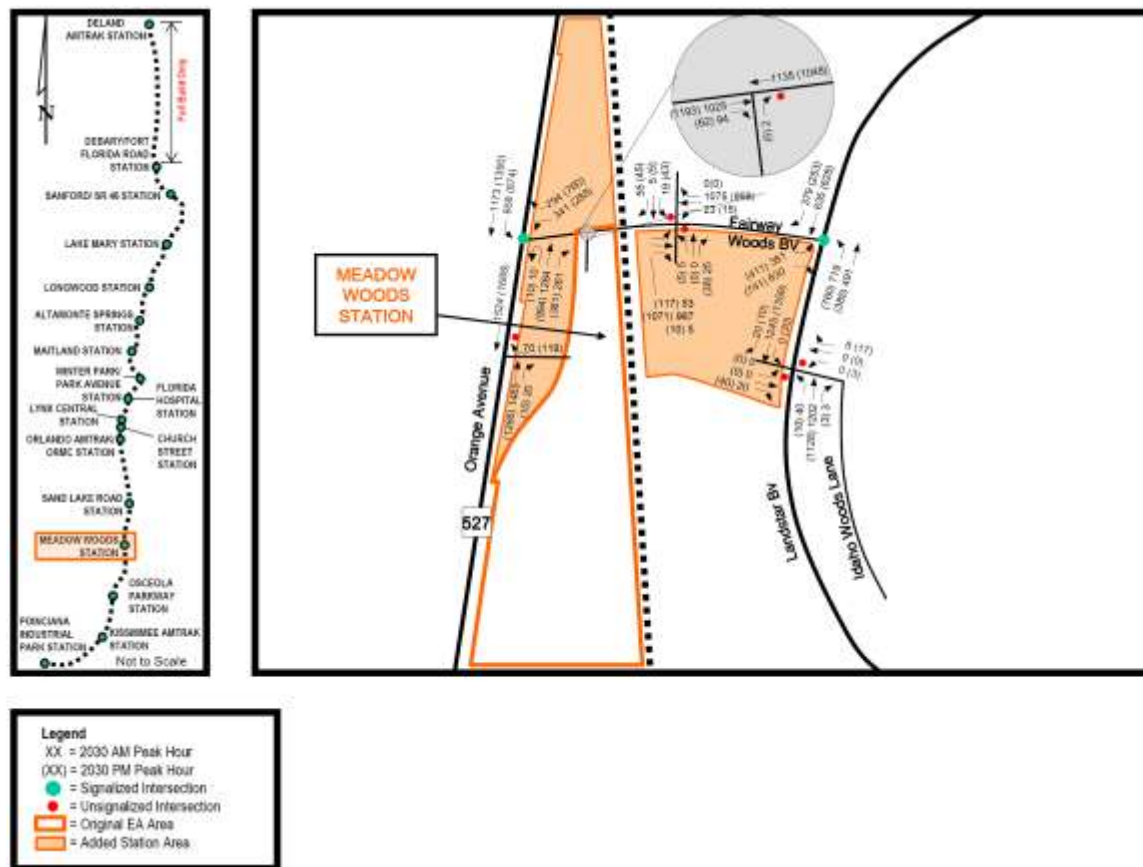


Figure 4-4 - Meadow Woods Station Turning Movement Volumes - 2030 Full Build

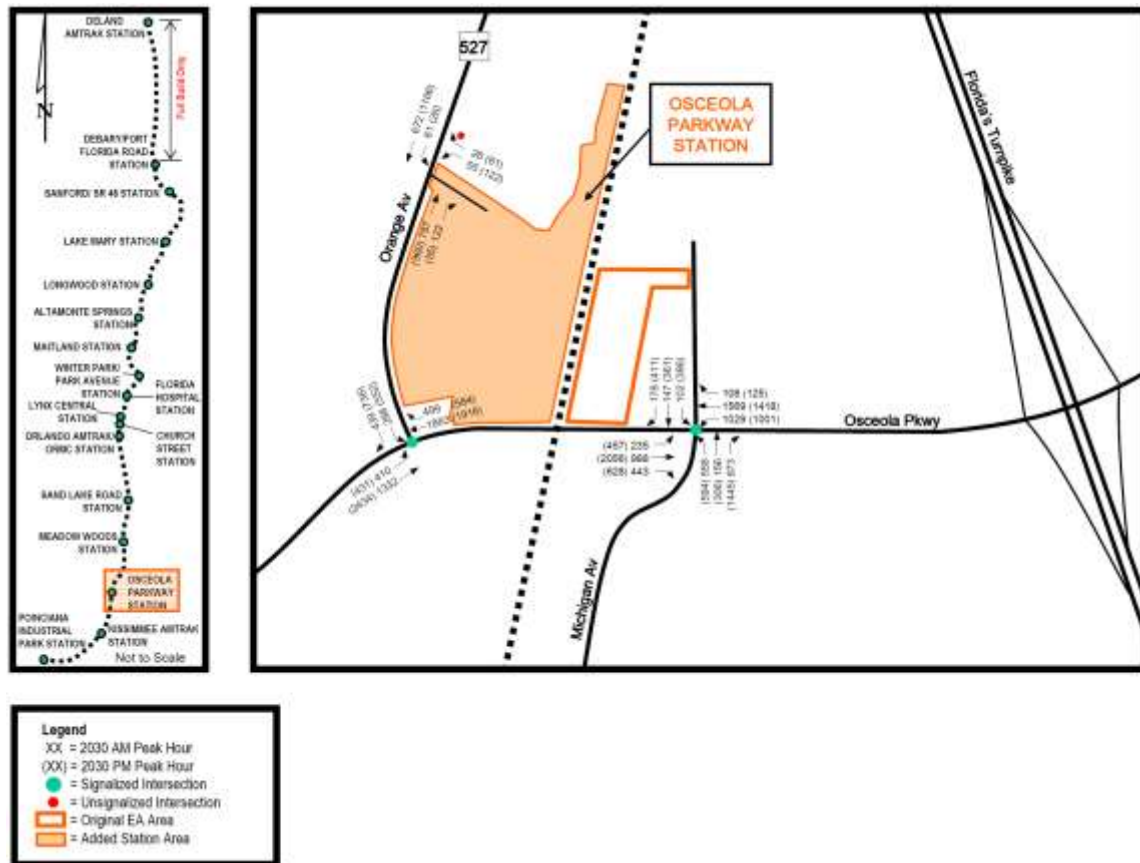


Figure 4-5 - Osceola Parkway Station Turning Movement Volumes - 2030 Full Build

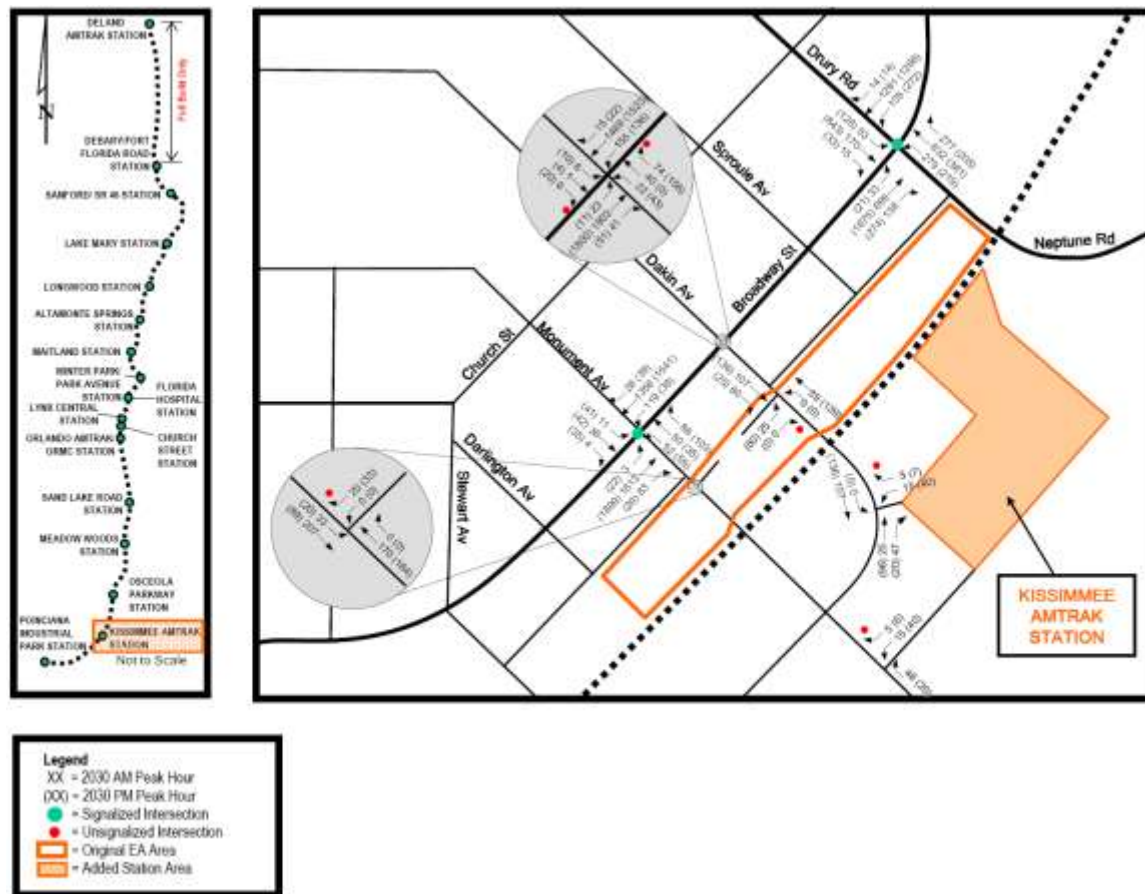
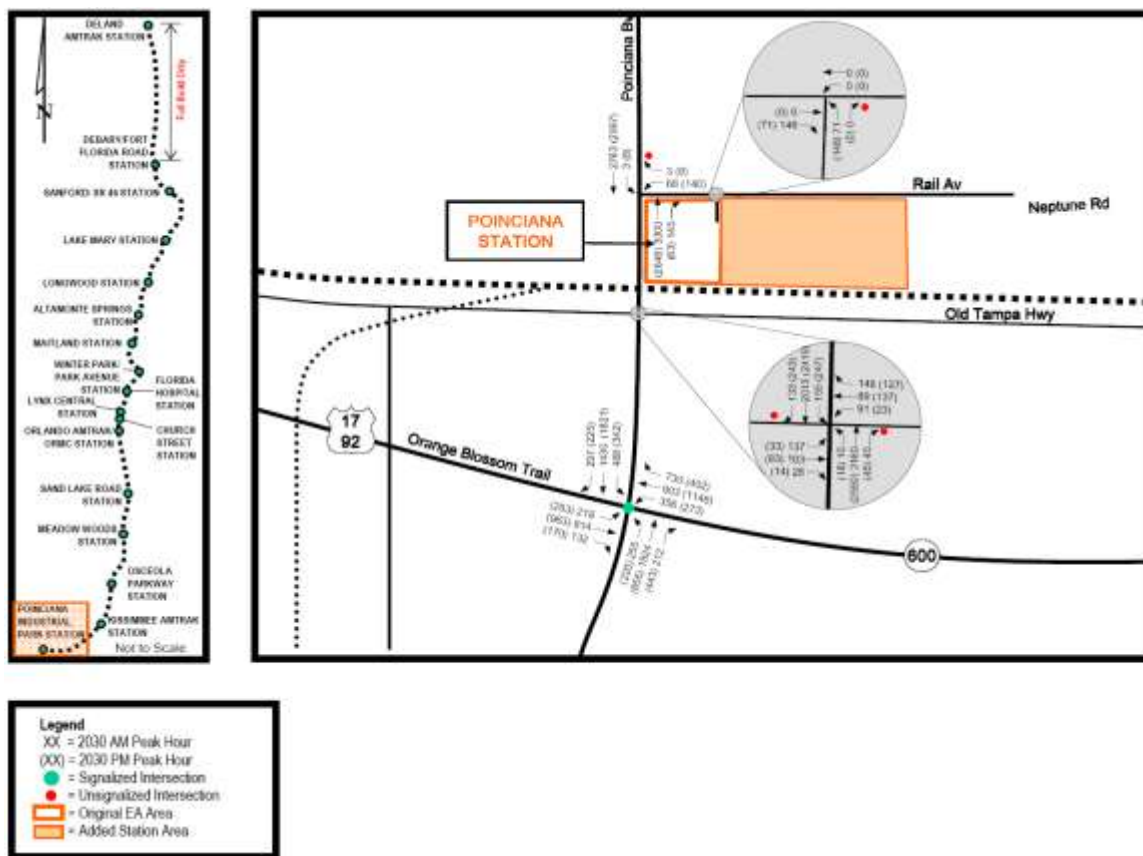


Figure 4-6 - Kissimmee Amtrak Station Turning Movement Volumes - 2030 Full Build



#### 4.1.3 Station Areas and Intersections

Section 4.1.4 of the original EA evaluated potential traffic impacts in the vicinity of park-and-ride lots for the TSM Alternative, and proposed station locations for the 2025 No Build and CRT Full Build Alternatives.

##### Station Areas

Traffic operations were updated at the seven modified stations and study intersections and roadways to reflect Projected Year 2030 conditions. Due to the proposed Project scope changes, vehicle access has been modified at the Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, and Kissimmee Amtrak stations. Access was not changed at the remaining stations.

The modifications to the seven stations will not change traffic analysis findings from the original EA analysis.

## 5 SUMMARY OF IMPACTS

### 5.1 Land Use and Zoning

Land use patterns vary across the Corridor and have changed little for the seven modified station sites since the original EA.

*DeLand Amtrak Station:* The existing land use remains agricultural and light industrial as indicated in the original EA. Plans for the Pelham Square development adjacent to the station on the northeast side include revising the land use plan to include higher density residential, mixed-use commercial development near the station, and increasing pedestrian connections to the proposed commuter rail station. Volusia County will amend their Comprehensive Plan to allow for this future TOD. Joint use of parking and stormwater management would be considered as part of this concept. The additional area for stormwater treatment and TOD adjustments is 13.7 acres.

*Altamonte Springs Station:* This station is near the City of Altamonte Springs' municipal buildings, and has adjacent residential areas and commercial development. The existing land use within the Altamonte Springs Station area is now vacant except for the U. S. Post Office building, which is not an historic structure. This would allow for a more efficient design of the park-and-ride lot. An existing pond and vacant property on the east side of the CSXT tracks has been identified as a potential additional stormwater treatment area. The revised Altamonte Springs Station layout includes the post office land and the added stormwater location. An additional 5.7 acres are required to accommodate this design which includes 650 total parking spaces for the Full Build Alternative.

*Sand Lake Road Station:* The proposed station site is located in unincorporated Orange County adjacent to the CSXT Taft Yard and in close proximity to industrial and commercial areas. The existing land use is a mixture of commercial, office and light industrial uses.

Since the original EA, changes to SFWMD stormwater treatment and discharge requirements have necessitated additional land for the water treatment. This requirement expands the station area footprint to include property on the north side of the proposed station park-and-ride lot bounded by the CSXT tracks on the west and Orange Avenue on the east and along the Office Court roadway. The revised station layout is included in Appendix A-5 and accommodates the Full Build park-and-ride lot with 650 spaces. The added area for these revisions is 8.3 acres.

*Meadow Woods Station:* The original EA located the proposed station parking lot on the west side of the CSXT track on land identified as retention pond and wetlands. Since the original EA, changes to SFWMD stormwater treatment and discharge requirements have limited the use of these parcels that were proposed for the station. The proposed station parking lot on the east side would minimize the resizing of the existing county pond located on the west side of Orange Avenue to approximately 4.8 acres. Utilization of the existing wetland mitigation area on the west side of the CSXT tracks would not be required, based on the station modification described herein. The additional area required (8.5 acres) for the modified site is necessary to meet the Full

Build requirement of 390 parking spaces. This additional area is addressed in this SEA. As stated in the original EA, the Meadow Woods station site will require amendments to existing Planned Unit Development (PUD) zoning.

*Osceola Parkway Station:* Since the original EA, the vacant land for the proposed park-and-ride on the east side of the CSXT tracks has been developed with a small strip commercial center, and resulted in the evaluation of additional land on the west side of the tracks for this proposed site. As evaluated in the original EA, the station would remain at the same location on the north side of Osceola Parkway.

The current land use plan for this area is industrial and warehouse. The Osceola Parkway Station park-and-ride lot would be accessed from Orange Avenue and there would be potential for joint use of parking spaces. Osceola County indicated they will change the future land use for this area to the appropriate zoning and land use designation as necessary. The current property owner has indicated that they would change the approved Osceola Corporate Center DRI to conform to TOD practices and principles. The additional station layout of 32.2 acres is designed to accommodate potential TOD and the stormwater requirements.

*Kissimmee Amtrak Station:* Since the original EA, a new mixed use residential/office and retail condominium, including a parking garage with 100 spaces designated for City of Kissimmee, has been constructed on a portion of the block bounded by Dakin Avenue, Monument Avenue, and the CSXT tracks. The existing land use near the proposed station site includes the Amtrak Station and two adjacent blocks in Downtown Kissimmee comprised of commercial and a variety of civic and governmental use.

The City of Kissimmee and LYNX have advanced the initial phase of the Kissimmee Intermodal Plan, which includes a section that was shown as parking in the original EA. The revised station site plan for the Kissimmee Amtrak Station includes a LYNX bus transfer station and a park-and-ride lot with the Full Build requirement of 390 parking spaces. The additional area required is 5.8 acres. There are 308 existing parking spaces at the Kissimmee Civic Center / Public Library parking lot. Sixty (60) parking spaces will be used jointly (shared parking) for commuters, adjacent Kissimmee Civic Center patrons and City of Kissimmee parking.

*Poinciana Industrial Park Station:* The existing land use is predominately vacant or agricultural. Changes to SFWMD stormwater treatment and discharge requirements and south segment layover facility have added 17.5 acres for the proposed station site.

### *Zoning*

The station sites in Altamonte Springs and Poinciana will be rezoned, and the Meadow Woods and Osceola Parkway stations will require amendments to existing PUD zoning.

## 5.2 Displacements and Relocations

A total of nine businesses and no residences are proposed to be relocated due to the proposed scope changes. Appendix F contains a list of impacted parcels and potential relocations for the seven modified station discussed in this SEA.

DeLand Amtrak Station: Two (2) small businesses will need to be relocated. One vacant business will be purchased. This will require the purchase of 10.9 additional acres.

Altamonte Springs Station: One (1) business will be relocated and 5.7 additional acres will be acquired.

Sand Lake Road: Four (4) businesses will be relocated. This will require the purchase of 7.2 additional acres.

Meadow Woods Station: Two (2) businesses will be relocated. The vacant shopping center will be purchased. This will require 9.2 additional acres.

Osceola Parkway Station: This will require the purchase of 11.8 acres of vacant land for the park-and-ride lot and access roadway. An additional 20.4 acres underwent environmental analysis since the impacted area is a conservation area. There are no residences or businesses proposed for relocation.

Kissimmee Amtrak Station: This will require an additional 5.2 acres of vacant land for use as a park-and-ride lot. There are no residences or businesses proposed for relocation.

Poinciana Industrial Park Station: This will require an additional 17.5 acres of vacant land for the park-and-ride lot and lay-over facility. There are no residences or businesses proposed for relocation.

In summary, an additional 91.7 acres have been environmentally assessed and 67.5 acres may be impacted as a result of these station modifications. FDOT is committed to carrying out a Right-of-Way and Relocation Program in accordance with Florida Statute 339.09 and the Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970 (Public Law 91-646 as amended by Public Law 100-17). The brochures that describe in detail the Department's Relocation Assistance Program and Right-of-Way Acquisition Program were made available upon request, as previously documented in the original EA.

## 5.3 Air Quality

A revised air quality analysis was conducted to reflect the change in vehicle technology from DMUs, which are unavailable due to vendor issues, to FRA-compliant locomotives and ADA-compliant coaches and cab cars.

Although NO<sub>x</sub> and PM<sub>2.5</sub> emissions are expected to increase slightly in the Full Build Alternative due to additional diesel emission sources in the project area, the emission increases are not expected to create any adverse air quality impacts.

## 5.4 Noise

The results presented in this SEA are based on replacing the DMU vehicles consists analyzed in the original EA with train consists employing FRA-compliant diesel locomotives and standard passenger rail cars (ADA-compliant coaches and cab cars). The results of the noise impact assessment indicate that throughout the corridor predicted noise impacts are due to the use of warning horns (dominant noise source) as the trains approach the grade crossings as well as diesel engine noise and wheel-to-rail noise due to the use of heavier diesel rail technology.

In the original EA, without mitigation, it was estimated there would be 217 receptors impacted by the CRT Project. In this SEA, without mitigation, there are 303 receptors that would be impacted by the CRT Project. Severe impacts would increase by thirty (30) to 84 and the moderate impacts would increase by fifty-six (56) to 219 due to the change in vehicle technology. Because the estimated noise level is a cumulative measure from various noise sources (e.g. warning horns, engine noise, wheel to rail noise, etc.) this increase in impacts is due solely to the comparatively higher noise generated by the FRA-compliant locomotives relative to the DMU vehicles.

To mitigate the horn noise impacts, the CRT Project will use the same mitigation measure as applied to horn noise in the original EA. The train horn will be relocated from the roof to a location approximately three (3) feet above top of rail and incorporate a metal horn shroud with high absorption acoustic insulation to reduce the sideline noise. Using this method, no horn noise impacts are predicted. During the start-up period of the commuter rail operations, FDOT will test the horn shroud to determine its effectiveness and to ensure that there will be minimal community noise impact from the warning horns. If noise monitoring during the start-up period reveals that the selected mitigation does not adequately control noise, FDOT as the Project sponsor is committed to adopting additional measures to reduce noise. In this case, all impacts in the severe range will be eliminated and the number of impacts in the moderate range will be minimized. Such an outcome is consistent with FTA's original EA and resultant FONSI for the Project.

## 5.5 Vibration

The results of the vibration assessment indicate that 99 receptors along the 61 mile CRT Corridor are predicted to have vibration levels that are above the FTA annoyance criterion. These receptors are all located within a distance of approximately 90 feet or less from the nearest tracks. A detailed list of the results indicate that the predicted vibration levels for the 99 impacted receptors ranged from just above 80 VdB to 89 VdB. A total of 59 impacted receptors had predicted vibration levels that were only 1 or 2 VdB above the FTA impact criterion. Seven impacted receptors had predicted vibration levels that were more than 5 VdB above the FTA impact criterion. In the previous vibration assessment for the DMU vehicles, no vibration impacts were predicted to occur along the Project Corridor because the DMUs are lighter than diesel locomotives.

It should be noted that the 99 vibration impacted receptors are already impacted by the existing freight and Amtrak trains that operate along the Project Corridor. Although the number of daily train trips is predicted to increase by 56 for the Full Build CRT Alternative, the vibration levels generated by each CRT train is projected to be



equal to or less than the vibration levels generated by each freight or passenger train currently operating in the Project corridor.

The FTA guidance manual states that vibration control measures developed for rail transit systems are not effective for freight trains.<sup>12</sup> This is due to their heavier weight (when loaded), and higher axle wheel loads. These heavy loads are outside the range of applicable design parameters for vibration reduction on lighter rail transit systems. As a result, because of the presence of freight on shared passenger tracks, there are no practical measures for mitigating vibration. Because of these issues, and because this is an active freight and Amtrak rail corridor, it is not practical or recommended to use standard vibration mitigation measures for the CRT Project.

The CFCRT Project Corridor maintenance-of-way (MOW) and the FRA-compliant locomotive and coach and cab car train vehicle maintenance programs will include preventative and corrective maintenance activities. The Project Corridor MOW plan commits to maintaining the mainline track at FRA Track Safety Standards Class 4 Track. The CRT Project is committed to constructing all new second mainline track with new timber cross ties and new CWR and the existing track upgrades with new CWR. With the commencement of operations of commuter rail service, the rail maintenance program activities will include Corrective Rail Profile Grinding. The CRT operational service plan will include daily, 45-day, 92-day, 180-day, 365-day inspections in accordance with FRA requirements for all rolling stock to identify defects including flat spots, wheel tread shelling, and wheel flange wear. These wheel defects will be corrected by wheel truing. Suspension systems will be maintained and changed out as necessary to maintain ride quality.

## 5.6 Wetlands

The modified station sites will increase the acreage of the wetland and water features by 21.0 acres from that previously reported in the original EA. The maximum “worst case” direct impact to wetlands has been assumed for the modified station sites (that is, impacts are assumed to the full extent of the station footprint). Therefore, the modified station sites could impact up to an additional 3.9 acres of water features (ditches and reservoirs) and 17.1 acres of wetlands.

The impact breakdown by habitat type is as follows:

- Streams and Waterways (Ditches) - 0.3 acres;
- Reservoirs – 3.6 acres;
- Mixed Wetland Hardwoods – 2.4 acres;
- Cypress – 11.3 acres;
- Freshwater Marshes – 2.1 acres; and
- Wet Prairies – 1.3 acres.

A majority of the wetlands and all of the water features have been disturbed to some degree through previous clearing, grazing, exotic species and nuisance species encroachment and hydrologic alterations.

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<sup>12</sup> Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006, Section 8.1.3, p. 8-6.

Avoidance and minimization of wetland impacts is a requirement of State and Federal wetland permitting and it is unlikely that the final design of the station sites will require impact of 100% of the wetlands present.

## **5.7 Contamination**

DeLand Amtrak, Sand Lake Road, Meadow Woods, Osceola Parkway and Poinciana Industrial Park Stations retain the same contamination risk ratings as in the original EA. Level 2 contamination assessment activities since the original EA have resulted in a change in the contamination risk ratings for Kissimmee and Altamonte Springs Stations from High to Medium.

For locations identified as having Medium or High contamination risks, a further review of public records will be performed and preliminary soils screening evaluation will take place to detect the presence of contaminants in soil or groundwater prior to acquisition of property or initiation of construction activities.

Depending upon the nature and extent of contamination impacts as determined by the Level I and/or Level II contamination assessment activities, risk analysis for impacts to the Project and the general public will be performed, cost estimates for remediation will be developed, and a communication plan with applicable regulatory agencies will be devised. Mitigation measures, dependent on the results of additional site specific assessments of soils and groundwater will be developed during Project design, as appropriate.

## **5.8 Energy**

The DMU vehicle energy usage was discussed in the original EA. Thus, the change in vehicle technology resulted in an increase in the direct energy usage and a minimal impact to the indirect energy usage. However, despite the increase in fuel consumption from the change in vehicle technology, there will be a minimal impact to the indirect energy usage. Table 3-4 (as previously presented) illustrates the indirect energy impacts reflected by the Emissions Analysis. The additional locomotive emissions in the Full Build Alternative is offset by the removal of passenger motor vehicle emissions due to the shift from the single occupant automobile to CRT for longer haul trips. No mitigation measures are required.

## **5.9 Traffic and Roadway**

Vehicle access has been modified at the Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, and Kissimmee Amtrak stations. Access was not changed at the remaining stations.

The modifications to the seven stations will not change traffic analysis findings from the original EA analysis.

## 6 ESTIMATED PROJECT COSTS AND NEW STARTS

### 6.1 New Starts Process

The CRT Project is scheduled to be 50% funded by Federal dollars. The Section 5309 “New Starts” program is the Federal government’s primary program for providing financial support to locally-planned, implemented, and operated fixed guideway transit major capital investments. The New Starts evaluation process is used in conjunction with the evaluation process under the NEPA, for which this second SEA is being prepared.

Project evaluation is an on-going process. FTA evaluation and rating occurs annually in support of budget recommendations presented in the Annual Report on Funding Recommendations and when projects request FTA approval to enter into preliminary engineering or final design. For information on the most recent New Starts evaluation of this project, see the FTA Annual Report on Funding Recommendations for Fiscal Year 2011 available at FTA’s website at:

[http://www.fta.dot.gov/publications/reports/reports\\_to\\_congress/publications\\_11092.html](http://www.fta.dot.gov/publications/reports/reports_to_congress/publications_11092.html).

## 7 COMMENTS, CONSULTATION AND COORDINATION

The National Environmental Policy Act (NEPA) encourages public involvement activities early and throughout the process of alternatives development and environmental impact analysis. FDOT has conducted extensive public and agency involvement for the Central Florida Commuter Rail Transit Project. The original EA highlights the public and agency activities that occurred during the initial NEPA process. This chapter documents the public involvement activities that have been conducted in relation to the Project scope changes and these activities are consistent with FDOT's Public Involvement Handbook.

### 7.1 Public Involvement Update

#### 7.1.1 Media Outreach and Publicity

Project information is disseminated through the local media in the form of news releases, informational packets, video clips, brochures, newsletters, and stories. To date, numerous news stories have been aired and printed about the Project, including 96 print media stories currently posted on the Project website. The Project sponsor's staff continues to conduct media interviews for television, radio and Internet broadcast, as well as newspaper and magazine publication. The [www.cfrail.com](http://www.cfrail.com) website was renamed [www.sunrail.com](http://www.sunrail.com) to reflect the name of the proposed commuter rail system, SunRail. The official name of the system was chosen by the Central Florida Commuter Rail Commission on December 19, 2008. The Commission action culminated five months of community meetings, surveys and public involvement that included the input of more than 3,000 Central Floridians. The revised Project website includes scrolling banner notification on the home page about upcoming public events or new information related to the Project. A thorough description of the Project website can be found in the original EA.

#### 7.1.2 Additional Agency and Community Meetings

In addition to the meetings previously listed in the original EA and previous SEA, a series of additional meetings have been held with a wide variety of public groups, government agencies, and major commercial and institutional stakeholders along the Project Corridor.

As part of the Interlocal Agreements executed by the local government partners in July 2007 and amended in December 2008, December 2009, and May/June 2010, the Central Florida Commuter Rail Commission and Technical Advisory Committee (TAC) continue to provide updates to the local government partners and stakeholders on the progress of the Project and the coordination of technical issues. The Central Florida Commuter Rail Commission (CFCRC) meets on a quarterly basis and consists of the following representatives:

- Volusia County Council Member
- Seminole County Commissioner
- Mayor of Orange County

- Mayor of City of Orlando
- Osceola County Commissioner

All Commission meetings are noticed in accordance with state statutes and noticed on the Project's website <http://www.sunrail.com>.

The TAC meets on a monthly basis and consists of the following representatives:

- Volusia County
- City of DeLand
- City of DeBary
- VOTRAN
- Volusia County Metropolitan Planning Organization
- Seminole County
- City of Sanford
- City of Lake Mary
- City of Longwood
- City of Altamonte Springs
- Orange County
- City of Maitland
- City of Winter Park
- City of Orlando
- Osceola County
- City of Kissimmee
- LYNX
- METROPLAN ORLANDO
- FDOT

All TAC meetings are noticed in accordance with state statutes and noticed on the Project's website <http://www.sunrail.com>.

The following paragraphs describe the coordination meetings held to discuss the Project scope changes as documented in this Supplement to the original EA.

#### DeLand Amtrak Station

At the request of the Volusia County Commission, the DeLand Amtrak Station was expanded to accommodate a proposed mixed-use development that had previously been approved by the County. As a result, the overall footprint of the site has increased to allow maximum flexibility in meeting the requirements for stormwater and parking. The meetings documented in Table 7-1 were held to discuss the Volusia County stations, including the DeLand Amtrak Station.

In addition, the Fort Florida Road Station was renamed the DeBary Station at the request of the Volusia County Council and the City of DeBary.

**Table 7-1 - Agency and Community Informational Meetings for Volusia County Stations (DeLand Amtrak and DeBary)**

<b>Date</b>	<b>Description</b>
April 19, 2008	West Volusia Government Summit – Project Presentation
April 29, 2008	Volusia County and FDOT staff – DeBary Station Meeting
May 14, 2008	Volusia County and FDOT staff – DeLand Station Meeting
May 21, 2008	Four Townes Rotary Club – Project Presentation
August 14, 2008	Volusia County Chairman and County Manager – Project Briefing
September 12, 2008	Volusia County, DeBary and FDOT staff – 30% DeBary Plans Review
November 5, 2008	Volusia County, DeBary and FDOT staff – 60% DeBary Plans Review
November 20, 2008	DeBary Friends of the Library – Project Presentation
November 21, 2008	Volusia County Hispanic Organization – Project presentation
December 11, 2008	DeBary Homeowners Association – Project Presentation
December 18, 2008	Volusia County Council – Council vote approving First Amendment to Interlocal Agreement
January 22, 2009	DeLand Breakfast Rotary Club – Project Presentation
February 17, 2009	DeBary – Deltona Rotary Club – Project Presentation
February 23, 2009	City of DeBary – Logo and Project Presentation
March 2, 2009	International Speedway Boulevard Association – Logo and Project Presentation
March 3, 2009	Meeting with VoTran Director Ken Fischer – Interlocal bus agreement
April 2, 2009	Volusia County and FDOT staff - Ft. Florida Road Station Meeting
April 28, 2009	Leadership DeLand – Logo and Project Presentation
May 8, 2009	Meeting with VoTran Director Ken Fishcer – Project update
May 21, 2009	Four Townes Rotary Club – Project Presentation
May 26, 2009	Volusia County Metropolitan Planning Organization – Approves Continuing Resolution in Support of SunRail
October 19, 2009	Volusia County and FDOT staff – DeLand Station Meeting

Date	Description
November 4, 2009	Volusia County, Crosland, and FDOT staff – DeLand Station Coordination
December 17, 2009	Volusia County Council – Council vote approving Second Amendment to Interlocal Agreement
February 25, 2010	Volusia and FDOT staff – DeLand Station Meeting
May 25, 2010	Volusia County – Public Hearing on Second SEA
April 2, 2010	Ken Fischer, VoTran General Manager – Bus connectivity issues
April 7, 2010	Volusia County, DeBary and DeLand and FDOT staff – Station Update
June 3, 2010	Volusia County Council – Council vote approving Third Amendment to Interlocal Agreement
June 23, 2010	Department of Community Affairs – Project Presentation
July 8, 2010	Collision Hazard Analysis with FRA
July 27, 2010	Cheryl Stone and ADA Advocacy Group – Project Update
July 28, 2010	FRA Project Update
August 4, 2010	Volusia, Seminole, Orange and Osceola County and FDOT staff – Joint Use Agreements Discussion
September 2, 2010	Volusia County and FDOT staff – DeLand Station Meeting

#### Altamonte Springs Station

The increased footprint for the Altamonte Springs Station was a result of collaboration between Seminole County and the City of Altamonte Springs. Due to the constraints of the existing site and the requirements needed for additional stormwater capacity, it was decided to expand the park-and-ride lot. Numerous meetings (refer to Table 7-2) were held with the County and the City of Altamonte Springs to discuss the station changes. The meetings listed below are in addition to the Altamonte Springs meetings previously listed in the original EA.

#### Sand Lake Road Station

Additional meetings were held with representatives of Orange County and FDOT to discuss the increased footprint of the park-and-ride lot for the Sand Lake Road Station. Table 7-3 lists the meetings held to discuss the expansion of the park-and-ride lot for the Sand Lake Road Station.

#### Meadow Woods Station

Several coordination meetings have been conducted between representatives of FDOT and Orange County to discuss the possibility of relocating the station due to restrictions on stormwater ponds and potential wetland impacts in the vicinity of the current site. Table 7-3 summarizes all the meetings that have been held to date regarding the Meadow Woods Station.

**Table 7-2 - Agency and Community Informational Meetings for Seminole County (Altamonte Springs Station)**

<b>Date</b>	<b>Description</b>
March 13, 2008	Seminole County Mayors and Managers – CRT Discussion
April 10, 2008	Seminole County Chamber of Commerce – Project Presentation
May 7, 2008	Seminole County and Altamonte Springs staff – Station Meeting
May 14, 2008	Seminole County Commissioner Carlton Henley – Project Briefing
September 16, 2008	Seminole and Altamonte Springs staff – 30% Altamonte Springs Plans Review
October 9, 2008	Seminole County and Altamonte Springs staff – Station Meeting
October 14, 2008	Altamonte mixer/Seminole Chamber of Commerce – Project Presentation
October 15, 2008	Seminole Chamber of Commerce members reception – Project Presentation
October 16, 2008	Central Florida Christian Chamber of Commerce/Seminole County – Project Presentation
October 22, 2008	Altamonte Springs and FDOT staff – Permitting Meeting
November 10, 2008	Seminole and Altamonte Springs staff – 60% Altamonte Springs Plans Review
November 19, 2008	Seminole County Regional Chamber of Commerce – Focus Group on Logo and Branding Development
November 21, 2008	Central Florida Zoo – Seminole County Focus Group on Logo and Branding Development
December 8, 2008	Seminole County legislative delegation – Project Update
December 9, 2008	Seminole County Commission – Commission vote approving First Amendment to Interlocal Agreement
December 17, 2008	Seminole County Commissioner Carlton Henley – Project Update
February 5, 2008	Seminole County Chamber of Commerce – Project Presentation
February 11, 2009	Altamonte Springs and FDOT staff – DRC Review Meeting
March 12, 2009	Seminole County Regional Planning Council – Project Presentation
March 16, 2009	Altamonte Springs and FDOT staff – Station Meeting
April 22, 2009	Seminole County and FDOT staff – Off-Site Improvements to Station
May 12, 2009	Seminole County Commission – Approves Continuing Resolution in Support of SunRail
August 25, 2009	Seminole County Commission – Approves Resolution of Support For Acquisition of SunRail Corridor
September 15, 2009	Altamonte Springs City Commission Meeting
November 10, 2009	Seminole County Commission – Commission vote approving Second Amendment to Interlocal Agreement
February 10, 2010	Seminole County staff - Station access issues
March 4, 2010	Seminole County Chairman Bob Dallari – Project Update
March 16, 2010	Seminole County Mayors and Managers – Project



Date	Description
	Update
March 18, 2010	Seminole County, Sanford, Lake Mary, Longwood Altamonte Springs and FDOT staff – station refresher meeting
April 6, 2010	Seminole County Chairman Bob Dallari – Project Update
April 20, 2010	Seminole County, Sanford, Lake Mary, Longwood, Altamonte Springs and FDOT staff – Bus connectivity briefings
May 11, 2010	Seminole County Commission – Project Update
May 27, 2010	Seminole County – Public Hearing on Second SEA
June 8, 2010	Seminole County Commission – Commission vote approving Third Amendment to Interlocal Agreement
June 18, 2010	Seminole League of Women Voters – Project Briefing
June 23, 2010	METROPLAN ORLANDO Citizens Advisory Committee
June 23, 2010	METROPLAN ORLANDO Bike and Pedestrian Committee
June 23, 2010	Florida Department of Community Affairs – Project Presentation
July 7, 2010	MPO Municipal Advisory Committee
July 8, 2010	METROPLAN ORLANDO Quiet Zone Subcommittee
July 8, 2010	Collision Hazard Analysis with FRA
July 14, 2010	Sanford Chamber of Commerce
July 21, 2010	LYNX Transit Advisory Board
July 27, 2010	Cheryl Stone and ADA Advocacy Group – Project Update
July 28, 2010	FRA Project Update
August 4, 2010	Volusia, Seminole, Orange and Osceola County and FDOT staff – Joint Use Agreements Discussion
August 12, 2010	METROPLAN ORLANDO Transportation Disadvantaged Local Coordination Board
August 19, 2010	Sanford Chamber of Commerce
August 25, 2010	Sanford Rotary Club

**Table 7-3 - Agency and Community Informational Meetings for Orange County Stations (Sand Lake Road and Meadow Woods)**

Date	Description
January 14, 2008	Orange County and FDOT staff – TOD Workshop on Sand Lake Road
February 6, 2008	Orange County and FDOT staff – Station Meeting
February 21, 2008	Meadow Woods HOA – Project Presentation
February 28, 2008	Orange County East Rotary Club – Project Presentation
February 29, 2008	METROPLAN ORLANDO – Transportation Symposium hosted by US Rep. Brown
March 18, 2008	TAFT Interagency Coordinating Group – Project Presentation
April 3, 2008	Leadership Orlando – Panel Discussion
April 21, 2008	Holden Avenue Inter-Neighborhood Council – Project Presentation
April 30, 2008	Orange County and FDOT staff – Sand Lake

Date	Description
	Station Meeting
May 8, 2008	Pine Hills Safe Neighborhood Partnership – Project Presentation
May 20, 2008	Local Government Financial Planners – Financial Plan Discussion
June 9, 2008	Orange County and FDOT staff – Sand Lake Road Station Meeting
June 17, 2008	State Sen. Gary Siplin – Project Update
July 19, 2008	Orange County Community Neighborhood Conference – Project Presentation
July 23, 2008	Orange County and FDOT staff – Station Meeting
August 3, 2008	APTA Group – Project Presentation
August 14, 2008	Orange County Commission – Project Update
September 8, 2008	Orange County and FDOT staff – 30% Sand Lake Road Plans Review
October 14, 2008	Orlando-Orange County Convention and Visitors Bureau – Project Presentation
October 21, 2008	Ana G. Mendez University – Orange County Focus Group – Project Presentation
October 23, 2008	Coffee Club of Greater Orlando – Project Presentation
November 3, 2008	Orange County and FDOT staff – 60% Sand Lake Road Plans Review
November 18, 2008	Ana G. Mendez University – Orange County – Project Presentation
November 19, 2008	Orange County Commission – Project Presentation
November 24, 2008	Orange County Staff - Stormwater Permitting Issues Sand Lake Road Station
December 2, 2008	Orange County Commission – Commission vote approving First Amendment to Interlocal Agreement
December 4, 2008	Leadership Orlando – Project Presentation
December 16, 2008	Orange County and FDOT staff – Access Issues
December 17, 2008	Orange County Mayor Richard Crotty – Logo Development Briefing
January 21, 2009	Lake Holden Property Owners Association – Project Presentation
February 9, 2009	Central Florida Sports Commission – Project Presentation
February 19, 2009	Leadership Orlando – Project Presentation
March 5, 2009	University of Central Florida – Project Presentation
March 12, 2009	Orlando-Orange County Convention and Visitors Bureau – Project Presentation
April 1, 2009	Orange County Florida Engineering Society – Project Presentation
April 8, 2009	Orange County and FDOT staff – Utility Issues
April 9, 2009	Orange County East Rotary Club – Project Presentation
April 16, 2009	Orange County and FDOT staff – 60% revised

Date	Description
	Sand Lake Road Plans Review
June 2, 2009	Orange County Commission – Approves Continuing Resolution in Support of SunRail
August 7, 2009	Orange County and FDOT staff – Meadow Woods Station Meeting
August 11, 2009	Orange County Commission – Approves Resolution of Support for Acquisition of SunRail Corridor
November 17, 2009	Orange County Commission – Commission vote approving Second Amendment to Interlocal Agreement
December 2, 2009	SFWMD – Pre-Application Meeting for South Segment Stations
January 10, 2010	Orange County – Project Update/Presentation
February 11, 2010	International Drive Resort Area Chamber of Commerce – Project Presentation
February 17, 2010	Central Florida Sierra Club – Project Presentation
February 18, 2010	Orange County and FDOT staff - Sand Lake Road Station Meeting
February 19, 2010	Orange County Planning staff – Project Presentation
March 3, 2010	Orange County and FDOT staff – Sand Lake Road Station Meeting
March 3, 2010	Orange County Florida Engineering Society – Project Presentation
March 26, 2010	Discuss Sand Lake Road Station with Ardaman & Associates
April 21, 2010	SJRWMD Pre-Application Meeting
April 21, 2010	Orange County, Maitland, Winter Park and FDOT staff – Bus connectivity briefings
May 25, 2010	Orange County Commission – Commission vote approving Third Amendment to Interlocal Agreement
May 25, 2010	Orange County – Public Hearing on Second SEA
May 27, 2010	Orlando Rotary Club – Project Presentation
June 11, 2010	Central Florida MPO Alliance
June 23, 2010	METROPLAN ORLANDO Citizens Advisory Committee
June 23, 2010	METROPLAN ORLANDO Bike and Pedestrian Advisory Committee
June 23, 2010	Florida Department of Community Affairs – Project Presentation
June 25, 2010	Central Florida Commuter Rail Commission
July 7, 2010	Kissimmee Parks and Recreation Board
July 8, 2010	Collision Hazard Analysis with FRA
July 20 – 22, 2010	Orange County, Sand Lake Road Stakeholders Meeting
July 21, 2010	LYNX Transit Advisory Board
July 27, 2010	Cheryl Stone and ADA Advocacy Group
July 28, 2010	FRA Project Update
August 4, 2010	Volusia, Seminole, Orange and Osceola County

Date	Description
	and FDOT staff – Joint Use Agreements Discussion
August 12, 2010	METROPLAN ORLANDO Transportation Disadvantaged Local Coordination Board
September 2, 2010	SJRWMD Pre-Application Meeting No. 2

**Osceola Parkway Station**

In coordination with representatives of Osceola County and the City of Kissimmee, the Osceola Parkway Station was relocated to the west side of the railroad tracks near the intersection of Osceola Parkway and Orange Avenue. The meetings listed below in Table 7-4 were held to discuss changes to the Osceola County stations including, the Osceola Parkway Station.

**Kissimmee Amtrak Station**

Through further coordination with the City of Kissimmee, it was decided to expand the existing park-and-ride lot at the existing site to accommodate future parking and provide additional areas for stormwater treatment. As such, the site has been expanded to include a parcel on the east side of the tracks that is currently owned by the City. Several coordination meetings have been held to discuss these station changes and are also documented in Table 7-4 below.

**Poinciana Industrial Park Station**

In consultation with Osceola County, it was decided to expand the footprint of park-and-ride lots at the Poinciana Industrial Park Station to accommodate future parking and provide additional areas for stormwater treatment. Upon further investigation and coordination with the County, it was determined that the entire site is owned by Amtrak. Several coordination meetings have been held to discuss the station changes, as detailed in Table 7-4 below.

**Table 7-4 - Agency and Community Informational Meetings for Osceola County Stations (Osceola Parkway, Kissimmee Amtrak and Poinciana)**

Date	Description
February 13-14, 2007	Osceola County, Kissimmee and FDOT staff – Transit Oriented Development Workshop
April 25, 2007	Local Government Point of Contact Meeting – Discussion of Interlocal Agreements
May 14, 2007	Local Government Point of Contact Meeting -- Discussion of Interlocal Agreements
June 13, 2007	Poinciana Area Council – Project Presentation
July 9, 2007	Osceola County Commission – Project Workshop
July 11, 2007	Osceola County, Kissimmee, and FDOT staff – Station Meeting
July 13, 2007	Osceola County Chamber of Commerce – Project Presentation
July 16, 2007	Kissimmee Rotary Club – Project Presentation
July 30, 2007	Osceola County Commission – Commission vote approving Interlocal Agreements
October 31, 2007	Osceola, Tupperware, and FDOT staff – Osceola Parkway Station Meeting

November 26, 2007	Tupperware and FDOT staff – Osceola Parkway Station Meeting
January 23, 2008	Osceola, Tupperware and FDOT staff – Osceola Parkway Station Meeting
February 21, 2008	Kissimmee Chamber of Commerce – Project Presentation
March 3, 2008	Osceola, Tupperware and FDOT staff – Osceola Parkway Station Meeting
April 15, 2008	Osceola County Realtors Association – Project Presentation
June 9, 2008	Regional Rally For Rail
June 13, 2008	Osceola, Tupperware and FDOT staff – Osceola Parkway Station Meeting
July 28, 2009	Kissimmee Rotary Club – Project Presentation
September 11, 2008	Osceola County, Kissimmee and FDOT staff – Station Meeting
November 14, 2008	Osceola, Tupperware and FDOT staff – Osceola Parkway Station Meeting
November 17, 2008	Osceola County Commission – Commission vote approving First Amendment to Interlocal Agreement
November 20, 2008	Osceola County Council on Aging – Project Presentation
December 8, 2008	Osceola County Commission – Project Presentation
December 10, 2008	ECFRPC, Osceola, Tupperware and FDOT staff – DRI Methodology Meeting
December 12, 2008	Rotary Club of Kissimmee West – Project Presentation
December 15, 2008	Osceola and FDOT Staff – Osceola Parkway TOD Considerations
December 17, 2008	Osceola County Commissioner Brandon Arrington and County Attorney Jo Thacker – Project Update
December 18, 2008	Kissimmee Focus Group – Project Presentation
January 12, 2009	Osceola County Commission – Project Update
January 21, 2009	Rotary Club of Kissimmee – Project Presentation
March 24, 2009	Solivita Community – Project Presentation
May 18, 2009	Osceola County Commission – Approves Resolution in Support of SunRail
May 26, 2009	Osceola County Commissioner Brandon Arrington – Project Update
June 2, 2009	Kissimmee City Commission – Approves Resolution in Support of SunRail
August 17, 2009	Osceola County Commission – Approves Resolution in Support of Acquisition of SunRail Corridor
October 7, 2009	Osceola, Kissimmee, and FDOT staff – Station Meeting
November 12, 2009	Osceola County Commissioner John Quinones – Project Update

November 12, 2009	Osceola County Commissioner Ken Smith – Project Update
November 12, 2009	Osceola County Commissioner Fred Hawkins Jr. – Project Update
November 12, 2009	Osceola County Commissioner Michael Harford – Project Update
November 13, 2009	Osceola, Kissimmee and FDOT staff – Kissimmee Station Meeting
November 16, 2009	Osceola County Commission – Commission vote approving Second Amendment to Interlocal Agreement
December 2, 2009	SFWMD – Pre-Application Meeting for South Segment Stations
February 19, 2010	FDOT/ECFRPC – Osceola Station Workshop
March 10, 2010	Poinciana Area Council – Project Presentation
May 3, 2010	Osceola County Commission – Project Update
May 27, 2010	Osceola County – Public Hearing on Second SEA
June 7, 2010	Osceola County Commission – Commission vote approving Third Amendment to Interlocal Agreement
June 23, 2010	METROPLAN ORLANDO Citizens Advisory Committee
June 23, 2010	METROPLAN ORLANDO Bike and Pedestrian Advisory Committee
June 23, 2010	Florida Department of Community Affairs – Project Presentation
June 25, 2010	Central Florida Commuter Rail Commission
July 21, 2010	LYNX Transit Advisory Board
July 27, 2010	Cheryl Stone and ADA Advocacy Group – Project Update
July 28, 2010	FRA Project Update
August 4, 2010	Volusia, Seminole, Orange and Osceola County and FDOT staff – Joint Use Agreements Discussion
August 12, 2010	METROPLAN ORLANDO Transportation Disadvantaged Local Coordination Board
August 24, 2010	Osceola County Commissioner Brandon Arrington – Project Update

## 7.2 Public Comment

FDOT has completed this second Supplement to the original EA to provide information regarding certain proposed station modifications for the DeLand Amtrak, Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, Kissimmee Amtrak and Poinciana Industrial Park Stations; and the utilization of FRA-compliant locomotive and ADA-compliant and cab car train sets in place of DMUs.

Four public hearings were held to afford the public the opportunity to express views concerning these changes to the proposed Project. These public hearings were held to maximize the public's opportunity to participate.

This Second SEA was made available to the general public for a 30-day review comment period. The general public was notified as to the availability of the document through the following means:

- Copies of the Second SEA and supporting technical documentation was placed in libraries located in Volusia, Seminole, Orange, and Osceola Counties and were available at FDOT District 5 offices in Orlando and DeLand. The Second SEA and supporting documentation was also posted on the Project's website [www.sunrail.com](http://www.sunrail.com) for public review and download.
- Notification of the Public Hearings was posted on the [www.sunrail.com](http://www.sunrail.com) website on the "Public Hearings and Docs" page, as was the Second SEA and supporting technical documentation; Public Hearing notices and the Public Hearing presentation.
- Display advertisements were published a minimum of two times in the following newspapers: *Daytona Beach News Journal*, *DeLand Beacon*, *Orlando Sentinel*, *La Prensa*, and the *Osceola News Gazette*. There was also a legal advertisement published in the *Florida Administrative Weekly*.
- Notifications were made at the TAC meetings.
- Notifications were sent to federal, state and local government officials, stakeholders and interested parties.

### 7.3 CFCRT Public Hearings

Public Hearings on the Second SEA were held on Tuesday, May 25, 2010 in the City of DeLand (Volusia County) and the City of Orlando (Orange County); and on Thursday, May 27, 2010 in the City of Kissimmee (Osceola County) and the City of Sanford (Seminole County) to give the public an opportunity to express their views about the CFCRT project, as well as any comments regarding impacts associated with certain proposed station modifications for DeLand, Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, Kissimmee and Poinciana Industrial Park; and a general analysis of noise and vibration impacts associated with the change in vehicle technology from diesel multiple units to "push-pull" locomotives and coaches. The Public Hearings were held at the following locations:

Public Hearing Sites	
<b>Volusia County</b> Florida Department of Transportation District 5 Headquarters 719 S. Woodland Blvd. DeLand, FL 32720	<b>Orange County</b> Sonesta Orlando Hotel 60 S. Ivanhoe Blvd. Orlando, FL 32804
<b>Sanford County</b> City of Sanford City Hall 300 N. Park Ave. Sanford, FL 32771	<b>Osceola County</b> Kissimmee Civic Center 201 E. Dakin Ave. Kissimmee, FL 34741

Public hearing notifications were sent to 5,933 persons whose property lies, in whole or in part, within 300 feet of the proposed project scope changes even if not directly affected by the CFCRT Project. In addition, notifications were sent to elected officials along the Project Corridor; media; government and agency personnel; the Central Florida Commuter Rail Commission; the Technical Advisory Committee and other interested parties. More than 322 individuals were notified. The [www.sunrail.com](http://www.sunrail.com) website was updated to include a scrolling banner notification on the website's home page about the upcoming public hearings. Public comment was also solicited on the website, and public hearing locations were prominently displayed.

A legal advertisement for the Public Hearings was published April 30, 2010 in the *Florida Administrative Weekly*. Display advertisements were published two times in the following publications: *Orlando Sentinel*, *La Prensa*, *Daytona Beach News Journal*, *DeLand Beacon* and the *Osceola News Gazette*.

The Public Hearing notification included a description of the project and the study limits; the date, time and location of the Public Hearing; contact information; and the location of inspection sites where the documents were available for public review.

A total of 311 people signed attendance sheets at the four Public Hearings – 80 in Volusia County; 66 in Seminole County; 96 in Orange County; and 69 in Osceola County. The Public Hearings on the Second SEA included a description of the proposed project scope changes regarding impacts associated with certain proposed station modifications for DeLand, Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, Kissimmee and Poinciana Industrial Park; and a general analysis of noise and vibration impacts associated with the change in vehicle technology from diesel multiple units to “push-pull” locomotives and coaches.

Participants had more than an hour during the open house portion of the hearing to review project boards, as well as aerial photographs of proposed changes at each station location; the Second SEA and supporting documents; large scale boards depicting the change in vehicle technology from DMUs to “push-pull” locomotives and coaches; a noise and vibration impact board; and aerial boards depicting the CFCRT or SunRail alignment.

Project team members were available at all locations to answer questions and assist the public, as were FDOT right-of-way acquisition specialists. The formal portion of the Public Hearing consisted of a Power Point presentation that included maps and graphical illustrations; as well as the aforementioned project display boards.

A court stenographer was available at each hearing to take public comment and record the proceedings. Comment forms were distributed and collected at the Public Hearings, as well as by mail and e-mail; and the public was given an opportunity to speak orally about the project at each Public Hearing. The public comment period ended June 8, 2010.

In general, the comments received through the Public Hearing process were favorable, though some expressed concern about noise and stormwater impacts, connectivity with other modes of public transit and planned rail improvements; use of alternative technology; and noise impacts.



A total of 17 people provided statements during public testimony at the hearings – three at the Orange County hearing; seven at the Volusia hearing; five at the Seminole hearing; and two at the Osceola hearing. Eight people spoke in support of the commuter rail project, and three of those speakers offered suggestions to improve the project. Two people expressed concerns about how other modes of transit will connect to SunRail; two spoke against the project; two voiced concerns over noise impacts; one urged the use of different vehicle technology; one was concerned about improved grade crossings; and one requested additional coordination with utilities in Phase II of the project. Comments received in support of the project focused on: misinformation about the project in the City of Winter Park; how the commuter rail would assist in reducing traffic; the environmental and mobility benefits of SunRail; transit-oriented development opportunities along the corridor; and opportunities that SunRail provides for future rail transit connections to fully develop a multi-modal transportation system in Central Florida.

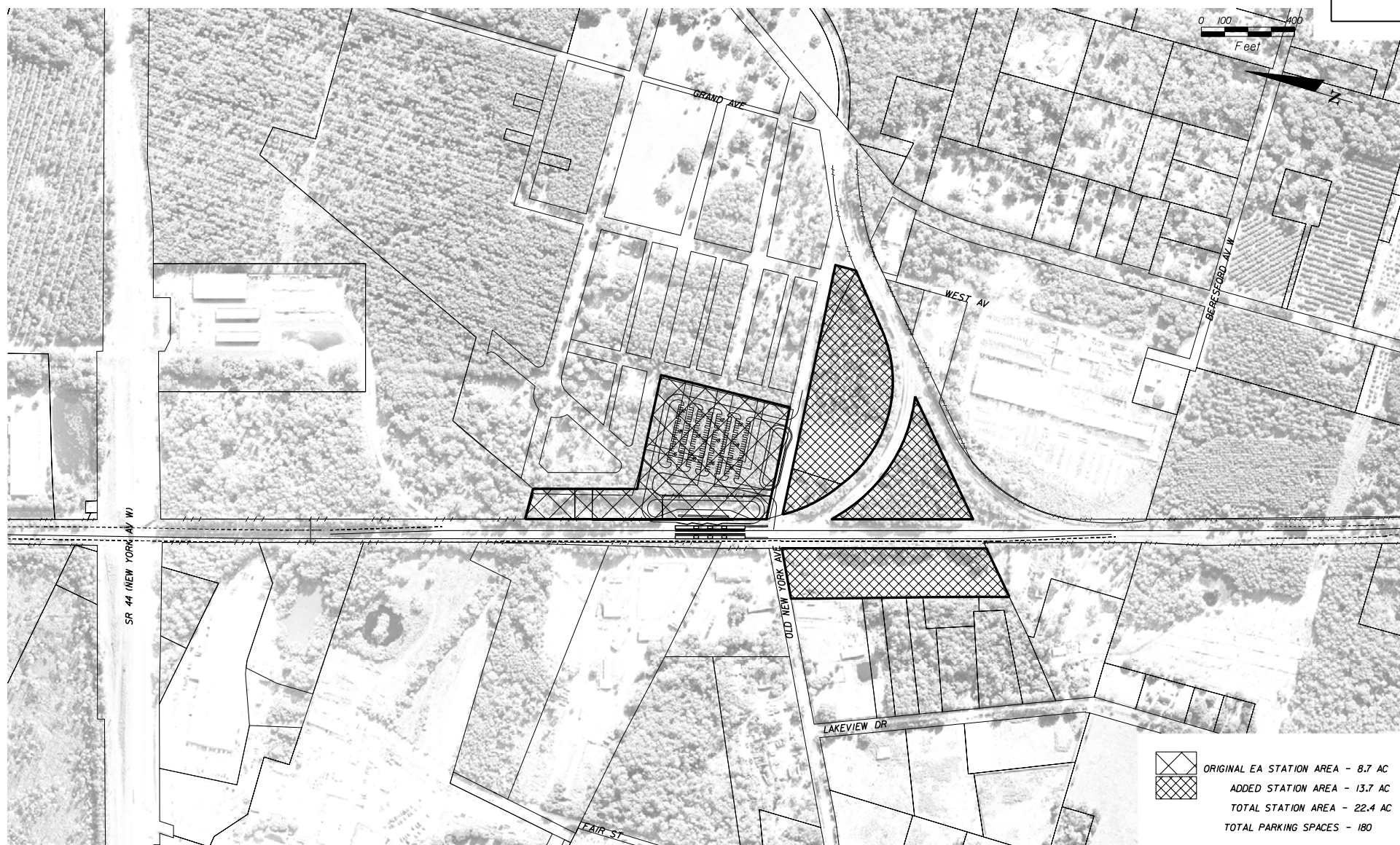
Following the Public Hearings, 21 written comment forms were filled-out and submitted either at the hearings or via mail. Approximately eight were in favor of the commuter rail; two were against the project; two expressed concern about potential flooding at the Altamonte Springs station; one was concerned about noise impacts; two expressed concerns about connectivity to other transportation modes; one was concerned about traffic impacts; one suggested use of alternate technology; and there were several requests for additional information.

An additional 88 comments or questions were submitted electronically or via the [www.sunrail.com](http://www.sunrail.com) website. The majority of the comments received during the comment period (31) were requests for information about jobs and procurement associated with the project. An additional 11 people inquired about right-of-way issues and how the project might affect their property; 20 requested more information; nine expressed support; two opposed the project; three were concerned about additional noise and vibration; one was concerned about traffic; two had questions about vehicle emissions; five were interested in future connectivity options; one was concerned about fares; and one urged the use of different technology. Two inquiries were unrelated to the SunRail project.

The public hearing transcripts, comment forms, and comments received through the project website are included in the *Comments and Coordination Report* (June 2010) prepared for this Second SEA.

## **Appendix A**

- A-1** Deland Amtrak Station – Site Plan
- A-2** Deland Amtrak Station – Existing and Future Land Use Map
- A-3** Altamonte Springs Station – Site Plan
- A-4** Altamonte Springs Station – Existing and Future Land Use Map
- A-5** Sand Lake Road Station – Site Plan
- A-6** Sand Lake Road Station – Existing and Future Land Use Map
- A-7** Meadow Woods Station – Site Plan
- A-8** Meadow Woods Station – Existing and Future Land Use Map
- A-9** Osceola Parkway Station – Site Plan
- A-10** Osceola Parkway Station – Existing and Future Land Use Map
- A-11** Kissimmee Amtrak Station – Site Plan
- A-12** Kissimmee Amtrak Station – Existing and Future Land Use Map
- A-13** Poinciana Industrial Park Station – Site Plan
- A-14** Poinciana Industrial Park Station – Existing and Future Land Use Map



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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SUNRAIL	VOLUSIA	412994-3-32-01

CENTRAL FLORIDA COMMUTER RAIL TRANSIT  
 2009 SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT  
**DELAND**

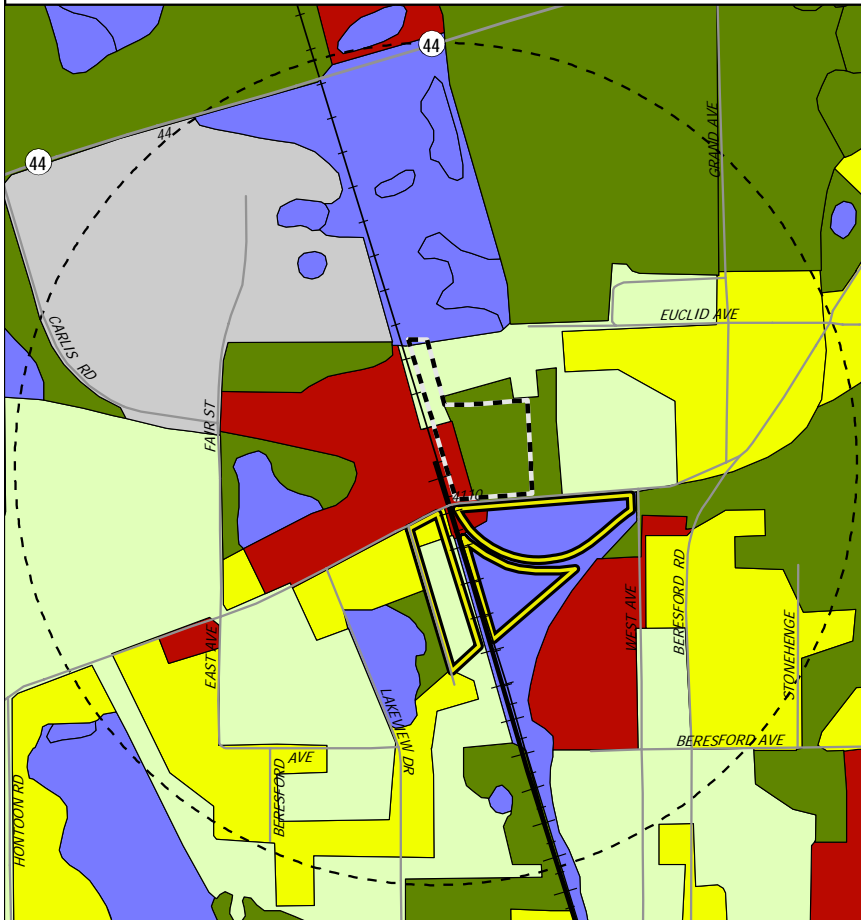
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SHEET  
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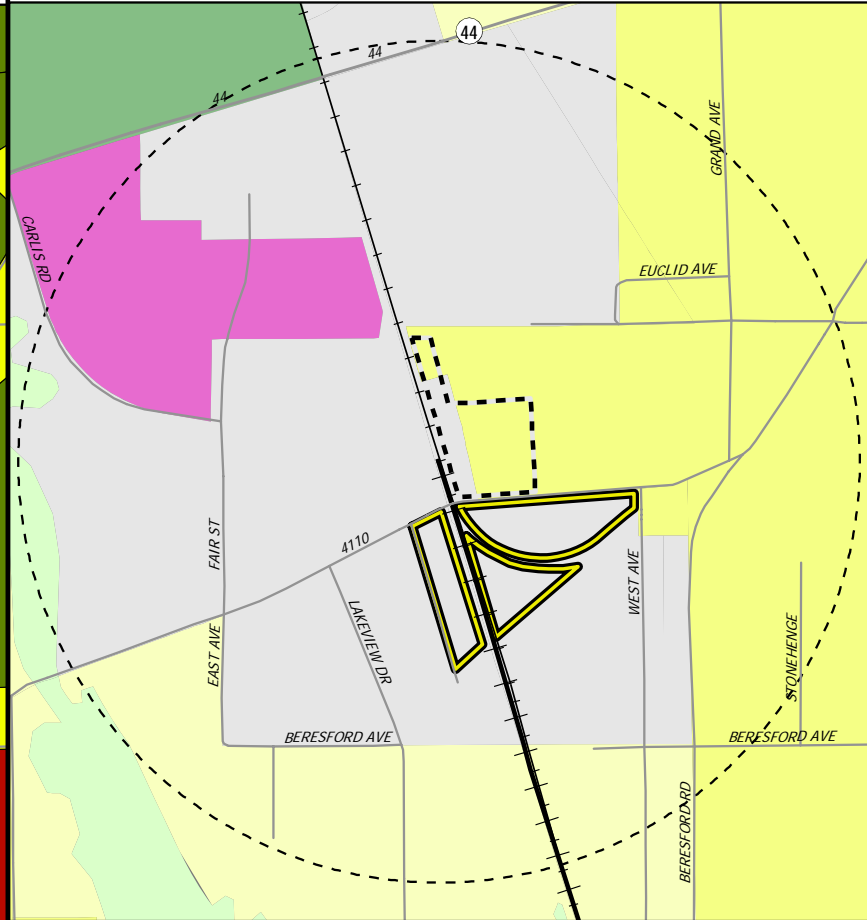
A-1

## DeLand Amtrak Station

**Existing Land Use**

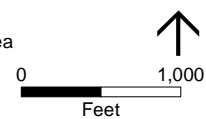
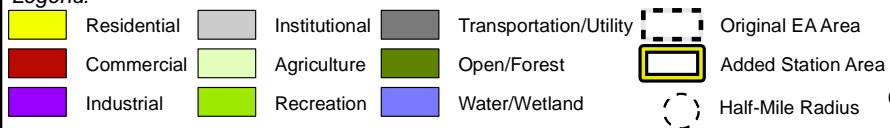


**Future (2030) Land Use**

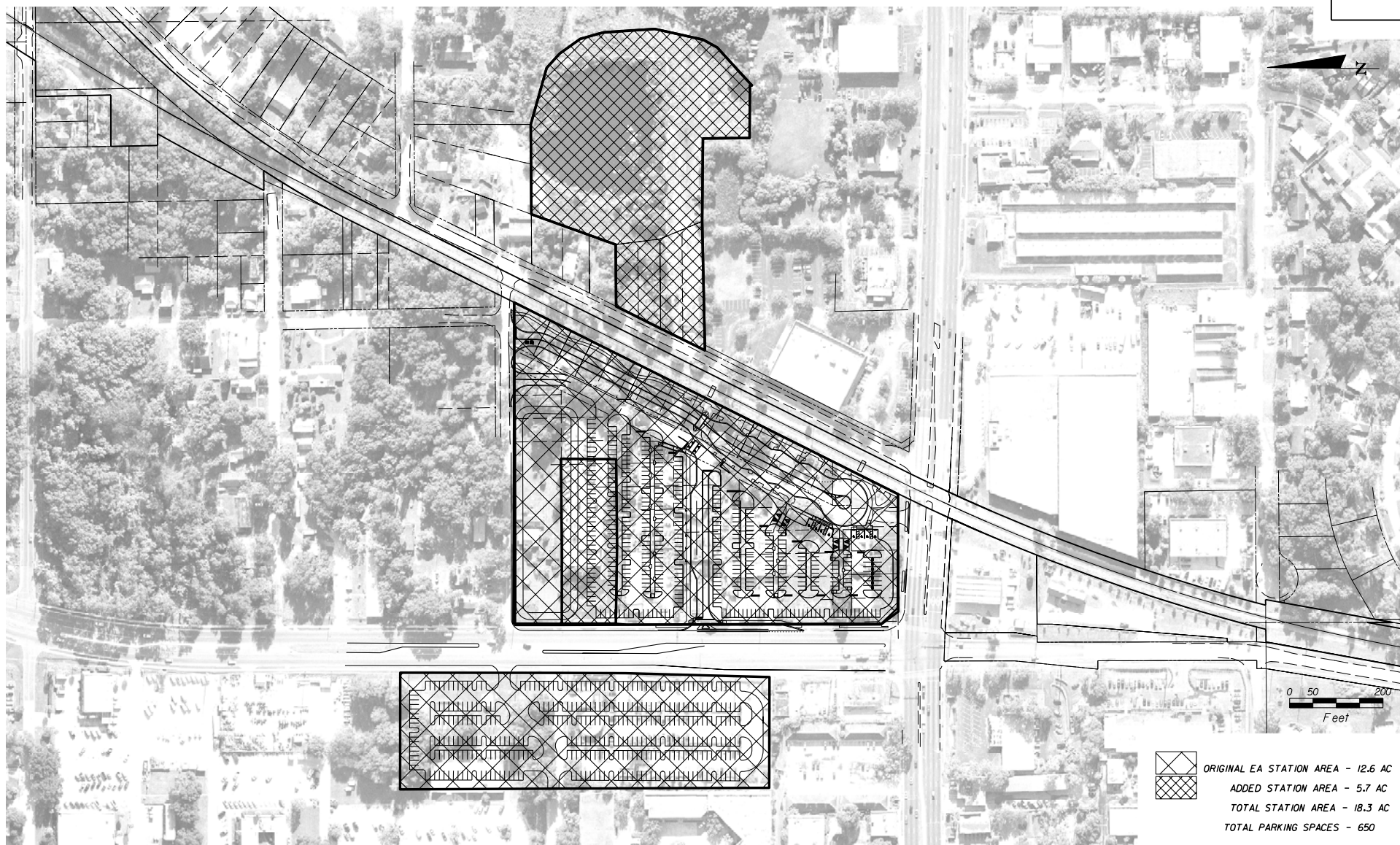


Sources: St. Johns River Water Management District, South Florida Water Management District, Seminole, Osceola, Volusia, and Orange County Planning Depts.

**Legend:**



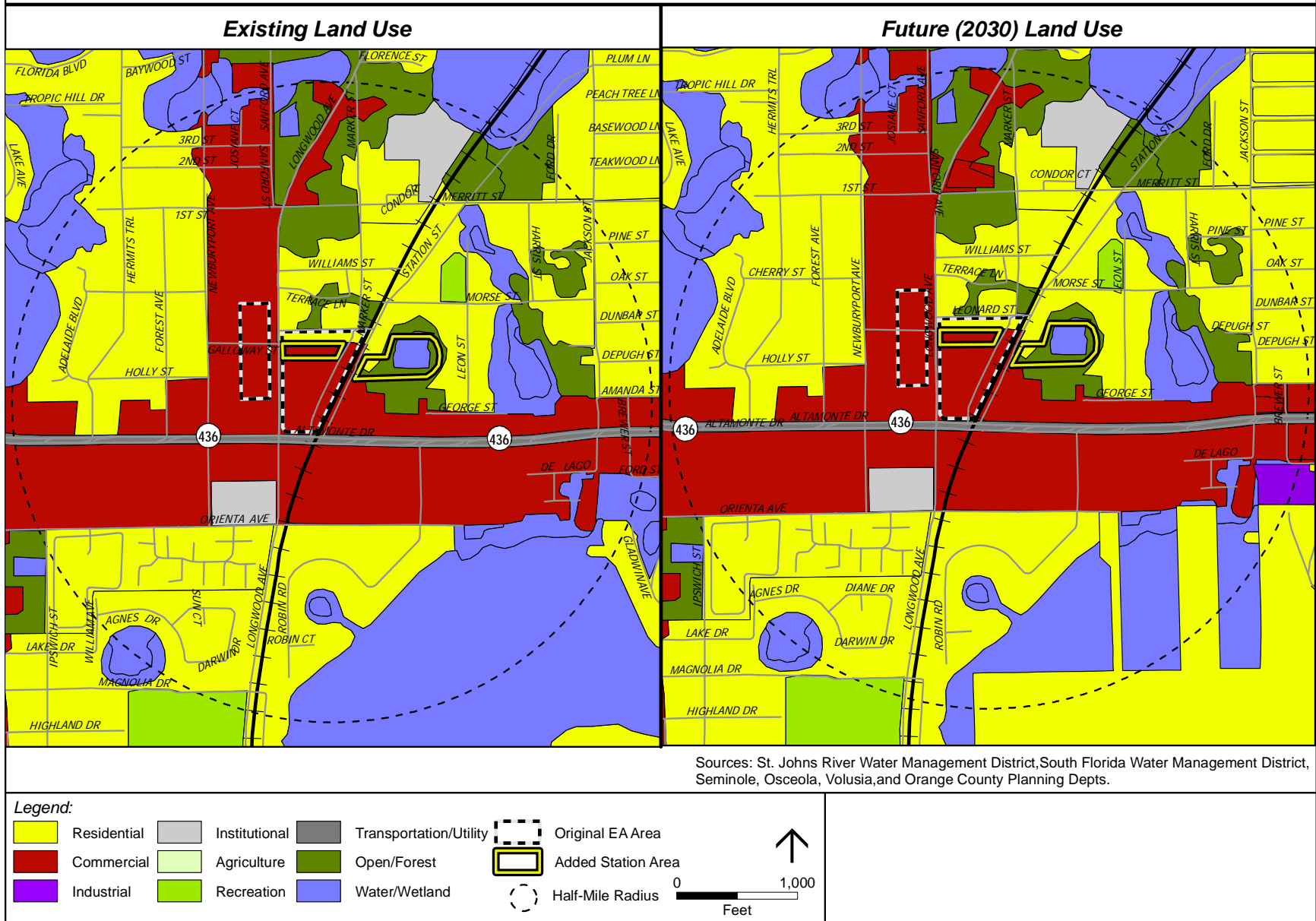
**A-2 – Deland Amtrak Station - Existing and Future Land Use Map**



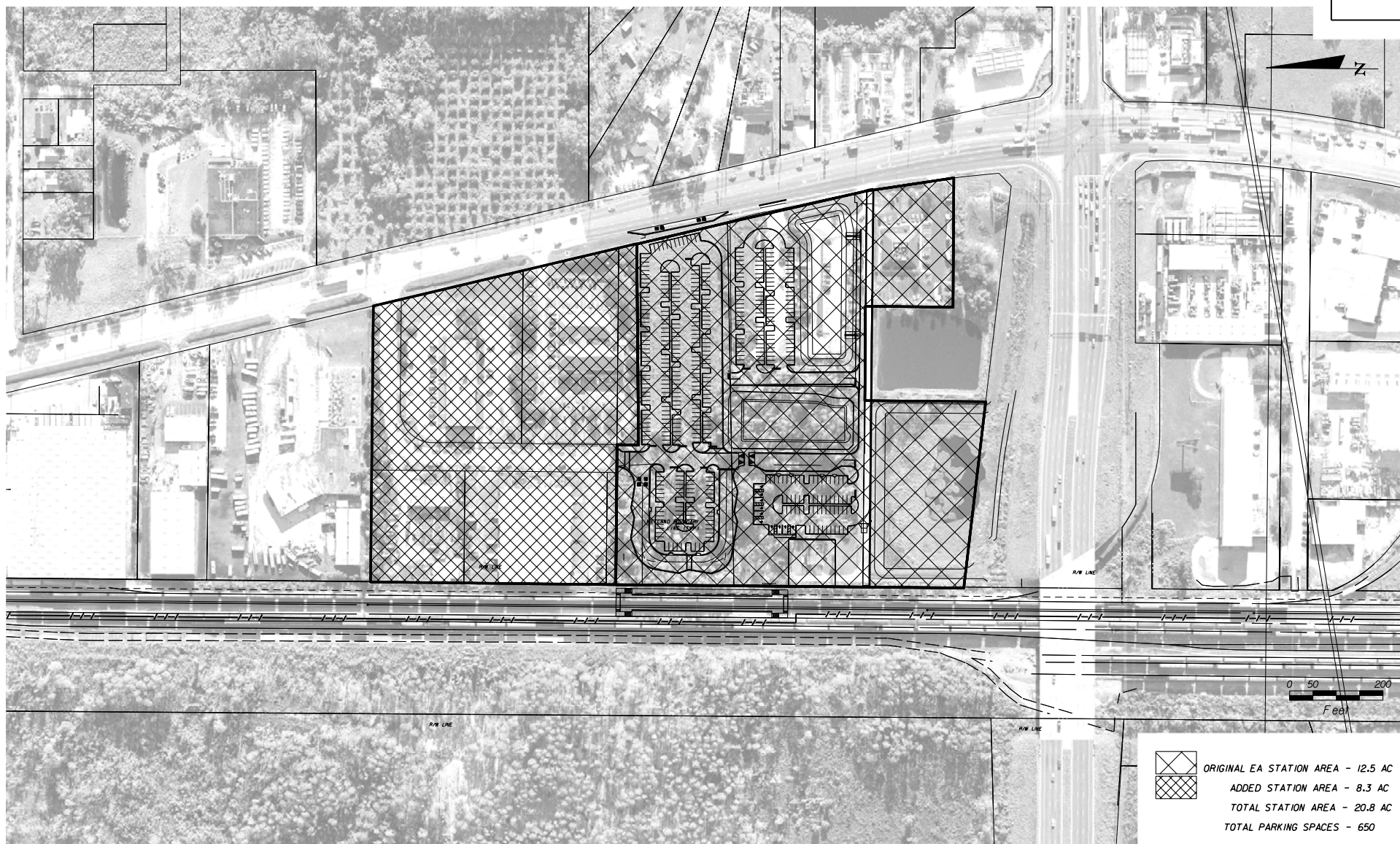
REVISIONS				TRANSPORTATION <b>AECOM</b> AECOM TECHNICAL SERVICES, Inc. 30 South Keller Rd., Suite 500 Orlando, FL 32810 T 407.680.1718 F 407.680.0250 Certificate of Authorization No. 8115 www.aecom.com	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			CENTRAL FLORIDA COMMUTER RAIL TRANSIT 2009 SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT <b>ALTAMONTE SPRINGS</b> <b>CONCEPT SKETCH</b>	SHEET NO.  A-3
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SUNRAIL	SEMINOLE	412994-3-32-01		



## Altamonte Springs Station



**A-4 - Altamonte Springs Station – Existing and Future Land Use Map**



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CENTRAL FLORIDA COMMUTER RAIL TRANSIT  
 2009 SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

**SAND LAKE ROAD  
 CONCEPT SKETCH**

SHEET  
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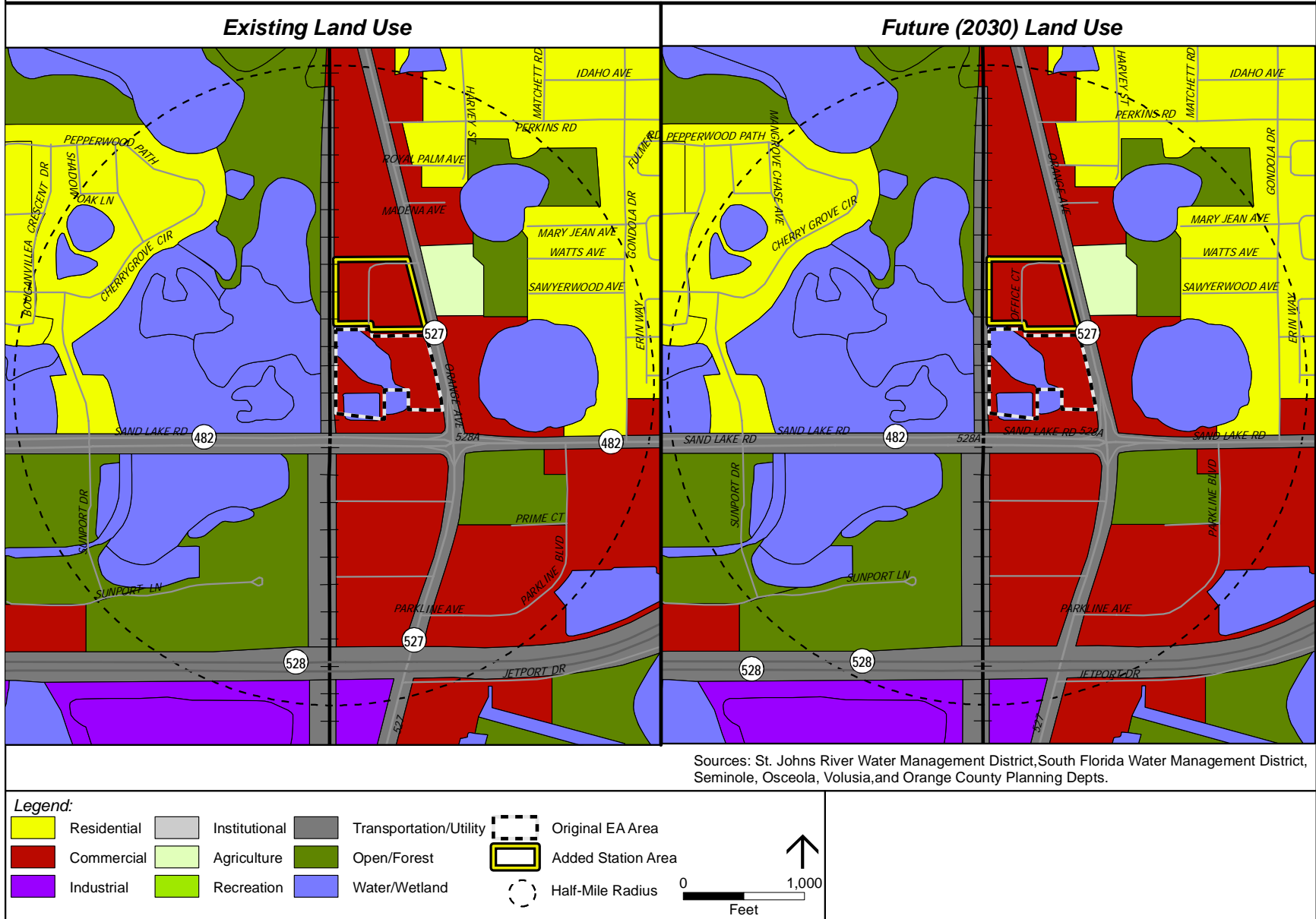
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## Sand Lake Road Station



**A-6 – Sand Lake Road Station – Existing and Future Land Use Map**

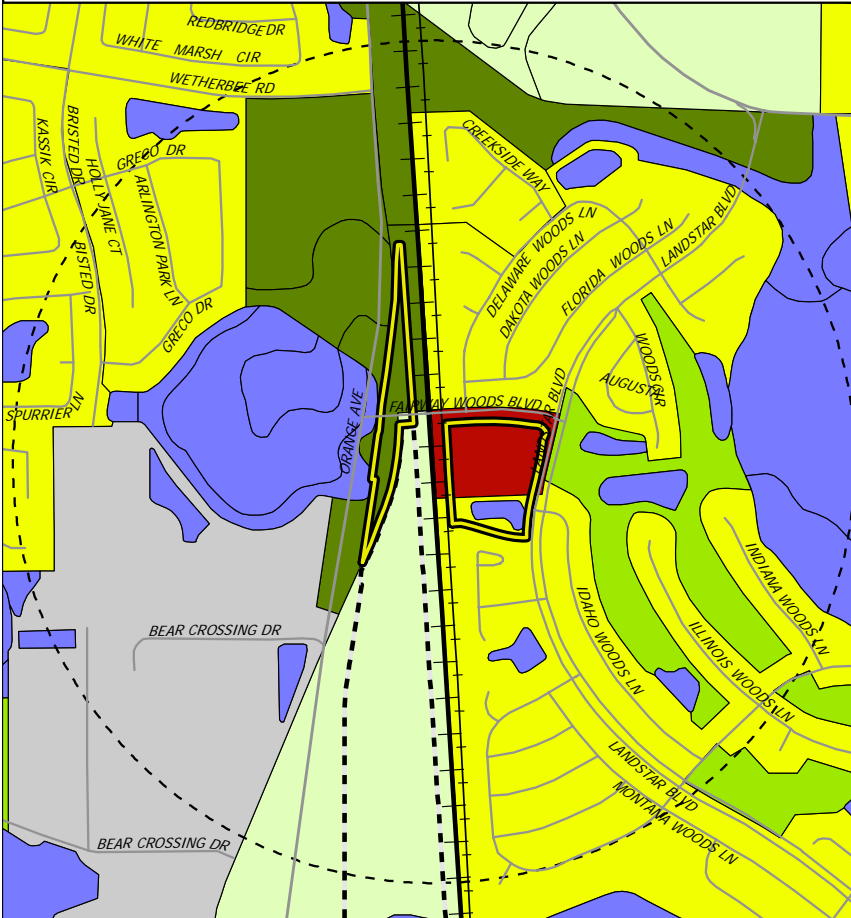




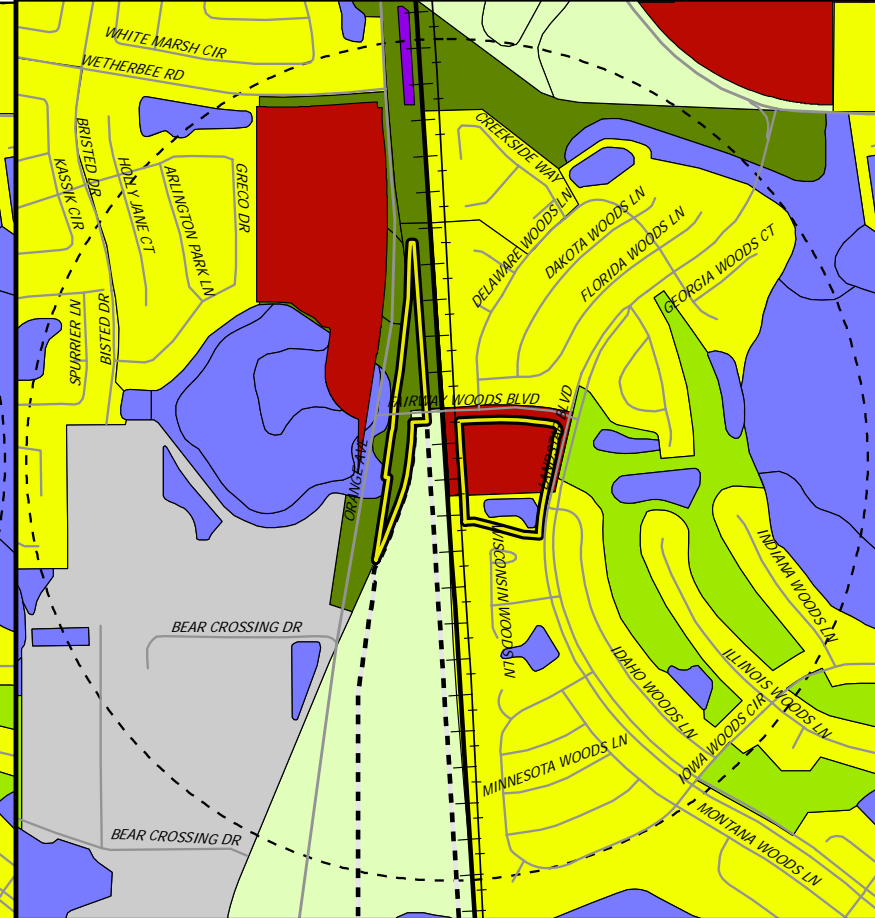
REVISIONS				TRANSPORTATION AECOM TECHNICAL SERVICES, Inc. 30 South Keller Rd., Suite 500 Orlando, FL 32810 T 407.680.1718 F 407.680.0250 Certificate of Authorization No. 8115 www.aecom.com	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			CENTRAL FLORIDA COMMUTER RAIL TRANSIT 2009 SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT <b>MEADOW WOODS</b> <b>CONCEPT SKETCH</b>	SHEET NO. A-7
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SUNRAIL	ORANGE	412994-3-32-01		

## Meadow Woods Station

### Existing Land Use

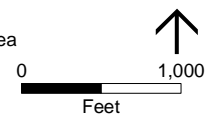
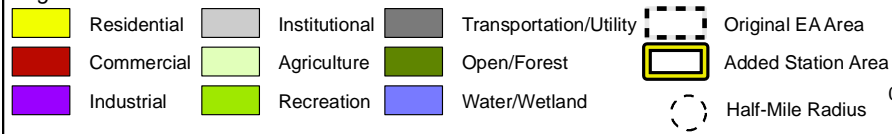


### Future (2030) Land Use



Sources: St. Johns River Water Management District, South Florida Water Management District, Seminole, Osceola, Volusia, and Orange County Planning Depts.

#### Legend:



A-8 – Meadow Woods Station – Existing and Future Land Use Map



ORIGINAL EA STATION AREA - 7.8 AC  
 ADDED STATION AREA - 32.2 AC  
 TOTAL STATION AREA - 40.0 AC  
 TOTAL PARKING SPACES - 200

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SUNRAIL	OSCEOLA	412994-3-32-01

CENTRAL FLORIDA COMMUTER RAIL TRANSIT  
 2009 SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT  
**OSCEOLA PARKWAY**  
**CONCEPT SKETCH**

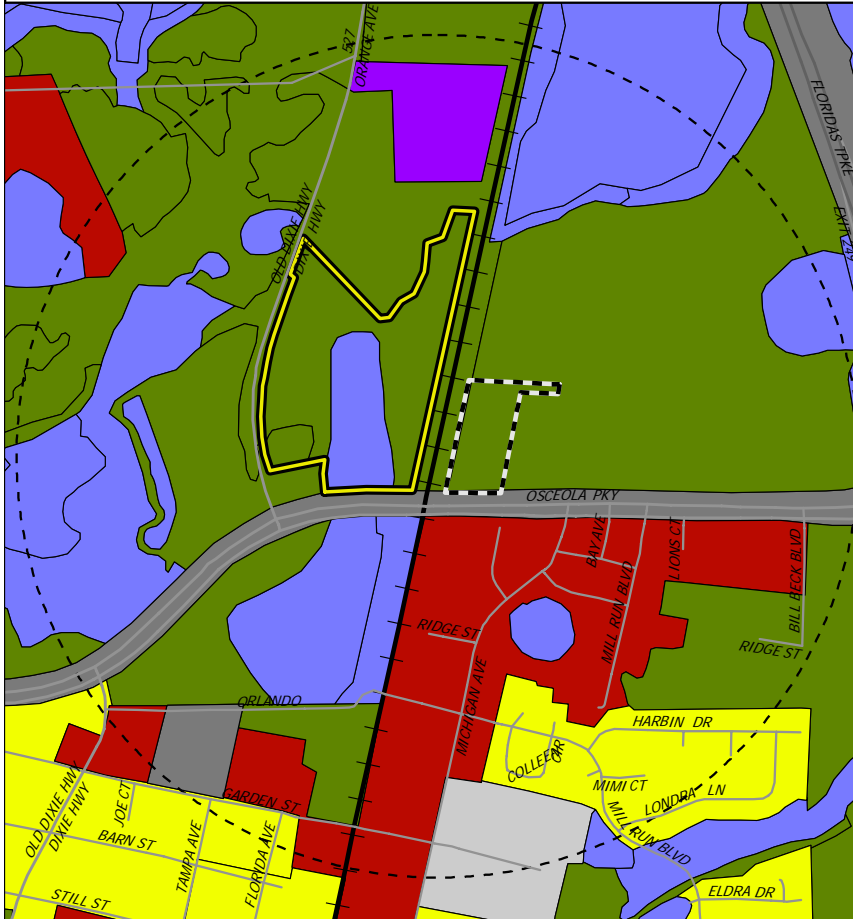
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A-9

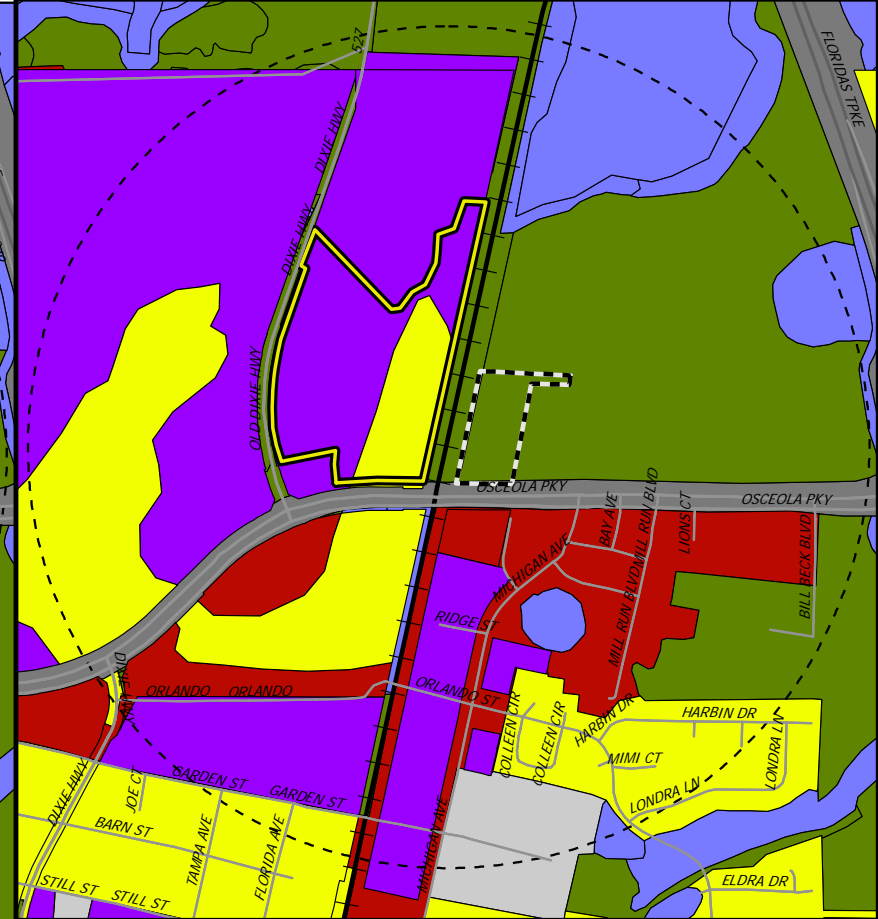


## Osceola Parkway Station

**Existing Land Use**

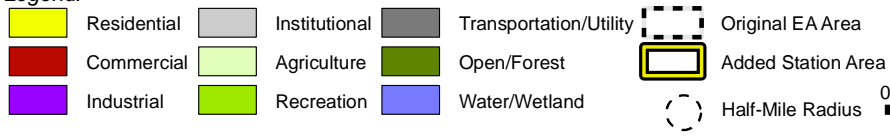


**Future (2030) Land Use**



Sources: St. Johns River Water Management District, South Florida Water Management District, Seminole, Osceola, Volusia, and Orange County Planning Depts.

**Legend:**



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Feet

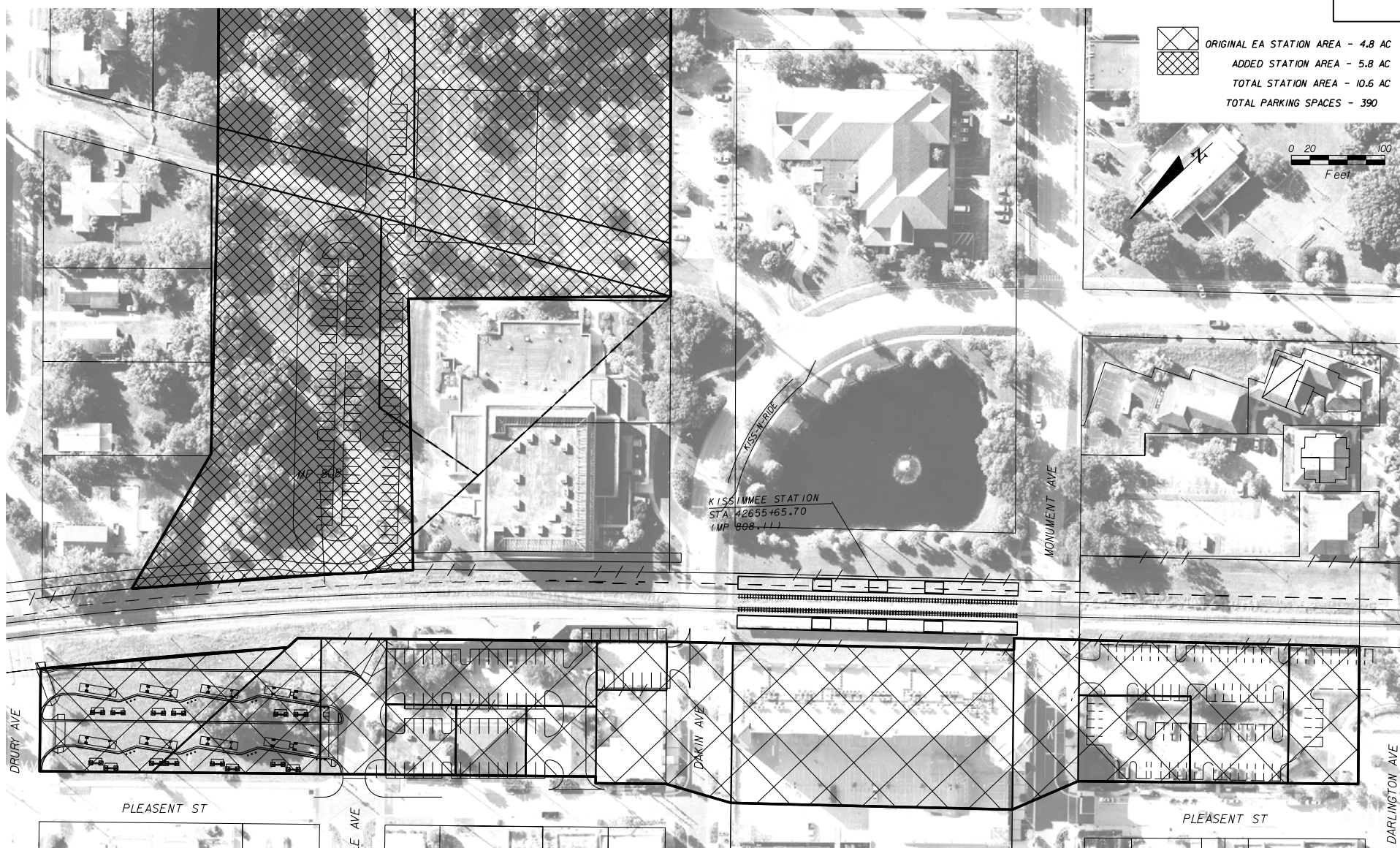
**A-10 – Osceola Parkway Station – Existing and Future Land Use Map**

DRAWING NO.



ORIGINAL EA STATION AREA - 4.8 AC  
 ADDED STATION AREA - 5.8 AC  
 TOTAL STATION AREA - 10.6 AC  
 TOTAL PARKING SPACES - 390

0 20 100  
 Feet



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SUNRAIL	ORANGE	412994-3-32-01

CENTRAL FLORIDA COMMUTER RAIL TRANSIT  
 2009 SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT  
**KISSIMMEE**  
**CONCEPT SKETCH**

SHEET  
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A-II

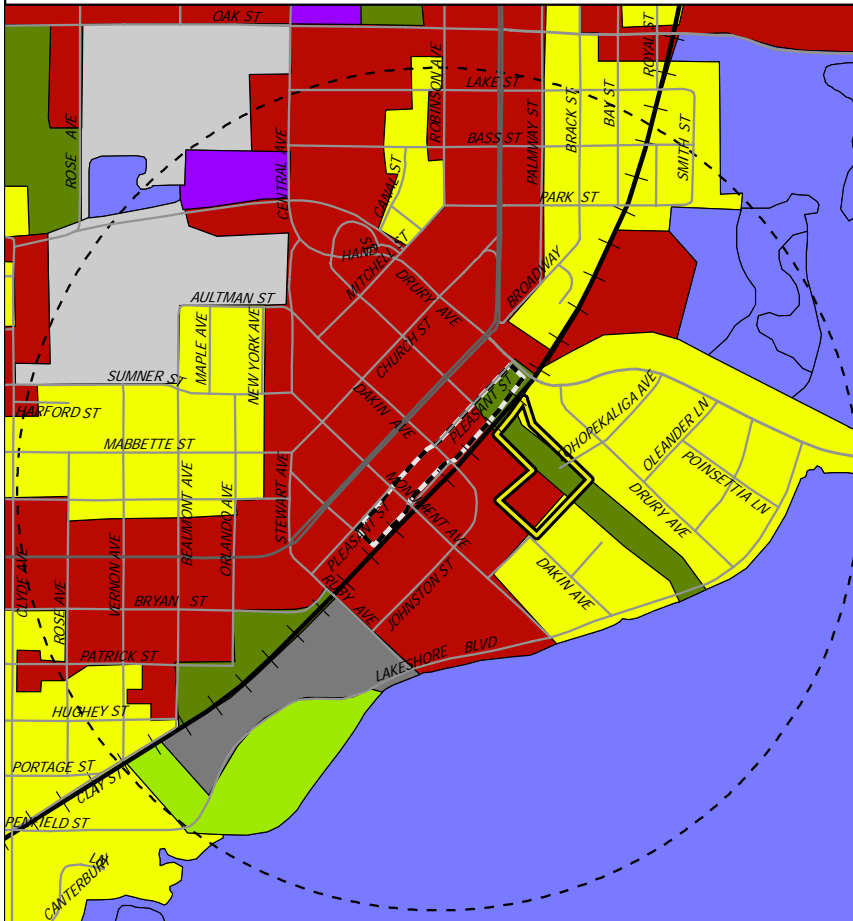
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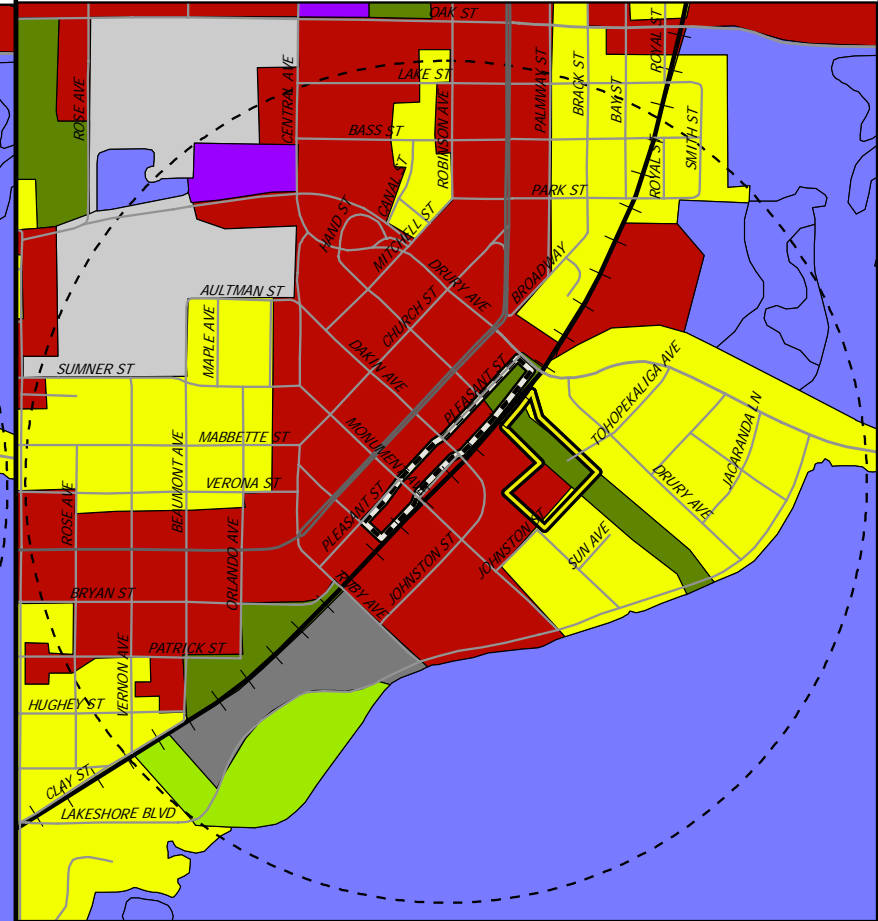
M:\82063\CADD\EA\PH2\roadway\PLANS\PH6 Kissimmee concept 09007.dgn

# Kissimmee Amtrak Station

## Existing Land Use

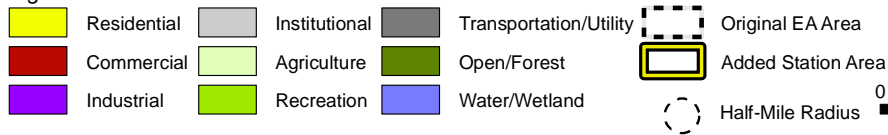


## Future (2030) Land Use



Sources: St. Johns River Water Management District, South Florida Water Management District, Seminole, Osceola, Volusia, and Orange County Planning Depts.

### Legend:



0 1,000  
Feet

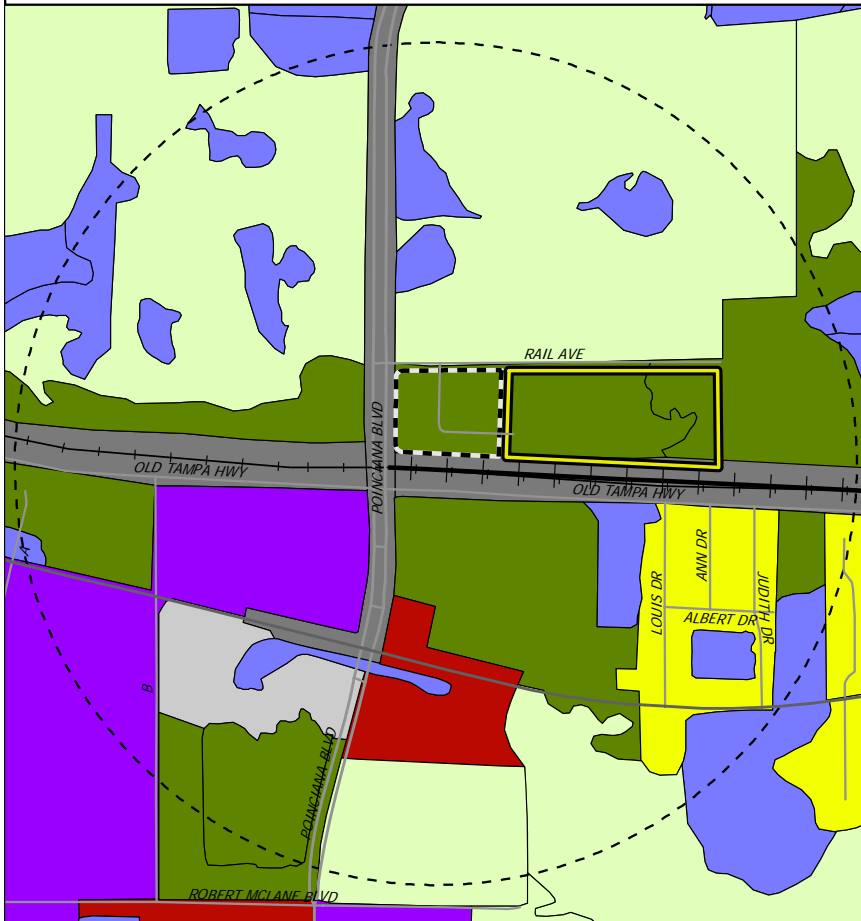
A-12 – Kissimmee Amtrak Station – Existing and Future Land Use Map



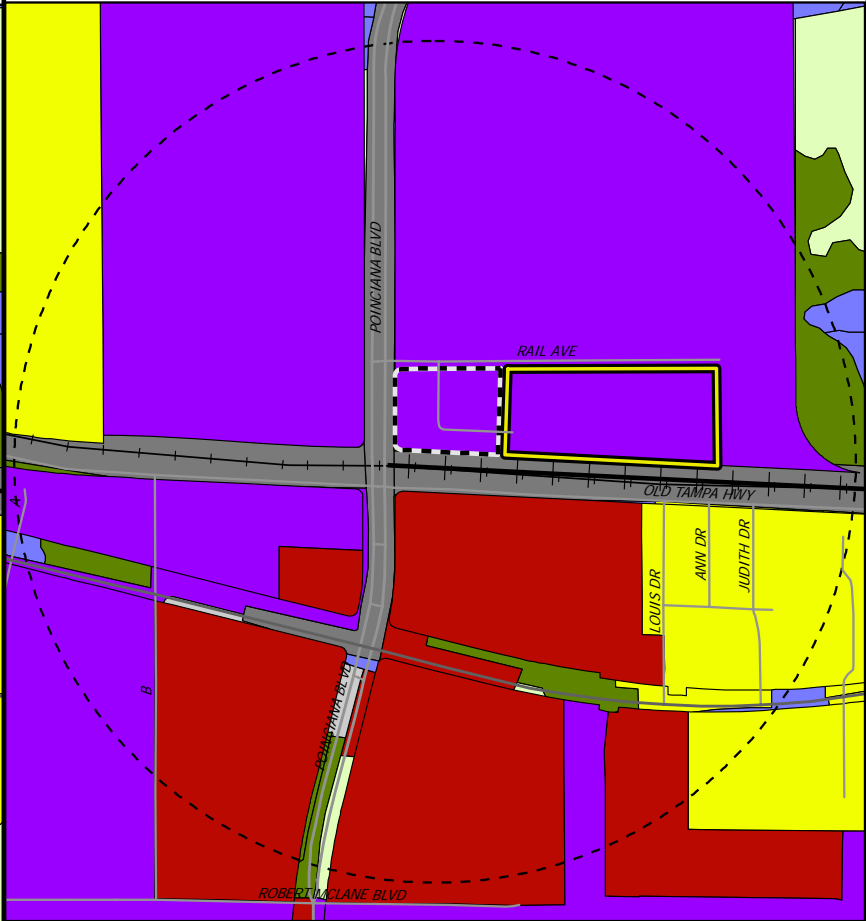


## Poinciana Industrial Park Station

**Existing Land Use**

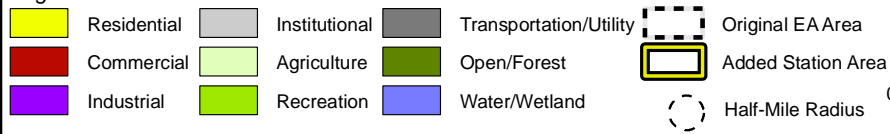


**Future (2030) Land Use**



Sources: St. Johns River Water Management District, South Florida Water Management District, Seminole, Osceola, Volusia, and Orange County Planning Depts.

**Legend:**



0 1,000  
Feet







**A-14 – Poinciana Industrial Park Station – Existing and Future Land Use Map**









## **Appendix B**

### **B-1 Contamination Screening Evaluation Report (CSER)**

## 61-mile/17 station Commuter Rail System Map

-  Stations
-  Parking Provided
-  Maintenance Facility Option
-  Layover Facility Option
-  Phase 1 Commuter Rail Alignment
-  Phase 2 Commuter Rail Alignment

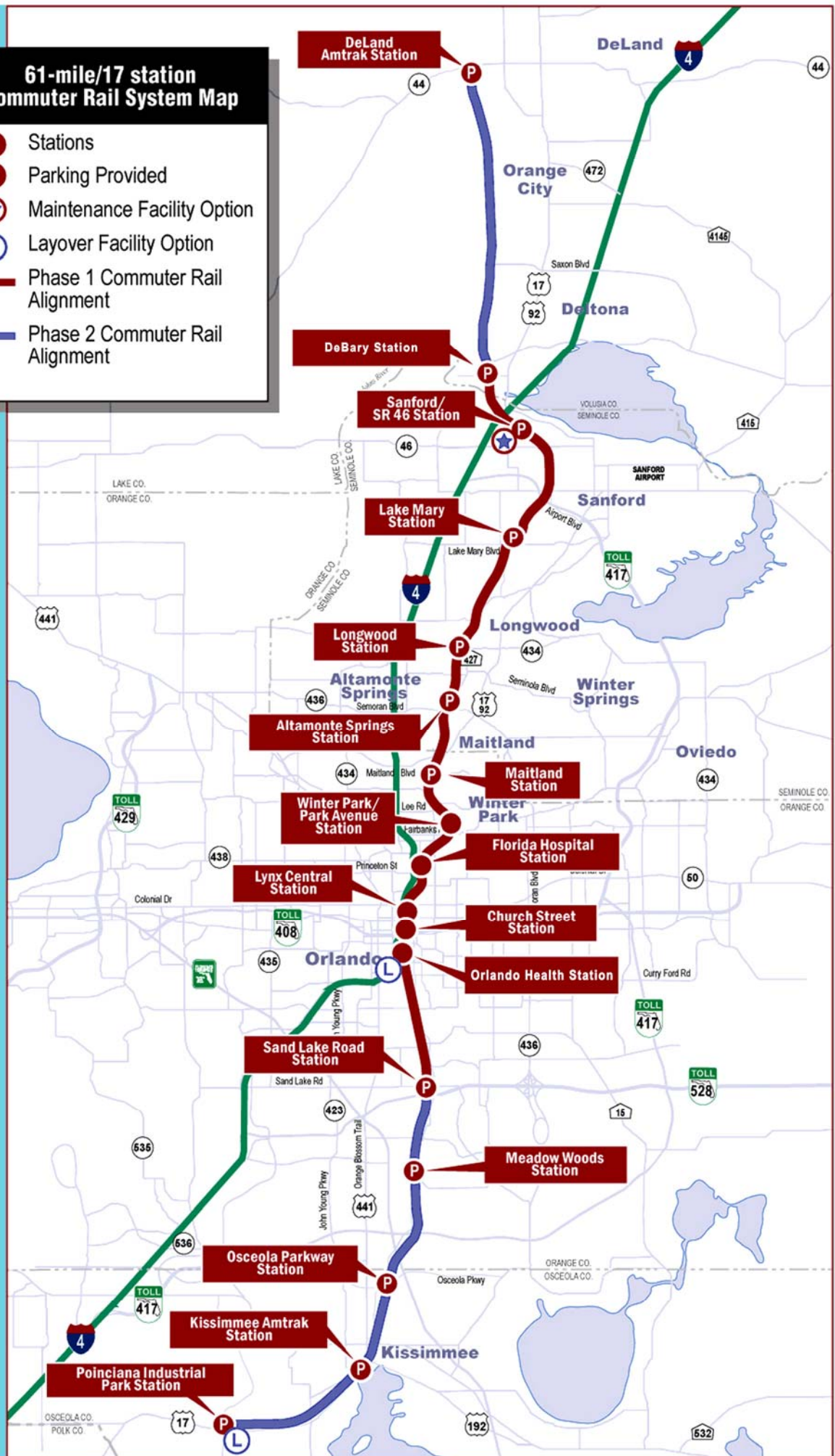
- ## 61-mile/17 station Commuter Rail System Map
-  Stations
  -  Parking Provided
  -  Maintenance Facility Option
  -  Layover Facility Option
  -  Phase 1 Commuter Rail Alignment
  -  Phase 2 Commuter Rail Alignment



# Central Florida Commuter Rail Transit

# Contamination Screening Evaluation Report Second Addendum

# November 2009



**Contamination Screening  
Evaluation Report Second Addendum**

**Central Florida Commuter Rail Transit Project (SunRail)  
Modifications to Proposed DeLand, Altamonte Springs, Sand Lake Road,  
Meadow Woods, Osceola Parkway, Kissimmee, and Poinciana Stations in  
Volusia, Seminole, Orange, and Osceola Counties**

PREPARED FOR:

**AECOM and  
Florida Department of Transportation -  
District 5**

**Statement of Professional Review**

This report has been reviewed and the engineering contained herein has been found to conform to commonly accepted procedures consistent with applicable standards of practice. No guarantee or warranty is expressed or implied.

  
Thomas J. Mulligan, P.E.  
Senior Environmental Engineer  
Florida License No. 55660

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- D: FSTC Database Reports
- E: Sanborn Fire Insurance Maps

# **Central Florida Commuter Rail Transit Project (SunRail)**

## **EXECUTIVE SUMMARY**

Geotechnical and Environmental Consultants, Inc. (GEC) was retained by AECOM on behalf of the Florida Department of Transportation (FDOT), to provide a Contamination Screening Evaluation Report Addendum (CSERA) to address modifications to seven proposed commuter rail passenger station site plans and includes the DeLand Station, Altamonte Springs Station, Sand Lake Road Station, Meadow Woods Station, Osceola Parkway Station, Kissimmee Station, and Poinciana Station. The purpose of this CSERA is to re-evaluate conditions where the station limits have been modified from the original configurations investigated during the initial CSER prepared in April 2006 and the CSERA prepared in August 2007.

Since this study is an addendum to previous CSER investigations, each station location was evaluated in general accordance with the Chapter 22 of the FDOT Project Development and Environment (PD&E) Manual, dated December 2003, without duplicating aspects previously conducted during the CSER studies for the commuter rail mainline (conducted in part by others) and the commuter rail passenger stations. Where applicable, information from previous investigations is summarized in this report. In areas where significant portions of land are located outside of the study areas of either the previous mainline or station investigations, the general requirements of Chapter 22 have been followed.

There is a significant potential liability associated with acquisition of property that is contaminated. Additionally, contamination can have a significant impact on construction, particularly dewatering, since any contaminated groundwater that may be encountered would require treatment and special permitting. Contaminated soil would require special treatment and disposal and could not likely be used as fill. The purpose of this contamination screening evaluation was to evaluate the risk of encountering petroleum or hazardous substance contamination of soil, groundwater, surface water, or sediment in the vicinity of the station locations that could adversely affect property acquisition, permitting, and construction of this project.

In general accordance with the applicable definitions provided in the FDOT PD&E Manual, the proposed station locations were assigned **Low**-, **Medium**-, and **High**-contamination risk potential ratings. The CSERA data collection activities included a review of previous Level 1 CSER and Level 2 Contamination Impact Assessment Reports, publicly available regulatory files, a review of available historical data sources, and site reconnaissance of the project study area. The following presents the contamination risk potential ratings assigned to each proposed facility at this time.

- **DeLand Station - MEDIUM**
- **Altamonte Springs Station - MEDIUM**
- **Sand Lake Road Station - MEDIUM**
- **Meadow Woods Station – HIGH**
- **Osceola Parkway Station – LOW**
- **Kissimmee Station – MEDIUM**
- **Poinciana Station - LOW**

For locations classified as having a **Low** risk of contamination potential, it is recommended that this Contamination Screening Evaluation Report be updated for those sites prior to right-of-way acquisition and construction. The update should include a re-review of the public record to determine if any significant changes in status have occurred since this report was prepared.

For locations classified as having a **Medium**- or **High**- risk of contamination, further review into the Public Record, particularly with regard to any Contamination Assessment or Remedial Action Plans, which may be generated in the interim period between the date of this report and the date of property acquisition and construction, should be performed. For newly identified potential contamination sites that were not previously investigated for the mainline or station assessments, a preliminary soils screening evaluation including auger borings and Organic Vapor Analyzer (OVA) screening of soils, as well as soil and groundwater sampling and testing, should be performed to detect the presence of contaminants in soil or groundwater prior to acquisition of property, or initiation of construction activities.

If contaminated media are encountered, additional investigations may be necessary to implement mitigation activities required to support construction. Such activities may include design and operation of on-site groundwater treatment equipment, implementing special handling, characterization, and disposal procedures for contaminated soils, or implementation of engineering controls (slurry walls, infiltration trenches, etc.) to prevent affecting natural fate and transport of existing groundwater contaminant plumes.

# Central Florida Commuter Rail Transit Project

## 1 INTRODUCTION

### 1.1 Terms of Reference

Geotechnical and Environmental Consultants, Inc. (GEC) was retained by AECOM on behalf of the Florida Department of Transportation (FDOT), to provide a Contamination Screening Evaluation Report Addendum (CSERA) to address modifications to seven proposed commuter rail passenger station site plans and includes the DeLand Station, Altamonte Springs Station, Sand Lake Road Station, Meadow Woods Station, Osceola Parkway Station, Kissimmee Station, and Poinciana Station.

Since this study is an addendum to previous CSER investigations, each station location was evaluated in general accordance with the Chapter 22 of the FDOT Project Development and Environment (PD&E) Manual, dated December 2003, without duplicating aspects previously conducted during the CSER studies for the commuter rail mainline (conducted in part by others) and the commuter rail passenger stations. Where applicable, information from previous investigations is summarized in this report. In areas where significant portions of land are located outside of the study areas of either the previous mainline or station investigations, the general requirements of Chapter 22 have been followed.

### 1.2 Purpose

The purpose of this CSERA is to re-evaluate conditions where the station limits have been modified from the original configurations investigated during the initial CSER prepared in April 2006 and the CSERA prepared in August 2007. The scope of work to prepare this CSERA is based on discussions with AECOM personnel in October 2009.

The presence of soil, groundwater, surface water and/or sediment contamination or the existence of petroleum products or hazardous substances at acquisition sites can have a significant negative impact on the cost and schedule to complete this transit project. Additionally, liability concerns can be associated with obtaining contaminated real estate. As such, the purpose of the contamination screening evaluation presented herein is to identify: (i) potential implications associated with acquisition of potentially contaminated real estate, and (ii) negative impacts on construction-related activities.

### **1.3 General Methodology**

Since this study is an addendum to previous CSER investigations, each station location was previously evaluated utilizing specific procedures provided in Chapter 22 of the FDOT PD&E Manual, dated December 2003. Per approval of the FDOT District 5 District Contamination Impact Coordinator (DCIC), results of previous studies conducted by GEC and others were utilized herein so that evaluation efforts would not be duplicated. In areas where significant portions of land are located outside of the study areas of either the previous mainline or station investigations, certain aspects of the Chapter 22 procedures were utilized. A detailed summary of the scope and investigation procedures of this contamination screening evaluation is provided in **Section 3.0**.

The study area of each of the proposed station locations is defined as an area that extends approximately 300 feet from each side of each proposed station plan limit.

### **1.4 Report Organization**

This report presents the contamination screening evaluation findings, opinions, and subsequent recommendations for the revised station site plans. General information regarding the contamination screening evaluation activities, various existing conditions, and historical information has been segregated from parcel-specific information to minimize repetition of general project information.

The remainder of this report is organized as follows:

*Section 2.0: Parcel Information* - Provides general information regarding the seven station locations evaluated during this project. A summary of previous investigations conducted for each station is also provided in this section.

*Section 3.0: Investigation Methodology* - Summarizes the purposes and methodologies of the various tasks conducted as part of the contamination screening evaluation activities.

*Section 4.0: Definitions* - Defines various terms and reports usually associated with contaminated properties and the regulatory agencies that oversee such properties.

*Section 5.0: Contamination Risk Potential Rating System* - Presents the FDOT contamination risk rating system utilized for this report.

*Section 6.0: Findings, Opinions, and Contamination Risk Potential Ratings* - This section presents the Contamination Risk Potential Ratings assigned to each station location. Public



record review information, observations made during reconnaissance of each parcel, and historical data review information are presented in this section as applicable for each site.

*Section 7.0: Conclusions and Recommendations* - Provides a summary of the assigned risk ratings and presents parcel-specific recommendations for the four amendment locations.

*Section 8.0: Report Limitations* - Presents specific limitations associated with the evaluation activities and results presented herein.

*Section 9.0: References* - Lists the previously prepared reports referenced in this investigation.

## **2 PARCEL INFORMATION**

### **2.1 Overview**

This CSERA includes the evaluation of seven station locations with modified limits that were evaluated previously as part of the Central Florida Commuter Rail Transit Project.

This CSERA includes the proposed stations as follows:

- DeLand Station
- Altamonte Springs Station
- Sand Lake Road Station
- Meadow Woods Station
- Osceola Parkway Station
- Kissimmee Station
- Poinciana Station

The station locations and approximate limits are shown on **Figures 1 through 7** in **Appendix A**.

### **2.2 Previous Investigations**

As stated in **Section 1.0**, previous investigations conducted by GEC and others were used as a basis for this CSERA.

GEC prepared a CSER for the initial acquisition of 16 passenger stations and one maintenance facility. The CSER is titled "*Contamination Screening Evaluation Report for the*

*Central Florida Commuter Rail Transit Project – Volusia, Seminole, Orange and Osceola Counties, Florida*” and dated April 2006. This report should be referenced for information regarding the initial station configurations as well as certain hydrogeologic and historical land use information for the seven proposed station locations addressed herein.

In August 2007, GEC also prepared a Contamination Screening Evaluation Report Addendum for the modification of two proposed station layouts (Longwood Station and Altamonte Springs Station), and for two additional stations not previously investigated (Fort Florida Road Station and Maitland Station). This report should be referenced for additional information regarding potential contamination sites in the area of the Altamonte Springs Station.

Contamination Screening Evaluations were separately conducted in 2006 and 2007 for the entire 61-mile length of the Commuter Rail Mainline. GEC and Nodarse & Associates, Inc. (N&A) were contracted by WRScompass (WRS) to conduct contamination screening evaluations for ten track segments [A(1) through J(10)]. The study area for the mainline investigations extended 300 feet from existing CSX mainline right-of-way and although it did not include the proposed passenger station site plans, portions of each passenger station footprint fell within the study area [Deland Station in segment A(1), Altamonte Springs Station in segment F(6), Sand Lake Road Station in segment H(8), Meadow Woods Station in segment I(9), Osceola Parkway, Kissimmee, and Poinciana Stations in segment J(10)]. The CSERs for those track segments should be referenced for certain hydrogeologic, public record, and historical land use information and are included herein by reference.

A CSER was prepared by WRS for the DeLand Spur in November 2008. All modified portions of the current DeLand Station site plan are located within the study area for this CSER. The CSER for the DeLand Spur should be referenced for certain hydrogeologic, public record, and historical land use information and is included herein by reference.

Level 2 Contamination Impact Assessments were conducted by GEC in 2007 and 2008 on various properties within the station footprints for the Initial Operating Segment (Ft. Florida Road Station, Sanford SR 46 Station, Lake Mary Station, Longwood Station, Altamonte Springs Station, Church Street Station, Orlando Amtrak/ORMC Station, and Sand Lake Road Station). Summaries of the results of Level 2 investigations conducted on properties relevant to the Altamonte Springs and Sand Lake Road Stations are included in **Section 6.0** of this report. The Level 2 Assessment reports should be referenced for full documentation of assessment activities and are included herein by reference.

Level 2 Contamination Impact Assessments were conducted in 2007 by WRS, GEC, and N&A on selected properties along the right-of-way of the 61-mile length of the Commuter Rail Mainline. Summaries of the results of Level 2 investigations conducted on properties

relevant to the seven stations listed in Section 2.1 are included in **Sections 6.0 and 7.0** of this report. The Level 2 Assessment reports should be referenced for full documentation of assessment activities and are included herein by reference.

The following sections present specific details of the general investigation methodology conducted for the CSERA for each station.

### **3 INVESTIGATION METHODOLOGY**

As stated in **Section 1.3**, this study was performed in general accordance with the methodology described in Chapter 22 of the FDOT PD&E Manual, dated December 2003 without duplicating efforts of previous CSER studies. The following sections summarize each major task conducted as part of this evaluation. Specific limitations and references to other CSERs for each station with regard to data collection procedures and results are presented in this section.

#### **3.1 Historical Record Source Review**

Historical aerial photographs were not reviewed for all of the seven station locations. Historical aerial photographs were reviewed in the previous CSERs for both the mainline and station locations as indicated in **Section 2.2**. Aerial photographs were reviewed in this report only for potential contamination sites that were not identified in previous reports. Aerial photographs were reviewed along with property appraiser information to determine the date of site development and general land use.

Aerial photographs were reviewed at approximately the same intervals as reviewed in previous CSERs that addressed the same general locations. The results of aerial photograph reviews are summarized for individual sites in **Section 6.0**.

#### **3.2 Public Record Reviews**

For areas where significant portions of the station layout fall outside of previous study areas, GEC reviewed relevant information from the Florida Department of Environmental Protection (FDEP) and the United States Environmental Protection Agency (USEPA) to identify known or potential contamination sites within the study area, which is defined as an area that extends approximately 300 feet from each side of the proposed station limits.

GEC subcontracted a records review from FirstSearch Technology Corporation (FSTC) to supplement the reviews conducted for the Osceola Parkway and Poinciana Stations. GEC did not perform supplemental regulatory database reviews for the DeLand, Altamonte

Springs, Sand Lake Road, Meadow Woods, or Kissimmee Stations since the modified station limits were encompassed by previous investigations as described herein. The following sections identify the specific regulatory information sources reviewed for this evaluation for applicable station locations.

### **3.2.1 Florida Department of Environmental Protection (FDEP)**

The FDEP has compiled several database lists which are useful in identifying potential sources of soil and/or groundwater contamination within the study area. The FDEP database lists used for this study are listed below:

- State and Tribal NPL and CERCLIS Equivalent Sites – 0.25 mile.
- State and tribal lists of hazardous waste sites identified for investigation or remediation – 0.25 mile.
- State and tribal-equivalent NPL sites - 0.25 mile.
- State and tribal-equivalent CERCLIS – 0.25 mile.
- State and Tribal Landfill and Solid Waste Disposal Sites (State/Tribal SWL) – 0.25 mile.
- State and Tribal Registered Underground and Aboveground Storage Tanks (State/Tribal UST/AST) - 0.25 mile.
- State and Tribal Leaking Storage Tank lists (State/Tribal LUST) - 0.25 mile.
- State and Tribal Institutional Control/Engineering Control registries (State/Tribal IC/EC) - 0.25 mile.
- State and Tribal Voluntary Cleanup Sites (State/Tribal VCP) - 0.25 mile.
- State and Tribal Brownfield Sites (State/Tribal Brownfields) - 0.25 mile.
- No Further Remedial Action Plan Sites (NFRAP) – 0.25 mile.
- State Petroleum Contamination and Cleanup Report (State Spills 90) - 0.25 mile.
- State Permits - 0.25 mile.
- National Clandestine Laboratory Register (State Other) - 0.25 mile.

Information regarding the date the databases were last updated are included within the FSTC report summary provided in **Appendix D**. Descriptions of the above-listed Florida databases and information sources are also provided in the FSTC report.

### **3.2.2 United States Environmental Protection Agency (EPA)**

Various federal databases have also been compiled for identifying potential sources of hazardous materials contamination. The databases used for this evaluation include:

- Nuclear Permits - 0.25 mile.
- Federal Resource Conservation and Recovery Information System Sites (RCRA NLR)-0.25 mile.
- Federal Facility Index System Sites (FINDS) - 0.25 mile.
- Federal Toxic Release Inventory System Sites (TRIS) - 0.25 mile.
- Federal Hazardous Materials Incident Response System Sites (HMIRS) - 0.25 mile.
- Federal National Compliance Database Sites (NCDB) - 0.25 mile.
- Federal Database of PCB Handlers (PADS) - 0.25 mile.
- Federal Aerometric Information Retrieval System (AIRS) - 0.25 mile.
- Coal Gasification Sites - 0.25 mile.
- National Priority List Sites (NPL) Superfund sites – 0.25 mile.
- National Priority List for Delisted NPL Sites (NPL Delisted) – 0.25 mile.
- Federal Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) list – 0.25 mile.
- Federal CERCLIS No Further Remedial Action Plan (NFRAP) Site lists – 0.25 mile.
- Federal Resource Conservation and Recovery Act Corrective Action Sites (RCRA CORRACTS) facilities list – 0.25 mile.
- Federal RCRA non-CORRACTS Transportation, Storage, and Disposal Sites (RCRA non-CORRACTS TSD) facilities list - 0.25 mile.
- Federal RCRA Generators (RCRA GEN) - 0.25 mile.
- Federal Institutional Controls/Engineering Controls Registry (Federal IC/EC) - 0.25 mile.
- Federal Emergency Response Notification System Sites (ERNS) - 0.25 mile.
- DOCKET - 0.25 mile.
- Federal Other - 0.25 mile.
- Database of PCB Handlers (PADS) - 0.25 mile.
- Releases - 0.25 mile.
- Potentially Responsible Parties (SETS PRP) - 0.25 mile.
- National Pollution Discharge Elimination System Sites (NPDES) - 0.25 mile.
- Fire Insurance Map Coverage - 0.125 mile.

Information regarding the date the databases were last updated are included within the FSTC report provided in **Appendix D**. Descriptions of the above-listed federal databases and information sources are also provided in the FSTC report.

### 3.3 Site Reconnaissance

A GEC representative visited each parcel within the study area of each station to visually document existing conditions and evaluate the potential for hazardous materials or petroleum contamination of soil or groundwater within the study area of each parcel that could potentially impact the project. The study area at each location was visually inspected for evidence of contamination such as stressed vegetation, vent and fill pipes, accumulated areas of debris, evidence of buried materials, areas of soil staining, etc. For potential contamination sites that were previously identified, reconnaissance efforts were limited to recording significant changes from previously reported conditions.

Photographs taken during the site reconnaissance are included in the **Appendix C**. Details of the site reconnaissance conducted for each parcel are provided in **Section 6.0**.

## 4 DEFINITIONS

The following definitions apply to typical terms related to contamination sites:

Aboveground Storage Tank (AST) - A storage tank that is situated on the ground surface and may or may not be installed on a concrete pad with secondary spill containment.

Active Remediation (AR) - Implementation of an approved RAP.

Contamination - The presence of any material or chemical contained within the soil, surface water, sediment, or groundwater on or adjacent to the project corridor, that may require assessment, remediation, or special handling, or that has a potential for liability.

Contamination Risk Potential Rating (CRPR) – Site risk rating system defined in Chapter 22 PD&E Manual. Refer to Section 11.0 for further information.

Engineering Control (EC) - A modification to a site to reduce or eliminate the potential for migration of, and exposure to, contaminants of concern. Examples of ECs include slurry walls, sheet pile walls, and engineered liners to prevent exposure.

Hazardous Material - Any solid, liquid, or gas that has the potential to harm people, other living organisms, property, or the environment, either by itself or through interaction with other factors. Hazardous material may be radioactive, flammable, explosive, toxic, corrosive, biohazardous, an oxidizer, an asphyxiant, a pathogen, an allergen, or may have other characteristics that render it hazardous in specific circumstances. These materials may

threaten workers through occupational exposure and the general public in their homes, communities, and general environment. Exposure to these materials can occur near the site of generation, along the path of its transportation, or near their ultimate disposal sites. Hazardous materials are often subject to laws and regulations on the use and handling of such materials and may differ depending on the activity or status of the material.

Institutional Controls (IC) - A restriction on use of, or access to, a site to eliminate or minimize exposure to contaminants of concern. Examples of ICs include deed restrictions, use restrictions, or restrictive zoning.

Natural Attenuation Monitoring (NAM) - A means of conducting site rehabilitation in which natural degradation of media contaminants are monitored for extended periods of time provided that human health, public safety, and the environment are protected.

No Further Action with Conditions (CNFA) - No further assessment or remediation is required at a site provided that certain conditions are met as approved by the lead regulatory agency. Conditional No Further Actions can be granted to sites that employ ICs and/or ECs as part of the site rehabilitation strategy.

No Further Action without Conditions (NFA) - No further assessment or remediation is required at a site. No contaminants are present at the site above default or approved alternative clean-up standards.

Petroleum Products - Liquid crude oil derivatives that are derived by distillation, cracking, hydro forming and/or other petroleum refinery processes falling under the description of either "Gasoline Analytical Group," "Kerosene Analytical Group" or "Used Oil" as defined in Florida Administrative Code (FAC) 62-770.200(24), (29) and (64), respectively. These materials include, but are not limited to: leaded and unleaded gasoline, gasohol, aviation and jet fuels, diesel fuel, kerosene, new or used motor oil, hydraulic fluid, and gear oil.

Potential Hazardous Material or Petroleum Contamination Site - A potential hazardous material or petroleum contamination site is a parcel of land upon which hazardous materials or petroleum products are produced, stored, accumulated, used, or disposed of. These sites typically include existing or former gasoline stations, dry cleaners, auto repair facilities, and other businesses where hazardous substances or petroleum product are present. The presence of hazardous substances and/or petroleum products does not mean that contamination is present, but merely indicates that the potential for contamination exists if the materials are not handled or disposed of properly.

Remedial Action Plan (RAP) - A plan that details a means by which contamination may be cleaned up.

Site Assessment Report (SAR) - Summarizes all tasks that were implemented pursuant to the Contamination Assessment.

Site Rehabilitation Complete Report (SRCR) - A report that describes that cleanup goals have been met.

Site Rehabilitation Completion Order (SRCO) - An order issued by the lead regulatory agency that approves the SRCR. No further assessment or remediation activities need to be conducted at the site once a SRCO has been issued unless a new release is discovered.

Source Removal (SR) - The removal of free petroleum product or excessively contaminated soil.

Underground Storage Tank (UST) - A storage tank that has been installed below the ground surface that may or may not contain secondary containment or leak detection systems.

## **5 CONTAMINATION RISK POTENTIAL RATING SYSTEM**

After reviewing previously reported information, environmental database information, and performing the site reconnaissance, GEC assigned a Contamination Risk Potential Rating (CRPR) to on- and off-site facilities that were identified as having a potential risk of affecting environmental media (soil, groundwater, surface water or sediment) quality at the station locations. GEC then assigned a CRPR to each station location.

Please note that the CRPR is based on previously reported conditions or conditions as identified during the site reconnaissance and may not reflect conditions which may exist in the future. In cases where a the CRPR assigned to a site was not consistent in previous CSERs, the most conservative rating given is used. Also, original CRPRs have not been modified to reflect the results of any Level 2 investigation activities that may have been conducted.

The Contamination Risk Potential Rating system used was developed by FDOT (Chapter 22 PD&E Manual, dated December 2003) and can be generally defined as the following four categories:

1. No Risk Site - 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 property; however, all information (FDEP and USEPA reports,



monitoring wells, water and soils samples, etc.) indicate problems should not be expected. Examples of site operations that received this rating are:

- A. A gas station that has been closed and has a Closure Assessment or Contamination Assessment documenting that there is no soil or groundwater contamination.
  - B. A wholesale or resale outlet that handles hazardous materials in sealed containers which are never opened while at this facility, such as spray cans of paint at a "drug store."
2. Low Risk Site - The former or current site operation has a hazardous waste generator identification (ID) number, deals with hazardous materials, or stores petroleum products; however, based on available information, there is no evidence there would be any contamination encountered. This is the lowest possible rating a gasoline station operating within current regulations could receive. This rating would also be applied to a retail hardware store which blends paint.
  3. Medium Risk Site - After a review of all available information, indications are found (reports, Notice of Violations, consent orders, etc.) that identify known soil and/or groundwater contamination but that the problem does not need remediation, is being remediated (i.e., air stripping of the groundwater, etc.) or that continued monitoring is required. The complete details of the nature and extent of contamination and remediation requirements are important to determine what impact the site could have on design or construction of the roadway improvements. We would also include in this category any site that may not have identified contamination, but there is a significant potential that contamination impacts could exist.
  4. High Risk Site - After a review of all available information, there is a strong potential for the site to have contamination problems. Further assessment will be required to determine the actual presence and/or levels of contamination, the presence of abandoned underground fuel storage tanks, and the need for remedial action. Properties that were previously used as gasoline stations with the exception of but have not been evaluated or assessed would receive this rating.

The locations of all ranked sites are shown on **Figures 1 through 7 in Appendix A**. Specific recommendations with regard to the potential for impacts associated with each of the proposed station locations are presented in **Section 7.0**.

## **6 FINDINGS, OPINIONS AND CONTAMINATION RISK POTENTIAL RATINGS**

This section provides a summary of the site-specific findings for the seven station sites. Based on reviews of historical data sources and public record files as well as reconnaissance of the subject parcels, GEC has assigned a CRPR to each parcel. The CRPRs are defined in **Section 5.0** of this report. **Table 1 in Appendix B** provides a listing of the potential contamination sites and the corresponding CRPRs. The CRPRs assigned to all ranked facilities, and the proposed station locations are shown on **Figures 1 through 7 in Appendix A**. Not discussed in this report are properties that have been historically undeveloped land, are associated only with residential use and do not appear to pose a contamination risk, or are professional/commercial establishments that are not associated with hazardous materials or petroleum products.

### **6.1 DeLand Station**

#### ***Previous Report Review***

GEC reviewed previous reports prepared by WRS and N&A for this proposed station location. The reports reviewed are as follows:

- "Contamination Screening Evaluation Report for the Central Florida Commuter Rail Transit Project, Volusia, Seminole, Orange and Osceola Counties". Geotechnical and Environmental Consultants, Inc., April 2006.
- "Level I Assessment Contamination Screening Evaluation Report, Central Florida Commuter Rail Transit Project – Track Segment A(1), Volusia County". Nodarse & Associates, Inc., February 2007.
- "Level I Assessment Contamination Screening Evaluation Report, Central Florida Commuter Rail Transit Project – DeLand Spur, Volusia County". WRScompass, November 2008.
- "Level II Site Assessment Report, Central Florida Commuter Rail Transit Project – Site A(1)-5 Historical Gas Station, Volusia County". Nodarse & Associates, September 2007.

No significant portions of the current study area fall outside of the study areas included in the previous reports.

### ***Site Reconnaissance***

On November 6, 2009, a representative of GEC performed a site reconnaissance of the proposed DeLand Station location. The purpose of the reconnaissance was to identify and evaluate any potential contamination sites that were not identified during previous investigations and record significant changes from previously reported conditions. The proposed station location currently consists of the current DeLand Amtrak train station and historically undeveloped land. One additional potential contamination site was identified during site reconnaissance activities.

### ***Contamination Risk Potential Ratings***

The results of GEC's data collection activities revealed one additional potential contamination site in the vicinity of the proposed DeLand Station location. All potential contamination sites are presented below, with the previously identified potential contamination sites listed first.

**Site No. A(1)-3 Cole Brothers – Clyde Beatty Circus Facility, 2505 Old New York Avenue.** This site was assigned a CRPR of MEDIUM in the February 2007 CSER for the CSX Mainline and was not identified in the April 2006 CSER for the station locations or the November 2008 CSER for the DeLand Spur. No Level 2 Contamination Impact Assessment activities have been performed.

**Site No. A(1)-4 DeLand Amtrak Station, 2491 Old New York Avenue.** This site was assigned a CRPR of NO in the February 2007 CSER for the CSX Mainline, a CRPR of NO in the November 2008 CSER for the DeLand Spur (Site No. DEL-2) and was not identified in the April 2006 CSER for the station locations.

**Site No. 1 Historic Gas Station, 2502 Old New York Avenue.** This site was assigned a CRPR of HIGH in the April 2006 CSER for the station locations, a CRPR of HIGH in the February 2007 CSER for the CSX Mainline (Site No. A(1)-5), and a CRPR of HIGH in the November 2008 CSER for the DeLand Spur (Site No. DEL-1). Level 2 Contamination Impact Assessment activities were conducted along the northern and eastern property boundaries in July 2007. Soil collected did not exhibit chemical constituents above FDEP Soil Target Cleanup Levels. Groundwater collected exhibited benzene and total xylenes above their respective FDEP Groundwater Target Cleanup Levels.

**Site No. A(1)-6 Auto Repair Shop, 2532 ½ Old New York Avenue.** This site was assigned a CRPR of LOW in the February 2007 CSER for the CSX Mainline and was identified as the same site as the historic gas station in the 2008 CSER for the DeLand Spur (Site No. DEL-1).

**Site No. A(1)-7 Hanson Pipe & Precast, 840 West Avenue.** This site was assigned a CRPR of LOW in the February 2007 CSER for the CSX Mainline and a CRPR of HIGH in the November 2008 CSER for the DeLand Spur (Site No. DEL-4). No Level 2 Contamination Impact Assessment activities have been performed.

**Site No. DEL-3 Florida Contracting Company, 2460 Old New York Avenue.** This site was not identified in the February 2007 CSER for the CSX Mainline or the April 2006 CSER for the station locations, and was assigned a CRPR of MEDIUM in the November 2008 CSER for the DeLand Spur. The site was under construction at the time of the 2008 CSER and has since been completed. The property consists of one office/warehouse structure with a paved lot and has been vacant since completion of construction in 2008. No Level 2 Contamination Impact Assessment Activities have been performed.

**Site No. ADD-1 Joe Mills Septic Tank Service, 770 West Avenue (Site reconnaissance).** This site is located to the southeast of the proposed station location, adjacent to the north of Hanson Pipe & Precast. The facility currently operates as a septic tank service. One large AST was observed on site. The AST is used to store septic waste collected by the vacuum trucks. Several trucks were observed parked on an unpaved portion of the property. No violations or discharges have been reported for this facility. No evidence of soil staining, stressed vegetation, or buried debris was observed. Photograph 1 in **Appendix C** shows the general site conditions. This site has been assigned a CRPR of LOW.

Due to the lack of Level 2 Assessment activity at many identified sites to evaluate the potential for contamination, the **DeLand Station** is assigned a CRPR of **MEDIUM**.

## **6.2 Altamonte Springs Station**

### ***Previous Report Review***

GEC reviewed previous reports prepared by N&A and GEC for this proposed station location. The reports reviewed are as follows:

- “Contamination Screening Evaluation Report for the Central Florida Commuter Rail Transit Project, Volusia, Seminole, Orange and Osceola Counties”. Geotechnical and Environmental Consultants, Inc., April 2006.

- “Contamination Screening Evaluation Report Addendum for the Central Florida Commuter Rail Transit Project, Proposed Fort Florida Road, Longwood, Altamonte Springs and Maitland Stations in Volusia, Seminole, and Orange Counties”. Geotechnical and Environmental Consultants, Inc., August 2007.
- “Level I Assessment Contamination Screening Evaluation Report, Central Florida Commuter Rail Transit Project – Track Segment F(6), Seminole County”. Nodarse & Associates, Inc., March 2007.
- “Level II Site Assessment Report, Central Florida Commuter Rail Transit Project – Site F(6)-6 Former Range Paving & Construction Company, Seminole County”. Geotechnical and Environmental Consultants, Inc., September 2007.
- “Level II Contamination Assessment Report, Central Florida Commuter Rail Transit Project, Altamonte Springs Station, Altamonte Springs, Seminole County, Florida”. Geotechnical and Environmental Consultants, Inc., December 2007.
- “Limited Contamination Assessment Report, Central Florida Commuter Rail Transit Project, Seminole Glass, 2741 Ronald Reagan Boulevard, Altamonte Springs, Seminole County, Florida”. Geotechnical and Environmental Consultants, Inc., June 2008.

A portion of the current proposed passenger station layout and study area is located outside of the study areas included in the previous reports. The eastern portion of the pond located in the residential area to the east of the CSX Mainline was not specifically included in the original historical record review. Due to the relatively minor portion of additional land, an environmental database search or historical record review was not conducted. Properties to the north and east of this area have been historically residential. Properties to the south of this area, along State Road 436, have been historically commercial. The commercial properties not identified in previous reports are discussed below.

### ***Site Reconnaissance***

On November 6, 2009, a representative of GEC performed a site reconnaissance of the proposed Altamonte Springs Station location. The purpose of the reconnaissance was to identify and evaluate any potential contamination sites that were not identified during previous investigations and record significant changes from previously reported conditions. The proposed station location currently consists of cleared previously commercial properties and

a US Postal Service hub west of the CSX Mainline, a storage lot east of the CSX Mainline, and a pond east of the CSX Mainline. Four additional potential contamination sites were identified during site reconnaissance activities.

### ***Contamination Risk Potential Rating***

The results of GEC's data collection activities revealed four additional potential contamination sites on and in the vicinity of the proposed Altamonte Springs Station location. All potential contamination sites are presented below, with the previously identified potential contamination sites listed first.

**Site No. 13 CITGO, 1000 E. State Road 436.** This site was assigned a CRPR of MEDIUM in the April 2006 CSER and August 2007 CSER Addendum for the station locations and a CRPR of MEDIUM in the March 2007 CSER for the CSX Mainline (Site No. F(6)-9). Level 2 Contamination Impact Assessment activities were conducted along the southern boundary of the proposed station location, north of State Road 436, in August 2007. Soil and groundwater samples collected did not exhibit chemical constituents above the FDEP Target Cleanup Levels.

**Site No. 14 Pep Boys, 1029 E. State Road 436.** This site was assigned a CRPR of LOW in the April 2006 CSER and August 2007 CSER Addendum for the station locations and a CRPR of MEDIUM in the March 2007 CSER for the CSX Mainline (Site No. F(6)-7). No Level 2 Contamination Impact Assessment activities have been performed.

**Site No. 15 Auto Body Service, 2777 Ronald Reagan Boulevard.** This site was assigned a CRPR of HIGH in the April 2006 CSER and August 2007 CSER Addendum for the station locations and was not identified in the March 2007 CSER for the CSX Mainline. Level 2 Contamination Impact Assessment activities were conducted on the property in August 2007. Soil and groundwater samples collected did not exhibit chemical constituents above the FDEP Target Cleanup Levels. This site has been razed in preparation of passenger station construction.

**Site No. 16 Driver Tire, 2751 Ronald Reagan Boulevard.** This site was assigned a CRPR of HIGH in the April 2006 CSER and August 2007 CSER Addendum and was not identified in the March 2007 CSER for the CSX Mainline. Level 2 Contamination Impact Assessment activities were conducted on the property in August 2007. Soil and groundwater samples collected did not exhibit chemical constituents above the FDEP Target Cleanup Levels. This site has been razed in preparation of passenger station construction.

**Site No. 17 Seminole Glass, 2741 Ronald Reagan Boulevard.** This site was assigned a CRPR of LOW in the April 2006 CSER and August 2007 CSER Addendum for the station locations and a CRPR of MEDIUM in the CSER for the CSX Mainline (Site No. F(6)-5). A Limited Contamination Assessment was performed in March of 2008. Vadose zone soil samples collected did not exhibit chemical constituents above FDEP Target Cleanup Levels. Groundwater sampling results indicated two separate groundwater contamination plumes that extend west under Ronald Reagan Boulevard, with the northern plume possibly extending north onto the adjacent property. This site has been razed in preparation of passenger station construction.

**Site No. 18 Altamonte Springs Public Works Facility, 225 Newbury Port Avenue.** This site was assigned a CRPR of MEDIUM in the April 2006 CSER for the station locations. Level 2 Contamination Impact Assessment activities conducted in August 2007 at Site No. 15 (Auto Body Service) and Site No. 16 (Driver Tire) did not indicate chemical constituents above the FDEP Target Cleanup Levels.

**Site No. 19 Sprint Florida, 972 1<sup>st</sup> Avenue.** This site was assigned a CRPR of LOW in the April 2006 CSER for the station locations.

**Site No. 20 Courtesy Towing, 117 Marker Street.** This site was assigned a CRPR of MEDIUM in the April 2006 CSER and August 2007 CSER Addendum for the station locations and was not identified in the March 2007 CSER for the CSX Mainline. Level 2 Contamination Impact Assessment activities were conducted on the property in August 2007. Although pentachlorophenol (a solvent constituent) was detected in soil above the FDEP Leachability Target Cleanup Level, groundwater samples did not exhibit chemical constituents above FDEP Target Cleanup Levels. This site has been razed in preparation of passenger station construction.

**Site No. F(6)-2 Mamie Weeks, 109 Station Street.** This site was assigned a CRPR of LOW in the March 2007 CSER for the CSX Mainline. The site is currently used as a storage lot for large roll-off dumpsters.

**Site No. F(6)-6 Former Range Paving, 1 N. Station Street.** This site was assigned a CRPR of MEDIUM in the March 2007 CSER for the CSX Mainline. Level 2 Contamination Impact Assessment activities were conducted along the western border of the property in July 2007. Soil and groundwater samples collected did not exhibit chemical constituents above the FDEP Target Cleanup Levels.

**Site No. ADD-2 United States Postal Service, 2721 Ronald Reagan Boulevard.**

Although this facility was discussed in Section 6.3 of the August 2007 CSER Addendum, it was not listed as a potential contamination site. The facility utilizes an emergency generator with a diesel fuel storage tank, which is located on the roof of the facility. No violations or discharges have been reported for this facility. As indicated in the June 2008 Limited Contamination Assessment Report, groundwater contamination from the Seminole Glass site (Site No. 17) may extend into the southwestern portion of this property. No evidence of soil staining, stressed vegetation, or buried debris was observed. Photograph 2 in **Appendix C** shows the general site conditions. This facility has been assigned a CRPR of MEDIUM.

**Site No. ADD-3 Bubbalou's Bar-BQ, 1049 E. State Road 436.** This site is located approximately 300 feet south of the station footprint, adjacent to the east of Pep Boys (Site No. 14). The facility is operating as a restaurant. No petroleum or hazardous materials, with the exception of cleaning products, are utilized. No violations or discharges have been reported for this facility. Aerial photographs indicate that the property has been developed since at least 1973. No evidence of soil staining, stressed vegetation, or buried debris was observed. Photograph 3 in **Appendix C** shows the general site conditions. This facility has been assigned a CRPR of LOW.

**Site No. ADD-4 Altamonte Veterinary Hospital, 1089 E. State Road 436.** This site is located approximately 300 feet south of the station footprint, adjacent to the east of Bubbalou's Bar-BQ (Site No. ADD-3). The facility is operating as a veterinary hospital. Hazardous substances such as medications are utilized at this facility. No violations or discharges have been reported for this facility. Aerial photographs indicate that this property has been developed since at least 1969. No evidence of soil staining, stressed vegetation, or buried debris was observed. Photograph 4 in **Appendix C** shows the general site conditions. This site has been assigned a CRPR of LOW.

**Site No. ADD-5 Travel Country, 1101 E. State Road 436.** This site located approximately 300 feet south of the station footprint, adjacent to the east of Altamonte Veterinary Hospital (Site No. ADD-4). This site is operating as an outdoor equipment retailer. Petroleum or hazardous substances in sealed containers may be sold at this facility. No violations or discharges have been reported for this facility. Aerial photographs indicate that this site has been developed since at least 1969, with the current structure on site since at least 1973. No evidence of soil staining, stressed vegetation, or buried debris was observed. Photograph 5 in **Appendix C** shows the general site conditions. This site has been assigned a CRPR of LOW.

Based on the presence of known contamination plumes on the former Seminole Glass site, the proposed **Altamonte Springs Station** is assigned a CRPR of **MEDIUM**.



### **6.3 Sand Lake Road Station**

#### ***Previous Report Review***

GEC reviewed previous reports prepared by WRS and GEC for this proposed station location. The reports reviewed are as follows:

- “Contamination Screening Evaluation Report for the Central Florida Commuter Rail Transit Project, Volusia, Seminole, Orange and Osceola Counties”. Geotechnical and Environmental Consultants, Inc., April 2006.
- “Level II Contamination Assessment Report, Central Florida Commuter Rail Transit Project, Sand Lake Road Station, Orlando, Orange County, Florida”. Geotechnical and Environmental Consultants, Inc., January 2008.
- “Level I Assessment, Contamination Screening Evaluation Report, Central Florida Commuter Rail Transit Project, - Track Segment H(8), Orange County”. Geotechnical and Environmental Consultants, Inc., February 2007.
- “Level II Site Assessment Report, Central Florida Commuter Rail Transit Project – Site H(8)-201 Southeast Correct Craft, Inc., Orange County”. WRS Infrastructure & Environment, Inc., September 2007.

No significant portions of the current study area fall outside of the study areas included in the previous reports.

#### ***Site Reconnaissance***

On November 10 and 13, 2009, a representative of GEC conducted a site reconnaissance of the proposed Sand Lake Road Station location. The purpose of the reconnaissance was to identify and evaluate any potential contamination sites that were not identified during previous investigations and record significant changes from previously reported conditions. The proposed station location currently consists of various commercial buildings, including professional office and restaurants. Additional sites were identified within the north portion of the station footprint and adjacent to the east of the station, across S. Orange Avenue, during site reconnaissance activities.

### ***Contamination Risk Potential Rating***

The results of GEC's data collection activities revealed eight additional potential contamination sites on and in the vicinity of the proposed Sand Lake Road Station location. All potential contamination sites are presented below, with the previously identified potential contamination sites listed first.

**Site No. 29    Ardaman & Associates, 8008 S. Orange Avenue.** This site was assigned a CRPR of LOW in the April 2006 CSER for the station locations and a CRPR of LOW in the February 2007 CSER for the CSX Mainline (Site No. H(8)-203).

**Site No. 30    Orange County Public Utilities Pump Station, 8034 S. Orange Avenue.** This site was assigned a CRPR of LOW in the April 2006 CSER for the station locations and a CRPR of LOW in the February 2007 CSER for the CSX Mainline (Site No. H(8)-204).

**Site No. 31    Former Exxon Gas Station, 8099 S. Orange Avenue.** This site was assigned a CRPR of LOW in the April 2006 CSER for the station locations.

**Site No. 32    Express Countertops Plus, 8022 Office Court.** This site was assigned a CRPR of MEDIUM in the April 2006 CSER for the station locations and was not identified in the February 2007 CSER for the CSX Mainline. Level 2 Contamination Impact Assessment activities were conducted along the southern border of the property in October 2007. Soil and groundwater samples did not exhibit chemical constituents above FDEP Target Cleanup Levels.

**Site No. CC    Chemcentral, 8120 S. Orange Avenue.** This site was identified in the January 2008 Level 2 Assessment report. Level 2 Contamination Impact Assessment activities were conducted in October 2007. Soil samples were not collected because this site is associated with a groundwater contamination plume migrating in a northeast direction from the site toward the Sand Lake Road station location. Groundwater samples collected did not exhibit chemical constituents above FDEP Target Cleanup Levels. During the November 2009 reconnaissance, a groundwater remediation system was observed being constructed adjacent to the south of the station footprint, south of the existing Denny's restaurant (Site No. ADD-9).

**Site No. H(8)-201    Southeast Correct Craft, 7576 S. Orange Avenue.** This site was assigned a CRPR of MEDIUM in the February 2007 CSER for the CSX Mainline. Level 2 Contamination Impact Assessment Activities were conducted in August 2007 along the western property boundary. No soil or groundwater samples collected exhibited chemical constituents above FDEP Target Cleanup Levels.

**Site No. H(8)-202 Former Auto Service, 7600 S. Orange Avenue.** This site was assigned a CRPR of NO in the February 2007 CSER for the CSX Mainline. The site is currently operating as Construction Materials and stores various building products in bulk.

**Site No. H(8)-205 Jenks Metals, 8142 S. Orange Avenue.** This site was assigned A CRPR of LOW in the February 2007 CSER for the CSX Mainline.

**Site No. ADD-6 Baybrook Homes Incorporated, 8000 S. Orange Avenue.** This site is located within the northeast corner of the Sand Lake Road station layout. This office building has been on this site since at least 1975. No violations or discharges have been reported for this facility. No evidence of soil staining, stressed vegetation, or buried debris was observed. Photograph 6 in **Appendix C** shows the general site conditions. This site has been assigned a CRPR of LOW.

**Site No. ADD-7 Ardaman & Associates, 8026 Office Court.** This site is located within the northwest corner of the Sand Lake Road station layout. The facility is used to store and maintain drilling rigs and was developed between 1981 and 1985. No evidence of soil staining, stressed vegetation, or buried debris was observed. Photograph 7 in **Appendix C** shows the general site conditions. Due to the nature of the activities and the length of time of operation, this site has been assigned a CRPR of MEDIUM.

**Site No. ADD-8 McDonald's Restaurant, 8060 S. Orange Avenue.** This site is located within the southeast portion of the Sand Lake Road station layout. This site was developed in 1981 and has operated as a McDonald's since. No discharges or violations have been reported for this facility. No evidence of soil staining, stressed vegetation, or buried debris was observed. Photograph 8 in **Appendix C** shows the general site conditions. This site has been assigned a CRPR of LOW.

**Site No. ADD-9 Denny's Restaurant, 8076 S. Orange Avenue.** This site is located within the southeast corner of the Sand Lake Road station layout. The site was developed in 1983 and has operated as a restaurant since. No evidence of soil staining, stressed vegetation, or buried debris was observed. Photograph 8 in **Appendix C** shows the general site conditions. No discharges or violations have been reported for this facility. This site has been assigned a CRPR of LOW.

**Site No. ADD-10 Professional Offices, 8007-8009 S. Orange Avenue.** This site is located approximately 200 feet west of the proposed station location, on the east side of S. Orange Avenue. The site was developed as a residential property in 1955 and as a commercial property in 1986. The site is currently operating as a hospice. No violations or discharges have been reported for this facility. No evidence of soil staining, stressed

vegetation, or buried debris was observed. Photograph 9 in **Appendix C** shows the general site conditions. Due to the possible presence of old heating oil tanks, this site has been assigned a CRPR of MEDIUM.

**Site No. ADD-11 Bauern Stube German Restaurant, 8015 S. Orange Avenue.** This site is located adjacent to the south of the professional offices (Site No. ADD-10). The site was developed in 1986 and has operated as a restaurant since. No violations or discharges have been reported for this facility. No evidence of soil staining, stressed vegetation, or buried debris was observed. Photograph 10 in **Appendix C** shows the general site conditions. This site has been assigned a CRPR of LOW.

**Site No. ADD-12 Agner Auto Parts, 8021 S. Orange Avenue.** This site is located adjacent to the south of the German restaurant (Site No. ADD-11). This site has been operating as a commercial auto part distribution and auto repair facility since 1955. No violations or discharges have been reported for this facility. No evidence of soil staining, stressed vegetation, or buried debris was observed. Photograph 11 in **Appendix C** shows the general site conditions. Due to the nature of site activities and the length of operations, this site has been assigned a CRPR of MEDIUM.

**Site NO. ADD-13 Abandoned Building, 8027 S. Orange Avenue.** This site is located adjacent to the south of the auto repair facility (Site No. ADD-12). This site was developed as a commercial property in 1955. The site most recently operated as a real estate office. The building is currently unoccupied and the roof has collapsed. Photograph 12 in **Appendix C** shows the general site conditions. No evidence of soil staining, stressed vegetation, or buried debris was observed. Due to the possible presence of old heating oil tanks, this site has been assigned a CRPR of MEDIUM.

**Site NO. ADD-14 Burger King Restaurant, 8091 S. Orange Avenue.** This site is located adjacent to the south of the abandoned building (Site No. ADD-13). This site was developed in 1986 and has operated as a Burger King since. No violations or discharges have been reported for this facility. No evidence of soil staining, stressed vegetation, or buried debris was observed. Photograph 13 in **Appendix C** shows the general site conditions. This site has been assigned a CRPR of LOW.

Due to the documented groundwater contamination plume adjacent to the south of the station footprint and the Ardaman & Associates facility (Site No. ADD-7) located within the station footprint, the proposed **Sand Lake Road Station** is assigned a CRPR of **MEDIUM**.

## **6.4 Meadow Woods Station**

### ***Previous Report Review***

GEC reviewed previous reports prepared by GEC for this proposed station location. The reports reviewed are as follows:

- “Contamination Screening Evaluation Report for the Central Florida Commuter Rail Transit Project, Volusia, Seminole, Orange and Osceola Counties”. Geotechnical and Environmental Consultants, Inc., April 2006.
- “Level I Assessment, Contamination Screening Evaluation Report, Central Florida Commuter Rail Transit Project, - Track Segment I(9), Orange County”. Geotechnical and Environmental Consultants, Inc., February 2007.
- “Level II Site Assessment Report, Central Florida Commuter Rail Transit Project – Site I(9)-49 Speedy Market/CITGO, Orange County”. Geotechnical and Environmental Consultants, Inc., September 2007.

No significant portions of the current study area fall outside of the study areas included in the previous reports.

### ***Site Reconnaissance***

On November 13, 2009, a representative of GEC conducted a site reconnaissance of the proposed Meadow Woods Station location. The purpose of the reconnaissance was to identify and evaluate any potential contamination sites that were not identified during previous investigations and record significant changes from previously reported conditions. The proposed station location consists of undeveloped land located between S. Orange Avenue and the CSX Mainline and various commercial buildings located along Fairway Woods Boulevard. Additional sites were identified within the eastern portion of the station footprint during site reconnaissance activities.

### ***Contamination Risk Potential Rating***

The results of GEC’s data collection activities revealed two additional potential contamination sites on and in the vicinity of the proposed Meadow Woods Station location. All potential contamination sites are presented below, with the previously identified potential contamination sites listed first.

**Site No. 33 Speedy Market/CITGO, 110 Fairway Woods Boulevard.** This site was assigned a CRPR of HIGH in the April 2006 CSER for the station locations and a CRPR of HIGH in the February 2007 CSER for the CSX Mainline. Level 2 Contamination Impact Assessment activities were conducted along the western property boundary in August 2007. No soil or groundwater samples collected exhibited chemical constituents above FDEP Target Cleanup Levels.

**Site No. ADD-15 Meadow Woods Shopping Center, 120 Fairway Woods Boulevard.** This site is located adjacent to the east of the Speedy Market (Site No. 33). The site was commercially developed as a strip mall in 1986 and housed various commercial businesses. The building is currently vacant. No discharges or violations have been reported for this facility. No evidence of soil staining, stressed vegetation, or buried debris was observed. Photograph 14 in **Appendix C** shows the general site conditions. This site has been assigned a CRPR of LOW.

**Site No. ADD-16 La Petite Academy, 12300 Landstar Boulevard.** This site is located adjacent to the east of the Meadow Woods Shopping Center (Site NO. ADD-16). This site was developed in 1986 and has operated as an educational facility since. No discharges or violations have been reported for this facility. No evidence of soil staining, stressed vegetation, or buried debris was observed. Photograph 15 in **Appendix C** shows the general site conditions. This site has been assigned a CRPR of LOW.

Because the proposed station layout now includes a total take of the Speedy Market (Site No. 33) property, the proposed **Meadow Woods Station** is assigned a CRPR of **HIGH**.

## **6.5 Osceola Parkway Station**

### ***Previous Report Review***

GEC reviewed previous reports prepared by GEC for this proposed station location. The reports reviewed are as follows:

- “Contamination Screening Evaluation Report for the Central Florida Commuter Rail Transit Project, Volusia, Seminole, Orange and Osceola Counties”. Geotechnical and Environmental Consultants, Inc., April 2006.
- “Level I Assessment, Contamination Screening Evaluation Report, Central Florida Commuter Rail Transit Project, - Track Segment J(10), Orange County”. Geotechnical and Environmental Consultants, Inc., February 2007.

### ***FirstSearch Technology Report***

Because a significant portion of this proposed station location lies outside of the study areas used in the CSERs for the original station locations and the CSX Mainline, an environmental database search report was obtained to identify any documented contamination sites in the vicinity of the current station footprint. No additional documented contamination sites located within the current study area were identified in the database report. A copy of the database report summary is included in **Appendix D**.

### ***Site Reconnaissance***

On November 13, 2009, a representative of GEC conducted a site reconnaissance of the proposed Osceola Parkway Station location. The purpose of the reconnaissance was to identify and evaluate any potential contamination sites that were not identified during previous investigations and record significant changes from previously reported conditions. The proposed station layout is located on land that has been historically undeveloped. Additional sites were identified within the current study area during site reconnaissance activities.

### ***Contamination Risk Potential Rating***

The results of GEC's data collection activities revealed two additional potential contamination sites on and in the vicinity of the proposed Meadow Woods Station location. All potential contamination sites are presented below, with the previously identified potential contamination sites listed first.

**Site No. 34 Osceola CITGO, 3090 Michigan Avenue.** This site was assigned a CRPR of LOW in the April 2006 CSER for the station locations. This site is now located outside of the current study area.

**Site No. 35 Wal-Mart Supercenter and Tire & Lube Express, 1471 E. Osceola Parkway.** This site was assigned a CRPR of LOW in the April 2006 CSER for the station locations. This site is now located outside of the current study area.

**Site No ADD-17 Osceola Parkway Shopping Center, 1307 E. Osceola Parkway.** This site is located adjacent to the east of the proposed station location, across the CSX mainline and on the former proposed station location. The site was developed between 2005 and 2008 and operates as a strip mall, housing various commercial establishments. No violations or discharges have been reported for this facility. No evidence of soil staining, stressed vegetation, or buried debris was observed. Photograph 16 in **Appendix C** shows the general site conditions. This site has been assigned a CRPR of LOW.

**Site No ADD-18 Raven, 3510 Seaman Avenue.** This site is located adjacent to the north of the station location. The site was developed for light manufacturing in 1998. The nature of this facility is unknown, as access to the property was denied. No violations or discharges have been reported for this facility. No evidence of soil staining, stressed vegetation, or buried debris was observed. Photograph 17 in **Appendix C** shows the general site conditions. This site has been assigned a CRPR of LOW.

The proposed **Osceola Parkway Station** is assigned a CRPR of **LOW**.

## **6.6 Kissimmee Station**

### ***Previous Report Review***

GEC reviewed previous reports prepared by GEC for this proposed station location. The reports reviewed are as follows:

- “Contamination Screening Evaluation Report for the Central Florida Commuter Rail Transit Project, Volusia, Seminole, Orange and Osceola Counties”. Geotechnical and Environmental Consultants, Inc., April 2006.
- “Level I Assessment, Contamination Screening Evaluation Report, Central Florida Commuter Rail Transit Project, - Track Segment J(10), Orange County”. Geotechnical and Environmental Consultants, Inc., February 2007.
- “Level II Site Assessment Report, Central Florida Commuter Rail Transit Project – Site J(10)-67, Osceola County”. Geotechnical and Environmental Consultants, Inc., September 2007.

### ***Sanborn Fire Insurance Map Review***

Because the proposed station location lies in a historically developed area, Sanborn Fire Insurance Maps were reviewed to identify any potential contamination sites located adjacent to or within the areas of the current station layout that lie outside of previous CSER study areas. Additional potential contamination information was identified associated with a previously identified site (Site No. J(10)-67) through Sanborn Fire Insurance Map review. Sanborn map information is included in **Appendix E**.



### ***Site Reconnaissance***

On November 13, 2009, a representative of GEC conducted a site reconnaissance of the proposed Kissimmee Station location. The purpose of the reconnaissance was to identify and evaluate any potential contamination sites that were not identified during previous investigations and record significant changes from previously reported conditions. The proposed station layout consists of the current Kissimmee Amtrak station and various commercial properties to the northwest of the CSX Mainline, and the Kissimmee Civic Center parking lot and vacant lots to the southeast of the CSX Mainline. Additional sites were identified within the current study area during site reconnaissance activities.

### ***Contamination Risk Potential Rating***

The results of GEC's data collection activities revealed no additional potential contamination sites on and in the vicinity of the proposed Kissimmee Station location. All potential contamination sites are presented below, with the previously identified potential contamination sites listed first.

**Site No. 36 Historic Auto Repair Shop, east corner of the intersection of Darlington Avenue and Pleasant Street.** This site was assigned a CRPR of HIGH in the April 2006 CSER for the station locations and was not identified in the February 2007 CSER for the CSX Mainline. No Level 2 Contamination Impact Assessment activities have been performed. The site is currently occupied by the Kissimmee Amtrak station and the City Center, a multi-use building with commercial and residential divisions.

**Site No. 37 Historic Dry Cleaners, intersection of Dakin Avenue and Pleasant Street.** This site was assigned a CRPR of HIGH in the April 2006 CSER for the station locations and was not identified in the February 2007 CSER for the CSX Mainline. No Level 2 Contamination Impact Assessment activities have been performed. The site is currently a parking lot.

**Site No. 38 J&B Mini Mart, 11 Neptune Road.** This site was assigned a CRPR of LOW in the April 2006 CSER for the station locations and a CRPR of LOW in the February 2007 CSER for the CSX Mainline.

**Site No. 39 Sprint Florida, 418 Broadway Street.** This site was assigned a CRPR of LOW in the April 2006 CSER for the station locations and a CRPR of LOW in the February 2007 CSER for the CSX Mainline (Site No. J(10)-62).

**Site No. 40 Wolfman Rods, 404 Broadway Street.** This site was assigned a CRPR of LOW in the April 2006 CSER for the station locations and a CRPR of LOW in the February 2007 CSER for the CSX Mainline (Site No. J(10)-63).

**Site No. 41 Moonlight Starter and Generator, 312 Broadway Street.** This site was assigned a CRPR of LOW in the April 2006 CSER for the station locations and a CRPR of LOW in the February 2007 CSER for the CSX Mainline (Site No. J(10)-64).

**Site No. 42 BB&T Bank, 200 Broadway Street.** This site was assigned a CRPR of LOW in the April 2006 CSER for the station locations and a CRPR of LOW in the February 2007 CSER for the CSX Mainline (Site No. J(10)-68).

**Site No. 43 Broadway Dry Cleaner, 415 Broadway Street.** This site was assigned a CRPR of LOW in the April 2006 CSER for the station locations. This building is currently vacant.

**Site No. 44 PPG Collision, 307 Broadway Street.** This site was assigned a CRPR of LOW in the April 2006 CSER for the station locations. The site is currently operating as Mike's Auto Painting & Body Works.

**Site No. J(10)-66 Historic Gas Station, 300 Broadway.** This site was not identified in the April 2006 CSER for the station location and was assigned a CRPR of MEDIUM in the February 2007 CSER for the CSX Mainline. No Level 2 Contamination Impact Assessment activities have been performed. This site is currently a parking lot.

**Site No. J(10)-67 Kissimmee Civic Center & Vacant Lot, 201 Dakin Avenue.** This site was assigned a CRPR of MEDIUM in the February 2007 CSER for the CSX Mainline. Level 2 Contamination Impact Assessment activities were performed in August 2007 along the property border with the CSX Mainline. No soil or groundwater samples collected exhibited chemical constituents above FDEP Target Cleanup Levels. The Civic Center parking lot and the vacant lots to the east are part of the modified station layout. The vacant lots were identified in the 1914 through 1944 Sanborn maps as the site of the Lakeside Veneering Mills.

**Site No. J(10)-69 Historic Auto Service, 103 Broadway Street.** This site was not identified in the April 2006 CSER for the station locations and was assigned a CRPR of MEDIUM in the February 2007 CSER for the CSX Mainline. No Level 2 Contamination Impact Assessment activities have been performed.

**Site No. J(10)-70 Shadal's DaCor, 106 Broadway Street.** This site was not identified in the April 2006 CSER for the station locations and was assigned a CRPR of LOW in the February 2007 CSER for the CSX Mainline.

**Site No. J(10)-71 Former Gas Station, 22 Broadway Street.** This site was not identified in the April 2006 CSER for the station locations and was assigned a CRPR of MEDIUM in the February 2007 CSER for the CSX Mainline. No Level 2 Contamination Impact Assessment activities have been performed.

Due to the historic presence of a lumber mill, veneering mill, dry cleaner, gas station, and auto repair shop within the proposed station footprint, the Kissimmee Station has been assigned a CRPR of **MEDIUM**.

## **6.7 Poinciana Station**

### ***Previous Report Review***

GEC reviewed previous reports prepared by GEC for this proposed station location. The reports reviewed are as follows:

- "Contamination Screening Evaluation Report for the Central Florida Commuter Rail Transit Project, Volusia, Seminole, Orange and Osceola Counties". Geotechnical and Environmental Consultants, Inc., April 2006.
- "Level I Assessment, Contamination Screening Evaluation Report, Central Florida Commuter Rail Transit Project, - Track Segment J(10), Orange County". Geotechnical and Environmental Consultants, Inc., February 2007.

### ***FirstSearch Technology Report***

Because a significant portion of this proposed station location lies outside of the study areas used in the CSERs for the original station locations and the CSX Mainline, an environmental database search report was obtained to identify any documented contamination sites in the vicinity of the current station footprint. No additional documented contamination sites located within the current study area were identified in the database report. A copy of the database report summary is included in **Appendix D**.

### ***Site Reconnaissance***

On November 13, 2009, a representative of GEC conducted a site reconnaissance of the proposed Poinciana Station location. The purpose of the reconnaissance was to identify and evaluate any potential contamination sites that were not identified during previous investigations and record significant changes from previously reported conditions. The proposed station layout is located on undeveloped land. No additional sites were identified within the current study area.

### ***Contamination Risk Potential Rating***

The results of our data collection activities revealed no additional potential contamination sites on and in the vicinity of the proposed Poinciana Station location. All potential contamination sites are presented below.

**Site No. 45 SVC Manufacturing/PepsiCo/Quaker Oats Company, 1650 S. Poinciana Boulevard.** This site was assigned a CRPR of LOW in the April 2006 CSER for the station locations and a CRPR of LOW in the February 2007 CSER for the CSX Mainline.

The proposed **Poinciana Station** is assigned a CRPR of **LOW**.

## **7 CONCLUSIONS AND RECOMMENDATIONS**

### **7.1 Conclusions**

This Contamination Screening Evaluation Report Second Addendum provides Contamination Risk Potential Ratings for multiple parcels that will be acquired for the Central Florida Commuter Rail Transit Project (SunRail). These parcels will be used as commuter rail passenger stations, and include the DeLand Station, Altamonte Springs Station, Sand Lake Road Station, Meadow Woods Station, Osceola Parkway Station, Kissimmee Station, and Poinciana Station. **Table 1 in Appendix B** provides a summary of all ranked sites.

There is a significant potential liability associated with acquisition of property that is contaminated. Additionally, contamination can have a significant impact on construction, particularly dewatering, since any contaminated groundwater which may be encountered would require treatment, disposal, and special permitting. Contaminated soil would require special treatment and disposal and could not be used as fill. For this reason, it is prudent to perform additional studies prior to property acquisition and construction of this transportation

project. The seven proposed station locations that were evaluated in this report are ranked as follows:

- **DeLand Station - MEDIUM**
- **Altamonte Springs Station - MEDIUM**
- **Sand Lake Road Station - MEDIUM**
- **Meadow Woods Station – HIGH**
- **Osceola Parkway Station – LOW**
- **Kissimmee Station – MEDIUM**
- **Poinciana Station - LOW**

## **7.2 Recommendations**

**DeLand Station (MEDIUM).** Level 2 Contamination Impact Assessment activities conducted at Site No. 1 (Historic Gas Station) indicated the presence groundwater contamination above FDEP Target Cleanup Levels. Additional investigation to determine the extent of contamination on this site should be performed. Level 2 Contamination Impact Assessment activities on Site No. A(1)-3 (Cole Brothers – Clyde Beatty Circus Facility), Site No. A(1)-7 (Hanson Pipe & Precast), and Site No. DEL-3 (Florida Contracting Company) should also be performed to evaluate the presence of soil and/or groundwater contamination on those sites.

**Altamonte Springs Station (MEDIUM).** Level 2 Contamination Impact Assessment activities conducted at Site No. 13 (CITGO), Site No. 15 (Auto Body Service), Site No. 16 (Driver Tire), Site No. 20 (Courtesy Towing), and Site No. F(6)-6 (Former Range Paving) did not indicate soil or groundwater contamination above FDEP Target Cleanup Levels. A Site Assessment conducted on Site No. 17 (Seminole Glass) indicated two groundwater contamination plumes on the western portion of the property extending under Ronald Reagan Boulevard and possibly into Site No. ADD-2 (US Postal Service). Level 2 Contamination Impact Assessment activities on Site No. 14 (Pep Boys) and Site No. ADD-2 (US Postal Service) should be performed to evaluate the presence of soil and/or groundwater contamination on those sites.

**Sand Lake Road Station (MEDIUM).** Level 2 Contamination Impact Assessment activities conducted with regard to Site No. CC (Chemcentral) and Site No. 32 (Express Countertops Plus) did not indicate groundwater or soil contamination above FDEP Target Cleanup Levels. However, the Level 2 investigation on Site No. 32 was limited to the southern property border. Since this property and Site No. ADD-7 (Ardaman & Associates) are now located within the station footprint, Level 2 Contamination Impact Assessment activities should be performed to evaluate the presence of soil and/or groundwater contamination on those sites. Also, Level 2 Contamination Impact Assessment activities for Site No. ADD-10 (Professional Offices), Site No. ADD-12 (Agner Auto Parts), and Site No. ADD-13 (Abandoned Building)

are recommended to evaluate the presence of soil and/or groundwater contamination on those sites.

**Meadow Woods Station (HIGH).** Level 2 Contamination Impact Assessment activities conducted on Site No. 33 (Speedy Market/CITGO) did not indicate groundwater or soil contamination above FDEP Target Cleanup Levels. However, the Level 2 investigation was limited to the western property border. Because this site is now located within the station footprint, additional Level 2 investigation activities are recommended to evaluate the presence of soil and/or groundwater contamination on the site.

**Osceola Parkway Station (LOW).** No additional investigations are recommended for this station location at this time. It is recommended that this Contamination Screening Evaluation Report be updated for those sites prior to right-of-way acquisition and construction.

**Kissimmee Station (MEDIUM).** Level 2 Contamination Impact Assessment activities conducted on Site No. J(10)-67 (Kissimmee Civic Center and Vacant Lot) did not indicate groundwater or soil contamination above FDEP Target Cleanup Levels. However, the Level 2 investigation was limited to the northwestern property border. Because the vacant lot and the parking lot of the civic center are now located within the station footprint, additional Level 2 investigation activities are recommended to evaluate the presence of soil and/or groundwater contamination. It appears that no additional construction is planned in the areas of Site No. 36 (Historic Auto Repair Shop) and 37 (Historic Dry Cleaners). Level 2 Contamination Impact Assessment activities may not be necessary at these locations.

**Poinciana Station (LOW).** No additional investigations are recommended for this station location at this time. It is recommended that this Contamination Screening Evaluation Report be updated for those sites prior to right-of-way acquisition and construction.

It should be noted that evaluation of the potential project implications associated with railroad operations were not included within the scope of this study, i.e., railroad bed conditions.

There is a potential for asbestos-containing and other hazardous building materials to be present within structures to be acquired by the FDOT for these station locations. GEC recommends that surveys for asbestos and other potentially hazardous building materials be conducted prior to acquisition of any existing structures. Additionally, all hazardous building materials should be characterized and disposed of in accordance with existing applicable local, state, and federal requirements. This includes, but is not limited to, any restaurants with grease catches and vats.

## **8 REPORT LIMITATIONS**

The findings, opinions, conclusions and recommendations presented herein are based in part on readily available and practically reviewable information contained in the public record as well as information collected by GEC and others for similar evaluations conducted for this FDOT project. GEC does not warrant or guarantee the accuracy or completeness of this information. Some of this public record information included in previous reports, such as soil or groundwater quality test results, groundwater contamination plume maps, groundwater flow direction maps, locations of USTs or ASTs, etc. may be dated and not representative of conditions at the time this report was prepared (November 2009), or in the future. Please refer to this report and supporting documentation in its entirety for a complete understanding regarding our evaluation methodology and the age and limitations of the data upon which we have relied in formulating our findings, opinions, conclusions and/or recommendations. Additional limitations are as follows:

- Persons with knowledge of the history of the property were not available at many sites in the study area.
- GEC did not receive for review building plans for any of the structures within the study area.
- Poor visibility of the ground surface due to thick vegetation growth in some areas limited the observation of surface conditions.
- GEC did not access the interior of the structures within the study area.
- Not discussed in this report are properties that have been historically undeveloped land, are associated with residential use and do not appear to pose a contamination risk, or are professional/commercial establishments that are not associated with hazardous materials or petroleum products.
- This study also does not include surveys of wetlands, ecological surveys, threatened or endangered species, asbestos containing materials, lead-based paints or other potential hazardous building materials, mold surveys, radon gas surveys, lead in drinking water analysis, indoor air quality surveys, regulatory compliance audits, or industrial hygiene or health and safety audits.

The conclusions or recommendations of this report should be disregarded if the nature, design, or location of the facilities is changed. If such changes are contemplated, GEC should be retained to review the new plans to assess the applicability of this report in light of proposed changes.

GEC has strived to provide the services described in this report in a manner consistent with that level of care and skill ordinarily exercised by members of our profession currently practicing in Central Florida. No other representation is made or implied in this document.

This report is intended for the exclusive use of AECOM and the FDOT. It has been prepared pursuant to AECOM's Subconsultant Agreement, which was executed on November 15, 2004, GEC Proposal No. 6395GE dated October 28, 2009, and various discussions with AECOM. GEC expressly disclaims any and all liability resulting from reliance on this report by those not authorized, in writing, by GEC.

## **9 REFERENCES**

Geotechnical and Environmental Consultants, Inc., "Contamination Screening Evaluation Report for the Central Florida Commuter Rail Transit Project, Volusia, Seminole, Orange and Osceola Counties." April 2006.

Geotechnical and Environmental Consultants, Inc., "Contamination Screening Evaluation Report Addendum for the Central Florida Commuter Rail Transit Project, Proposed Fort Florida Road, Longwood, Altamonte Springs and Maitland Stations in Volusia, Seminole, and Orange Counties." August 2007.

Geotechnical and Environmental Consultants, Inc., "Level II Contamination Assessment Report, Central Florida Commuter Rail Transit Project, Altamonte Springs Station, Altamonte Springs, Seminole County, Florida" December 2007.

Geotechnical and Environmental Consultants, Inc., "Level II Contamination Assessment Report, Central Florida Commuter Rail Transit Project, Sand Lake Road Station, Orlando, Orange County, Florida." January 2008.

WRScompass, "Level I Assessment Contamination Screening Evaluation Report, Central Florida Commuter Rail Transit Project – DeLand Spur, Volusia County." November 2008.

Nodarse & Associates, Inc., "Level I Assessment, Contamination Screening Evaluation Report, Central Florida Commuter Rail Transit Project – Track Segment A(1), Volusia County." February 2007.

Nodarse & Associates, Inc., "Level I Assessment, Contamination Screening Evaluation Report, Central Florida Commuter Rail Transit Project – Track Segment F(6), Seminole County." March 2007.



Geotechnical and Environmental Consultants, Inc., "Level I Contamination Screening Evaluation Report, Central Florida Commuter Rail Transit Project – Track Segment H(8), Orange County." February 2007.

Geotechnical and Environmental Consultants, Inc., "Level I Contamination Screening Evaluation Report, Central Florida Commuter Rail Transit Project – Track Segment I(9), Orange County." February 2007.

Geotechnical and Environmental Consultants, Inc., "Level I Contamination Screening Evaluation Report, Central Florida Commuter Rail Transit Project – Track Segment J(10), Orange and Osceola County." February 2007.

Nodarse & Associates, Inc., "Level II Site Assessment Report, Central Florida Commuter Rail Transit Project – Site A(1)-5, Historical Gas Station, Volusia County." September 2007.

Geotechnical and Environmental Consultants, Inc., "Level II Site Assessment Report, Central Florida Commuter Rail Transit Project – Site F(6)-6, Former Range Paving & Construction Company, Seminole County." September 2007.

Geotechnical and Environmental Consultants, Inc., "Limited Contamination Assessment Report, Central Florida Commuter Rail Transit Project, Seminole Glass, 2741 Ronald Reagan Boulevard, Altamonte Springs, Seminole County, Florida." June 2008.

WRS Infrastructure & Environmental, Inc., "Level II Site Assessment Report, Central Florida Commuter Rail Transit Project – Site H(8)-201, Southeast Correct Craft, Inc., Orange County." September 2007.

Geotechnical and Environmental Consultants, Inc., "Level II Site Assessment Report, Central Florida Commuter Rail Transit Project – Site I(9)-49, Speedy Market/CITGO, Orange County." September 2007.

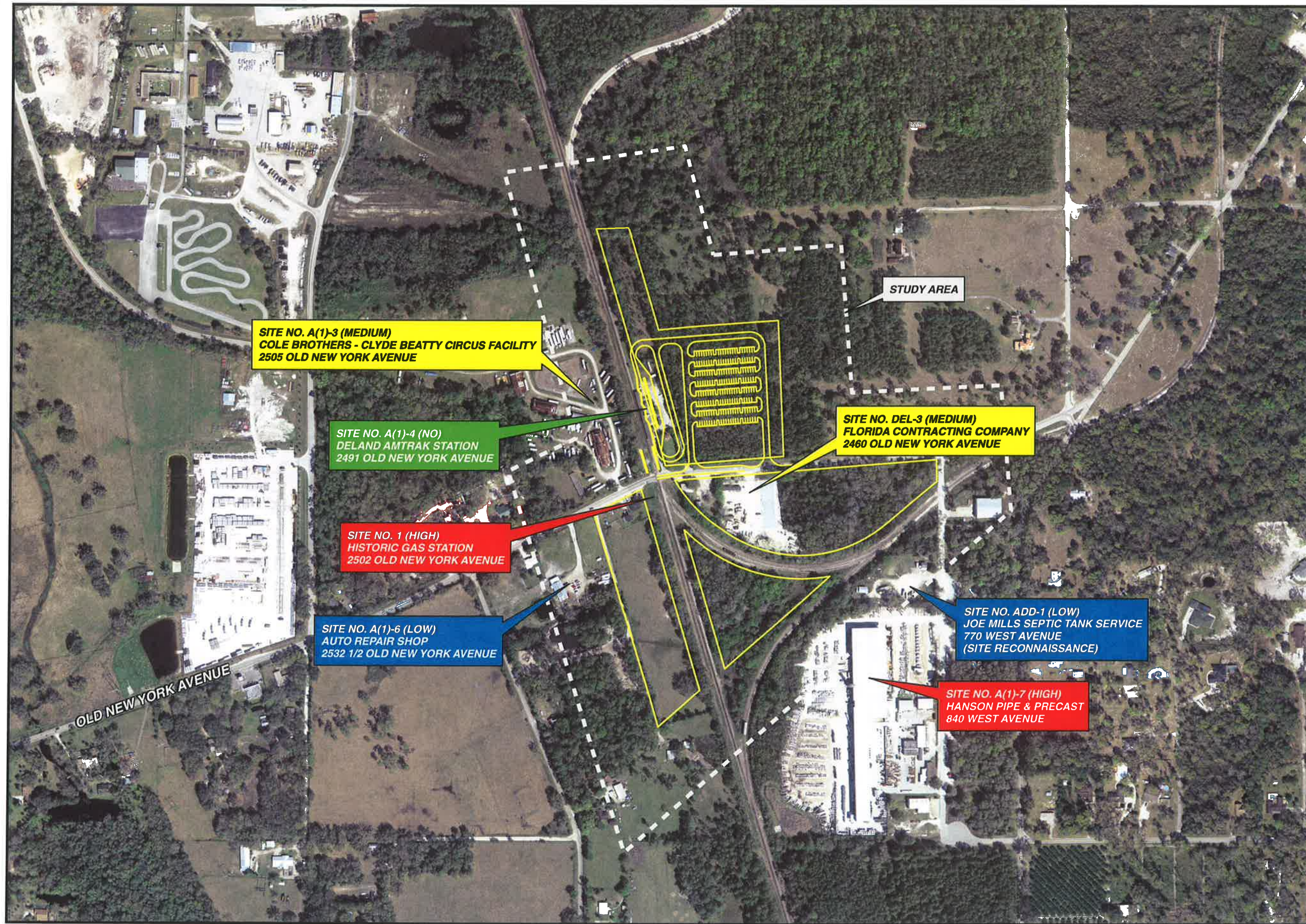
Geotechnical and Environmental Consultants, Inc., "Level II Site Assessment, Central Florida Commuter Rail Transit Project – Site J(10)-67, Civic Center & Vacant Lot, Osceola County." September 2007.

## **APPENDIX A**

### **Figures**



J:\D872135E\2135E\DeLand



Aerial photograph source: VOLUSIA County Geographical Information System Station layout source: AECOM



**Geotechnical and Environmental  
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**CENTRAL FLORIDA  
COMMUTER RAIL  
TRANSIT PROJECT  
(SUNRAIL)  
CSER  
SECOND ADDENDUM  
FPN #412994-3-52-01**

PROJECT NO.: 2135E

DATE: 11-17-09

SENIOR PROFESSIONAL: TJM  
P.E. NO. 65660

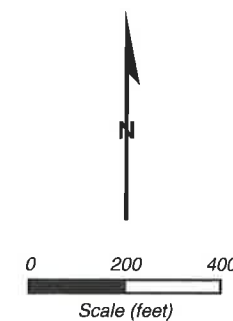
PROJECT PROFESSIONAL: TJM  
P.E. NO. 65660

DRAWN: SKR

REVISION:

**RISK RATING LEGEND**

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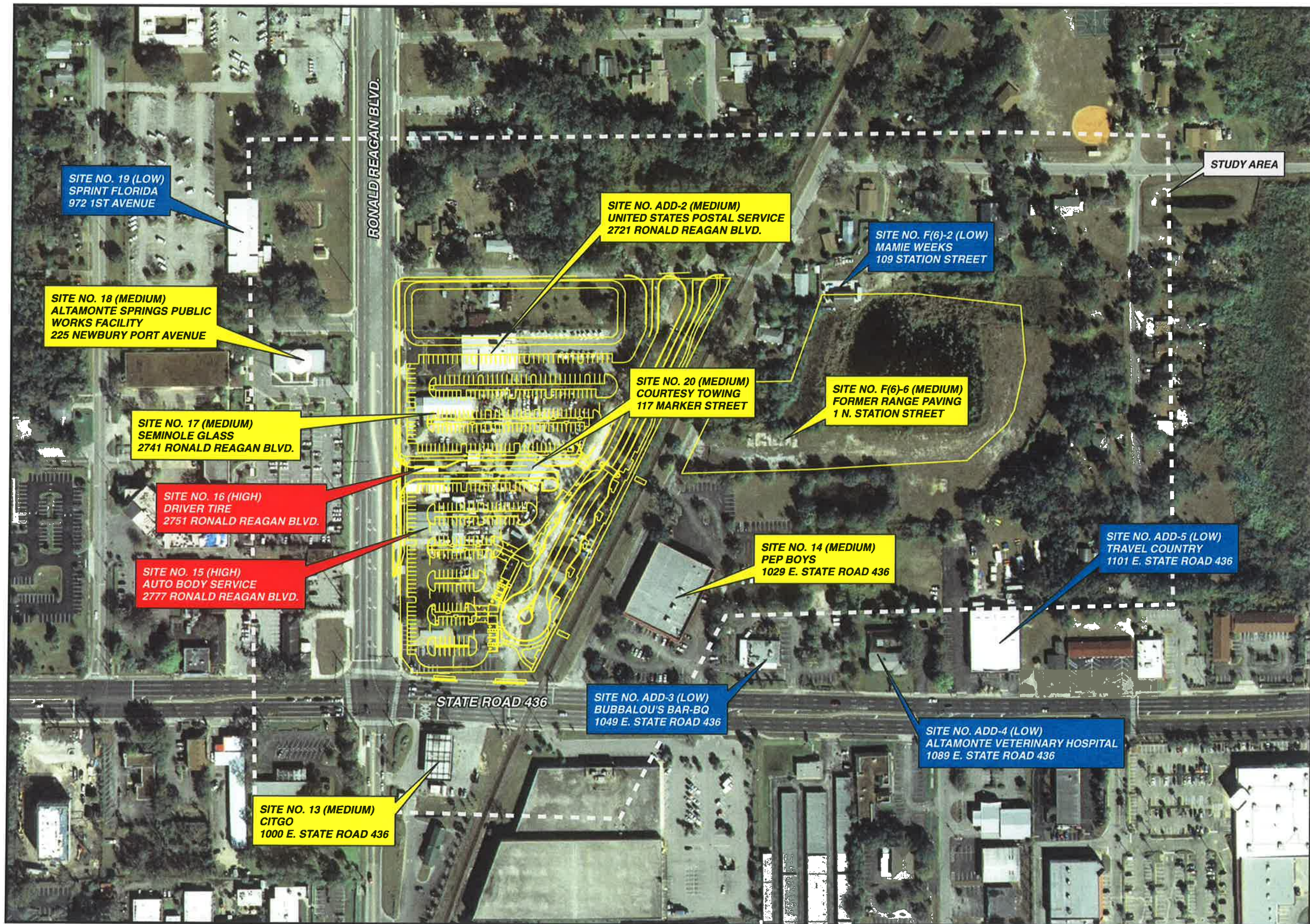


**DELAND  
PASSENGER STATION**

**FIGURE 1**



J:\D87\2135E\2135EAltamonte



Aerial photograph source: SEMINOLE County Geographical Information System Station layout source: AECOM



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**CENTRAL FLORIDA  
COMMUTER RAIL  
TRANSIT PROJECT  
(SUNRAIL)**

**CSER  
SECOND ADDENDUM  
FPN #412994-3-52-01**

PROJECT NO.: 2135E

DATE: 11-17-09

SENIOR PROFESSIONAL: TJM  
P.E. NO. 65660

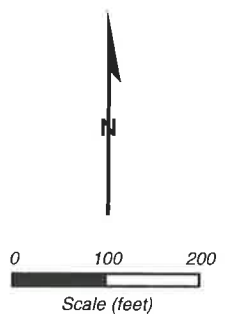
PROJECT PROFESSIONAL: TJM  
P.E. NO. 65660

DRAWN: SKR

REVISION:

**RISK RATING LEGEND**

HIGH	RED
MEDIUM	YELLOW
LOW	BLUE
NO	GREEN

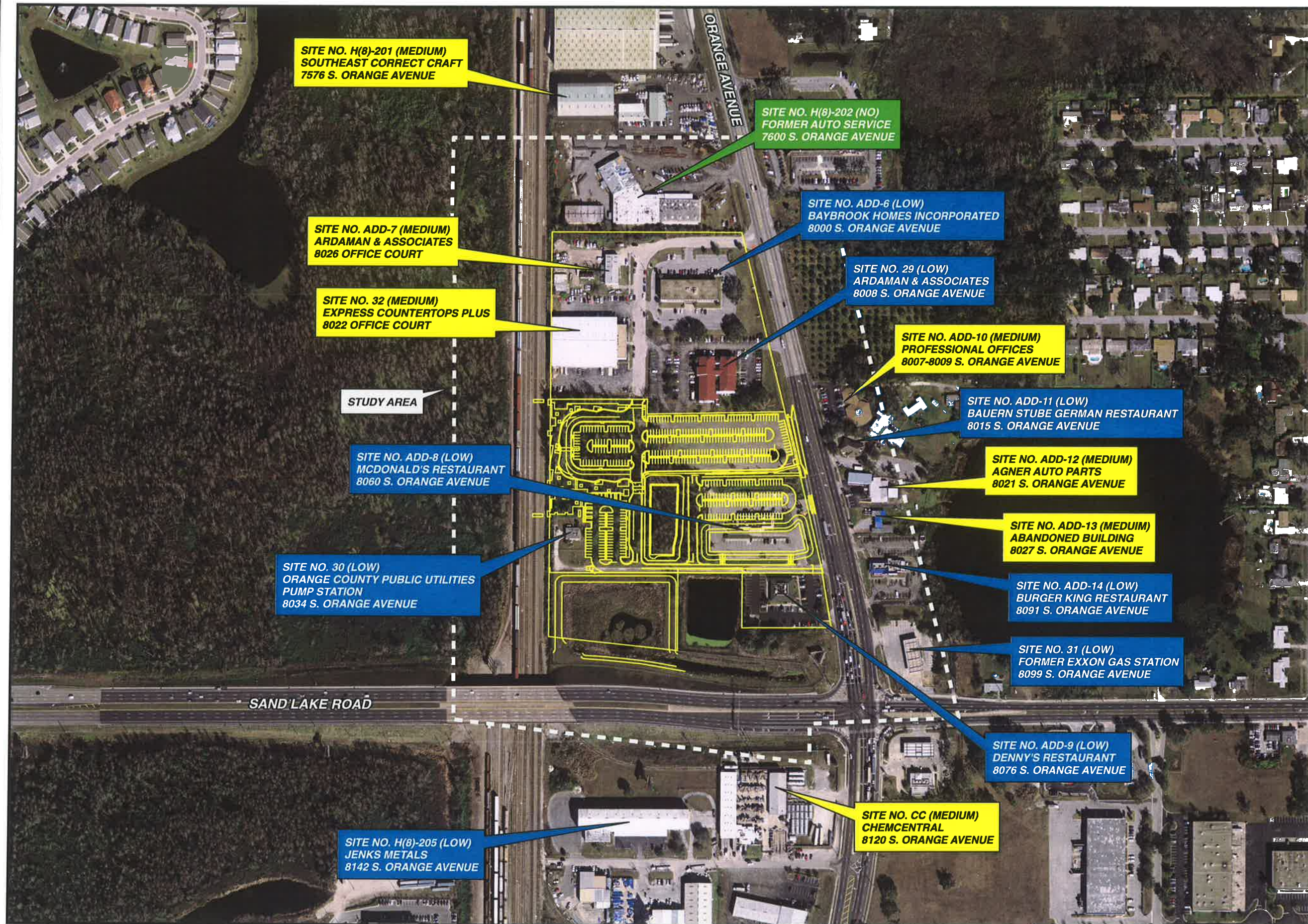


**ALTAMONTE SPRINGS  
PASSENGER STATION**

**FIGURE 2**



J:\D872135E\2135ESandLake



Aerial photograph source: ORANGE County Geographical Information System Station layout source: AECOM



**Geotechnical and Environmental Consultants, Inc.**  
919 LAKE BALDWIN LANE  
ORLANDO, FLORIDA 32814  
(407) 898-1818  
FAX (407) 898-1837  
COA NO. 00005882

**CENTRAL FLORIDA  
COMMUTER RAIL  
TRANSIT PROJECT  
(SUNRAIL)**

CSE  
SECOND ADDENDUM  
FPN #412994-3-52-01

PROJECT NO.: 2135E

DATE: 11-17-09

SENIOR PROFESSIONAL: TJM  
P.E. NO. 65660

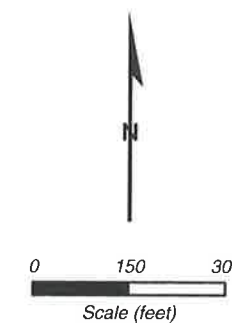
PROJECT PROFESSIONAL: TJM  
P.E. NO. 65660

DRAWN: SKR

REVISION:

**RISK RATING LEGEND**

<span style="display: inline-block; width: 15px; height: 15px; background-color: red; border: 1px solid black;"></span>	HIGH
<span style="display: inline-block; width: 15px; height: 15px; background-color: yellow; border: 1px solid black;"></span>	MEDIUM
<span style="display: inline-block; width: 15px; height: 15px; background-color: blue; border: 1px solid black;"></span>	LOW
<span style="display: inline-block; width: 15px; height: 15px; background-color: green; border: 1px solid black;"></span>	NO

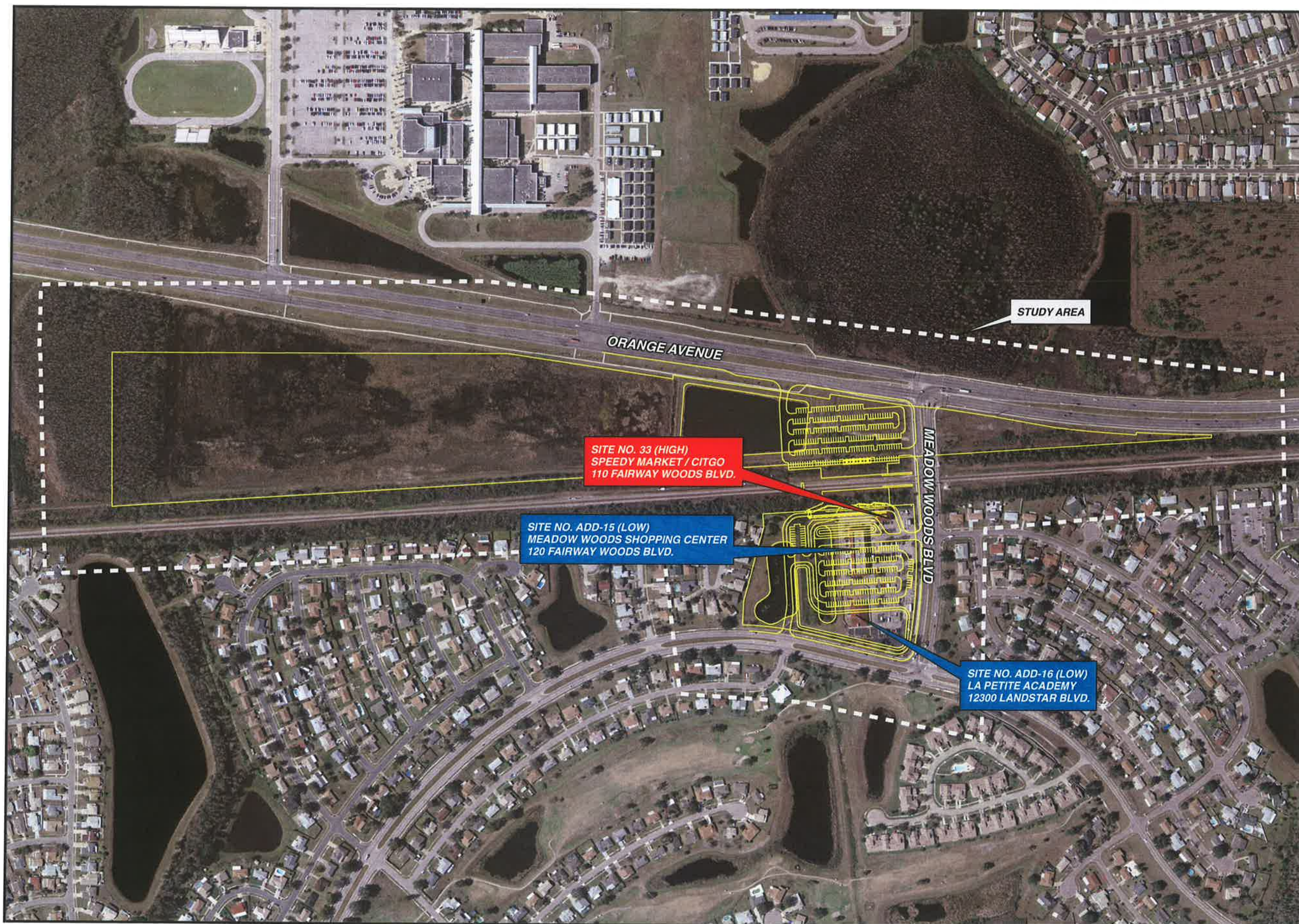


**SAND LAKE ROAD  
PASSENGER STATION**

**FIGURE 3**



J:\D872135E12135EMeadow



Aerial photograph source: ORANGE County Geographical Information System Station layout source: AECOM



**Geotechnical and Environmental  
Consultants, Inc.**  
919 LAKE BALDWIN LANE  
ORLANDO, FLORIDA 32814  
(407) 898-1818  
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COA NO. 00005882

**CENTRAL FLORIDA  
COMMUTER RAIL  
TRANSIT PROJECT  
(SUNRAIL)  
CSER  
SECOND ADDENDUM  
FPN #412994-3-52-01**

PROJECT NO.: 2135E

DATE: 11-17-09

SENIOR PROFESSIONAL: TJM  
P.E. NO. 65660

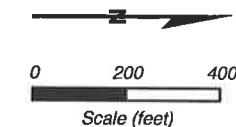
PROJECT PROFESSIONAL: TJM  
P.E. NO. 65660

DRAWN: SKR

REVISION:

**RISK RATING LEGEND**

- HIGH
- MEDIUM
- LOW
- NO

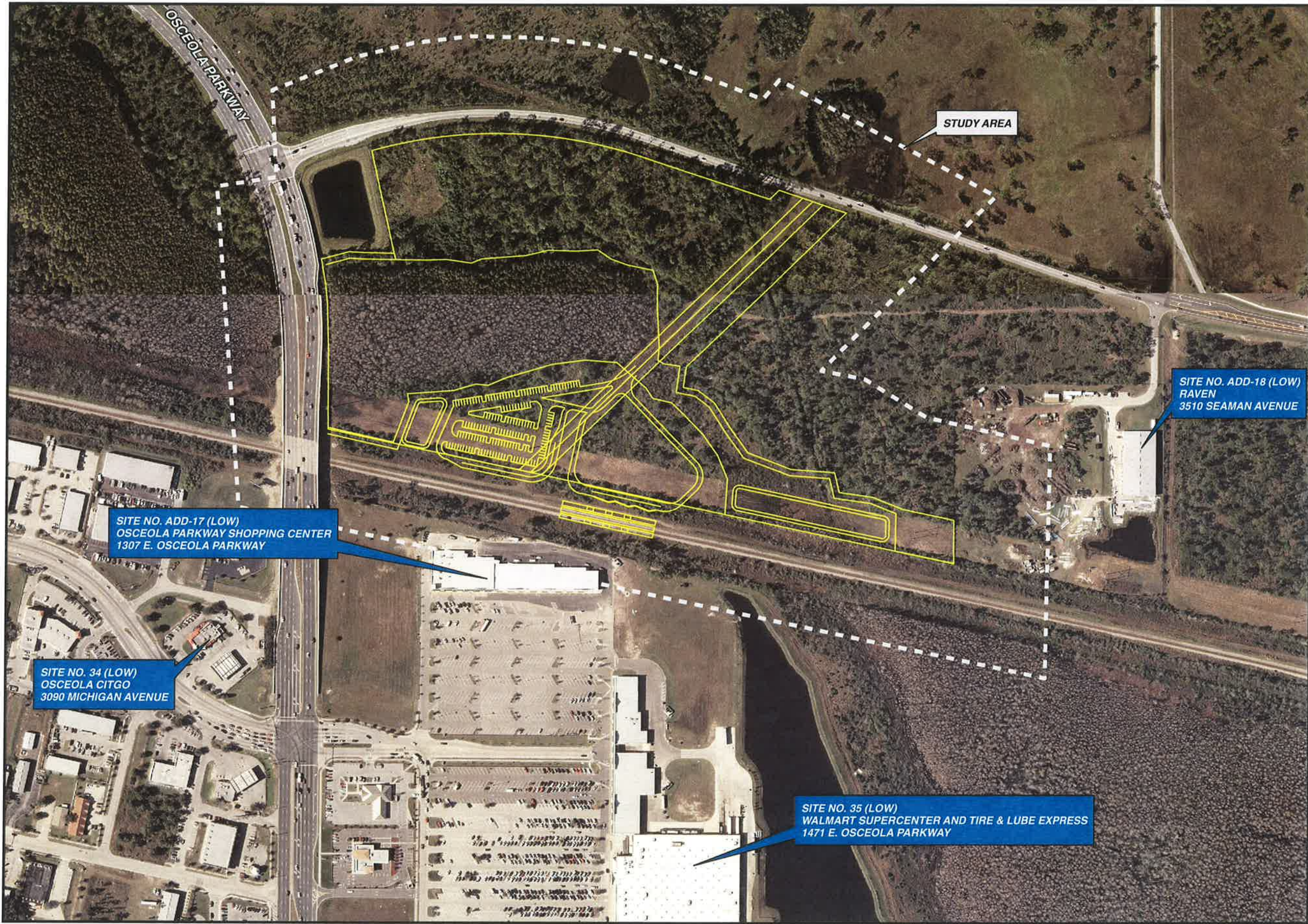


**MEADOW WOODS  
PASSENGER STATION**

**FIGURE 4**



J:\D87\2135E\2135EOsceolaPWY



Aerial photograph source: OSCEOLA County Geographical Information System Station layout source: AECOM



**Geotechnical and Environmental Consultants, Inc.**  
919 LAKE BALDWIN LANE  
ORLANDO, FLORIDA 32814  
(407) 898-1818  
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**CENTRAL FLORIDA  
COMMUTER RAIL  
TRANSIT PROJECT  
(SUNRAIL)  
CSER  
SECOND ADDENDUM  
FPN #412994-3-52-01**

PROJECT NO.: 2135E

DATE: 11-17-09

SENIOR PROFESSIONAL: TJM  
P.E. NO. 65660

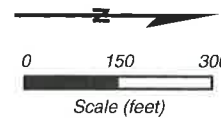
PROJECT PROFESSIONAL: TJM  
P.E. NO. 65660

DRAWN: SKR

REVISION:

**RISK RATING LEGEND**

- HIGH
- MEDIUM
- LOW
- NO

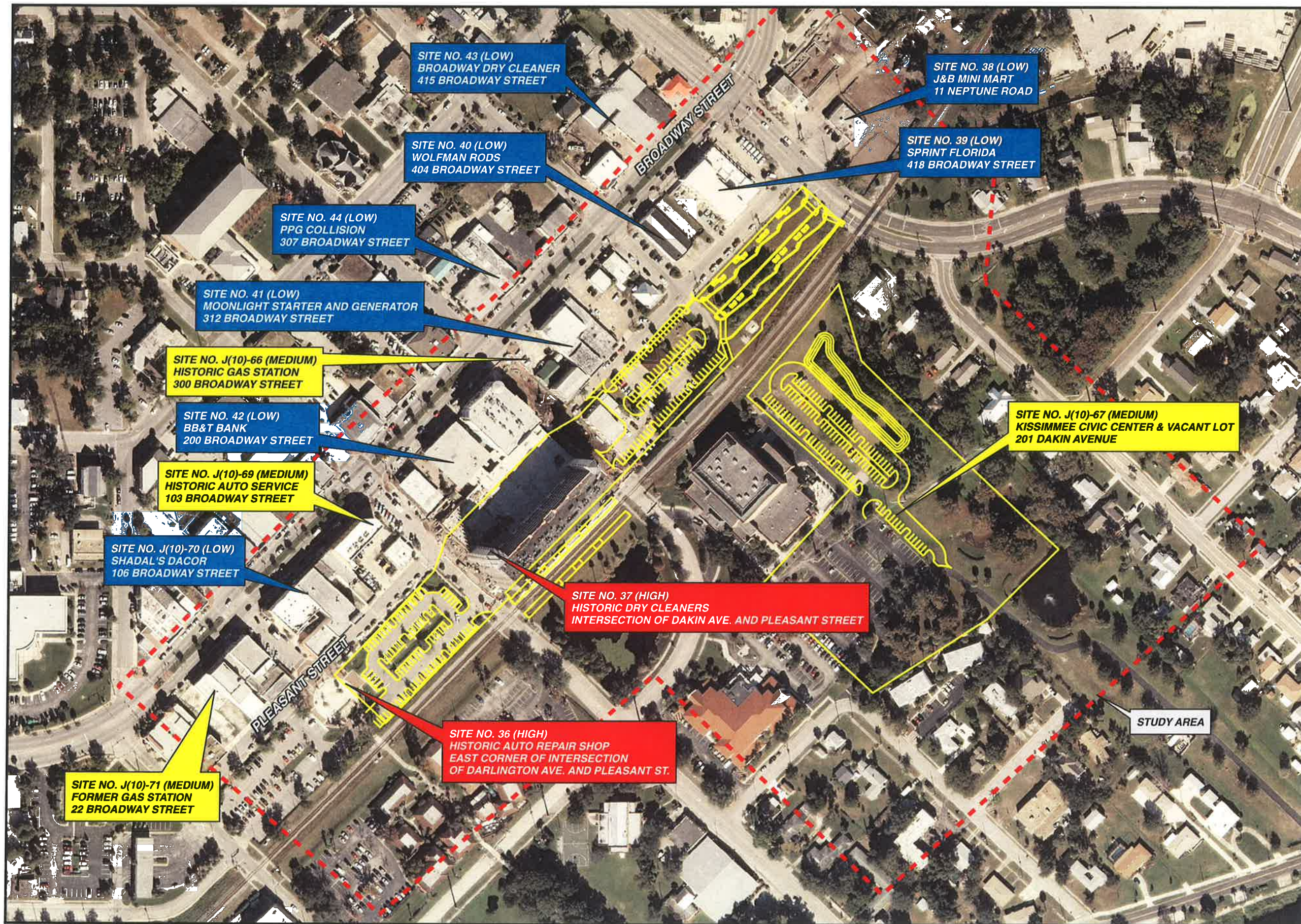


**OSCEOLA PARKWAY  
PASSENGER STATION**

**FIGURE 5**



J:\D872\2135E\2135EKissimmee



Aerial photograph source: OSCEOLA County Geographical Information System Station layout source: AECOM



**Geotechnical and Environmental Consultants, Inc.**  
919 LAKE BALDWIN LANE  
ORLANDO, FLORIDA 32814  
(407) 898-1818  
FAX (407) 898-1837  
COA NO. 00005882

**CENTRAL FLORIDA  
COMMUTER RAIL  
TRANSIT PROJECT  
(SUNRAIL)**

**CSER  
SECOND ADDENDUM  
FPN #412994-3-52-01**

PROJECT NO.: 2135E

DATE: 11-17-09

SENIOR PROFESSIONAL: TJM  
P.E. NO. 65660

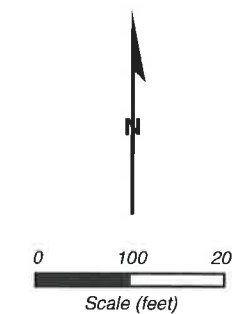
PROJECT PROFESSIONAL: TJM  
P.E. NO. 65660

DRAWN: SKR

REVISION:

**RISK RATING LEGEND**

- HIGH
- MEDIUM
- LOW
- NO



**KISSIMMEE  
PASSENGER STATION**

**FIGURE 6**



J:\D87\2135E\2135EPoinciana



Aerial photograph source: OSCEOLA County Geographical Information System Station layout source: AECOM



**Geotechnical and Environmental  
Consultants, Inc.**  
919 LAKE BALDWIN LANE  
ORLANDO, FLORIDA 32814  
(407) 898-1818  
FAX (407) 898-1837  
COA NO. 00005882

**CENTRAL FLORIDA  
COMMUTER RAIL  
TRANSIT PROJECT  
(SUNRAIL)  
CSER  
SECOND ADDENDUM  
FPN #412994-3-52-01**

PROJECT NO.: 2135E

DATE: 11-17-09

SENIOR PROFESSIONAL: TJM  
P.E. NO. 65660

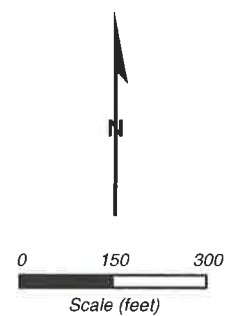
PROJECT PROFESSIONAL: TJM  
P.E. NO. 65660

DRAWN: SKR

REVISION:

**RISK RATING LEGEND**

<span style="display: inline-block; width: 15px; height: 15px; background-color: red; border: 1px solid black;"></span>	HIGH
<span style="display: inline-block; width: 15px; height: 15px; background-color: yellow; border: 1px solid black;"></span>	MEDIUM
<span style="display: inline-block; width: 15px; height: 15px; background-color: blue; border: 1px solid black;"></span>	LOW
<span style="display: inline-block; width: 15px; height: 15px; background-color: green; border: 1px solid black;"></span>	NO



**POINCIANA  
PASSENGER STATION**

**FIGURE 7**



## **APPENDIX B**

### **Tables**

Table 1  
Potential Hazardous Materials and Petroleum Impact Sites  
**Contamination Screening Evaluation Report Second Addendum**  
**Central Florida Commuter Rail Transit Project**  
GEC Project No. 2135E

SITE NO.	SITE NAME	SITE ADDRESS	CONTAMINANTS OF CONCERN	STORAGE TANKS	SOURCE	LOCATION VERIFIED	SITE STATUS	CRPR	COMMENTS
<b>DeLand Passenger Station</b>									
A(1)-3	Cole Brothers - Clyde Beatty Circus Facility	2505 Old New York Avenue, DeLand	Petroleum	Yes	Site Recon	Yes	A	MEDIUM	Identified in February 2007 CSER for CSX mainline.
A(1)-4	DeLand Amtrak Station	2491 Old New York Avenue, DeLand	none	No	Site Recon	Yes	A	NO	Identified in February 2007 CSER for CSX Mainline and November 2008 CSER for DeLand Spur.
1	Historic Gas Station	2502 Old New York Avenue, DeLand	Petroleum	Unknown	Site Recon	Yes	C	HIGH	Identified in April 2006 CSER for station locations, February 2007 CSER for CSX Mainline, and November 2008 CSER for DeLand Spur.
A(1)-6	Auto Repair Shop	2532 1/2 Old New York Avenue, DeLand	Petroleum	No	Site Recon	Yes	A	LOW	Identified in February 2007 CSER for CSX Mainline and November 2008 CSER for DeLand Spur.
A(1)-7	Hanson Pipe & Precast	840 West Avenue, DeLand	Petroleum	Yes	FSTC	Yes	A	HIGH	Identified in February 2007 CSER for CSX Mainline and November 2008 CSER for DeLand Spur.
DEL-3	Florida Contracting Company	2460 Old New York Avenue, DeLand	Petroleum	No	FSTC	Yes	C	MEDIUM	Identified in November 2008 CSER for DeLand Spur.
ADD-1	Joe Mills Septic Tank Service	770 West Avenue, DeLand	Hazardous substances	Yes	Site Recon	Yes	A	LOW	Storage tanks hold raw sewage from pump trucks. Multiple trucks parked on unpaved surfaces.
<b>Altamonte Springs Passenger Station</b>									
13	CITGO	100 E. State Road 436, Altamonte Springs	Petroleum	Yes	FSTC	Yes	A	MEDIUM	Identified in April 2006 CSER for station locations, August 2007 CSER Addendum for station locations, and March 2007 CSER for CSX Mainline.
14	Pep Boys	1029 E. State Road 436, Altamonte Springs	Petroleum	No	FSTC	Yes	A	MEDIUM	Identified in April 2006 CSER for station locations, August 2007 CSER Addendum for station locations, and March 2007 CSER for CSX Mainline.
15	Auto Body Service	2777 Ronald Reagan Boulevard, Altamonte Springs	Petroleum	No	Site Recon	Yes	C	HIGH	Identified in April 2006 CSER for station locations, August 2007 CSER Addendum for station locations, and March 2007 CSER for CSX Mainline.
16	Driver Tire	2751 Ronald Reagan Boulevard, Altamonte Springs	Petroleum	No	Site Recon	Yes	C	HIGH	Identified in April 2006 CSER for station locations and August 2007 CSER Addendum for station locations.
17	Seminole Glass	2741 Ronald Reagan Boulevard, Altamonte Springs	Petroleum	No	FSTC	Yes	C	MEDIUM	Identified in April 2006 CSER for station locations, August 2007 CSER Addendum for station locations, and March 2007 CSER for CSX Mainline.
18	Altamonte Springs Public Works Facility	225 Newbury Port Avenue, Altamonte Springs	Petroleum	Yes	FSTC	Yes	A	MEDIUM	Identified in April 2006 CSER for station locations.

Notes:  
C = Closed  
A = Active  
FSTC = FirstSearch Technology Corp.

Table 1  
Potential Hazardous Materials and Petroleum Impact Sites  
**Contamination Screening Evaluation Report Second Addendum**  
**Central Florida Commuter Rail Transit Project**  
GEC Project No. 2135E

SITE NO.	SITE NAME	SITE ADDRESS	CONTAMINANTS OF CONCERN	STORAGE TANKS	SOURCE	LOCATION VERIFIED	SITE STATUS	CRPR	COMMENTS
<b>Altamonte Springs Passenger Station</b>									
19	Sprint Florida	972 1st Avenue, Altamonte Springs	Petroleum	Yes	FSTC	Yes	A	LOW	Identified in April 2006 CSER for station locations.
20	Courtesy Towing	117 Marker Street, Altamonte Springs	Petroleum	No	Site Recon	Yes	C	MEDIUM	Identified in April 2006 CSER for station locations and August 2007 CSER Addendum for station locations.
F(6)-2	Mamie Weeks	109 Station Street, Altamonte Springs	Petroleum	No	Site Recon	Yes	C	LOW	Identified in March 2007 CSER for CSX Mainline.
F(6)-6	Former Range Paving	1 N. Station Street, Altamonte Springs	Petroleum	No	FSTC	Yes	C	MEDIUM	Identified in March 2007 CSER for CSX Mainline.
ADD-2	United States Postal Service	2721 Ronald Reagan Boulevard, Altamonte Springs	Petroleum	Yes	Site Recon	Yes	A	MEDIUM	Groundwater plume from Seminole Glass (Site No. 17) may extend onto this property. Site uses emergency generator with AST.
ADD-3	Bubbalou's Bar-BQ	1049 E. State Road 436, Altamonte Springs	Hazardous substances	No	Site Recon	Yes	A	LOW	Facility has operated as a restaurant since 1973.
ADD-4	Altamonte Springs Veterinary Hospital	1089 E. State Road 436, Altamonte Springs	Hazardous substances	No	Site Recon	Yes	A	LOW	Facility uses medicines and other hazardous substances.
ADD-5	Travel Country	1101 E. State Road 436, Altamonte Springs	Petroleum	No	Site Recon	Yes	A	LOW	Facility may sell petroleum or hazardous substances in sealed containers.
<b>Sand Lake Road Passenger Station</b>									
29	Ardaman & Associates	8008 S. Orange Avenue, Orlando	Petroleum	No	FSTC	Yes	A	LOW	Identified in April 2006 CSER for station locations and February 2007 CSER for CSX Mainline.
30	Orange County Public Utilities Pump Station	8034 S. Orange Avenue, Orlando	Petroleum	Yes	FSTC	Yes	A	LOW	Identified in April 2006 CSER for station locations and February 2007 CSER for CSX Mainline.
31	Former Exxon Gas Station	8099 S. Orange Avenue, Orlando	Petroleum	No	FSTC	Yes	C	LOW	Identified in April 2006 CSER for station locations.
32	Express Countertops Plus	8022 Office Court, Orlando	Hazardous substances	No	Site Recon	Yes	C	MEDIUM	Identified in April 2006 CSER for station locations.
CC	Chemcentral	8120 S. Orange Avenue, Orlando	Hazardous substances	Yes	FDOT	Yes	A	MEDIUM	Identified in January 2008 Level 2 Assessment for Sand Lake Road passenger station.

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Table 1  
 Potential Hazardous Materials and Petroleum Impact Sites  
**Contamination Screening Evaluation Report Second Addendum**  
**Central Florida Commuter Rail Transit Project**  
 GEC Project No. 2135E

SITE NO.	SITE NAME	SITE ADDRESS	CONTAMINANTS OF CONCERN	STORAGE TANKS	SOURCE	LOCATION VERIFIED	SITE STATUS	CRPR	COMMENTS
<b>Sand Lake Road Passenger Station</b>									
H(8)-201	Southeast Correct Craft	7576 S. Orange Avenue, Orlando	Hazardous substances	No	FSTC	Yes	A	MEDIUM	Identified in February 2007 CSER for CSX Mainline.
H(8)-202	Former Auto Service	7600 S. Orange Avenue	Petroleum	No	Site Recon	Yes	A	NO	Identified in February 2007 CSER for CSX Mainline.
H(8)-205	Jenks Metals	8145 S. Orange Avenue, Orlando	Hazardous substances	Yes	Site Recon	Yes	A	LOW	Identified in February 2007 CSER for CSX Mainline.
ADD-6	Baybrook Homes Incorporated	8000 S. Orange Avenue, Orlando	Unknown	Unknown	Site Recon	Yes	A	LOW	Site is located within station footprint. Building has been on site since 1975.
ADD-7	Ardaman & Associates	8026 Office Court, Orlando	Petroleum	No	Site Recon	Yes	A	MEDIUM	This site is the storage and maintenance area for the drilling rigs and other equipment. The facility was built in the early 1980s.
ADD-8	McDonald's Restaurant	8060 S. Orange Avenue, Orlando	none	No	Site Recon	Yes	A	LOW	Facility has been a restaurant since 1981.
ADD-9	Denny's Restaurant	8076 S. Orange Avenue, Orlando	none	No	Site Recon	Yes	A	LOW	Facility has been a restaurant since 1983.
ADD-10	Professional Offices	8007-8009 S. Orange Avenue, Orlando	Petroleum	Unknown	Site Recon	Yes	A	MEDIUM	Site was developed as residential in 1955, commercial in 1986. Possible heating oil tanks.
ADD-11	Bauer Stube German Restaurant	8015 S. Orange Avenue, Orlando	none	No	Site Recon	Yes	A	LOW	Facility has been a restaurant since 1986.
ADD-12	Agner Auto Parts	8012 S. Orange Avenue, Orlando	Petroleum	Unknown	Site Recon	Yes	A	MEDIUM	Site was developed in 1955 and appears to have been an auto repair facility since then.
ADD-13	Abandoned Building	8027 S. Orange Avenue, Orlando	Hazardous substances	Unknown	Site Recon	Yes	C	MEDIUM	Site was developed as commercial property in 1955. Possible heating oil tanks.
ADD-14	Burger King Restaurant	8091 S. Orange Avenue, Orlando	none	No	Site Recon	Yes	A	LOW	Facility has operated as a restaurant since 1986.
<b>Meadow Woods Passenger Station</b>									
33	Speedy Market/CITGO	110 Fairway Woods Boulevard, Meadow Woods	Petroleum	Yes	FSTC	Yes	A	HIGH	Identified in April 2006 CSER for station locations and February 2007 CSER for CSX Mainline.
ADD-15	Meadow Woods Shopping Center	120 Fairway Woods Boulevard, Meadow Woods	Unknown	No	Site Recon	Yes	A	LOW	Site was developed as commercial property in 1986.
ADD-16	La Petite Academy	12300 Landstar Boulevard, Meadow Woods	Unknown	No	Site Recon	Yes	A	LOW	Site was developed as commercial property in 1986.

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 FSTC = FirstSearch Technology Corp.

Table 1  
Potential Hazardous Materials and Petroleum Impact Sites  
**Contamination Screening Evaluation Report Second Addendum**  
**Central Florida Commuter Rail Transit Project**  
GEC Project No. 2135E

SITE NO.	SITE NAME	SITE ADDRESS	CONTAMINANTS OF CONCERN	STORAGE TANKS	SOURCE	LOCATION VERIFIED	SITE STATUS	CRPR	COMMENTS
<b>Osceola Parkway Passenger Station</b>									
34	Osceola CITGO	3090 Michigan Avenue, Kissimmee	Petroleum	Yes	FSTC	Yes	A	LOW	Identified in April 2006 CSER for station locations.
35	Wal-Mart Supercenter and Tire & Lube Express	1471 E. Osceola Parkway, Kissimmee	Petroleum	Yes	FSTC	Yes	A	LOW	Identified in April 2006 CSER for station locations.
ADD-17	Osceola Parkway Shopping Center	1307 E. Osceola Parkway, Kissimmee	Unknown	Unknown	Site Recon	Yes	A	LOW	Site was developed for commercial purposes between 2005 and 2008.
ADD-18	Raven	3510 Seaman Avenue, Kissimmee	Unknown	Unknown	Site Recon	Yes	A	LOW	Site was developed for light manufacturing in 1998. The nature of the manufacturing is unknown due to access restrictions.
<b>Kissimmee Passenger Station</b>									
36	Historic Auto Repair Shop	east corner of intersection of Darlington Avenue and Pleasant Road, Kissimmee	Petroleum	Unknown	Sanborn maps	Yes	C	HIGH	Identified in April 2006 CSER for station locations.
37	Historic Dry Cleaners	intersection of Dalkin Avenue and Pleasant Street, Kissimmee	Hazardous substances	Unknown	Sanborn maps	Yes	C	HIGH	Identified in April 2006 CSER for station locations.
38	J&B Mini Mart	11 Neptune Road, Kissimmee	none	No	Site Recon	Yes	A	LOW	Identified in April 2006 CSER for station locations and February 2007 CSER for CSX Mainline.
39	Sprint Florida	418 Broadway Street, Kissimmee	Petroleum	Yes	FSTC	Yes	A	LOW	Identified in April 2006 CSER for station locations and February 2007 CSER for CSX Mainline.
40	Wolfman Rods	404 Broadway Street, Kissimmee	Petroleum	No	Site Recon	Yes	A	LOW	Identified in April 2006 CSER for station locations and February 2007 CSER for CSX Mainline.
41	Moonlight Starter and Generator	312 Broadway Street, Kissimmee	Petroleum	Yes	FSTC	Yes	A	LOW	Identified in April 2006 CSER for station locations and February 2007 CSER for CSX Mainline.
42	BB&T Bank	200 Broadway Street, Kissimmee	Petroleum	Yes	FSTC	Yes	A	LOW	Identified in April 2006 CSER for station locations and February 2007 CSER for CSX Mainline.
43	Broadway Dry Cleaners	415 Broadway Street, Kissimmee	Hazardous substances	Unknown	Site Recon	Yes	C	LOW	Identified in April 2006 CSER for station locations.
44	PPG Collision	307 Broadway Street, Kissimmee	Petroleum	Unknown	Site Recon	Yes	A	LOW	Identified in April 2006 CSER for station locations.

Notes:

C = Closed

A = Active

FSTC = FirstSearch Technology Corp.

Table 1  
 Potential Hazardous Materials and Petroleum Impact Sites  
**Contamination Screening Evaluation Report Second Addendum**  
**Central Florida Commuter Rail Transit Project**  
 GEC Project No. 2135E

SITE NO.	SITE NAME	SITE ADDRESS	CONTAMINANTS OF CONCERN	STORAGE TANKS	SOURCE	LOCATION VERIFIED	SITE STATUS	CRPR	COMMENTS
<b>Kissimmee Passenger Station</b>									
J(10)-66	Historic Gas Station	300 Broadway Street, Kissimmee	Petroleum	Unknown	Sanborn maps	Yes	C	MEDIUM	Identified in February 2007 CSER for CSX Mainline.
J(10)-67	Kissimmee Civic Center and Vacant Lot	201 Dakin Avenue, Kissimmee	Petroleum	No	Sanborn maps	Yes	C	MEDIUM	Identified in February 2007 CSER for CSX Mainline. Site includes lumber mill and separate veneering mill located in areas of current station layout modification, Sanborn maps 1914 - 1944.
J(10)-69	Historic Auto Service	103 Broadway Street, Kissimmee	Petroleum	Unknown	Sanborn maps	Yes	C	MEDIUM	Identified in February 2007 CSER for CSX Mainline.
J(10)-70	Shadal's DaCor	106 Broadway Street, Kissimmee	Hazardous substances	No	Site Recon	Yes	A	LOW	Identified in February 2007 CSER for CSX Mainline.
J(10)-71	Former Gas Station	22 Broadway Street, Kissimmee	Petroleum	Unknown	Site Recon	Yes	C	MEDIUM	Identified in February 2007 CSER for CSX Mainline.
<b>Poinciana Passenger Station</b>									
45	SVC Manufacturing/PepsiCo/Quaker Oats Company	1650 S. Poinciana Boulevard, Poinciana	Petroleum	Yes	FSTC	Yes	A	LOW	Identified in April 2006 CSER for station locations and February 2007 CSER for CSX Mainline.

Notes:  
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 A = Active  
 FSTC = FirstSearch Technology Corp.

## **APPENDIX C**

### **Photographs**



# Photographic Log

<b>Client Name:</b> AECOM	<b>Project Name:</b> Central Florida Commuter Rail Transit Project (SunRail)	<b>Project Location:</b> Volusia, Seminole, Orange, and Osceola Counties	<b>GEC Project No.:</b> 2135E
------------------------------	--	--	----------------------------------

Photo: 1 Date: 11/10/09

**Description:**

**Site No ADD-1**

Joe Mills Septic Tank  
Service  
770 West Avenue  
DeLand

View of property,  
facing northeast from  
West Avenue.



Photo: 2 Date: 11/13/09

**Description:**

**Site No. ADD-2**

US Postal Service  
2721 Ronald Reagan  
Boulevard  
Altamonte Springs

View of front lot of  
US Postal Service  
center, from  
northwest corner  
facing southeast.





# Photographic Log

**Client Name:**

AECOM

**Project Name:**

Central Florida Commuter Rail  
Transit Project (SunRail)

**Project Location:**

Volusia, Seminole, Orange,  
and Osceola Counties

**GEC Project No.:**

2135E

Photo:

3

Date:

11/13/09

Description:

**Site No. ADD-3**

Bubbalou's Bar-BQ

1049 E. SR 436

Altamonte Springs

View of restaurant  
property, from SR  
436 facing northwest.



Photo:

4

Date:

11/10/09

Description:

**Site No. ADD-4**

Altamonte Springs

Veterinary Hospital

1089 E. SR 436

Altamonte Springs


View of hospital  
property, from SR  
436 facing northwest



# Photographic Log

<b>Client Name:</b> AECOM	<b>Project Name:</b> Central Florida Commuter Rail Transit Project (SunRail)	<b>Project Location:</b> Volusia, Seminole, Orange, and Osceola Counties	<b>GEC Project No.:</b> 2135E
------------------------------	--	--	----------------------------------

<b>Photo:</b> 5	<b>Date:</b> 11/10/09	
<b>Description:</b>  <b>Site No. ADD-5</b> Travel Country 1101 E. SR 436 Altamonte Springs  View of property, from west end of parking lot facing east.		

<b>Photo:</b> 6	<b>Date:</b> 11/13/09	
<b>Description:</b>  <b>Site No. ADD-6</b> Baybrook Homes Incorporated 8000 S. Orange Ave. Orlando  View of property from Orange Avenue, facing southwest.		



# Photographic Log

<b>Client Name:</b> AECOM	<b>Project Name:</b> Central Florida Commuter Rail Transit Project (SunRail)	<b>Project Location:</b> Volusia, Seminole, Orange, and Osceola Counties	<b>GEC Project No.:</b> 2135E
------------------------------	--	--	----------------------------------

Photo: 7	Date: 11/13/09	
Description:		

**Site No. ADD-7**  
Ardaman &  
Associates  
8026 Office Court  
Orlando

View of Ardaman  
building, from Office  
Court facing  
northwest.

Photo: 8	Date: 11/13/09
Description:	
<b>Site No. ADD-8</b> McDonald's Restaurant 8060 S. Orange Ave. Orlando	
<b>Site No. ADD-9</b> Denny's Restaurant 8076 S. Orange Ave. Orlando	
View of both properties, from Orange Ave. facing northwest	

A photograph showing a wide view of a commercial intersection from a grassy embankment in the foreground. A multi-lane asphalt road runs horizontally across the middle of the frame. Several vehicles are visible: a dark sedan on the left, a light blue SUV in the center, a white SUV further right, and a dark car on the far right. In the background, there are commercial buildings. On the left, a tall, black pole supports a yellow sign with 'Denny's' in red script. Further back and to the right, a McDonald's restaurant with its golden arches sign is visible. The sky is blue with scattered white clouds. The overall scene is a typical suburban commercial area.

# Photographic Log

<b>Client Name:</b> AECOM	<b>Project Name:</b> Central Florida Commuter Rail Transit Project (SunRail)	<b>Project Location:</b> Volusia, Seminole, Orange, and Osceola Counties	<b>GEC Project No.:</b> 2135E
------------------------------	--	--	----------------------------------

Photo: 9	Date: 11/13/09	
Description:		

**Site No. ADD-10**  
Professional Offices  
8007-8009 S. Orange  
Ave.  
Orlando

View of front of  
property, from  
Orange Ave. facing  
northeast.

Photo: 10	Date: 11/13/09	
Description:		
<b>Site No. ADD-11</b> Bauern Stube German Restaurant 8015 S. Orange Ave. Orlando  View of front of property, from Orange Avenue facing east.		



# Photographic Log

<b>Client Name:</b> AECOM	<b>Project Name:</b> Central Florida Commuter Rail Transit Project (SunRail)	<b>Project Location:</b> Volusia, Seminole, Orange, and Osceola Counties	<b>GEC Project No.:</b> 2135E
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Photo: 11 Date: 11/13/09

Description:

**Site No. ADD-12**

Agner Auto Parts  
8021 S. Orange Ave.  
Orlando

View of property,  
from Orange Avenue  
facing northeast.



Photo: 12 Date: 11/13/09

Description:

**Site No. ADD-13**

Abandoned Building  
8027 S. Orange Ave.  
Orlando

View of property,  
from Orange Avenue  
facing east.



# Photographic Log

<b>Client Name:</b> AECOM	<b>Project Name:</b> Central Florida Commuter Rail Transit Project (SunRail)	<b>Project Location:</b> Volusia, Seminole, Orange, and Osceola Counties	<b>GEC Project No.:</b> 2135E
------------------------------	--	--	----------------------------------

Photo: 13	Date: 11/13/09	
Description:		

**Site No. ADD-14**  
Burger King  
Restaurant  
8091 S. Orange Ave.  
Orlando

View of property,  
from south side  
facing north.

Photo: 14	Date: 11/13/09	
Description:  <b>Site No. ADD-15</b> Meadow Woods Shopping Center 120 Fairway Woods Blvd. Meadow Woods  View of strip mall, from east side facing west		



# Photographic Log

<b>Client Name:</b> AECOM	<b>Project Name:</b> Central Florida Commuter Rail Transit Project (SunRail)	<b>Project Location:</b> Volusia, Seminole, Orange, and Osceola Counties	<b>GEC Project No.:</b> 2135E
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Photo: 15	Date: 11/13/09
Description:	
<p><b>Site No. ADD-16</b> La Petite Academy 12300 Landstar Blvd. Orlando</p> <p>View of building, from east side facing south.</p>	



Photo: 16	Date: 11/10/09
Description:	
<p><b>Site No. ADD-17</b> Osceola Parkway Shopping Center 1307 E. Osceola Pkwy. Kissimmee</p> <p>View of strip mall, from north side, facing southwest.</p>	



# Photographic Log

<b>Client Name:</b> AECOM	<b>Project Name:</b> Central Florida Commuter Rail Transit Project (SunRail)	<b>Project Location:</b> Volusia, Seminole, Orange, and Osceola Counties	<b>GEC Project No.:</b> 2135E
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Photo: 17	Date: 11/10/09	
Description:  <b>Site No. ADD-18</b> Raven 3510 Seaman Ave. Kissimmee  View of Raven facility, from Seaman Avenue facing east.		

Photo:	Date:	
Description:		

**APPENDIX D**  
**FSTC Database Reports**

# ***FirstSearch Technology Corporation***

## **Environmental FirstSearch™ Report**

Target Property:

**S POINCIANA BLVD**

**Kissimmee FL 34758**

Job Number: 2135E

### **PREPARED FOR:**

GEC

919 Lake Baldwin Lane

Orlando, FL 32814

11-10-09



*Tel: (781) 551-0470*

*Fax: (781) 551-0471*

# Environmental FirstSearch Search Summary Report

**Target Site:** S POINCIANA BLVD  
Kissimmee FL 34758

## FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	09-11-09	1.00	0	0	0	0	0	0	0
NPL Delisted	Y	09-11-09	0.50	0	0	0	0	-	0	0
CERCLIS	Y	10-01-09	0.50	0	0	0	0	-	0	0
NFRAP	Y	10-01-09	0.50	0	0	0	0	-	0	0
RCRA COR ACT	Y	10-14-09	1.00	0	0	0	0	0	0	0
RCRA TSD	Y	10-14-09	0.50	0	0	0	0	-	0	0
RCRA GEN	Y	10-14-09	0.25	0	1	2	-	-	0	3
Federal IC / EC	Y	08-06-09	0.50	0	0	0	0	-	0	0
ERNS	Y	09-13-09	0.25	0	1	0	-	-	0	1
Tribal Lands	Y	12-01-05	1.00	0	0	0	0	0	2	2
State/Tribal Sites	Y	08-13-09	1.00	0	0	0	0	0	0	0
State Spills 90	Y	09-02-09	0.25	0	0	1	-	-	0	1
State/Tribal SWL	Y	09-15-09	0.50	0	0	0	0	-	0	0
State/Tribal LUST	Y	09-02-09	0.50	0	0	2	1	-	1	4
State/Tribal UST/AST	Y	09-02-09	0.25	0	2	3	-	-	0	5
State/Tribal EC	Y	10-09-09	0.50	0	0	0	0	-	0	0
State/Tribal IC	Y	10-09-09	0.25	0	0	0	-	-	0	0
State/Tribal VCP	Y	NA	0.50	0	0	0	0	-	0	0
State/Tribal Brownfields	Y	08-05-09	0.50	0	0	0	0	-	0	0
State Other	Y	09-02-09	0.25	0	0	0	-	-	0	0
- TOTALS -				0	4	8	1	0	3	16

### Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to FirstSearch Technology Corp., certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in FirstSearch Technology Corp.'s databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

### Waiver of Liability

Although FirstSearch Technology Corp. uses its best efforts to research the actual location of each site, FirstSearch Technology Corp. does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of FirstSearch Technology Corp.'s services proceeding are signifying an understanding of FirstSearch Technology Corp.'s searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

***Environmental FirstSearch  
Site Information Report***

**Request Date:** 11-10-09  
**Requestor Name:** tmulligan/gec/bc  
**Standard:** AAI

**Search Type:** COORD  
**Job Number:** 2135E  
**Filtered Report**

**Target Site:** S POINCIANA BLVD  
Kissimmee FL 34758

*Demographics*

<b>Sites:</b> 16	<b>Non-Geocoded:</b> 3	<b>Population:</b> NA
<b>Radon:</b> NA		

*Site Location*

	<u>Degrees (Decimal)</u>	<u>Degrees (Min/Sec)</u>		<u>UTMs</u>
<b>Longitude:</b>	-81.486713	-81:29:12	<b>Easting:</b>	452258.533
<b>Latitude:</b>	28.258352	28:15:30	<b>Northing:</b>	3125745.09
<b>Elevation:</b>	86		<b>Zone:</b>	17

*Comment*

**Comment:**

*Additional Requests/Services*

**Adjacent ZIP Codes:** 1 Mile(s)

**Services:**

ZIP Code	City Name	ST	Dist/Dir	Sel
34746	Kissimmee	FL	0.04 NE	Y

	<b>Requested?</b>	<b>Date</b>
Fire Insurance Maps	No	
Aerial Photographs	No	
Historical Topos	No	
City Directories	No	
Title Search/Env Liens	No	
Municipal Reports	No	
Online Topos	No	



# *Environmental FirstSearch*

## *Sites Summary Report*

**Target Property:** S POINCIANA BLVD  
Kissimmee FL 34758

**JOB:** 2135E

**TOTAL:** 16      **GEOCODED:** 13      **NON GEOCODED:** 3      **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
1	ERNS	POINCIANA AND OLD TAMPA RD. NRC-714324/MOBILE	UNKNOWN KISSIMMEE FL 34746	0.07 NE	- 16	1
2	RCRAGN	SVC MANUFACTURING FLD984175281/SGN	1650 S POINCIANA BLVD KISSIMMEE FL 34758	0.11 SE	- 14	4
2	UST	PEPSICO 499808670/OPEN	1650 S POINCIANA BLVD KISSIMMEE FL 34758	0.11 SE	- 14	5
2	UST	QUAKER OATS CO 498520971/OPEN	3270 S POINCIANA BLVD KISSIMMEE FL 34758	0.11 SE	- 14	6
3	LUST	7-ELEVEN FOOD STORE 32662 499800754/FACILITY OPEN	5101 S ORANGE BLOSSOM TRL KISSIMMEE FL 34758	0.15 SW	- 12	7
3	SPILLS	7-ELEVEN FOOD STORE 32662 499800754/OPEN	5101 S ORANGE BLOSSOM TRL KISSIMMEE FL 34758	0.15 SW	- 12	10
3	UST	7-ELEVEN FOOD STORE 32662 499800754/OPEN	5101 S ORANGE BLOSSOM TRL KISSIMMEE FL 34758	0.15 SW	- 12	12
4	UST	LEPRINO FOODS CO 498520986/CLOSED	3152 AVE B AVE KISSIMMEE FL 34758	0.17 SW	- 15	14
5	LUST	CIRCLE K 2709748 498513727/FACILITY OPEN	3201 N POINCIANA BLVD KISSIMMEE FL 34758	0.18 SE	- 12	15
5	RCRAGN	STAR ENTERPRISE FLD984191551/SGN	3201 N POINCIANA KISSIMMEE FL 34758	0.18 SE	- 12	25
5	UST	CIRCLE K 2709748 498513727/OPEN	3201 N POINCIANA BLVD KISSIMMEE FL 34758	0.18 SE	- 12	26
6	RCRAGN	DBA SYSTEMS INC FLD032380511/SGN	2931 N POINCIANA BLVD KISSIMMEE FL 34758	0.25 SE	- 10	29
7	LUST	CARGILL INC NUTRENA FEED DIV 499045950/FACILITY OPEN	1845 AVENUE A KISSIMMEE FL 34758	0.44 SW	- 13	30

***Environmental FirstSearch  
Sites Summary Report***

**Target Property:** S POINCIANA BLVD  
Kissimmee FL 34758

**JOB:** 2135E

**TOTAL:** 16      **GEOCODED:** 13      **NON GEOCODED:** 3      **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
	LUST	SEVERN TRENT SERVICES 539808071/FACILITY CLOSED	4601 RHODODENDRON AVE POINCIANA FL 34758	NON GC	N/A	N/A
	TRIBALLAND	BUREAU OF INDIAN AFFAIRS CONTACT I BIA-34746	UNKNOWN FL 34746	NON GC	N/A	N/A
	TRIBALLAND	BUREAU OF INDIAN AFFAIRS CONTACT I BIA-34758	UNKNOWN FL 34758	NON GC	N/A	N/A

## Environmental FirstSearch Descriptions

**NPL: EPA** NATIONAL PRIORITY LIST - The National Priorities List is a list of the worst hazardous waste sites that have been identified by Superfund. Sites are only put on the list after they have been scored using the Hazard Ranking System (HRS), and have been subjected to public comment. Any site on the NPL is eligible for cleanup using Superfund Trust money.

A Superfund site is any land in the United States that has been contaminated by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

FINAL - Currently on the Final NPL

PROPOSED - Proposed for NPL

**NPL DELISTED: EPA** NATIONAL PRIORITY LIST Subset - Database of delisted NPL sites. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425(e), sites may be deleted from the NPL where no further response is appropriate.

DELISTED - Deleted from the Final NPL

**CERCLIS: EPA** COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM (CERCLIS)- CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL.

PART OF NPL- Site is part of NPL site

DELETED - Deleted from the Final NPL

FINAL - Currently on the Final NPL

NOT PROPOSED - Not on the NPL

NOT VALID - Not Valid Site or Incident

PROPOSED - Proposed for NPL

REMOVED - Removed from Proposed NPL

SCAN PLAN - Pre-proposal Site

WITHDRAWN - Withdrawn

**NFRAP: EPA** COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM ARCHIVED SITES - database of Archive designated CERCLA sites that, to the best of EPA's knowledge, assessment has been completed and has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

NFRAP - No Further Remedial Action Plan

P - Site is part of NPL site

D - Deleted from the Final NPL

F - Currently on the Final NPL

N - Not on the NPL

O - Not Valid Site or Incident

P - Proposed for NPL

R - Removed from Proposed NPL

S - Pre-proposal Site

W - Withdrawn

**RCRA COR ACT: EPA** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984. RCRAInfo facilities that have reported violations and subject to corrective actions.

**RCRA TSD: EPA** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM TREATMENT, STORAGE, and DISPOSAL FACILITIES. - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.

Facilities that treat, store, dispose, or incinerate hazardous waste.

**RCRA GEN: EPA/MA DEP/CT DEP** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM GENERATORS - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.

Facilities that generate or transport hazardous waste or meet other RCRA requirements.

LGN - Large Quantity Generators

SGN - Small Quantity Generators

VGN - Conditionally Exempt Generator.

Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List) facilities.

CONNECTICUT HAZARDOUS WASTE MANIFEST - Database of all shipments of hazardous waste within, into or from Connecticut. The data includes date of shipment, transporter and TSD info, and material shipped and quantity. This data is appended to the details of existing generator records.

MASSACHUSETTES HAZARDOUS WASTE GENERATOR - database of generators that are regulated under the MA DEP.

VQN-MA = generates less than 220 pounds or 27 gallons per month of hazardous waste or waste oil.

SQN-MA = generates 220 to 2,200 pounds or 27 to 270 gallons per month of waste oil.

LQG-MA = generates greater than 2,200 lbs of hazardous waste or waste oil per month.

**Federal IC / EC: EPA** BROWNFIELD MANAGEMENT SYSTEM (BMS) - database designed to assist EPA in collecting, tracking, and updating information, as well as reporting on the major activities and accomplishments of the various Brownfield grant Programs.

FEDERAL ENGINEERING AND INSTITUTIONAL CONTROLS- Superfund sites that have either an engineering or an institutional control. The data includes the control and the media contaminated.

**ERNS: EPA/NRC** EMERGENCY RESPONSE NOTIFICATION SYSTEM (ERNS) - Database of incidents reported to the National Response Center. These incidents include chemical spills, accidents involving chemicals (such as fires or explosions), oil spills, transportation accidents that involve oil or chemicals, releases of radioactive materials, sightings of oil sheens on bodies of water, terrorist incidents involving chemicals, incidents where illegally dumped chemicals have been found, and drills intended to prepare responders to handle these kinds of incidents. Data since January 2001 has been received from the National Response System database as the EPA no longer maintains this data.

**Tribal Lands: BIA** INDIAN LANDS AND NATIVE ENTITIES IN FLORIDA - database of American Indian reservations in Florida.

**Tribal Lands: DOI/BIA** INDIAN LANDS OF THE UNITED STATES - Database of areas with boundaries established by treaty, statute, and (or) executive or court order, recognized by the Federal Government as territory in which American Indian tribes have primary governmental authority. The Indian Lands of the United States map layer shows areas of 640 acres or more, administered by the Bureau of Indian Affairs. Included are Federally-administered lands within a reservation which may or may not be considered part of the reservation.

BUREAU OF INDIAN AFFAIRS CONTACT - Regional contact information for the Bureau of Indian Affairs offices.

**State/Tribal Sites: FL DER/DEP/EPA** FLORIDA SITES LIST - database of identified facilities and/or

locations that the Florida Department of Environmental Regulation has recognized with potential or existing environmental contamination.

**SUPERFUND HAZARDOUS WASTE SITES-** database that correlates to the NPL list and includes active, delisted, and Federal sites.

**State Spills 90: FDEP PETROLEUM CONTAMINATION AND CLEANUP REPORTS** - database of contaminated facility reports provide the Facility ID, Facility Type, Score, Rank, Operator Information, and Owner Information, for facilities that currently have contamination

**State/Tribal SWL: FDEP SOLID WASTE FACILITIES LIST** - database concerned with the handling of waste and includes locations identified with solid waste landfilling or associated activities involving the handling of solid waste. The presence of a site on this list does not necessarily indicate existing environmental contamination, but rather the potential. The FDEP assigns scores to the sites based on the threat to human health and the environment. The Rank is determined by the site's Score and reflects the state's priority for remedial action on that site. Typically, the lower the Rank value, the greater the priority for remedial action from the state.

**State/Tribal LUST: FDEP LEAKING UNDERGROUND STORAGE TANKS LIST** - database of petroleum storage tank systems that have reported the possible release of contaminants. Included within this list are sites that are in the Florida Early Detection Incentive (EDI) Program, the Abandoned Tank Restoration Program (ATRP) and the Petroleum Liability Insurance Restoration Program (PLIRP). These programs support remedial action or reimbursement for those sites with environmental problems due to leaking fuel storage tanks. Some sites listed in the report have not yet been accepted in these programs.

**State/Tribal UST/AST: FDEP/EPA STORAGE TANK AND CONTAMINATION MONITORING DATABASE** - Database of all storage tank facilities registered with the Department and tracked for active storage tanks, storage tank history, or petroleum cleanup activity. Information includes facility identification number, site location information, and basic storage tank information such as size, placement, substance stored, installation date and current tank status.

**TRIBAL LAND UNDERGROUND STORAGE TANKS** - database of underground storage tanks that are reported to be on Native American lands. These sites are reported to the region 4 office of the EPA by the local tribal governments. The sites can be identified by their ID: NL-FL- number.

**State/Tribal EC: FDEP INSTITUTIONAL CONTROLS REGISTRY DATABASE Subset-** database of sites that have institutional controls and engineering controls was developed to assist with tracking those properties upon which an institutional control has been imposed pursuant to the provisions contained in Chapters 376 or 403, F.S. For Brownfield sites the ICR has been prepared for the public and local governments to monitor the status of those controls.

**State/Tribal IC: FDEP INSTITUTIONAL CONTROLS REGISTRY DATABASE** - database of institutional controls was developed to assist with tracking those properties upon which an institutional control has been imposed pursuant to the provisions contained in Chapters 376 or 403, F.S. For Brownfield sites the ICR has been prepared for the public and local governments to monitor the status of those controls.

**State/Tribal VCP: FL DEP VOLUNTARY CLEANUP PROGRAM-** A static state wide database of sites that have or may receive a tax credit. Tax credits are issued based on a percentage of the costs of "voluntary" cleanup. In other words, the person conducting cleanup is paying for it rather than the site being cleaned up using state funding through the Drycleaning Solvent Cleanup Program. The following three types of sites may be eligible for tax credits: (1) A drycleaning solvent contaminated site eligible for state-funded site rehabilitation under s. 376.3078(3), F.S.; (2) A drycleaning solvent contaminated site at which cleanup is undertaken by the real property owner pursuant to s. 376.3078(10), F.S., if the real property owner is not also, and has never been, the owner or operator of the drycleaning facility where the contamination exists; or (3) A brownfield site in a designated brownfield area under s. 376.80, F.S.

**State/Tribal Brownfields: FDEP BROWNFIELDS REDEVELOPMENT PROGRAM DATABASE-** database of reports generated from the Brownfield Access Database which tracks the number of designated Brownfield areas, executed Brownfield site rehabilitation agreements, state and federal programs funding, and local Brownfield coordinators' contact information

**RADON: NTIS NATIONAL RADON DATABASE** - EPA radon data from 1990-1991 national radon

project collected for a variety of zip codes across the United States.

**State Other: *FDEP* SINKHOLES** - database of sinkholes from the Florida Geological Survey Sinkholes.

**DRYCLEANERS LIST** - database of dry cleaning facilities registered with the Department. Information includes facility identification number, site location information, related party (owner) information, and facility type and status. Data is taken from the Storage Tank & Contamination Monitoring database, the registration repository of dry cleaner facility data.

**CATTLE DIPPING VATS** - database of vats that were filled with an arsenic solution for the control and eradication of the cattle fever tick. Other pesticides such as DDT were also widely used. This is a static list from 1910 through 1950s.

**State Other: *US DOJ* NATIONAL CLANDESTINE LABORATORY REGISTER** - Database of addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the U.S. Department of Justice ("the Department"), and the Department has not verified the entry and does not guarantee its accuracy. All sites that are included in this data set will have an id that starts with NCLR.



## Environmental FirstSearch Database Sources

**NPL: EPA** Environmental Protection Agency

*Updated quarterly*

**NPL DELISTED: EPA** Environmental Protection Agency

*Updated quarterly*

**CERCLIS: EPA** Environmental Protection Agency

*Updated quarterly*

**NFRAP: EPA** Environmental Protection Agency.

*Updated quarterly*

**RCRA COR ACT: EPA** Environmental Protection Agency.

*Updated quarterly*

**RCRA TSD: EPA** Environmental Protection Agency.

*Updated quarterly*

**RCRA GEN: EPA/MA DEP/CT DEP** Environmental Protection Agency, Massachusetts Department of Environmental Protection, Connecticut Department of Environmental Protection

*Updated quarterly*

**Federal IC / EC: EPA** Environmental Protection Agency

*Updated quarterly*

**ERNS: EPA/NRC** Environmental Protection Agency

*Updated annually*

**Tribal Lands: BIA** Bureau of Indian Affairs

*Updated when available*

**Tribal Lands: DOI/BIA** United States Department of the Interior

*Updated annually*

**State/Tribal Sites: FL DER/DEP/EPA** Florida Department of Environmental Protection, Bureau of Waste Cleanup

*Updated quarterly*

**State Spills 90: FDEP** Florida Department of Environmental Protect

*Updated quarterly*

**State/Tribal SWL: FDEP** Florida Department of Environmental Protection

*Updated annually*

**State/Tribal LUST: FDEP** Florida Department of Environmental Protection

*Updated quarterly*

**State/Tribal UST/AST: FDEP/EPA** Florida Department of Environmental Protection

*Updated quarterly*

**State/Tribal EC: FDEP** Florida Department of Environmental Protect

*Updated quarterly*

**State/Tribal IC: FDEP** Florida Department of Environmental Protect

*Updated quarterly*

**State/Tribal VCP: FL DEP** Florida Department of Environmental Protection

*Updated no longer available*

**State/Tribal Brownfields: FDEP** The Florida Department of Environmental Protection, Division of Waste Management.

*Updated quarterly*

**RADON: NTIS** Environmental Protection Agency, National Technical Information Services

*Updated periodically*

**State Other: FDEP** Florida Department of Environmental Protection Storage Tank & Contamination Monitoring.

Florida Department of Environmental Protection Cattle Dipping Vats

*Updated quarterly*

**State Other:** *US DOJ* U.S. Department of Justice

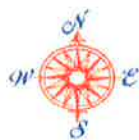
*Updated when available*

***Environmental FirstSearch***  
***Street Name Report for Streets within .25 Mile(s) of Target Property***

**Target Property:** S POINCIANA BLVD  
Kissimmee FL 34758

**JOB:** 2135E

Street Name	Dist/Dir	Street Name	Dist/Dir
Avenue B	0.16 -W		
County Road 532	0.15 SW		
Evans Way	0.04 NE		
Old Tampa Hwy	0.04 NE		
S Orange Blossom Trl	0.15 SW		
S Poinciana Blvd	0.04 -E		
S Rail Ave	0.20 NE		
United States Highwa	0.15 SW		
United States Highwa	0.15 SW		



## Environmental FirstSearch

1 Mile Radius

ASTM Map: NPL, RCRACOR, STATE Sites



**S POINCIANA BLVD, Kissimmee FL 34758**



Source: 2005 U.S. Census TIGER Files

Target Site (Latitude: 28.258352 Longitude: -81.486713) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius





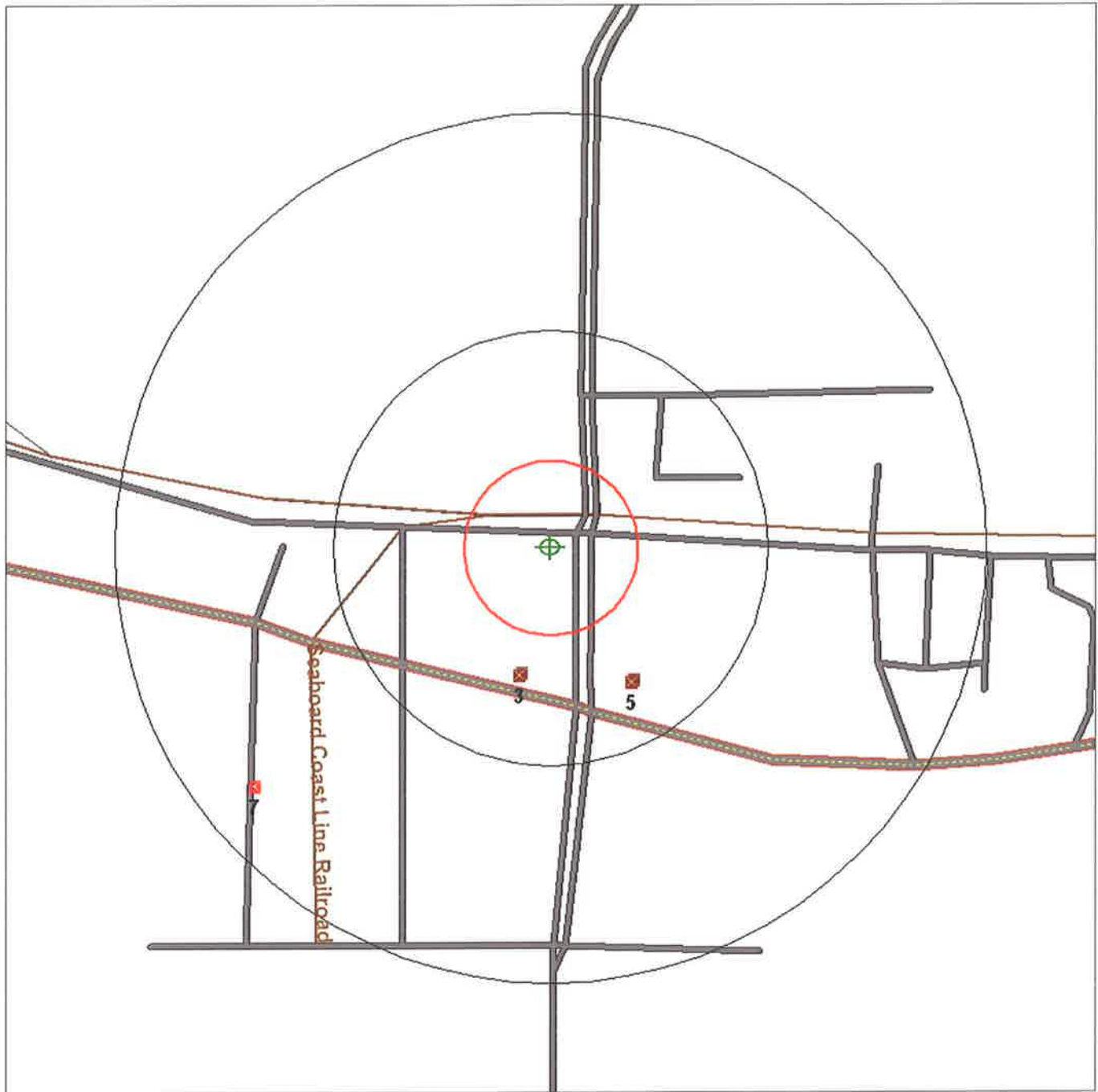
## Environmental FirstSearch

.5 Mile Radius

ASTM Map: CERCLIS, RCRATSD, LUST, SWL



**S POINCIANA BLVD, Kissimmee FL 34758**



Source: 2005 U.S. Census TIGER Files

Target Site (Latitude: 28.258352 Longitude: -81.486713) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand .....

Railroads .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius







## Environmental FirstSearch

.25 Mile Radius  
ASTM Map: RCRAGEN, ERNS, UST



### S POINCIANA BLVD, Kissimmee FL 34758



Source: 2005 U.S. Census TIGER Files

Target Site (Latitude: 28.258352 Longitude: -81.486713) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius





## Environmental FirstSearch

.25 Mile Radius  
Non-ASTM Map: Spills 90, Other



**S POINCIANA BLVD, Kissimmee FL 34758**



*Source: 2005 U.S. Census TIGER Files*

Target Site (Latitude: 28.258352 Longitude: -81.486713) .....  
Identified Site, Multiple Sites, Receptor .....  
NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste  
Triballand.....  
National Historic Sites and Landmark Sites .....  
Railroads .....  
Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius



# ***FirstSearch Technology Corporation***

## **Environmental FirstSearch™ Report**

Target Property: CFCRT OSCEOLA PKWY STN

**OSCEOLA PKWY**

**Kissimmee FL 34744**

Job Number: 2135E

### **PREPARED FOR:**

GEC

919 Lake Baldwin Lane

Orlando, FL 32814

11-10-09



*Tel: (781) 551-0470*

*Fax: (781) 551-0471*

# Environmental FirstSearch Search Summary Report

**Target Site:** OSCEOLA PKWY  
Kissimmee FL 34744

## FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	09-11-09	1.00	0	0	0	0	0	0	0
NPL Delisted	Y	09-11-09	0.50	0	0	0	0	-	0	0
CERCLIS	Y	10-01-09	0.50	0	0	0	0	-	0	0
NFRAP	Y	10-01-09	0.50	0	0	0	0	-	0	0
RCRA COR ACT	Y	10-14-09	1.00	0	0	0	0	0	0	0
RCRA TSD	Y	10-14-09	0.50	0	0	0	0	-	0	0
RCRA GEN	Y	10-14-09	0.25	0	1	2	-	-	0	3
Federal IC / EC	Y	08-06-09	0.50	0	0	0	0	-	0	0
ERNS	Y	09-13-09	0.25	0	0	0	-	-	1	1
Tribal Lands	Y	12-01-05	1.00	0	0	0	0	0	1	1
State/Tribal Sites	Y	08-13-09	1.00	0	0	0	0	0	0	0
State Spills 90	Y	09-02-09	0.25	0	0	0	-	-	0	0
State/Tribal SWL	Y	09-15-09	0.50	0	0	0	0	-	0	0
State/Tribal LUST	Y	09-02-09	0.50	0	0	0	5	-	0	5
State/Tribal UST/AST	Y	09-02-09	0.25	0	0	2	-	-	0	2
State/Tribal EC	Y	10-09-09	0.50	0	0	0	0	-	0	0
State/Tribal IC	Y	10-09-09	0.25	0	0	0	-	-	0	0
State/Tribal VCP	Y	NA	0.50	0	0	0	0	-	0	0
State/Tribal Brownfields	Y	08-05-09	0.50	0	0	0	0	-	0	0
Receptors	Y	01-01-05	0.50	0	0	0	0	-	0	0
NPDES	Y	08-08-09	0.25	0	0	3	-	-	1	4
FINDS	Y	05-29-09	0.25	0	2	4	-	-	23	29
TRIS	Y	06-24-09	0.25	0	0	0	-	-	0	0
HMIRS	Y	09-01-09	0.25	0	0	0	-	-	0	0
NCDB	Y	09-29-09	0.25	0	0	0	-	-	0	0
PADS	Y	09-01-09	0.25	0	0	0	-	-	0	0
Releases	Y	09-13-09	0.25	0	0	0	-	-	0	0
State Other	Y	09-02-09	0.25	0	0	1	-	-	0	1
- TOTALS -				0	3	12	5	0	26	46

### Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to FirstSearch Technology Corp., certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in FirstSearch Technology Corp.'s databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

### Waiver of Liability

Although FirstSearch Technology Corp. uses its best efforts to research the actual location of each site, FirstSearch Technology Corp. does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of FirstSearch Technology Corp.'s services proceeding are signifying an understanding of FirstSearch Technology Corp.'s searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

***Environmental FirstSearch  
Site Information Report***

**Request Date:** 11-10-09  
**Requestor Name:** tmulligan/gec/bc  
**Standard:** AAI

**Search Type:** COORD  
**Job Number:** 2135E  
**Filtered Report**

**Target Site:** OSCEOLA PKWY  
Kissimmee FL 34744

***Demographics***

<b>Sites:</b> 46	<b>Non-Geocoded:</b> 26	<b>Population:</b> NA
<b>Radon:</b> NA		

***Site Location***

	<u>Degrees (Decimal)</u>	<u>Degrees (Min/Sec)</u>		<u>UTMs</u>
<b>Longitude:</b>	-81.391171	-81:23:28	<b>Easting:</b>	461659.664
<b>Latitude:</b>	28.340258	28:20:25	<b>Northing:</b>	3134784.406
<b>Elevation:</b>	86		<b>Zone:</b>	17

***Comment***

<b>Comment:</b>
-----------------

***Additional Requests/Services***

<b>Adjacent ZIP Codes:</b> 0 Mile(s)					<b>Services:</b>	
<b>ZIP Code</b>	<b>City Name</b>	<b>ST</b>	<b>Dist/Dir</b>	<b>Sel</b>	<b>Requested?</b>	<b>Date</b>
					Fire Insurance Maps	No
					Aerial Photographs	No
					Historical Topos	No
					City Directories	No
					Title Search/Env Liens	No
					Municipal Reports	No
					Online Topos	No

# Environmental FirstSearch Sites Summary Report

**Target Property:** OSCEOLA PKWY  
Kissimmee FL 34744

**JOB:** 2135E

**TOTAL:** 46      **GEOCODED:** 20      **NON GEOCODED:** 26      **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
1	FINDS	LIL CHAMP FOOD STORES INC 110007447842/FRS	1354 DART BLVD KISSIMMEE FL 34744	0.06 NW	-2	1
1	FINDS	LIL CHAMP FOOD STORES INC FLD984199869	1354 DART BLVD KISSIMMEE FL 34744	0.06 NW	-2	3
1	RCRAGN	LIL CHAMP FOOD STORES INC FLD984199869/SGN	1354 DART BLVD KISSIMMEE FL 34744	0.06 NW	-2	4
2	UST	CITGO-OSCEOLA 410 499601516/OPEN	3090 MICHIGAN AVE KISSIMMEE FL 34744	0.17 NE	+2	5
3	FINDS	S and B DRYCLEANERS INC 110027956638/FRS	3063 MICHIGAN AVE KISSIMMEE FL 34744	0.18 SE	+2	7
3	OTHER	S and B DRYCLEANERS INC 9808163/CLOSED	3063 MICHIGAN AVE KISSIMMEE FL 34744	0.18 SE	+2	8
3	RCRAGN	S and B DRYCLEANERS INC FLR000129411/VGN	3063 MICHIGAN AVE KISSIMMEE FL 34744	0.18 SE	+2	10
4	FINDS	ROHKA RETAIL CENTER LOT 2 110020536044/FRS	MICHIGAN and RIDGE ST KISSIMMEE FL 34744	0.20 SE	+2	11
4	NPDES	FLR10P906/MINOR	UNKNOWN KISSIMMEE FL 34744	0.20 SE	+2	12
5	NPDES	FLR10FY17/MINOR	INTERSECTION OF MICHIGAN an KISSIMMEE FL 34744	0.21 NE	+2	13
6	UST	LIL CHAMP 1284 499301092/OPEN	1400 OSCEOLA PKY KISSIMMEE FL 34744	0.22 NE	+2	14
7	FINDS	ROAD RUNNER MUFFLER 110022427060/FRS	2982 MICHIGAN AVE KISSIMMEE FL 34744	0.22 SE	-0	16
7	NPDES	FLR10AH07/MINOR	UNKNOWN KISSIMMEE FL 34744	0.22 SE	-0	17
8	FINDS	ALL PRO COLLISIONS 110006182086/FRS	2985 MICHIGAN AVE KISSIMMEE FL 34744	0.24 SE	-0	18
8	RCRAGN	ALL PRO COLLISIONS FLR000046581/VGN	2985 MICHIGAN AVE KISSIMMEE FL 34744	0.24 SE	-0	19
9	LUST	KISSIMMEE UTILITY AUTH-ELECTRIC OP 499102020/FACILITY CLOSED	1150 GARDEN ST KISSIMMEE FL 34744	0.34 SW	-0	20
10	LUST	PRESTIGE AB READY MIX LLC 499806880/FACILITY CLOSED	E OSCEOLA PKY KISSIMMEE FL 34744	0.35 SW	-0	21
11	LUST	MURPHY USA 6725 499805416/FACILITY OPEN	1461 E OSCEOLA PKY KISSIMMEE FL 34744	0.40 NE	-1	22
12	LUST	OSCEOLA CNTY PUBLIC WORKS DEPT 498943456/FACILITY CLOSED	1354 OSCEOLA PKY KISSIMMEE FL 34744	0.40 SW	-2	24
13	LUST	FL DEPT OF TRANSPORTATION-PRISON F 498520963/FACILITY CLOSED	2925 MICHIGAN AVE KISSIMMEE FL 34744	0.43 SE	-0	27



# *Environmental FirstSearch*

## *Sites Summary Report*

**Target Property:** OSCEOLA PKWY  
Kissimmee FL 34744

**JOB:** 2135E

**TOTAL:** 46      **GEOCODED:** 20      **NON GEOCODED:** 26      **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
	ERNS	TRULY NOLEN PEST CONTROL 269075/HIGHWAY RELATED	CORNER OF OSCEOLA AND WOOD KISSIMMEE FL	NON GC	N/A	N/A
	FINDS	BEAR BAY VILLAGE 110009089431/FRS	OSCEOLA PARKWAY(F/K/A DART KISSIMMEE FL 34744	NON GC	N/A	N/A
	FINDS	CENTER FOR YOUTH APPRENTICESHIP 110036033333/FRS	2540 OLD DIXIE HWY C/O ALT KISSIMMEE FL 34744	NON GC	N/A	N/A
	FINDS	LEGACY RESORT 110035647039/FRS	N and S OF OSCEOLA PKWY and KISSIMMEE FL 34744	NON GC	N/A	N/A
	FINDS	WASHINGTON MUTUAL 110037315134/FRS	1477 E OSCEOLA PKY KISSIMMEE FL 34744	NON GC	N/A	N/A
	FINDS	WALGREEN S 4168 110032782399/FRS	THACKER AVE and OSCEOLA PKW KISSIMMEE FL 34744	NON GC	N/A	N/A
	FINDS	ROHKA RETAIL CENTER REDESIGN 110035478471/FRS	SOUTHWEST CORNER OF MICHIGA KISSIMMEE FL	NON GC	N/A	N/A
	FINDS	ROHKA RETAIL CENTER REDESIGN 110020531753/FRS	SOUTHWEST CORNER OF MICHIGA KISSIMMEE FL	NON GC	N/A	N/A
	FINDS	REUNION RESORT and CLUB 110008982538/FRS	SR 545 and SR 532/OSCEOLA C KISSIMMEE FL	NON GC	N/A	N/A
	FINDS	OSCEOLA PARKWAY 110035556289/FRS	INTERSECTION OF MICHIGAN AV KISSIMMEE FL 34744	NON GC	N/A	N/A
	FINDS	OSCEOLA PARKWAY 110032808371/FRS	INTERSECTION OF MICHIGAN AV KISSIMMEE FL 34744	NON GC	N/A	N/A
	FINDS	NAPLETON DEALERSHIP GROUP 110020554265/FRS	SEC LIONS CT/OSCEOLA PKY KISSIMMEE FL	NON GC	N/A	N/A
	FINDS	MICHIGAN AVE WIDENING 2881 110012809096/FRS	FROM CARROLL TO OSCEOLA ST KISSIMMEE FL	NON GC	N/A	N/A
	FINDS	OSCEOLA CORPORATE CENTER LOOP RD 110035467198/FRS	OSCEOLA PARKWAY and JOHN YO KISSIMMEE FL	NON GC	N/A	N/A
	FINDS	LEGACY RESORT 110033173704/FRS	N and S OF OSCEOLA PKWY and KISSIMMEE FL 34744	NON GC	N/A	N/A
	FINDS	FDOT // 415429-4-52-01 CONTRAC 110020136538/FRS	SR 91 THRU OSCEOLA CO KISSIMMEE FL	NON GC	N/A	N/A
	FINDS	ESPO OSCEOLA 110032760368/FRS	E OSCEOLA PKWY and OLD DIXI KISSIMMEE FL 34744	NON GC	N/A	N/A
	FINDS	EAGLE BAY 110035453862/FRS	BOGGY CREEK RD, S OF OSCEOL KISSIMMEE FL	NON GC	N/A	N/A
	FINDS	DYER BOULEVARD EXTENSION 110035466689/FRS	BETWEEN CARROLL ST. and OSC KISSIMMEE FL	NON GC	N/A	N/A
	FINDS	DONEGAN CORNERS 110035477739/FRS	NEC DONEGAN AVE/OLD DIXIE H KISSIMMEE FL	NON GC	N/A	N/A

***Environmental FirstSearch  
Sites Summary Report***

**Target Property:** OSCEOLA PKWY  
Kissimmee FL 34744

**JOB:** 2135E

**TOTAL:** 46      **GEOCODED:** 20      **NON GEOCODED:** 26      **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
	FINDS	DONEGAN CORNERS 110020561328/FRS	NEC DONEGAN AVE/OLD DIXIE H KISSIMMEE FL	NON GC	N/A	N/A
	FINDS	CRYSTAL COVE 110035470941/FRS	OSCEOLA CO, QUEN BRAEN/POIN KISSIMMEE FL	NON GC	N/A	N/A
	FINDS	CRYSTAL COVE 110020724769/FRS	OSCEOLA CO, QUEN BRAEN/POIN KISSIMMEE FL	NON GC	N/A	N/A
	FINDS	SOLID ROCK CHURCH 110035518703/FRS	1904 N MICHIGAN AVE KISSIMMEE FL 34744	NON GC	N/A	N/A
	NPDES	FLR10GD68/MINOR	N and OF OSCEOLA and PKY KISSIMMEE FL 34744	NON GC	N/A	N/A
	TRIBALLAND	BUREAU OF INDIAN AFFAIRS CONTACT I BIA-34744	UNKNOWN FL 34744	NON GC	N/A	N/A

## Environmental FirstSearch Descriptions

**NPL: EPA** NATIONAL PRIORITY LIST - The National Priorities List is a list of the worst hazardous waste sites that have been identified by Superfund. Sites are only put on the list after they have been scored using the Hazard Ranking System (HRS), and have been subjected to public comment. Any site on the NPL is eligible for cleanup using Superfund Trust money.

A Superfund site is any land in the United States that has been contaminated by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

FINAL - Currently on the Final NPL

PROPOSED - Proposed for NPL

**NPL DELISTED: EPA** NATIONAL PRIORITY LIST Subset - Database of delisted NPL sites. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

DELISTED - Deleted from the Final NPL

**CERCLIS: EPA** COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM (CERCLIS)- CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL.

PART OF NPL- Site is part of NPL site

DELETED - Deleted from the Final NPL

FINAL - Currently on the Final NPL

NOT PROPOSED - Not on the NPL

NOT VALID - Not Valid Site or Incident

PROPOSED - Proposed for NPL

REMOVED - Removed from Proposed NPL

SCAN PLAN - Pre-proposal Site

WITHDRAWN - Withdrawn

**NFRAP: EPA** COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM ARCHIVED SITES - database of Archive designated CERCLA sites that, to the best of EPA's knowledge, assessment has been completed and has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

NFRAP – No Further Remedial Action Plan

P - Site is part of NPL site

D - Deleted from the Final NPL

F - Currently on the Final NPL

N - Not on the NPL

O - Not Valid Site or Incident

P - Proposed for NPL

R - Removed from Proposed NPL

S - Pre-proposal Site

W – Withdrawn

**RCRA COR ACT: EPA** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984. RCRAInfo facilities that have reported violations and subject to corrective actions.

**RCRA TSD: EPA** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM TREATMENT, STORAGE, and DISPOSAL FACILITIES. - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.

Facilities that treat, store, dispose, or incinerate hazardous waste.

**RCRA GEN: EPA/MA DEP/CT DEP** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM GENERATORS - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.

Facilities that generate or transport hazardous waste or meet other RCRA requirements.

LGN - Large Quantity Generators

SGN - Small Quantity Generators

VGN - Conditionally Exempt Generator.

Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List) facilities.

CONNECTICUT HAZARDOUS WASTE MANIFEST - Database of all shipments of hazardous waste within, into or from Connecticut. The data includes date of shipment, transporter and TSD info, and material shipped and quantity. This data is appended to the details of existing generator records.

MASSACHUSETTES HAZARDOUS WASTE GENERATOR - database of generators that are regulated under the MA DEP.

VQN-MA = generates less than 220 pounds or 27 gallons per month of hazardous waste or waste oil.

SQN-MA = generates 220 to 2,200 pounds or 27 to 270 gallons per month of waste oil.

LQG-MA = generates greater than 2,200 lbs of hazardous waste or waste oil per month.

**Federal IC / EC: EPA** BROWNFIELD MANAGEMENT SYSTEM (BMS) - database designed to assist EPA in collecting, tracking, and updating information, as well as reporting on the major activities and accomplishments of the various Brownfield grant Programs.

FEDERAL ENGINEERING AND INSTITUTIONAL CONTROLS- Superfund sites that have either an engineering or an institutional control. The data includes the control and the media contaminated.

**ERNS: EPA/NRC** EMERGENCY RESPONSE NOTIFICATION SYSTEM (ERNS) - Database of incidents reported to the National Response Center. These incidents include chemical spills, accidents involving chemicals (such as fires or explosions), oil spills, transportation accidents that involve oil or chemicals, releases of radioactive materials, sightings of oil sheens on bodies of water, terrorist incidents involving chemicals, incidents where illegally dumped chemicals have been found, and drills intended to prepare responders to handle these kinds of incidents. Data since January 2001 has been received from the National Response System database as the EPA no longer maintains this data.

**Tribal Lands: DOI/BIA** INDIAN LANDS OF THE UNITED STATES - Database of areas with boundaries established by treaty, statute, and (or) executive or court order, recognized by the Federal Government as territory in which American Indian tribes have primary governmental authority. The Indian Lands of the United States map layer shows areas of 640 acres or more, administered by the Bureau of Indian Affairs. Included are Federally-administered lands within a reservation which may or may not be considered part of the reservation.

BUREAU OF INDIAN AFFAIRS CONTACT - Regional contact information for the Bureau of Indian Affairs offices.

**Tribal Lands: BIA** INDIAN LANDS AND NATIVE ENTITIES IN FLORIDA - database of American Indian reservations in Florida.

**State/Tribal Sites: FL DER/DEP/EPA** FLORIDA SITES LIST - database of identified facilities and/or

locations that the Florida Department of Environmental Regulation has recognized with potential or existing environmental contamination.

**SUPERFUND HAZARDOUS WASTE SITES-** database that correlates to the NPL list and includes active, delisted, and Federal sites.

**State Spills 90: FDEP PETROLEUM CONTAMINATION AND CLEANUP REPORTS** - database of contaminated facility reports provide the Facility ID, Facility Type, Score, Rank, Operator Information, and Owner Information, for facilities that currently have contamination

**State/Tribal SWL: FDEP SOLID WASTE FACILITIES LIST** - database concerned with the handling of waste and includes locations identified with solid waste landfilling or associated activities involving the handling of solid waste. The presence of a site on this list does not necessarily indicate existing environmental contamination, but rather the potential. The FDEP assigns scores to the sites based on the threat to human health and the environment. The Rank is determined by the site's Score and reflects the state's priority for remedial action on that site. Typically, the lower the Rank value, the greater the priority for remedial action from the state.

**State/Tribal LUST: FDEP LEAKING UNDERGROUND STORAGE TANKS LIST** - database of petroleum storage tank systems that have reported the possible release of contaminants. Included within this list are sites that are in the Florida Early Detection Incentive (EDI) Program, the Abandoned Tank Restoration Program (ATRP) and the Petroleum Liability Insurance Restoration Program (PLIRP). These programs support remedial action or reimbursement for those sites with environmental problems due to leaking fuel storage tanks. Some sites listed in the report have not yet been accepted in these programs.

**State/Tribal UST/AST: FDEP/EPA STORAGE TANK AND CONTAMINATION MONITORING DATABASE** - Database of all storage tank facilities registered with the Department and tracked for active storage tanks, storage tank history, or petroleum cleanup activity. Information includes facility identification number, site location information, and basic storage tank information such as size, placement, substance stored, installation date and current tank status.

**TRIBAL LAND UNDERGROUND STORAGE TANKS** - database of underground storage tanks that are reported to be on Native American lands. These sites are reported to the region 4 office of the EPA by the local tribal governments. The sites can be identified by their ID: NL-FL- number.

**State/Tribal EC: FDEP INSTITUTIONAL CONTROLS REGISTRY DATABASE Subset-** database of sites that have institutional controls and engineering controls was developed to assist with tracking those properties upon which an institutional control has been imposed pursuant to the provisions contained in Chapters 376 or 403, F.S. For Brownfield sites the ICR has been prepared for the public and local governments to monitor the status of those controls.

**State/Tribal IC: FDEP INSTITUTIONAL CONTROLS REGISTRY DATABASE** - database of institutional controls was developed to assist with tracking those properties upon which an institutional control has been imposed pursuant to the provisions contained in Chapters 376 or 403, F.S. For Brownfield sites the ICR has been prepared for the public and local governments to monitor the status of those controls.

**State/Tribal VCP: FL DEP VOLUNTARY CLEANUP PROGRAM-** A static state wide database of sites that have or may receive a tax credit. Tax credits are issued based on a percentage of the costs of "voluntary" cleanup. In other words, the person conducting cleanup is paying for it rather than the site being cleaned up using state funding through the Drycleaning Solvent Cleanup Program. The following three types of sites may be eligible for tax credits: (1) A drycleaning solvent contaminated site eligible for state-funded site rehabilitation under s. 376.3078(3), F.S.; (2) A drycleaning solvent contaminated site at which cleanup is undertaken by the real property owner pursuant to s. 376.3078(10), F.S., if the real property owner is not also, and has never been, the owner or operator of the drycleaning facility where the contamination exists; or (3) A brownfield site in a designated brownfield area under s. 376.80, F.S.

**State/Tribal Brownfields: FDEP BROWNFIELDS REDEVELOPMENT PROGRAM DATABASE-** database of reports generated from the Brownfield Access Database which tracks the number of designated Brownfield areas, executed Brownfield site rehabilitation agreements, state and federal programs funding, and local Brownfield coordinators' contact information

**Receptors: US DOC SENSITIVE RECEPTORS** - 2005 Census Bureau's TIGER (Topologically Integrated

Geographic Encoding and Referencing System) database of schools and hospitals. List of schools and hospitals that may house individuals deemed sensitive to environmental discharges due to their fragile immune systems.

**NPDES: EPA** THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM - Database of permitted facilities receiving and discharging effluents to and from a natural source where treatment of the effluent is monitored.

**FINDS: EPA** FACILITY INDEX SYSTEM(FINDS)/FACILITY REGISTRY SYSTEM(FRS) - The index of identification numbers associated with a property or facility which the EPA has investigated or has been made aware of in conjunction with various regulatory programs. Each record indicates the EPA office that may have files on the site or facility. A Facility Registry System site has an FRS in the status field.

**TRIS: EPA** TOXIC RELEASE INVENTORY SYSTEM (TRIS)– Database that contains information on toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. This inventory was established under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) and expanded by the Pollution Prevention Act of 1990.

**HMIRS: US DOT** HAZARDOUS MATERIALS INCIDENT RESPONSE SYSTEM - Database of information regarding materials, packaging, and a description of events for tracked incidents.

**NCDB: EPA** NATIONAL COMPLIANCE DATA BASE SYSTEM - Database of regional compliance and enforcement activity and manages the Pesticides and Toxic Substances Compliance and Enforcement program at a national level. The system tracks all compliance monitoring and enforcement activities from the time an inspector conducts and inspection until the time the inspector closes or the case settles the enforcement action. NCDB is the national repository of the 10 regional and Headquarters FIFRA/TSCA Tracking System (FTTS). Data collected in the regional FTTS is transferred to NCDB to support the need for monitoring national performance of regional programs.

**PADS: EPA** DATABASE OF PCB HANDLERS - Database of PolyChlorinatedBiPhenol generators, transporters, storers and/or disposers that are required to register with the EPA. This database indicates the type of handler and registration number. Also included is the PCB Transformer Registration Database.

**RADON: NTIS** NATIONAL RADON DATABASE - EPA radon data from 1990-1991 national radon project collected for a variety of zip codes across the United States.

**State Other: FDEP** SINKHOLES - database of sinkholes from the Florida Geological Survey Sinkholes.

**DRYCLEANERS LIST** - database of dry cleaning facilities registered with the Department. Information includes facility identification number, site location information, related party (owner) information, and facility type and status. Data is taken from the Storage Tank & Contamination Monitoring database, the registration repository of dry cleaner facility data.

**CATTLE DIPPING VATS** - database of vats that were filled with an arsenic solution for the control and eradication of the cattle fever tick. Other pesticides such as DDT were also widely used. This is a static list from 1910 through 1950s.

**State Other: US DOJ** NATIONAL CLANDESTINE LABORATORY REGISTER - Database of addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the U.S. Department of Justice ("the Department"), and the Department has not verified the entry and does not guarantee its accuracy. All sites that are included in this data set will have an id that starts with NCLR.



## Environmental FirstSearch Database Sources

**NPL: EPA** Environmental Protection Agency

*Updated quarterly*

**NPL DELISTED: EPA** Environmental Protection Agency

*Updated quarterly*

**CERCLIS: EPA** Environmental Protection Agency

*Updated quarterly*

**NFRAP: EPA** Environmental Protection Agency.

*Updated quarterly*

**RCRA COR ACT: EPA** Environmental Protection Agency.

*Updated quarterly*

**RCRA TSD: EPA** Environmental Protection Agency.

*Updated quarterly*

**RCRA GEN: EPA/MA DEP/CT DEP** Environmental Protection Agency, Massachusetts Department of Environmental Protection, Connecticut Department of Environmental Protection

*Updated quarterly*

**Federal IC / EC: EPA** Environmental Protection Agency

*Updated quarterly*

**ERNS: EPA/NRC** Environmental Protection Agency

*Updated annually*

**Tribal Lands: DOI/BIA** United States Department of the Interior

*Updated annually*

**Tribal Lands: BIA** Bureau of Indian Affairs

*Updated when available*

**State/Tribal Sites:** *FL DER/DEP/EPA* Florida Department of Environmental Protection, Bureau of Waste Cleanup

*Updated quarterly*

**State Spills 90:** *FDEP* Florida Department of Environmental Protect

*Updated quarterly*

**State/Tribal SWL:** *FDEP* Florida Department of Environmental Protection

*Updated annually*

**State/Tribal LUST:** *FDEP* Florida Department of Environmental Protection

*Updated quarterly*

**State/Tribal UST/AST:** *FDEP/EPA* Florida Department of Environmental Protection

*Updated quarterly*

**State/Tribal EC:** *FDEP* Florida Department of Environmental Protect

*Updated quarterly*

**State/Tribal IC:** *FDEP* Florida Department of Environmental Protect

*Updated quarterly*

**State/Tribal VCP:** *FL DEP* Florida Department of Environmental Protection

*Updated no longer available*

**State/Tribal Brownfields:** *FDEP* The Florida Department of Environmental Protection, Division of Waste Management.

*Updated quarterly*

**Receptors:** *US DOC* US Department of Commerce, Census Bureau

*Updated periodically*

**NPDES:** *EPA* Environmental Protection Agency

*Updated quarterly*

**FINDS:** *EPA* Environmental Protection Agency

*Updated annually*

**TRIS:** *EPA* Environmental Protection Agency.

*Updated quarterly*

**HMIRS:** *US DOT* US Department of Transportation

*Updated quarterly*

**NCDB:** *EPA* Environmental Protection Agency

*Updated quarterly*

**PADS:** *EPA* Environmental Protection Agency

*Updated quarterly*

**RADON:** *NTIS* Environmental Protection Agency, National Technical Information Services

*Updated periodically*

**State Other:** *FDEP* Florida Department of Environmental Protection Storage Tank & Contamination Monitoring.  
Florida Department of Environmental Protection Cattle Dipping Vats

*Updated quarterly*

**State Other:** *US DOJ* U.S. Department of Justice

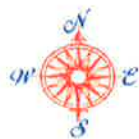
*Updated when available*

***Environmental FirstSearch***  
***Street Name Report for Streets within .25 Mile(s) of Target Property***

**Target Property:** OSCEOLA PKWY  
Kissimmee FL 34744

**JOB:** 2135E

<b>Street Name</b>	<b>Dist/Dir</b>	<b>Street Name</b>	<b>Dist/Dir</b>
Colleen Cir	0.21 SE		
County Road 527	0.20 NW		
E Osceola Pky	0.03 NW		
East Railroad Ave	0.07 SE		
Jolene Ct	0.20 SE		
Michigan Ave	0.16 SE		
Mill Run Blvd	0.19 SE		
Old Dixie Hwy	0.20 NW		
Ridge St	0.15 NE		
Zachary Ct	0.24 SE		



# Environmental FirstSearch

1 Mile Radius

ASTM Map: NPL, RCRACOR, STATE Sites



## OSCEOLA PKWY, Kissimmee FL 34744



Source: 2005 U.S. Census TIGER Files

Target Site (Latitude: 28.340258 Longitude: -81.391171) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste  
Triballand.....

Railroads .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius





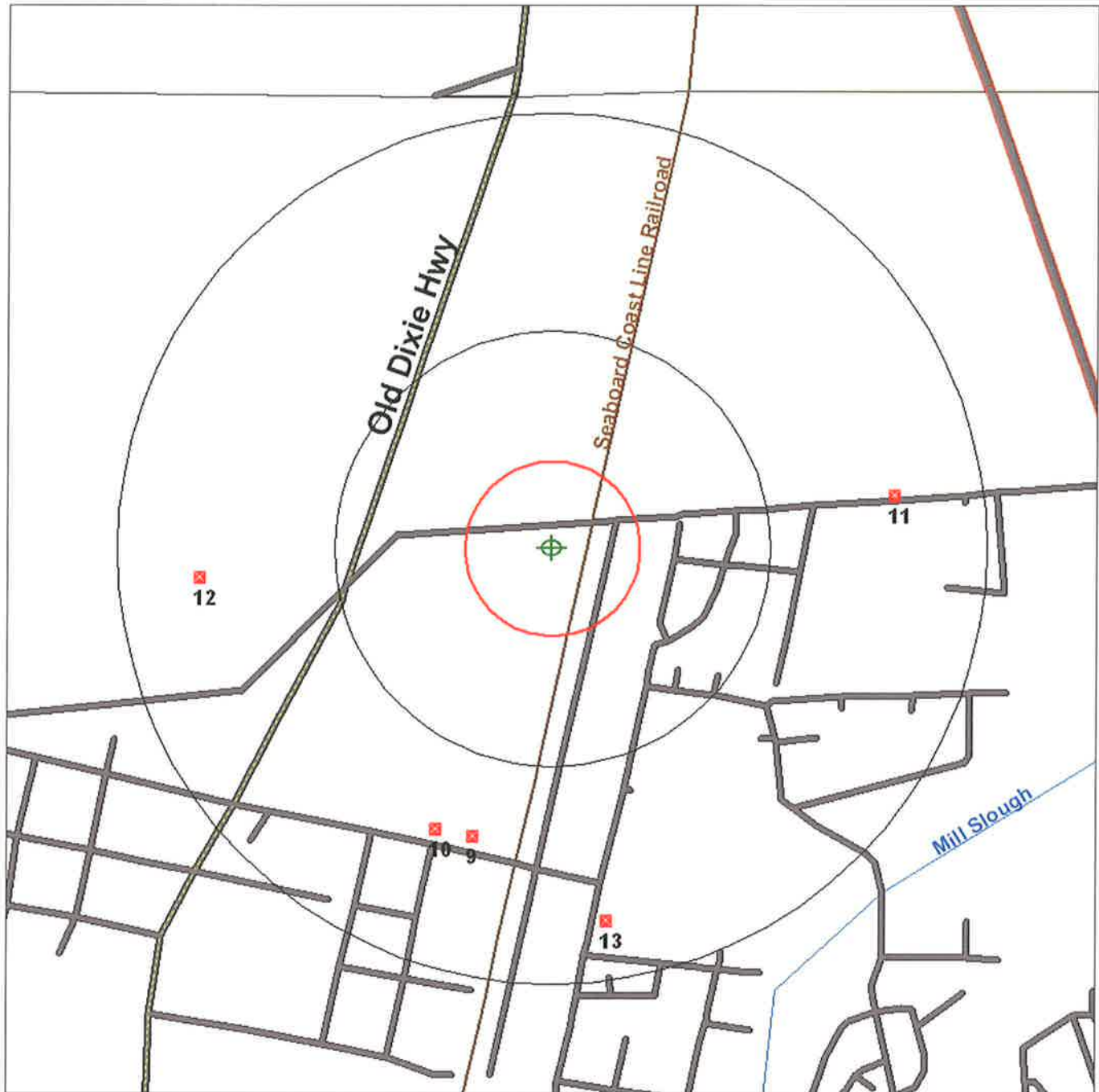
## Environmental FirstSearch

.5 Mile Radius

ASTM Map: CERCLIS, RCRATSD, LUST, SWL



**OSCEOLA PKWY, Kissimmee FL 34744**



Source: 2005 U.S. Census TIGER Files

Target Site (Latitude: 28.340258 Longitude: -81.391171) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand .....

Railroads .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius





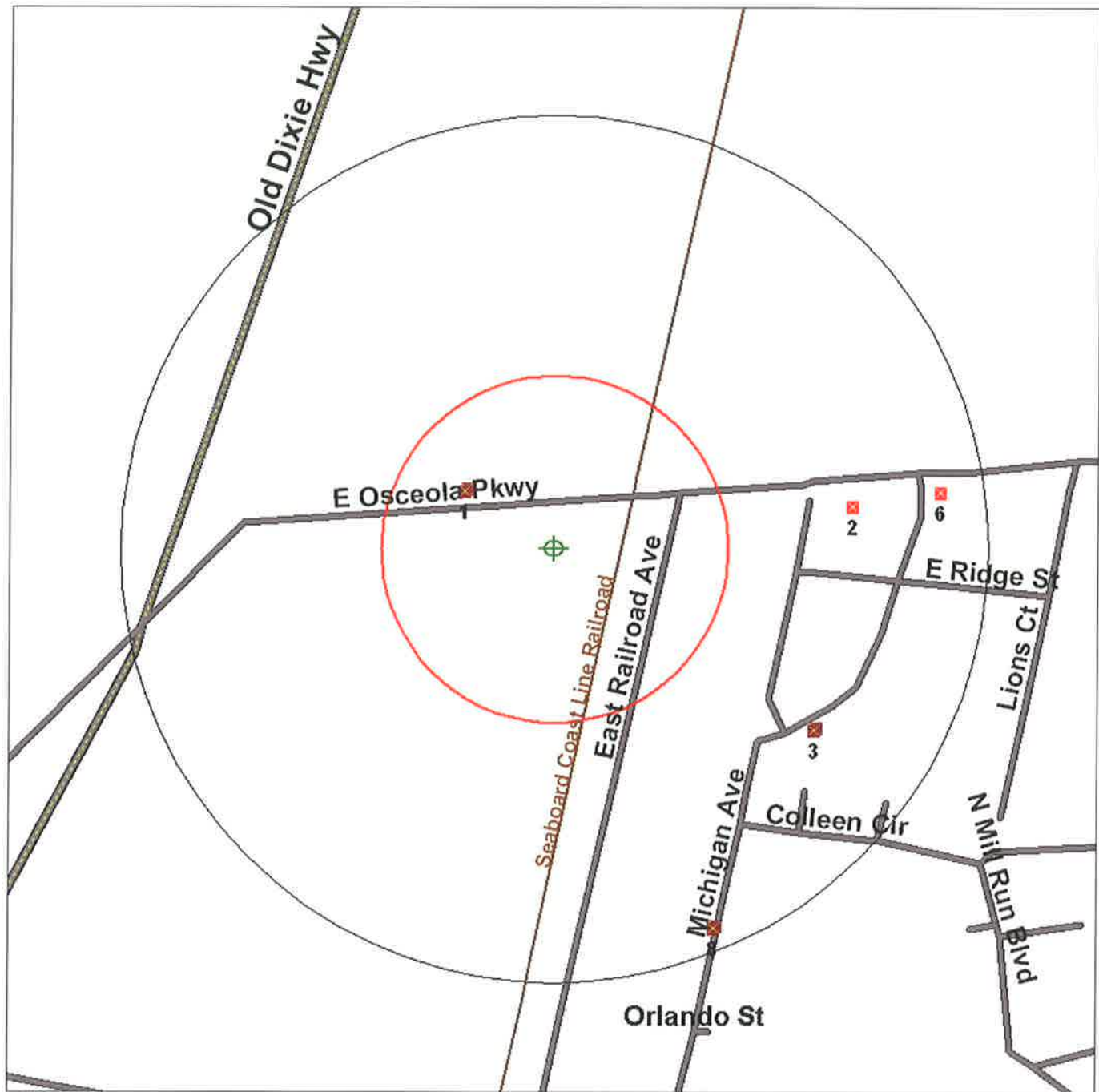


# Environmental FirstSearch

.25 Mile Radius  
ASTM Map: RCRA GEN, ERNS, UST



## OSCEOLA PKWY, Kissimmee FL 34744



Source: 2005 U.S. Census TIGER Files

Target Site (Latitude: 28.340258 Longitude: -81.391171) .....

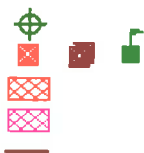
Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand .....

Railroads .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius





## Environmental FirstSearch

.25 Mile Radius  
Non-ASTM Map: NPDES, FINDS



OSCEOLA PKWY, Kissimmee FL 34744



Source: 2005 U.S. Census TIGER Files

Target Site (Latitude: 28.340258 Longitude: -81.391171)

Identified Site, Multiple Sites, Receptor

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand

National Historic Sites and Landmark Sites

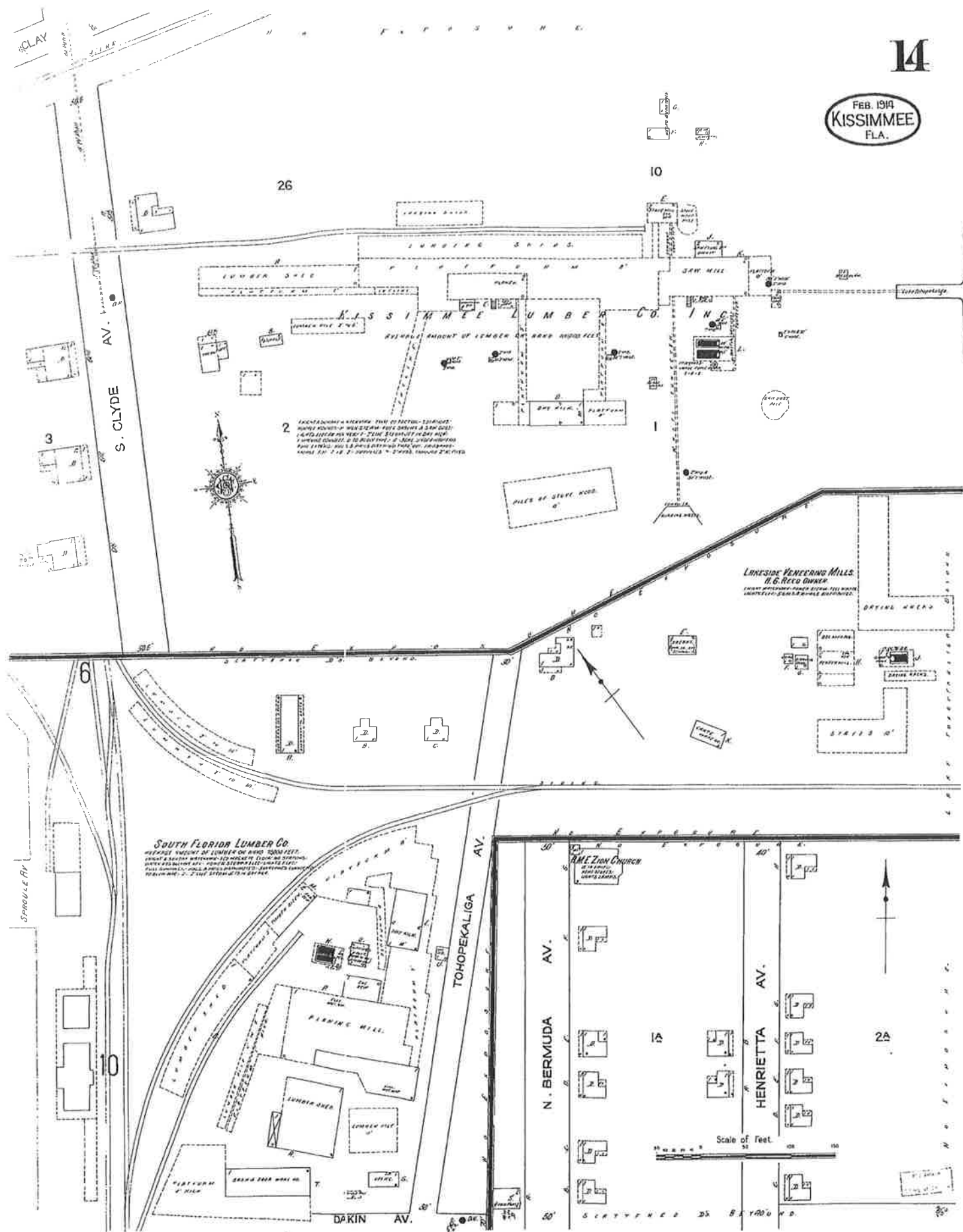
Railroads

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius



## **APPENDIX E**

### **Sanborn Fire Insurance Maps**



MAY 1920  
KISSIMMEE  
FLA.

8

DRURY AV.

8

TOHOPEKALIGA AV.

110

DAKIN AV.

113

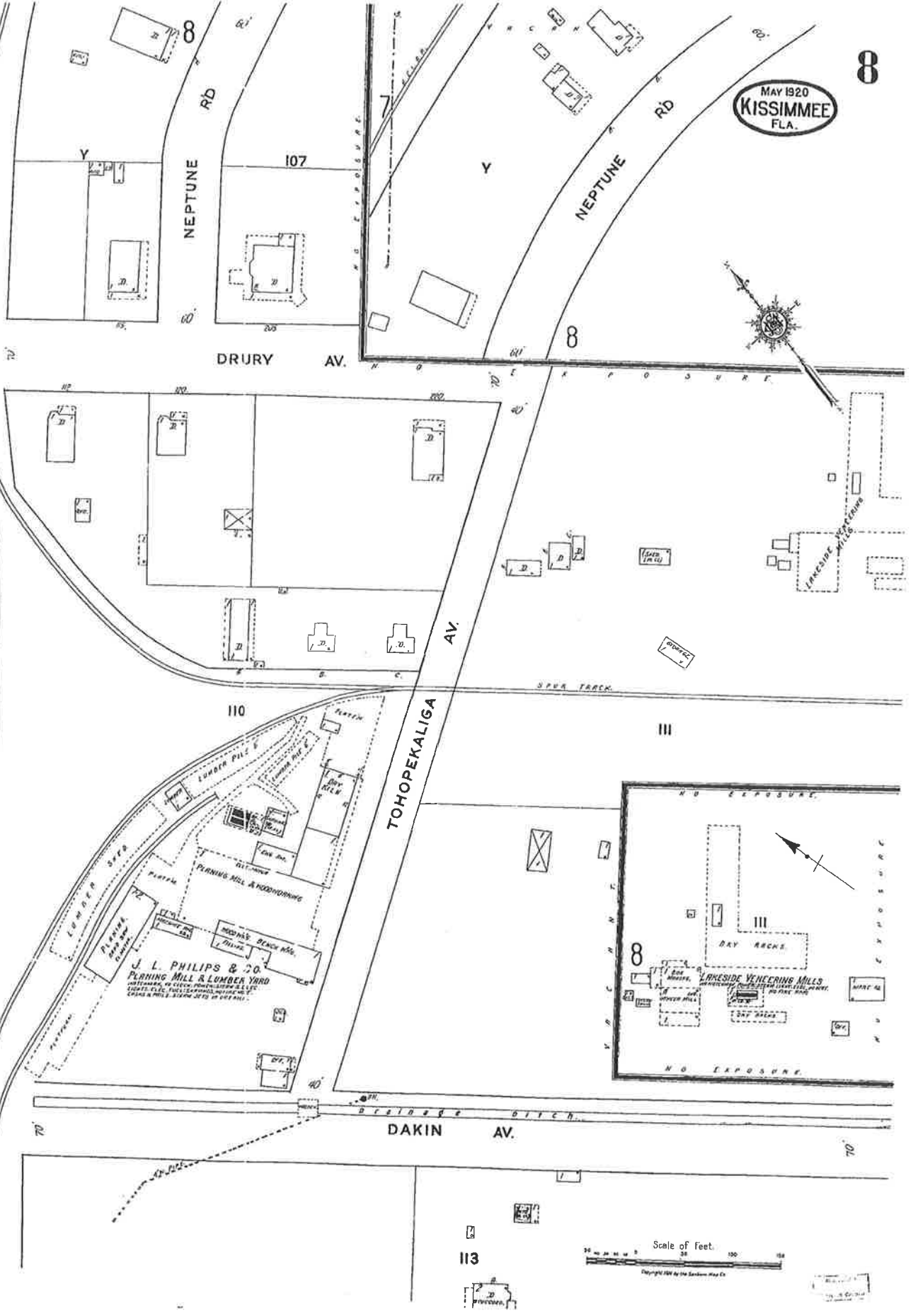
LAKESIDE VENEERING MILLS  
SHEDS, SAWMILLS, LUMBER YARD, ETC.  
NO EXPOSURE.

J. L. PHILIPS & CO.  
PLANING MILL & LUMBER YARD  
SHEDS, SAWMILLS, LUMBER YARD, ETC.  
NO EXPOSURE.

Scale of feet.  
0 50 100 150  
Copyright 1920 by the Southern Map Co.



LAKESIDE VENEERING MILLS







107

DRURY AV.

110

TOHOPEKALIGA

111

ROBERT RIEDEL CO.  
PLANING MILL & LUMBER YARD  
WILLOWDALE, N.Y. 11550  
1-800-855-2222 • 718-351-1100

DAKIN AV.

113

LAKESIDE VENEERING MILLS

[illegible]

DRYING RECORD

MARKING

VENUE  
#30

Page 10 of 10

S P U R

1000

N	0	1	2	3	4	5	6	7	8	9
0	0	1	2	3	4	5	6	7	8	9
1	10	11	12	13	14	15	16	17	18	19
2	20	21	22	23	24	25	26	27	28	29
3	30	31	32	33	34	35	36	37	38	39
4	40	41	42	43	44	45	46	47	48	49
5	50	51	52	53	54	55	56	57	58	59
6	60	61	62	63	64	65	66	67	68	69
7	70	71	72	73	74	75	76	77	78	79
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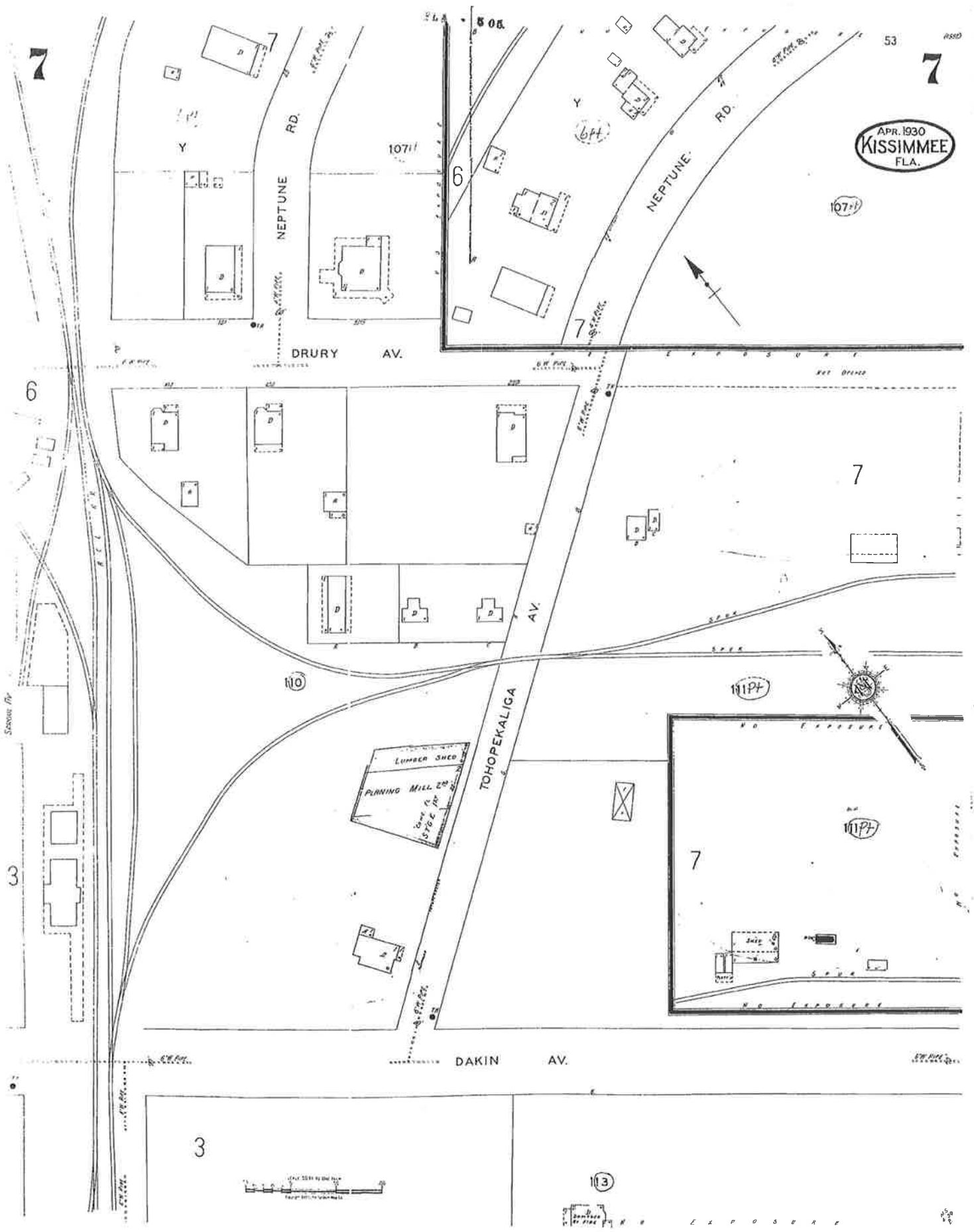


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*Journal of Management Inquiry* 18(6)

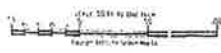
100

**ENR PICK**



APR. 1930  
KISSIMMEE  
FLA.

LUMBER SHED  
PLANING MILL 20  
20' x 40' for  
15' x 6' for



13  
SOUTH  
OF RIVER

E A P O S D R A

## **Appendix C**

**C-1** Cultural and Historic Resources

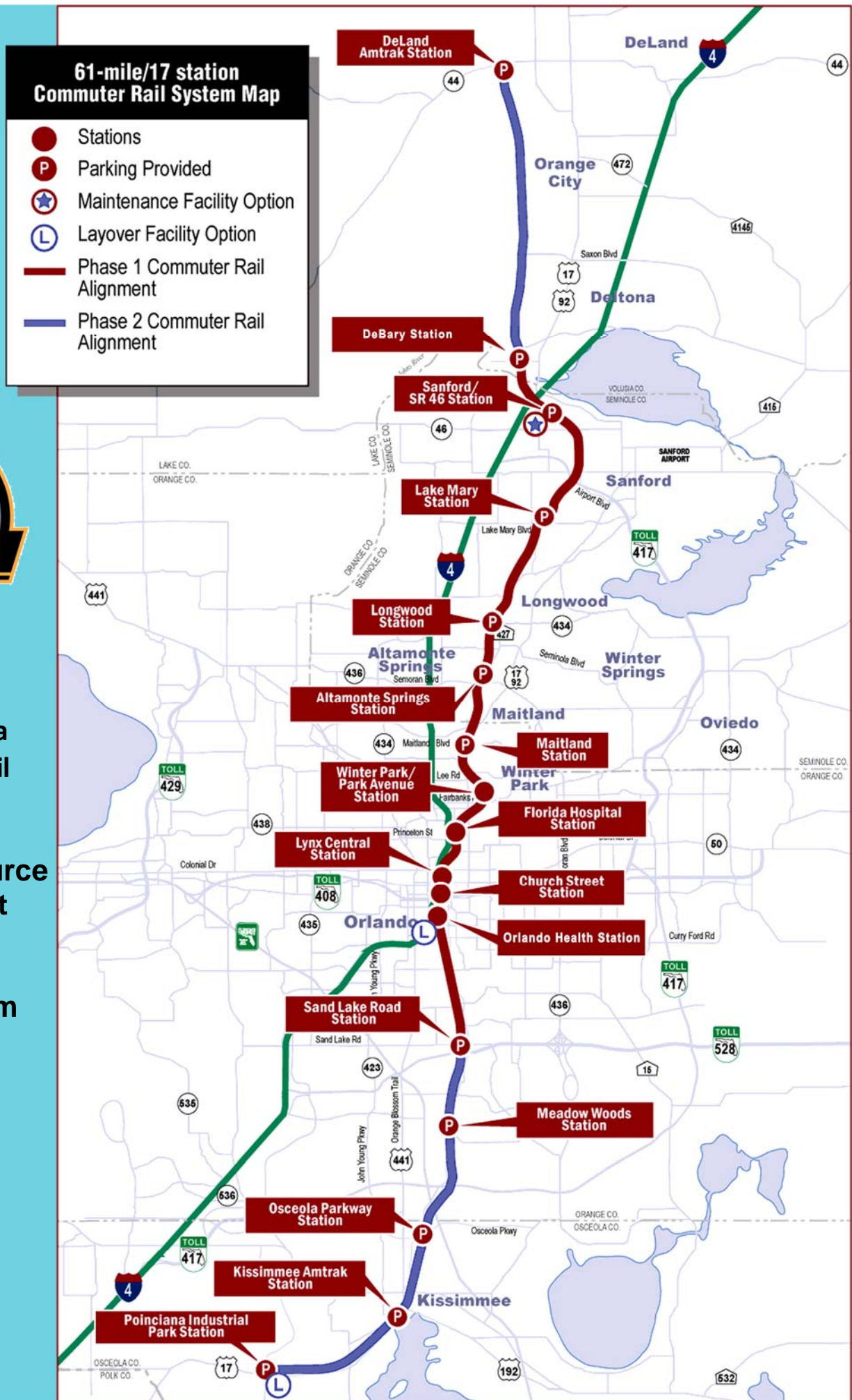
**C-2** State Historic Preservation Officer - Letter of Concurrence



## Central Florida Commuter Rail Transit

## Cultural Resource Assessment Survey Technical Memorandum

OCTOBER 2009



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### APPENDICES

Appendix A: Florida Master Site File (FMSF) Forms

Appendix B: Survey Log

**CULTURAL RESOURCE ASSESSMENT SURVEY  
TECHNICAL MEMORANDUM**

**CENTRAL FLORIDA COMMUTER RAIL TRANSIT  
(SUNRAIL)  
SEVEN PROPOSED STATION SITES IN  
OSCEOLA, ORANGE, SEMINOLE, AND VOLUSIA COUNTIES,  
FLORIDA**

**1.0 INTRODUCTION**

This cultural resource assessment survey was conducted as part of the Supplemental Environmental Assessment (SEA) for the SunRail Corridor for the Central Florida Commuter Rail Transit (CFCRT) Project. As the project proceeds, the footprints of the south segment stations (Poinciana, Kissimmee, Osceola Parkway and Meadow Woods), Sand Lake Road and Altamonte Springs Stations within the Initial Operating System (IOS), and DeLand Station have been modified to reflect the requirements of the stakeholders. To that end, the seven modified Station Site footprints were the focus of archaeological and historical/architectural field surveys. The original footprints were surveyed in 2005 as part of the Environmental Assessment (EA) (ACI 2005).

Archaeological Consultants, Inc. (ACI) conducted updated background research and archaeological and historical/architectural surveys in the area of potential effect (APE) for each of the seven modified Station Sites (DeLand Amtrak, Altamonte Springs, Sand Lake Road, Meadow Woods, Osceola Parkway, Kissimmee Amtrak, and Poinciana Industrial Park). The APE for archaeological sites was defined as the land within the footprint; the historical APE was defined as the footprint plus the immediately adjacent properties.

The purpose of this investigation was to locate, identify, and aerially delimit any cultural resources with the project APE and to assess their significance in terms of eligibility for listing in the National Register of Historic Places (NRHP). The historical/architectural and archaeological field surveys were conducted in October 2009. The study was undertaken to assist in complying with the *National Environmental Policy Act (NEPA) of 1969* (Public Law 91-190); Section 106 of the *National Historic Preservation Act (NHPA) of 1966* (Public Law 89-665, as amended), as implemented by 36 CFR 800 (*Protection of Historic Properties*, revised January 2001); and Section 4(f) of the *Department of Transportation Act of 1966* (Public Law 89-670, as amended). This study was conducted in accordance with Chapters 253, 267, and 872 of the *Florida Statutes*, and Part 2, Chapter 12 (*Archaeological and Historic Resources*) of the Florida Department of Transportation's *Project Development and Environment Manual* (revised).

As a result of this investigation, no previously recorded or newly identified archaeological sites were found within the footprint of any of the seven proposed Station Sites. Background research and historical/architectural field survey indicated that no



previously recorded or newly identified historic resources are located within the project APE for the Sand Lake Road, Meadow Woods, Osceola Parkway, and Poinciana Industrial Park Station Sites.

Three previously recorded historic structures (8VO7605, 8VO7606, and 8VO7607) are located within the APE for the proposed DeLand Station Site. All were evaluated by the State Historic Preservation Officer (SHPO) as ineligible for the NRHP. One previously recorded historic structure (8SE2036) is located within the proposed Altamonte Springs Station Site APE. It was also determined ineligible. Four previously recorded (8OS449, 8OS453, 8OS1950, and 8OS1954), plus two newly identified (8OS2570 and 8OS2590) historic structures are located within the proposed Kissimmee Amtrak Station Site APE. None of these historic resources has been evaluated by the SHPO. However, according to the previous recorders, three of the four previously recorded resources, 8OS449, 8OS1950, and 8OS1954, are potentially eligible as contributing resources to the potential Cape Breeze Historic District; none is individually eligible for listing in the NRHP. However, the Cape Breeze Historic District is not currently listed in the NRHP. 8OS453 was previously evaluated by the recorders as ineligible for the NRHP, either individually or as part of a historic district. The two newly recorded historic resources are not considered potentially eligible for individual listing in the NRHP; 8OS2570 may be considered potentially eligible as a contributing resource to the potential Cape Breeze Historic District.

In conclusion, no archaeological sites or historic resources which are listed, determined eligible, or considered potentially eligible for listing in the NRHP are located within the project APE for any of the seven proposed Station Sites. However, four historic resources (8OS449, 8OS1950, 8OS1954, and 8OS2570) located within the project APE for the Kissimmee Station Site may be contributing resources to a potential, but as yet undefined, NRHP historic district. Both the NRHP-eligible DeLand ACL Railroad Station (8VO2653) and the Kissimmee Amtrak Railroad Station (8OS415) are located proximate to, but outside the project APE for the DeLand and Kissimmee Station Sites, respectively.

## 2.0 SURVEY METHODS AND RESULTS

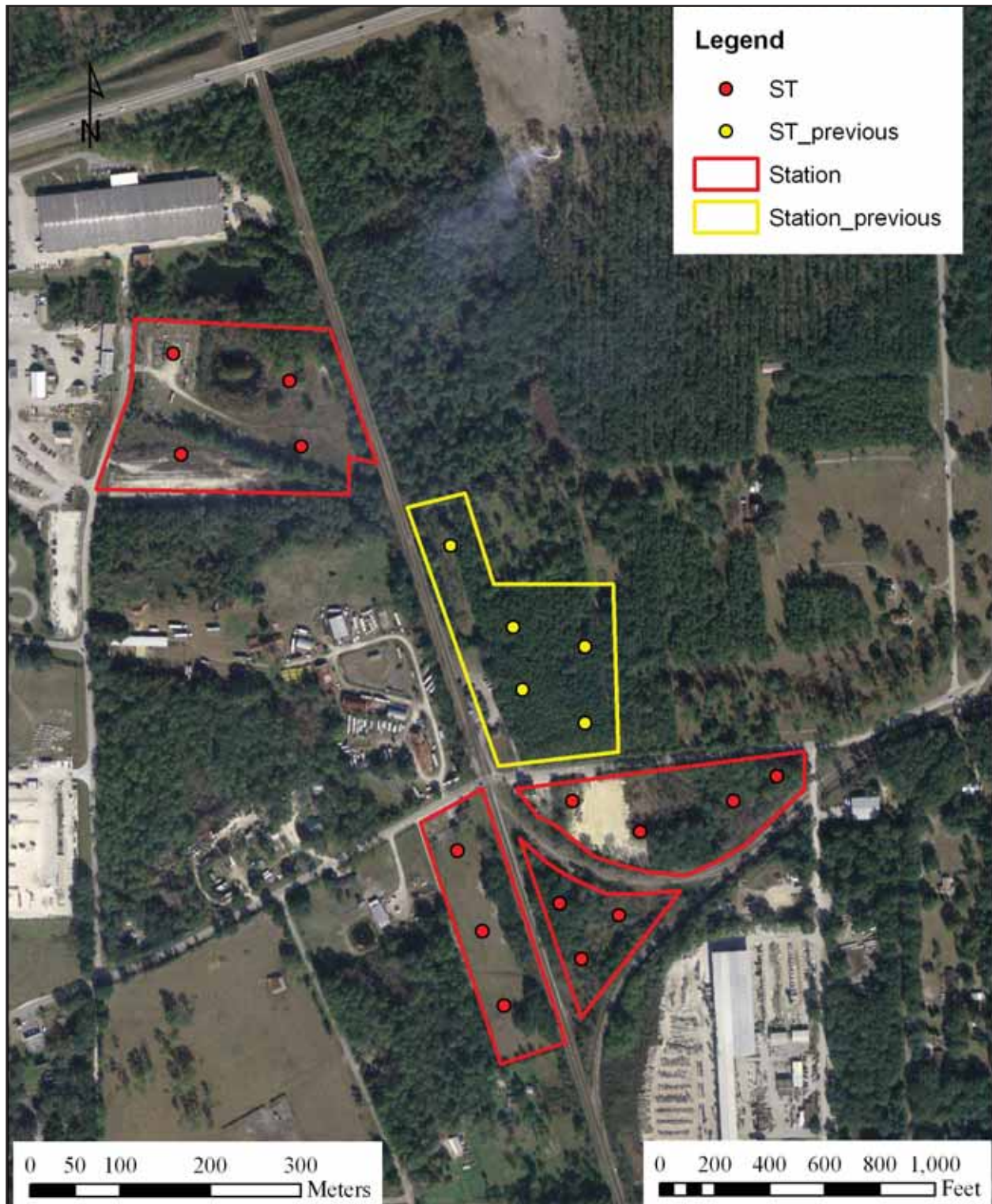
Survey methods included both background research and archaeological and historical/architectural field surveys for each of the seven proposed Station Sites. Background research included examination of the GIS database of the Florida Master Site File (FMSF), accessed in October 2009; the original survey report for the CFCRT Environmental Assessment (EA) project (ACI 2005), which included survey of 15 proposed stations (including the seven currently under study); property appraiser records for Osceola, Orange, Seminole, and Volusia Counties; and relevant cultural resource assessment survey reports. Archaeological field survey methods included ground surface examination within the footprint of each proposed Station Site, limited subsurface shovel testing, and the photographing of existing conditions. Historical/architectural field survey entailed descriptions and photographs of all historic resources (50 years of age or older) located within and adjacent to each proposed site.

The findings of background research and archaeological and historical/architectural field surveys for each of the seven proposed Station Sites are provided below. FMSF forms for previously and newly recorded historic resources located within the project APE for each proposed Station Site are contained in Appendix.

### 2.1 DeLand Amtrak

The proposed DeLand Amtrak Station Site is located in Sections 13, 14, and 40 of Township 17 South, Range 29 East in Volusia County. The site is comprised of four geographically discontinuous parcels, of which one is located to the northwest of the existing railroad station and three are to the south, directly south of Old New York Avenue (**Figure 1**). The northwestern parcel, situated west of the railroad and east of Fair Street, is a vacant lot with oak and pine trees, and a small pond. The parcel west of the railroad and south of Old New York Avenue is characterized by improved pasture (**Photo 1**). To its immediate east, the property contains an oak hammock (**Photo 2**). The fourth parcel to its east is oak hammock with an abandoned commercial/industrial complex (**Photo 3**). The local soil type is poorly drained Immokalee sand (United States Department of Agriculture [USDA] 1980).

Background research indicated that no previously recorded archaeological sites are located within the project APE. Previous survey of the original station entailed the excavation of five shovel tests (**Figure 1**), and yielded negative results. Based on the results of regional settlement pattern studies, with the exception of the northwestern parcel, the four areas were considered to have a low potential for archaeological site location. The northwestern parcel was considered to have a moderate probability due to the presence of a pond.



**Figure 1.** Approximate location of the shovel tests within the proposed DeLand Amtrak Station parcels (United States Geological Survey [USGS] 2004b).





**Photo 1.** Parcel located west of the railroad and south of Old New York Avenue.



**Photo 2.** Parcel east of the railroad.





**Photo 3.** Parcel located south of the DeLand ACL Railroad Station.

Archaeological field survey entailed an initial ground surface inspection followed by judgmental subsurface testing throughout the four parcels (**Figure 1**). Four tests were placed in the parcel west of the railroad and east of Fair Street. The stratigraphy consisted of 0-30 cm (0-12 in) of dark gray sand underlain by light gray sand. Three tests placed in the parcel west of the railroad and south of Old New York Avenue, as well as three within the parcel east of the railroad revealed a similar stratigraphic profile. Four shovel tests were excavated within the parcel located south of the DeLand ACL Railroad Station. The stratigraphy consisted of 0-30 cm (0-12 in) dark gray sand, 30-80 cm (12-32 in) gray sand, and 80-100 cm (32-39 in) black hardpan. Of the total 14 shovel tests excavated, all yielded negative results.

Background research indicated that three previously recorded historic structures are located **within** the proposed station site (**Table 1; Figure 9**). These resources include 8VO7605, a ca. 1953 Masonry Vernacular style residence at 2510 Old New York Avenue (**Photo 4**); 8VO7606, a ca. 1947 Masonry Vernacular style residence at 2504 Old New York Avenue (**Photo 4**); and 8VO7607, a ca. 1924 Frame Vernacular style commercial building (The Inn Between Bar) at 2486 Old New York Avenue (**Photo 5**). The SHPO evaluated all three as ineligible for listing in the NRHP. In addition, two previously recorded historic resources are located proximate to, but outside, the project APE (**Table 1**). These include 8VO2655, a ca. 1924 Frame Vernacular style building (Barn #1) at 2505 Old New York Avenue, and 8VO2653, the ca. 1918 Masonry Vernacular style DeLand ACL Railroad Station at 2491 Old New York Avenue, evaluated by the SHPO as NRHP eligible.

**Table 1.** Previously identified historic resources located within and proximate to the proposed DeLand Station project APE.

<b>FMSF No.</b>	<b>Address</b>	<b>Style</b>	<b>Date</b>	<b>SHPO evaluation</b>	<b>Comment</b>
8VO7606	2504 Old New York Ave	Masonry Vernacular	ca. 1947	Not eligible	Within the project APE
8VO7605	2510 Old New York Ave	Masonry Vernacular	ca. 1953	Not eligible	Within the project APE
8VO7607	2486 Old New York Ave	Frame Vernacular	ca. 1924	Not eligible	Within the project APE
8VO2655	2505 Old New York Ave	Frame Vernacular	ca. 1924	Not evaluated by SHPO (assessed as ineligible by the recorder)	Outside the project APE
8VO2653	DeLand ACL RR Station, 2491 Old New York Ave	Masonry Vernacular	ca. 1918	Eligible	Outside the project APE



**Photo 4.** 2504 (8VO7606) and 2510 (8VO7605) Old New York Avenue, looking north.





**Photo 5.** 8VO7607 at 2486 Old New York Avenue.

No new historic resources were identified within the project APE as the result of historical/architectural field survey.

## **2.2 Altamonte Springs**

The proposed Altamonte Springs Station Site is located in Section 18 of Township 21 South, Range 30 East in Seminole County. It is comprised of two discontinuous parcels. The western parcel (**Photo 6**), located west of the railroad corridor, is contained within the original station footprint. It is underlain by soils of the Urban land type (USDA 1990). In areas such as this, 85 percent or more of the soil surface is covered by urban facilities, houses, streets, sidewalks, etc. Very little of the natural soil is observable. However, where it does exist, it consists of Astatula, Apopka, Millhopper, Myakka, Pomello, St. Lucie, Paola, Smyrna, Tavares, and EauGallie soils. The eastern parcel (**Photo 7**), located on the east side of the railroad, is underlain by Tavares-Millhopper sand, 0-5% slopes, and Pomello fine sand, 0-5% slopes, which are moderately well drained soils (USDA 1990, 2006b).



**Photo 6.** Altamonte Springs Station Site parcel located west of the railroad corridor and south of Leonard Street.



**Photo 7.** Altamonte Springs Station Site parcel located east of the railroad.

Background research indicated that no previously recorded archaeological sites are located within the project APE. Archaeological survey of the original station (ACI 2005) included the excavation of one shovel test (**Figure 2**). This effort yielded negative results. Based on the results of regional settlement pattern studies, the two areas were considered to have a moderate potential for archaeological site location based on the



**Figure 2.** Approximate location of the shovel tests within the proposed Altamonte Springs Station parcels. Asterisk denotes previously recorded historic structure 8SE2036 (USGS 2004a).





presence of the pond in the eastern parcel. In addition, background research also indicated an absence of previously recorded historic structures within the project APE.

Archaeological field survey entailed an initial ground surface inspection followed by judgmental subsurface testing throughout the two parcels (**Figure 2**). Three tests were placed in the parcel south of Leonard Street and six were placed within the parcel east of the railroad. The stratigraphy in both consisted of 0-80 cm (0-32 in) of grayish brown sand underlain by white marl. No cultural materials were recovered from any of the tests or during the surface reconnaissance.

One previously recorded historic resource, 8SE2036, is located within the APE of the proposed Altamonte Springs Station Site. This ca.1946 Masonry Vernacular style residence (**Figure 2; Photo 8**) is located at 109 Station Street, adjacent to the eastern parcel. It was evaluated as ineligible for listing in the NRHP (ACI 2005). A copy of the FMSF form for 8SE2036 is contained in the Appendix. No new historic resources were identified within the project APE for this station site.



**Photo 8.** 8SE2036 at 109 Station Street, looking east.

### **2.3     Sand Lake Road**

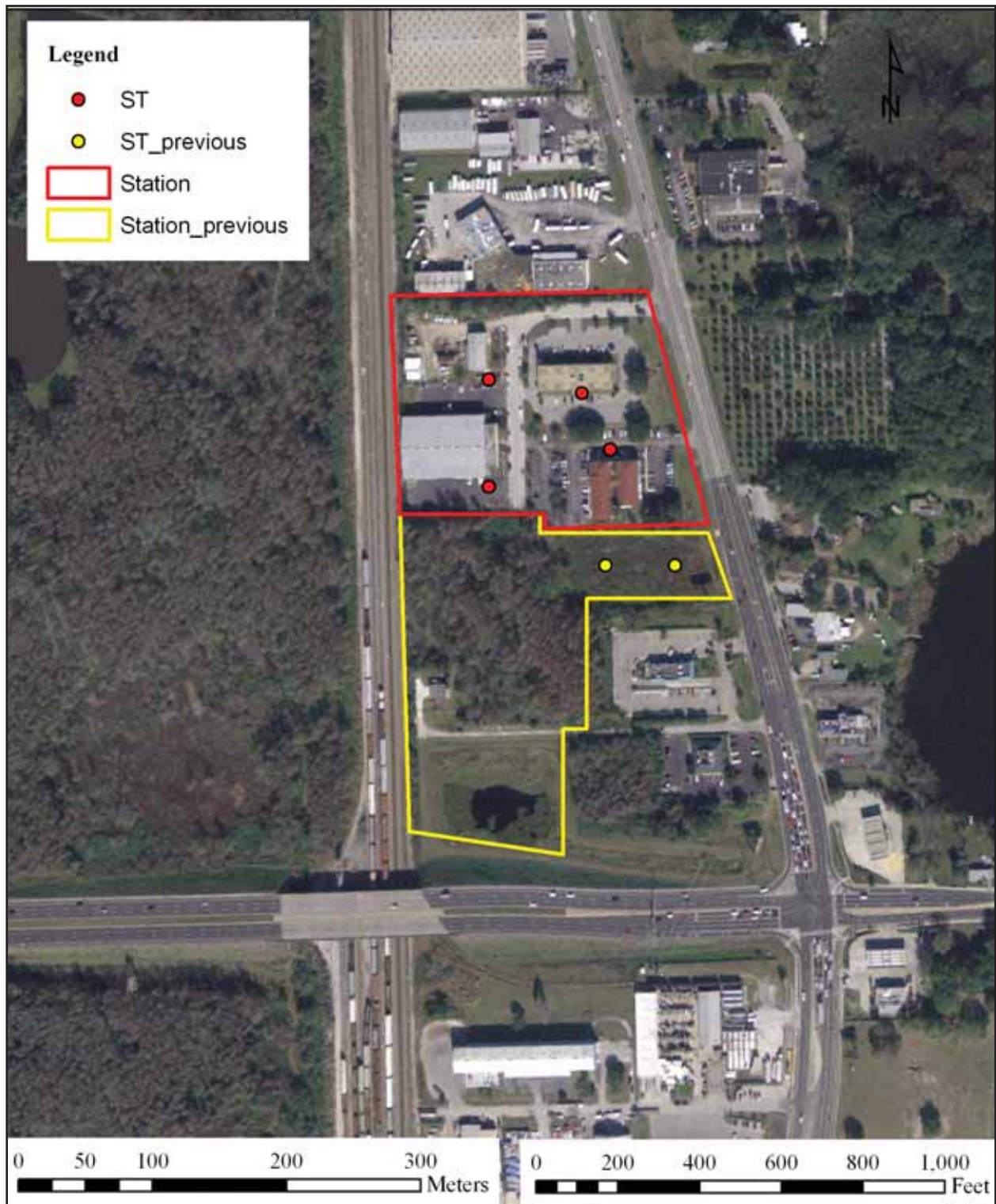
The proposed Sand Lake Road Station Site is located in Section 25 of Township 23 South, Range 29 East in Orange County. The single parcel is underlain by Urban land, poorly drained Smyrna fine sand, and the very poorly drained Sanibel muck (USDA 1989, 2005). The tract is currently a business park (**Photo 9**).



**Photo 9.** Northwest quarter of the Sand Lake Road parcel.

Background research, conducted in October 2009, indicated that no previously recorded archaeological sites are located within the project APE. Archaeological survey of the original station (ACI 2005) included the excavation of two shovel tests (**Figure 3**). No new archaeological sites were discovered. Based on the results of regional settlement pattern studies, the new area, located adjacent to the north of the previously surveyed parcel, was considered to have a low potential for archaeological sites based on the poorly drained nature of the soils. In addition, background research also indicated an absence of previously recorded historic structures within and adjacent to the footprint of the proposed station site.

Archaeological field survey entailed an initial ground surface inspection followed by judgmental subsurface testing throughout the parcel (**Figure 3**). Four shovel tests were excavated, revealing a stratigraphy of 0-75 cm (0-30 in) gray sand, underlain by light brown sand. No cultural materials were recovered from any of the tests or during the surface reconnaissance. No historic resources were identified.



**Figure 3.** Approximate location of the shovel tests within the proposed Sand Lake Road Station parcels (USGS 2004d).





## 2.4 Meadow Woods

The proposed Meadow Woods Station Site, comprised of two parcels, is located in Section 13 of Township 24 South, Range 29 East in Orange County. The western parcel, an expansion of the original site, is undeveloped (**Photo 10**) and characterized by poorly drained Smyrna fine sand (USDA 1989, 2005). The eastern parcel contains a shopping center, gas station, and two water retention ponds (**Photo 11**). Most of this parcel is characterized by Smyrna fine sand; a small portion is underlain by the moderately well drained Pomello fine sand, 0-5% slopes.



**Photo 10.** Western Meadow Woods Station parcel.



**Photo 11.** Eastern Meadow Woods Station parcel.

Background research, conducted in October 2009, indicated that no previously recorded archaeological sites are located within the project APE. Archaeological survey of the original station (ACI 2005) included the excavation of six shovel tests (**Figure 4**). No new archaeological sites were discovered. Based on the results of regional settlement pattern studies, the new areas were considered to have a low potential for archaeological site location based on the poorly drained nature of the soils. In addition, background research also indicated an absence of previously recorded historic structures within the project APE.

Archaeological field survey entailed an initial ground surface inspection followed by judgmental subsurface testing (**Figure 4**). Two shovel tests were excavated within the western parcel revealing a stratigraphy of 0-100 cm (0-39 in) dark gray muck at the south end and grayish brown sand at the north end. The four shovel tests excavated within the eastern parcel revealed a stratigraphy of 0-60 cm (0-24 in) of dark gray sand underlain by light gray sand. No cultural materials were recovered from any of the tests or during the surface reconnaissance. Historical/architectural field survey similarly produced negative results.



**Figure 4.** Approximate location of the shovel tests within the proposed Meadow Woods Station parcels (USGS 2004d).





## 2.5 Osceola Parkway

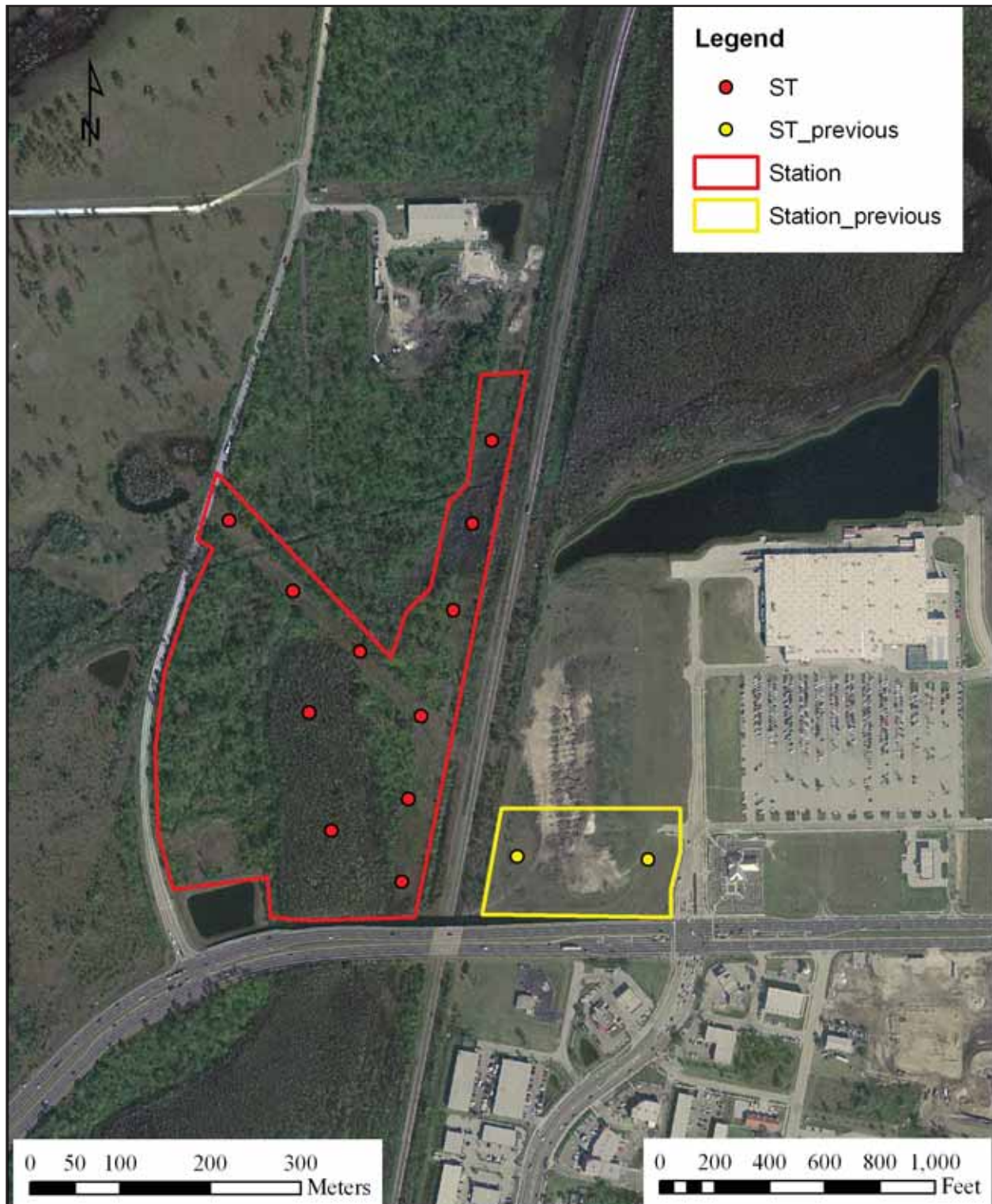
The proposed Osceola Parkway Station Site is located in Sections 2 and 3 of Township 25 South, Range 29 East in Osceola County. It is situated to the west of the original station parcel, on the west side of the railroad and north of Osceola Parkway. The tract is characterized by poorly drained Basinger, Myakka, and Smyrna fine sands, as well as depressional Basinger and Placid fine sands. The western portion of the parcel is a cypress dome and the eastern portion is pine flatwoods with some disturbance caused by a powerline transmission corridor (**Photo 12**).



**Photo 12.** Osceola Parkway parcel.

Background research, conducted in October 2009, indicated that no previously recorded archaeological sites are located within the project APE. Archaeological survey of the original station (ACI 2005) included the excavation of two shovel tests adjacent to the current station APE (**Figure 5**). As a result, no new archaeological sites were discovered. Based on the results of regional settlement pattern studies, the new area was considered to have a low potential for archaeological site location based on the poorly drained nature of the soils. In addition, background research also indicated an absence of previously recorded historic resources within the project APE.

Archaeological field survey entailed an initial ground surface inspection followed by judgmental subsurface testing throughout the parcel (**Figure 5**). Eleven shovel tests were excavated throughout the tract revealing a stratigraphy of 0-100 cm (0-39 in) dark grayish brown sand in the flatwoods and black muck and water in the cypress dome. No cultural materials were recovered from the tests or during the surface reconnaissance. No historic resources were identified as the result of historical/architectural field survey.



**Figure 5.** Approximate location of the shovel tests within the proposed Osceola Parkway Station parcels (USGS 2004c).



## 2.6 Kissimmee Amtrak

The proposed Kissimmee Amtrak Station Site is located in Section 22 of Township 22 South, Range 29 east in Osceola County. It is on the opposite side of the railroad from the original site, and directly north of Dakin Avenue. The southern part of the proposed station site contains a parking lot; the remainder of the land is undeveloped, with a scattering of live oaks and cabbage palm (**Photo 13**). The local soil type is poorly drained Myakka-Urban land complex (USDA 1979, 2006a).

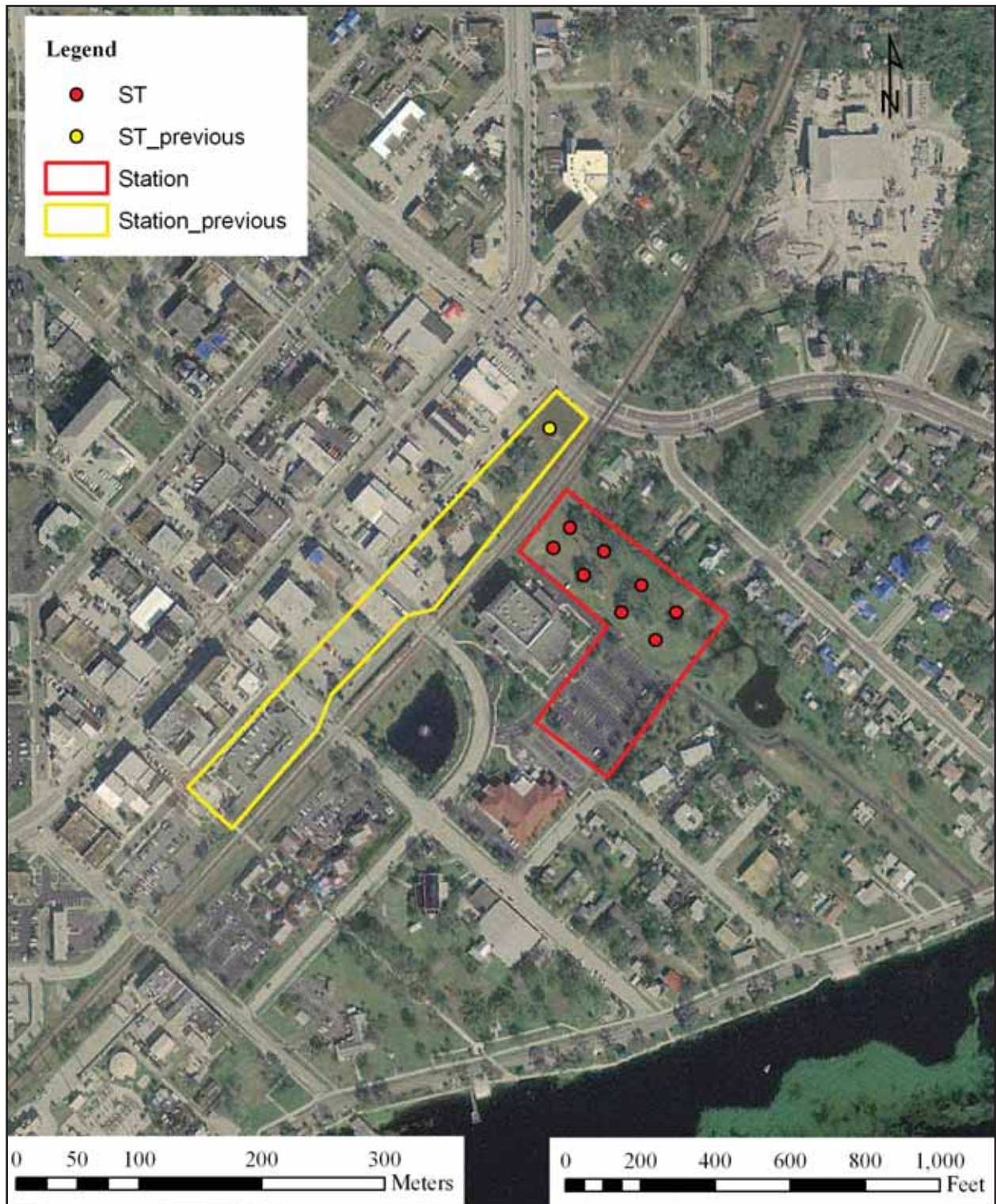


**Photo 13. Kissimmee Amtrak Station parcel.**

Background research, conducted in October 2009, indicated that no previously recorded archaeological sites are located within the project APE. Archaeological survey of the original station (ACI 2005) included the excavation of one shovel test (**Figure 6**). As a result, no new archaeological sites were discovered. Based on the results of regional settlement pattern studies, the new area was considered to have a low potential for archaeological site location based on the poorly drained nature of the soils.

Four previously recorded historic structures (8OS449, 8OS453, 8OS1950 and 8OS1954) are located within the project APE, directly north of the footprint of the proposed station site. All were recorded in 2004 during the Kissimmee Historic Buildings Survey (URS Corporation 2004). These four historic residences, all located along E. Drury Avenue, were constructed in 1905 and 1940 in the Bungalow, Frame Vernacular, and Minimal Traditional styles. While not evaluated by the SHPO, three (8OS449, 8OS1950 and 8OS1954) of the four were assessed by the recorders as potentially eligible as contributing resources to the potential Cape Breeze Historic District, and none of the four were considered individually eligible for listing in the NRHP. As originally defined,





**Figure 6.** Approximate location of the shovel tests within the proposed Kissimmee Amtrak Station parcels (USGS 2004c).



the potential Cape Breeze Historic District consists of 38 contributing resources located along Drury and Tohopekaliga Avenues, Jacaranda, Poinsettia, and Oleander Lanes; and Neptune Road (URS Corporation 2004:6-3). This collection of residences dates from the 1940s through early 1960s.

Summary information for the previously and newly recorded historic resources is provided in **Table 2**.

**Table 2.** Previously and newly identified historic resources located within the Kissimmee Amtrak Station Site project APE.

FMSF No.	Address	Style	Date	NRHP eligibility
8OS1950*	204 E. Drury Ave	Bungalow	ca. 1905	Not evaluated by SHPO; assessed by original recorders as potentially eligible as a contributing resource to a potential Cape Breeze Historic District, but not individually NRHP eligible.
8OS449*	210 E. Drury Ave	Frame Vernacular	ca. 1905	Not evaluated by SHPO; assessed by original recorders as potentially eligible as a contributing resource to a potential Cape Breeze Historic District, but not individually NRHP eligible.
8OS1954*	212 E. Drury Ave	Minimal Traditional	ca. 1940	Not evaluated by SHPO; assessed by original recorders as potentially eligible as a contributing resource to a potential Cape Breeze Historic District, but not individually NRHP eligible.
8OS453*	216 E. Drury Ave	Frame Vernacular	ca. 1905	Not evaluated by SHPO; assessed as ineligible by original recorders, both individually and as a contributing resource to a potential historic district.
8OS2570	214 E. Drury Ave	Masonry Vernacular	ca. 1940	Not eligible
8OS2590	302 E. Drury Ave	Masonry Vernacular	ca. 1950	Not eligible

\*previously recorded

Archaeological field survey entailed an initial ground surface inspection followed by systematic subsurface testing throughout the parcel (**Figure 6**). The total eight shovel tests revealed a disturbed zone of mixed grayish brown gravelly sand and construction debris to a depth of 100 cm (39 in) below surface. No cultural materials were recovered from the tests or during the surface reconnaissance.

Historical/architectural field survey resulted in the identification of the four previously historic resources as well as two new resources within the project APE (**Figure 8; Table 2**). Brief descriptions of the two newly identified resources follow, as well as photographs of all. FMSF forms are contained in Appendix.



**Photo 14.** Northeast elevation of 214 E. Drury Avenue, 8SO2570.

**8OS2570:** The Masonry Vernacular style residence, at 214 E. Drury Avenue, was constructed ca. 1940 (**Photo 14**). The concrete block walls, supported by the slab foundation, are topped with a gable roof with asphalt shingles (ca. 2003). The replacement windows are six-over-six single hung sash (ca. 2003) and have projecting window sills. An original inset porch is on the northeast elevation and contains the main entrance. Other original architectural features include gable vents, scrolled porch posts, and vertical board in the gables. This is an example of a commonly occurring Masonry Vernacular style residence found throughout Osceola County and research did not reveal significant historic association with an individual or event. Therefore, 8OS2570 does not appear eligible for listing in the NRHP. However, this building is near identical to the adjacent property at 212 E. Drury Avenue (8OS1954), which was considered a potentially contributing resource to the potential Cape Breeze Historic District.





**Photo 15.** Northeast and southeast elevations of 302 E. Drury Avenue, 8OS2590.

**8OS2590:** The Masonry Vernacular style residence, at 302 E. Drury Avenue, was constructed ca. 1950 (**Photo 15**). The concrete slab foundation supports the concrete block walls. The house is topped with a gable roof with asphalt shingles. The original windows are jalousie and the replacement windows are two-over-two single hung sash (ca. 1970) and have projecting window sills. An original open porch, located on the northeast elevation was enclosed ca. 1970, and contains the main entrance. There are two ca. 1970 additions on this building, one that wraps around the north and west elevations, and another on the east elevation. Other original architectural features include gable vents, awnings over the enclosed porch, and projecting window sills. Ancillary features include a detached historic garage to the southeast and a shed to the south. Research indicates that this building was not associated with a significant individual or event. In addition, it is an example of a typical Masonry Vernacular style residence found throughout Osceola County and the replacement windows and additions have diminished its integrity. Therefore, 8OS2590 does not appear eligible for listing in the NRHP.



**Photo 16.** Previously recorded 8OS1950 at 204 E. Drury Avenue, north and west elevations.



**Photo 17.** Previously recorded 8OS449 at 210 E. Drury Avenue, east elevation.



**Photo 18.** Previously recorded 8OS1954 at 212 E. Drury Avenue, east elevation.



**Photo 19.** Previously recorded 8OS453 at 216 E. Drury Avenue, east elevation.



## 2.7 Poinciana Industrial Park

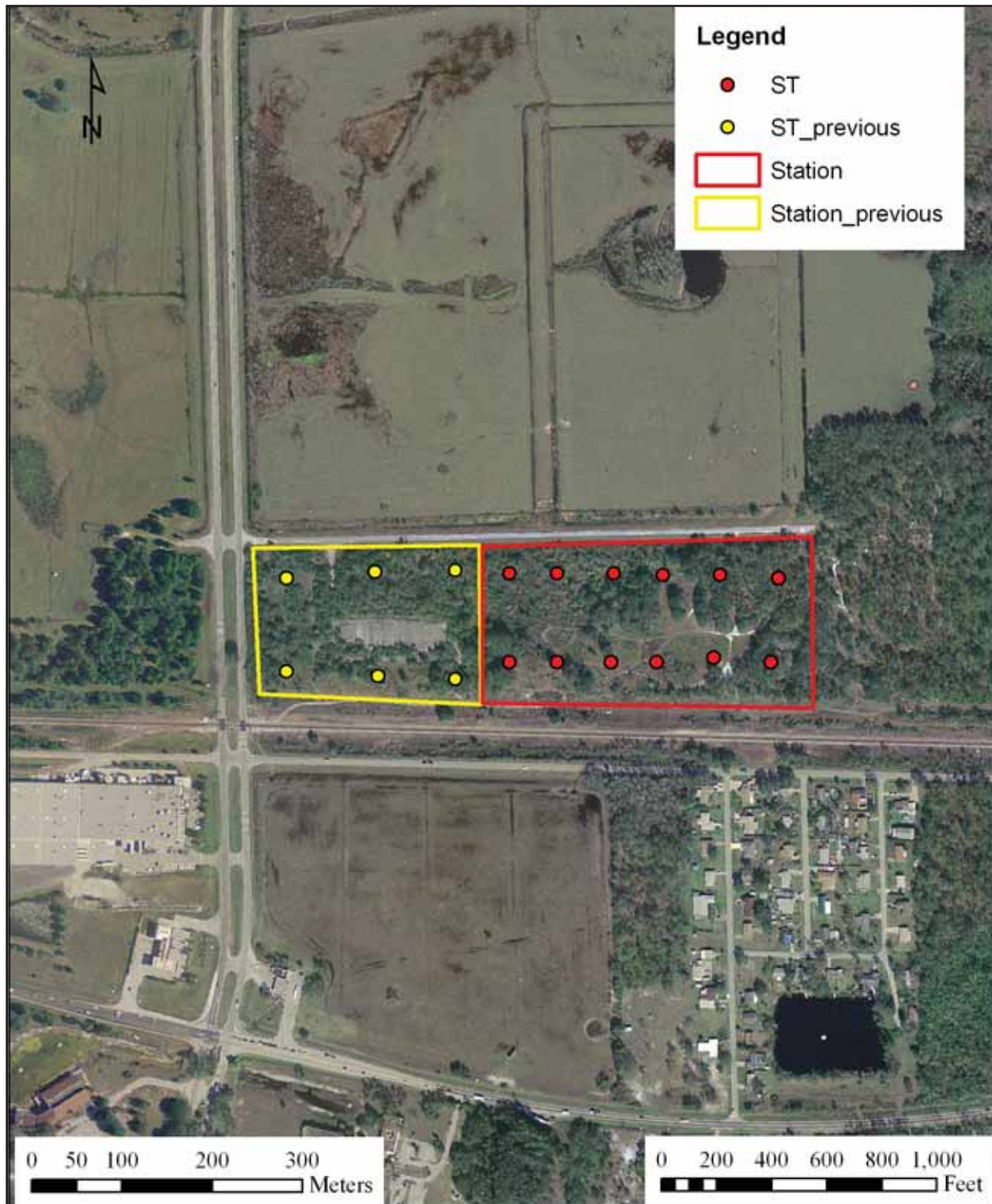
The proposed Poinciana Industrial Park Station Site is located in Section 35 of Township 25 South, Range 28 East and Section 2 of Township 26 South, Range 28 East in Osceola County. It is situated due east of the original station site which was previously surveyed (ACI 2005). The parcel is characterized by poorly drained Vero and Myakka fine sands, and moderately well drained Narcoossee fine sand (USDA 1979, 2006a). The land is generally level and vegetated with oaks, pine, and some cabbage palm; some areas having been cleared of vegetation (**Photo 20**).



**Photo 20. Poinciana Industrial Park Station parcel.**

Background research indicated that no previously recorded archaeological sites are located within the project APE. Archaeological survey of the original station (ACI 2005) included the excavation of six shovel tests (**Figure 7**). As a result, no new archaeological sites were discovered. Based on the results of regional settlement pattern studies, the new area was considered to have a low potential for archaeological site location based on the predominance of poorly drained soils. In addition, background research also indicated an absence of previously recorded historic structures within the project APE.

Archaeological field survey entailed an initial ground surface inspection followed by systematic subsurface testing throughout the parcel (**Figure 7**). Twelve shovel tests were excavated throughout the tract revealing a stratigraphy of 0-20 cm (0-8 in) of gray sand, 20-75 cm (8-30 in) light gray sand, 75-85 cm (30-34 in) dark brown sand, and 85-100 cm (34-39 in) of brown sandy clay. No cultural materials were recovered from the tests or during the surface reconnaissance. No historic resources were identified as the result of historical/architectural field survey.



**Figure 7.** Approximate location of the shovel tests within the proposed Poinciana Industrial Park Station parcels (USGS 2004c).







**Figure 8.** Location of previously and newly recorded historic structures within the proposed Kissimmee Amtrak Station project APE. Previously recorded structures are marked with an asterisk (Google Earth 2009).







**Figure 9.** Location of previously and newly recorded historic structures within the proposed Deland Amtrak Station project APE. Previously recorded structures are marked with an asterisk (Google Earth 2009).



### 3.0 CONCLUSIONS

As a result of background research and archaeological survey, no previously recorded or newly identified archaeological sites were found within the project APE for the seven proposed Station Sites. Background research and historical/architectural field survey indicated that no previously recorded or newly identified historic resources are located within the project APE for the Sand Lake Road, Meadow Woods, Osceola Parkway, and Poinciana Industrial Park Station Sites. However, historic resources are associated with the proposed Station Sites for DeLand, Altamonte Springs, and Kissimmee Amtrak:

- Three previously recorded historic structures (8VO7605, 8VO7606, and 8VO7607) are located within the APE for the proposed DeLand Station Site. All were evaluated by the SHPO as ineligible for the NRHP.
- One previously recorded historic structure (8SE2036) is located within the proposed Altamonte Springs Station Site APE. It was also determined ineligible.
- Four previously recorded (8OS449, 8OS453, 8OS1950, and 8OS1954), plus two newly identified (8OS2570 and 8OS2590) historic structures are located within the proposed Kissimmee Amtrak Station Site APE. None of these historic resources has been evaluated by the SHPO. However, according to the original recorders, three of the four previously recorded resources, 8OS449, 8OS1950, and 8OS1954, are potentially eligible as contributing resources to the **potential** Cape Breeze Historic District, but none of the four are individually eligible for listing in the NRHP. The Cape Breeze Historic District is **not currently listed in the NRHP**. 8OS453 was previously evaluated by the recorders as ineligible for the NRHP, either individually or as part of a historic district. The two newly recorded historic resources are not considered potentially eligible for individual listing in the NRHP; 8OS2570 should be considered potentially eligible as a contributing resource to the potential Cape Breeze Historic District.

In conclusion, no archaeological sites or historic resources which are listed, determined eligible, or considered potentially eligible for listing in the NRHP are located within the project APE for any of the seven proposed Station Sites. A summary of findings is presented in **Table 3**.

**Table 3.** Summary of Archaeological Survey of Proposed Station Locations.

<b>Station Site</b>	<b>Archaeological Survey Results</b>	<b>Historical/Architectural Survey Results</b>	<b>Evaluation</b>
DeLand Amtrak	Negative	Three previously recorded historic resources (8VO7605, 8VO7606, and 8VO7607) located within the project APE.	The three historic resources were determined ineligible for the NRHP by the SHPO. The NRHP-eligible DeLand ACL Railroad Station (8VO2653) is located proximate, to, but outside the project APE.
Altamonte Springs	Negative	One previously recorded historic structure (8SE2036) within the project APE.	Evaluated as ineligible for the NRHP by the SHPO.
Sand Lake Road	Negative	Negative	N/A
Meadow Woods	Negative	Negative	N/A
Osceola Parkway	Negative	Negative	N/A
Kissimmee Amtrak	Negative	Four previously recorded historic resources (8OS449, -453, -1950, and -1954) are located within the project APE. Two historic resources (8OS2570 and 8OS2590) were newly recorded.	The four previously recorded historic resources were not evaluated by the SHPO. 8OS449, 8OS1950, and 8OS1954 were considered potentially eligible as contributing resources to the potential Cape Breeze Historic District by the original recorders. None is individually eligible for listing in the NRHP. The two newly recorded historic resources are not considered potentially NRHP eligible. The NRHP eligible Kissimmee ACL Railroad Station (8OS415) is located outside the project APE.
Poinciana Industrial Park	Negative	Negative	N/A



#### 4.0 REFERENCES CITED

##### Archaeological Consultants, Inc. (ACI)

- 2005 Cultural Resource Assessment Survey Report. Central Florida Commuter Rail Transit (CFCRT) Environmental Assessment, Volusia, Seminole, Orange, and Osceola Counties, Florida. Volume I of X.

##### URS Corporation, Inc.

- 2004 Historic Resources Survey of the City of Kissimmee, Osceola County, Florida. On file, City of Kissimmee, Development Services, and ACI, Sarasota.

##### USDA

- 1979 *Soil Survey of Osceola County Area, Florida*. United States Department of Agriculture, Soil Conservation Services.
- 1980 *Soil Survey of Volusia County, Florida*. United States Department of Agriculture, Soil Conservation Services.
- 1989 *Soil Survey of Orange County, Florida*. United States Department of Agriculture, Soil Conservation Services.
- 1990 *Soil Survey of Seminole County, Florida*. United States Department of Agriculture, Soil Conservation Services.
- 2005 *Soil Survey Geographic (SSURGO) Database for Orange County, Florida*. USDA, Natural Resource Conservation Service, Fort Worth, TX. <http://soildatamart.nrcs.usda.gov/>.
- 2006a *Soil Survey Geographic (SSURGO) Database for Osceola County, Florida*. USDA, Natural Resource Conservation Service, Fort Worth, TX. <http://soildatamart.nrcs.usda.gov/>.
- 2006b *Soil Survey Geographic (SSURGO) Database for Seminole County, Florida*. USDA, Natural Resource Conservation Service, Fort Worth, TX. <http://soildatamart.nrcs.usda.gov/>.

##### USGS

- 2004a *Casselberry*. LABINS DOQQ q3811.
- 2004b *DeLand*. LABINS DOQQ q4111.
- 2004c *Kissimmee*. LABINS DOQQ q3512.
- 2004d *Pine Castle*. LABINS DOQQ q3611.

## **Appendix A:** Florida Master Site File (FMSF) Forms

**HISTORICAL STRUCTURE FORM  
FLORIDA MASTER SITE FILE**

Version 3.0 11/96

Consult Guide To Historical Structure Forms for detailed instructions.

Site #8 SE2036

Recorder # 11-34

Field Date 6/14/05

Form Date 7/06/05

☒ Original☐ Update

(give site #)

Site Name(s) (address if none) 109 Station Street

Multiple Listing [DHR only]

Survey CRAS, Central Florida Commuter Rail Transit, Environmental Assessment, OS, OR, SE, &amp; VO Counties

Survey #

National Register Category (Please check one: consult with Site File before using last four):

☒ building ☐ structure ☐ district ☐ site ☐ object**LOCATION & IDENTIFICATION**

Address (Include N,S,E,W;#;St.,Ave.,etc.) 109 Station Street

Cross Streets (nearest/between) Between Leonard Street and East Altamonte Drive on southeast

City/Town (within 3 miles) Altamonte Springs

In Current City Limits: ☒ y ☐ n ☐ unknown

County Seminole

Tax Parcel #(s) 18-21-30-507-0000-0150

Subdivision name Winwood Park Replat

Block

Lot 15 and 16

Ownership (Please check one):

☐ private-profit ☒ private-individual ☐ city ☐ county ☐ Native American  
☐ private-nonprofit ☐ private-unspecified ☐ state ☐ federal ☐ foreign ☐ unknown

Name of Public Tract (e.g., park)

Route to (especially if no street address)

**MAPPING**

USGS 7.5' Map Name &amp; Date Casselberry, Fla. 1962, PR 1980

Township 21S Range 30E Section 18 1/4 section: ☒ NW ☐ SW ☐ SE ☐ NE ☐ Irregular-name:Landgrant UTM: Zone ☐ 16 ☒ 17 Easting 465255 Northing 3170959

Plat or other map (map's name, location) Plat Book 3, Page 30

**DESCRIPTION**

Style\* Masonry Vernacular Exterior Plan\* rectangular Number of Stories 1

Structural System(s)\* masonry

Foundation: Type(s)\* continuous

Material(s)\* masonry

Exterior Fabric(s)\* tile, stucco

Roof: Type(s)\* gable on hip

Material(s)\* composition roll

Roof secondary strucs. (dormers etc.)\*

Chimney: No. 1 Material(s)\* masonry

Location(s)\* northeast entrance slope

Windows (types, materials, etc.)\* 1/1 SHS, metal, ribbon(3), paired; 4 light awning flanking 1 light fixed; 4 light casement flanking 4 light fixed, metal

Main Entrance (stylistic details) 5 panel, 1 light swing door

Porches: #open #closed 1 #incised Location(s) northwest entrance

Porch roof type(s) inset

Exterior Ornament masonry sills, window and door awnings, decorative tile on front facade, square piers on porch

Interior Plan\* unknown

Condition (Please check one): ☐ excellent ☐ good ☒ fair ☐ deteriorated ☐ ruinous

Surroundings (N=None, S=Some, M=Most, A=All/nearly all) N commercial A residential N institutional N undeveloped

Ancillary Features (No., type of outbuildings; major landscape features. Use continuation sheet for descriptions of interior, landscaping, etc)

carport on northeast, 2 outbuildings on southeast, 2 sheds on southwest

Archaeological Remains None Observed

☐ Check if Archaeological Form completed

\*Consult Guide to Historical Structure Forms for preferred descriptions (coded fields at the Site File).

**DHR USE ONLY\*\*\*\*\*OFFICIAL EVALUATIONS\*\*\*\*\*DHR USE ONLY**

NR DATE

KEEPER-NR ELIGIBILITY ☐ yes ☐ no

Date

SHPO-NR ELIGIBILITY: ☐ yes ☐ no ☐ potentially elig. ☐ insufficient info

Date

DELIST DATE

LOCAL DESIGNATION:

Date

Local office

National Register Criteria for Evaluation ☐ a ☐ b ☐ c ☐ d (See National Register Bulletin 15, p.2)

**HISTORICAL STRUCTURE FORM**

Site # 8 SE2036

Consult Guide to Historical Structure Forms for detailed instructions

**HISTORY**

Construction date: Exactly \_\_\_\_\_ (year) Approximately 1946 (year) Earlier than \_\_\_\_\_ (year) Later than \_\_\_\_\_ (year)  
 Architect (last name first): unknown Builder (last name first): unknown  
 Moves: ☐ yes ☒ no ☐ unknown Dates \_\_\_\_\_ Original address \_\_\_\_\_  
 Alterations: ☒ yes ☐ no ☐ unknown Dates ca. 1965 Nature\* enclosed porch and added tile, replaced windows  
 Additions: ☒ yes ☐ no ☐ unknown Dates ca. 1965 Nature\* southeast addition  
 Original Use\* (give date ranges) private residence  
 Intermediate Uses\* (give date ranges) private residence  
 Present Use\* (give date ranges) private residence  
 Ownership History (especially original owner, dates, profession, etc.) Horrace Murray and Oscar Weeks et al (since 1994)

\*Consult Guide to Historical Structure Forms for preferred descriptions (coded fields at the Site File).

**RESEARCH METHODS (Check all choices that apply; if needed write others at bottom)**

<input type="checkbox"/> formal archaeological survey	<input checked="" type="checkbox"/> past surveys search at FMSF	<input checked="" type="checkbox"/> local library research	<input checked="" type="checkbox"/> Sanborn maps
<input type="checkbox"/> informal archaeological inspection	<input checked="" type="checkbox"/> past sites search at FMSF	<input type="checkbox"/> non-local library research	<input type="checkbox"/> subdivision maps
<input checked="" type="checkbox"/> Public Lands Survey (DEP)	<input type="checkbox"/> FL Archives (Gray Building)	<input type="checkbox"/> building permits	<input type="checkbox"/> plat maps
<input type="checkbox"/> tax records/property deeds	<input type="checkbox"/> FL Photo Archives (Gray Building)	<input type="checkbox"/> demolition permits	<input type="checkbox"/> local newspaper files
<input checked="" type="checkbox"/> tax records only	<input type="checkbox"/> occupant/owner interview	<input type="checkbox"/> commercial permits	
<input type="checkbox"/> interior inspection	<input type="checkbox"/> neighbor interview	<input type="checkbox"/> occupation permits	
<input type="checkbox"/> other methods (specify) _____			

**SURVEYOR'S EVALUATION OF SITE (Check one choice on each line)**

Potentially eligible for local register? ☐ yes: name register at right ☒ no ☐ insufficient info Name of local register if eligible: \_\_\_\_\_  
 Individually eligible for National Register? ☐ yes ☒ no ☐ insufficient info \_\_\_\_\_  
 Potential contributor to Nat. Reg. district? ☐ yes ☒ no ☐ insufficient info \_\_\_\_\_  
 Area(s) of Historical Significance (See National Register Bulletin 15, p. 8 for categories: e.g. "architecture," "ethnic heritage," "community planning & development," etc.)  
Community Planning and Development

Explanation of Evaluation (required, whether positive or not; limit to three lines; attach longer statement, if needed, on separate sheet)  
Limited research revealed no historical associations with this property. In addition, non-historic alterations and additions have resulted in a loss of integrity. Therefore, it appears that 8SE2036 is not eligible for listing in the NRHP.

**DOCUMENTATION (Photos, Plans, etc.)**

Bibliographic References (Use Continuation Sheet, give FMSF Manuscript # if relevant) Seminole County Property Appraiser

Photographs (required) B&W print(s) at least 3x5, at least one main facade.

Location of negatives & negative numbers Archaeological Consultants, Inc. Roll #11/34-35

**RECORDER**

Name (last name first)/Address/Phone/Fax/Email/Affiliation Ross, Aimee and Katherine Baar  
Archaeological Consultants, Inc./ P.O. Box 5103, Sarasota, FL 34277-5103/(941)379-6206/(941)379-6216/ACIFlorida@comcast.net

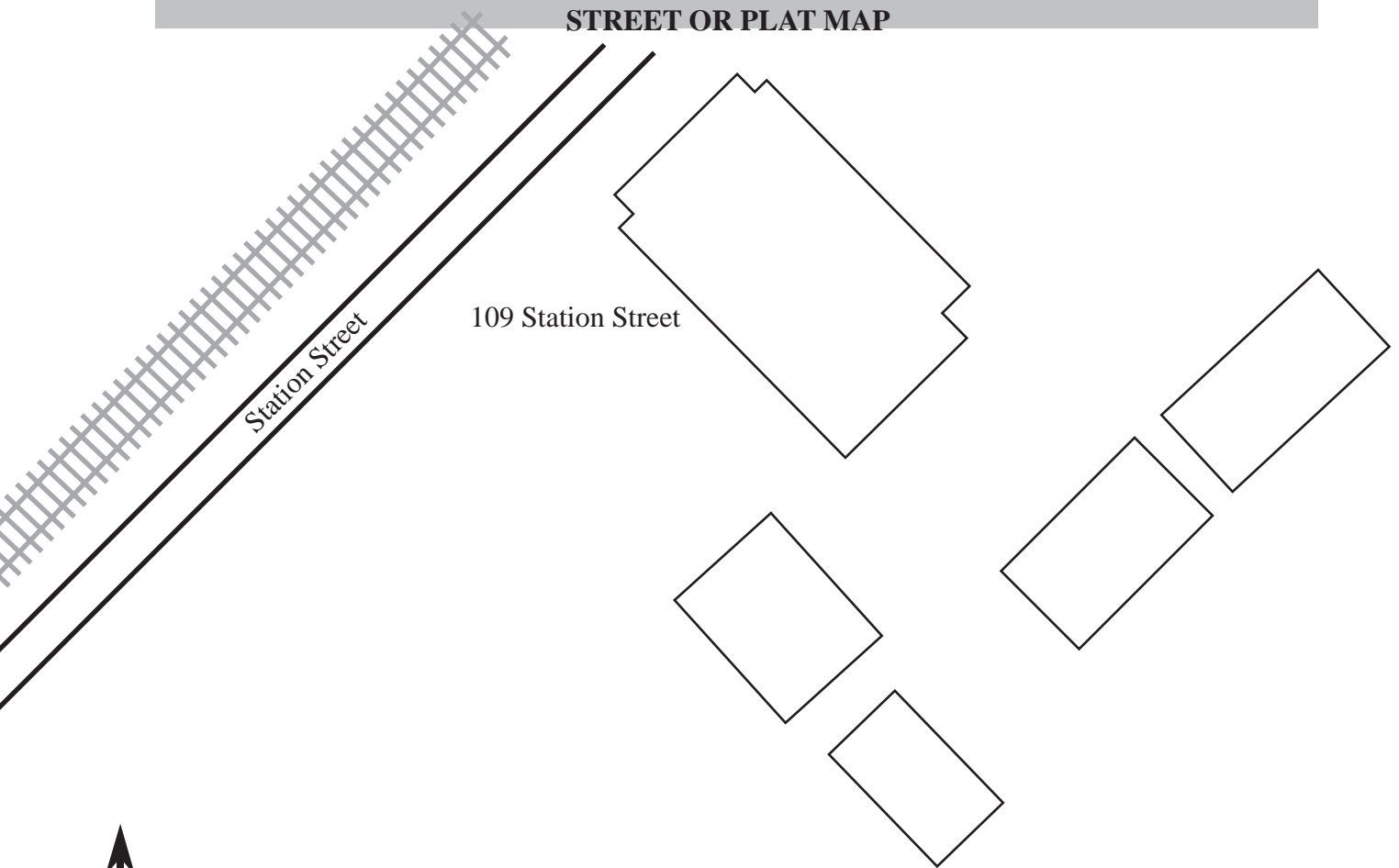
Remember: Use a Supplement for Site Forms or other continuation sheet for descriptions that do not fit in the spaces above.

**REQUIRED:** (1) USGS 7.5' MAP WITH STRUCTURE PINPOINTED IN RED  
 (2) LARGE SCALE STREET OR PLAT MAP  
 (3) PHOTO OF MAIN FACADE, PREFER B&W, AT LEAST 3x5

**PHOTOGRAPH**



**STREET OR PLAT MAP**



**USGS MAP**

Casselberry, Fla. 1962, PR 1980





☒ Original  
☐ Update



# HISTORICAL STRUCTURE FORM

## FLORIDA MASTER SITE FILE

Version 4.0 1/07

Site #8 OS2570  
 Field Date 10 / 26 / 2009  
 Form Date 11 / 02 / 2009  
 Recorder # 14

Shaded Fields represent the minimum acceptable level of documentation.  
 Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 214 E. Drury Avenue Multiple Listing (DHR only) \_\_\_\_\_  
 Survey Project Name CRAS Technical Memorandum CFCRT (Sunrail) Phase 2 Seven Proposed Station Sites Osceola, Orange, Seminole, and Volusia Survey # (DHR only) \_\_\_\_\_  
 National Register Category (please check one) ☒ building ☐ structure ☐ district ☐ site ☐ object  
 Ownership: ☒ private-profit ☐ private-nonprofit ☐ private-individual ☐ private-nonspecific ☐ city ☐ county ☐ state ☐ federal ☐ Native American ☐ foreign ☐ unknown

### LOCATION & MAPPING

Address (include N,S,E,W; #; St., Ave., etc.) 214 E. Drury Avenue  
 Cross Streets (nearest / between) \_\_\_\_\_  
 USGS 7.5' Map Name & Date Kissimmee 1981 Plat or Other Map \_\_\_\_\_  
 City / Town (within 3 miles) Kissimmee In City Limits? ☐ yes ☐ no ☒ unknown County Osceola  
 Township 25S Range 29E Section 22 ¼ section: ☐ NW ☐ SW ☒ SE ☐ NE ☐ Irregular-name: \_\_\_\_\_  
 Tax Parcel # 222529118000010060 Landgrant unknown  
 Subdivision Name - Block - Lot -  
 UTM: Zone ☐ 16 ☒ 17 Easting 460544 Northing 3129834  
 Other Coordinates: X: \_\_\_\_\_ Y: \_\_\_\_\_ Coordinate System & Datum \_\_\_\_\_  
 Name of Public Tract (e.g., park) \_\_\_\_\_

### HISTORY

Construction Year: 1940 ☒ approximately ☐ year listed or earlier ☐ year listed or later  
 Original Use\* Residence From (year): original To (year): \_\_\_\_\_  
 Current Use\* Residence From (year): \_\_\_\_\_ To (year): current  
 Other Use\* \_\_\_\_\_ From (year): \_\_\_\_\_ To (year): \_\_\_\_\_  
 Moves: ☐ yes ☒ no ☐ unknown Dates \_\_\_\_\_ Original address (if moved) \_\_\_\_\_  
 Alterations: ☒ yes ☐ no ☐ unknown Dates c.2003 Nature\* replacement roof, replacement windows  
 Additions: ☐ yes ☒ no ☐ unknown Dates \_\_\_\_\_ Nature\* \_\_\_\_\_  
 Architect (last name first): \_\_\_\_\_ Builder (last name first): \_\_\_\_\_  
 Ownership History (especially original owner, dates, profession, etc.) Schoolfield Properties Inc; Brian Schoolfield, Mark Taliento (2003-current)  
 Is the Resource Affected by a Local Preservation Ordinance? ☐ yes ☐ no ☒ unknown Describe \_\_\_\_\_

### DESCRIPTION

Style\* Masonry Vernacular Exterior Plan\* Irregular Number of Stories 1  
 Exterior Fabric(s) \* concrete block  
 Roof Type(s) \* gable Roof Material(s) \* asphalt shingles  
 Roof secondary strucs. (dormers etc.) \* \_\_\_\_\_  
 Windows (types, materials, etc.) \* 6/6 SHS, vinyl, independent and paired  
 Distinguishing Architectural Features (exterior or interior ornaments) scroll porch posts; projecting window sills; gable vents; vertical board in gables  
 Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.) \_\_\_\_\_

\* Consult *Guide to Historical Structure Forms* for preferred descriptions (coded fields at the Site File).

DHR USE ONLY		OFFICIAL EVALUATION		DHR USE ONLY	
NR List Date ____/____/____	SHPO – Appears to meet criteria for NR listing: <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> insufficient info	Date ____/____/____	Init. _____		
<input type="checkbox"/> Owner Objection	KEEPER – Determined eligible: <input type="checkbox"/> yes <input type="checkbox"/> no	Date ____/____/____			
	NR Criteria for Evaluation: <input type="checkbox"/> a <input type="checkbox"/> b <input type="checkbox"/> c <input type="checkbox"/> d (see <i>National Register Bulletin</i> 15, p. 2)				

## DESCRIPTION (continued)

Chimney: No. 0 Material(s) \* \_\_\_\_\_  
 Structural System(s) \* concrete block  
 Foundation: Type(s) \* slab Material(s) \* poured concrete  
 Main Entrance (stylistic details) door type unknown (not accessible); located on the northeast elevation, within porch  
 Porch Descriptions (types, locations, roof types, etc.) incised, northeast, inset roof (entry)

Condition (overall resource condition): ☐ excellent ☒ good ☐ fair ☐ deteriorated ☐ ruinous  
 Narrative Description of Resource This common masonry vernacular style building has undergone alterations including the replacement roofing materials and windows which have diminished its integrity.

Archaeological Remains \_\_\_\_\_ ☐ Check if Archaeological Form Completed

\* Consult *Guide to Historical Structure Forms* for preferred descriptions (coded fields at the Site File).

## RESEARCH METHODS (check all that apply)

<input checked="" type="checkbox"/> FMSF record search (sites/surveys)	<input type="checkbox"/> library research	<input type="checkbox"/> building permits	<input type="checkbox"/> Sanborn maps
<input type="checkbox"/> FL State Archives/photo collection	<input type="checkbox"/> city directory	<input type="checkbox"/> occupant/owner interview	<input type="checkbox"/> plat maps
<input checked="" type="checkbox"/> property appraiser / tax records	<input type="checkbox"/> newspaper files	<input type="checkbox"/> neighbor interview	<input checked="" type="checkbox"/> Public Lands Survey (DEP)
<input checked="" type="checkbox"/> cultural resource survey	<input type="checkbox"/> historic photos	<input type="checkbox"/> interior inspection	<input type="checkbox"/> HABS/HAER record search
<input type="checkbox"/> other methods (describe) _____			

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed) Osceola County Property Appraiser

## OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐ yes ☒ no ☐ insufficient information  
 Appears to meet the criteria for National Register listing as part of a district? ☐ yes ☒ no ☐ insufficient information  
 Explanation of Evaluation (required, whether significant or not; use separate sheet if needed) This Masonry Vernacular style residence is a commonly occurring building type throughout Osceola County. In addition, the lack of historical associations or architectural merit, limit the importance of this building, and therefore, it is not eligible for listing on the NRHP.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)  
Community Planning and Development

## DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field & analysis notes, photos, plans, other important documents that are permanently accessible:  
 For each separately maintained collection, describe (1) document type(s),\* (2) maintaining organization,\* (3) file or accession nos., and (4) descriptive information.  
All field notes, maps, and photos on file at ACI; P4175G

## RECORDER INFORMATION

Recorder Name Marielle Lumang  
 Recorder Contact Information (address / phone / fax / e-mail) 8110 Blaikie Ct, Suite A, Sarasota, Florida 34243/941-379-6206/ACIFlorida@comcast.net  
 Recorder Affiliation Archaeological Consultants, Inc.

Use a *Supplement for Site Forms* or other continuation sheet for descriptions that do not fit in the spaces provided.

## Required Attachments

❶ USGS 7.5' MAP WITH STRUCTURE LOCATION PINPOINTED IN RED

❷ LARGE SCALE STREET, PLAT OR PARCEL MAP (available from most property appraiser web sites)

❸ PHOTO OF MAIN FACADE, ARCHIVAL B&W PRINT OR DIGITAL IMAGE FILE

If submitting an image file, it must be included on disk or CD AND in hard copy format (plain paper is acceptable).

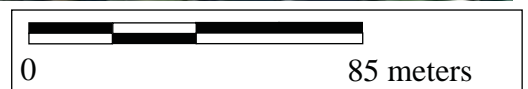
Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

**PHOTOGRAPH**



**GOOGLE EARTH MAP**

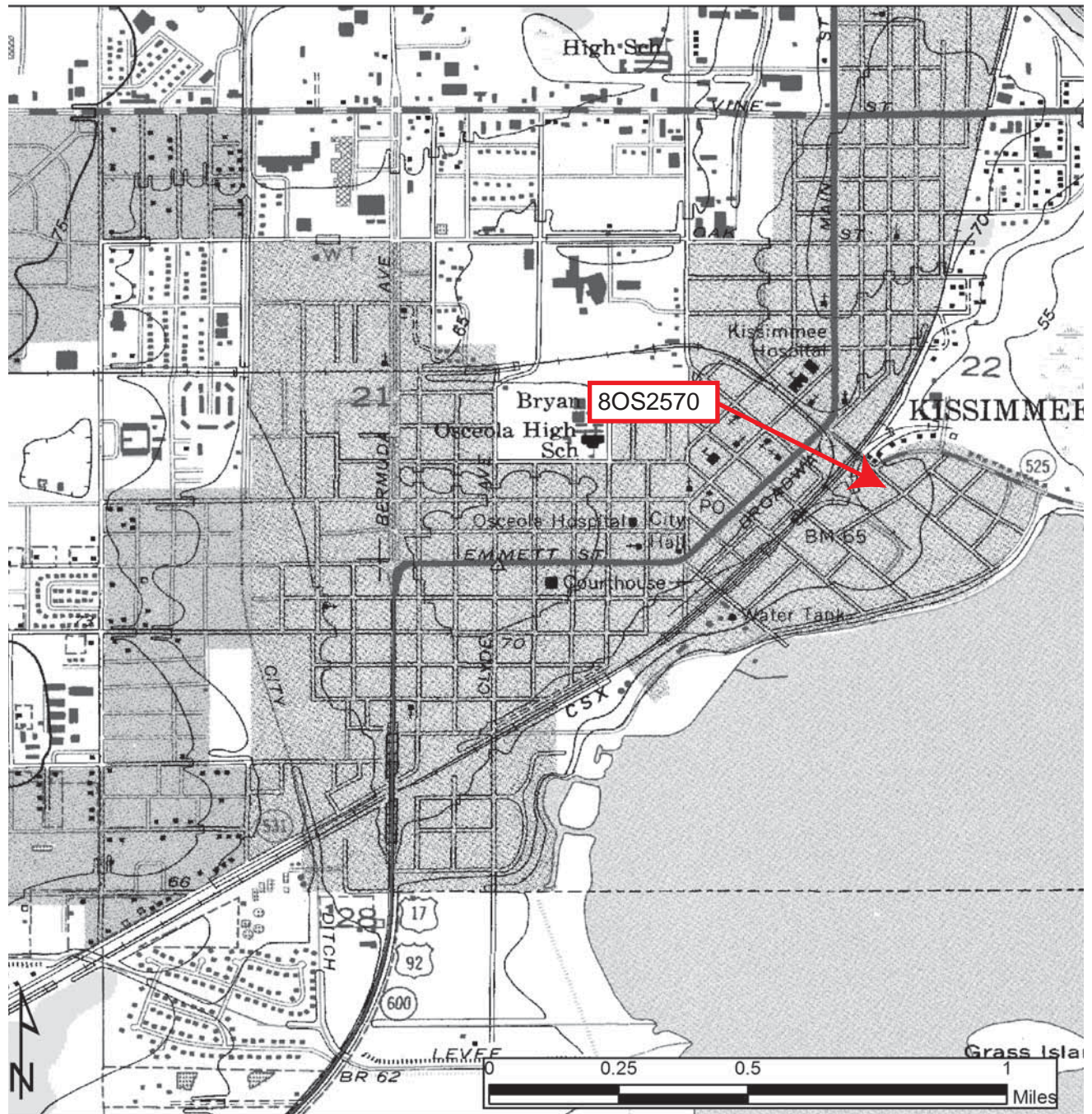
Kissimmee, Florida





## USGS MAP

Township 25 South, Range 29 East, Section 22  
Kissimmee 1981



☒ Original  
☐ Update



# HISTORICAL STRUCTURE FORM

## FLORIDA MASTER SITE FILE

Version 4.0 1/07

Site #8 OS2590  
 Field Date 10 / 26 / 2009  
 Form Date 11 / 02 / 2009  
 Recorder # 10

Shaded Fields represent the minimum acceptable level of documentation.  
 Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 302 E. Drury Avenue Multiple Listing (DHR only) \_\_\_\_\_  
 Survey Project Name CRAS Technical Memorandum CFCRT (Sunrail) Phase 2 Seven Proposed Station Sites Osceola, Orange, Seminole, and Volusia Survey # (DHR only) \_\_\_\_\_  
 National Register Category (please check one) ☒ building ☐ structure ☐ district ☐ site ☐ object  
 Ownership: ☐ private-profit ☐ private-nonprofit ☒ private-individual ☐ private-nonspecific ☐ city ☐ county ☐ state ☐ federal ☐ Native American ☐ foreign ☐ unknown

### LOCATION & MAPPING

Address (include N,S,E,W; #; St., Ave., etc.) 302 E. Drury Avenue  
 Cross Streets (nearest / between) \_\_\_\_\_  
 USGS 7.5' Map Name & Date Kissimmee 1981 Plat or Other Map \_\_\_\_\_  
 City / Town (within 3 miles) Kissimmee In City Limits? ☐ yes ☐ no ☒ unknown County Osceola  
 Township 25S Range 29E Section 22 ¼ section: ☐ NW ☐ SW ☒ SE ☐ NE ☐ Irregular-name: \_\_\_\_\_  
 Tax Parcel # 222529118000010100 Landgrant unknown  
 Subdivision Name - Block - Lot -  
 UTM: Zone ☐ 16 ☒ 17 Easting 460603 Northing 3129786  
 Other Coordinates: X: \_\_\_\_\_ Y: \_\_\_\_\_ Coordinate System & Datum \_\_\_\_\_  
 Name of Public Tract (e.g., park) \_\_\_\_\_

### HISTORY

Construction Year: 1950 ☒ approximately ☐ year listed or earlier ☐ year listed or later  
 Original Use\* Residence From (year): original To (year): \_\_\_\_\_  
 Current Use\* Residence From (year): \_\_\_\_\_ To (year): current  
 Other Use\* \_\_\_\_\_ From (year): \_\_\_\_\_ To (year): \_\_\_\_\_  
 Moves: ☐ yes ☒ no ☐ unknown Dates \_\_\_\_\_ Original address (if moved) \_\_\_\_\_  
 Alterations: ☒ yes ☐ no ☐ unknown Dates c.1970 Nature\* enclosed porch, replacement windows (2/2)  
 Additions: ☒ yes ☐ no ☐ unknown Dates c.1970 Nature\* addition on north and west elevations; carport on east elevation  
 Architect (last name first): unknown Builder (last name first): unknown  
 Ownership History (especially original owner, dates, profession, etc.) Kelly, Iris and James Wayne Trust (1999-current)

Is the Resource Affected by a Local Preservation Ordinance? ☐ yes ☐ no ☒ unknown Describe \_\_\_\_\_

### DESCRIPTION

Style\* Masonry Vernacular Exterior Plan\* Irregular Number of Stories 1  
 Exterior Fabric(s) \* concrete block  
 Roof Type(s) \* gable Roof Material(s) \* asphalt shingles  
 Roof secondary strucs. (dormers etc.) \* \_\_\_\_\_  
 Windows (types, materials, etc.) \* 2/2 SHS, metal, independent; jalousie, metal, independent  
 Distinguishing Architectural Features (exterior or interior ornaments) gable vents; awnings over porch; projecting window sills  
 Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.) detached historic garage to the southeast; shed to the south

\* Consult *Guide to Historical Structure Forms* for preferred descriptions (coded fields at the Site File).

DHR USE ONLY		OFFICIAL EVALUATION		DHR USE ONLY	
NR List Date ____/____/____	<input type="checkbox"/> Owner Objection	SHPO – Appears to meet criteria for NR listing: <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> insufficient info KEEPER – Determined eligible: <input type="checkbox"/> yes <input type="checkbox"/> no NR Criteria for Evaluation: <input type="checkbox"/> a <input type="checkbox"/> b <input type="checkbox"/> c <input type="checkbox"/> d (see <i>National Register Bulletin</i> 15, p. 2)	Date ____/____/____	Init. _____	

## DESCRIPTION (continued)

Chimney: No. 1 Material(s) \* concrete blockStructural System(s) \* concrete blockFoundation: Type(s) \* slab Material(s) \* poured concreteMain Entrance (stylistic details) door type unknown (not accessible); located on the northeast elevation, within porchPorch Descriptions (types, locations, roof types, etc.) enclosed, northeast, incised roofCondition (overall resource condition): ☐ excellent ☒ good ☐ fair ☐ deteriorated ☐ ruinousNarrative Description of Resource This common type masonry vernacular building has experienced unsympathetic additions to the north, west, and east elevations that greatly enlarges its size. Additionally, the replacement of the windows have diminished its integrity.Archaeological Remains ☐ Check if Archaeological Form Completed\* Consult *Guide to Historical Structure Forms* for preferred descriptions (coded fields at the Site File).

## RESEARCH METHODS (check all that apply)

- |  |   |   |   |
|--|---|---|---|
| <input checked="" type="checkbox"/> FMSF record search (sites/surveys) | <input type="checkbox"/> library research | <input type="checkbox"/> building permits         | <input type="checkbox"/> Sanborn maps                         |
| <input type="checkbox"/> FL State Archives/photo collection            | <input type="checkbox"/> city directory   | <input type="checkbox"/> occupant/owner interview | <input type="checkbox"/> plat maps                            |
| <input checked="" type="checkbox"/> property appraiser / tax records   | <input type="checkbox"/> newspaper files  | <input type="checkbox"/> neighbor interview       | <input checked="" type="checkbox"/> Public Lands Survey (DEP) |
| <input checked="" type="checkbox"/> cultural resource survey           | <input type="checkbox"/> historic photos  | <input type="checkbox"/> interior inspection      | <input type="checkbox"/> HABS/HAER record search              |
| <input type="checkbox"/> other methods (describe) _____                |   |   |   |

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed) Osceola County Property Appraiser

## OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐ yes ☒ no ☐ insufficient informationAppears to meet the criteria for National Register listing as part of a district? ☐ yes ☒ no ☐ insufficient informationExplanation of Evaluation (required, whether significant or not; use separate sheet if needed) This mid-century building reflects moderate changes in its massing and stylistic elements that compromise its historic integrity. These modifications, in addition to a lack of historical associations or architectural merit, limit the importance of this building, and therefore, it is not eligible for listing on the NRHP.Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.) Community Planning and Development

## DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field &amp; analysis notes, photos, plans, other important documents that are permanently accessible:

For each separately maintained collection, describe (1) document type(s),\* (2) maintaining organization,\* (3) file or accession nos., and (4) descriptive information. \_\_\_\_\_

All field notes, maps, and photos on file at ACI; P4175G

## RECORDER INFORMATION

Recorder Name Marielle LumangRecorder Contact Information (address / phone / fax / e-mail) 8110 Blaikie Ct, Suite A, Sarasota, Florida 34243/941-379-6206/ACIFlorida@comcast.netRecorder Affiliation Archaeological Consultants, Inc.Use a *Supplement for Site Forms* or other continuation sheet for descriptions that do not fit in the spaces provided.

## Required Attachments

① USGS 7.5' MAP WITH STRUCTURE LOCATION PINPOINTED IN RED

② LARGE SCALE STREET, PLAT OR PARCEL MAP (available from most property appraiser web sites)

③ PHOTO OF MAIN FACADE, ARCHIVAL B&amp;W PRINT OR DIGITAL IMAGE FILE

If submitting an image file, it must be included on disk or CD AND in hard copy format (plain paper is acceptable).

Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.



**PHOTOGRAPH**



**GOOGLE EARTH MAP**

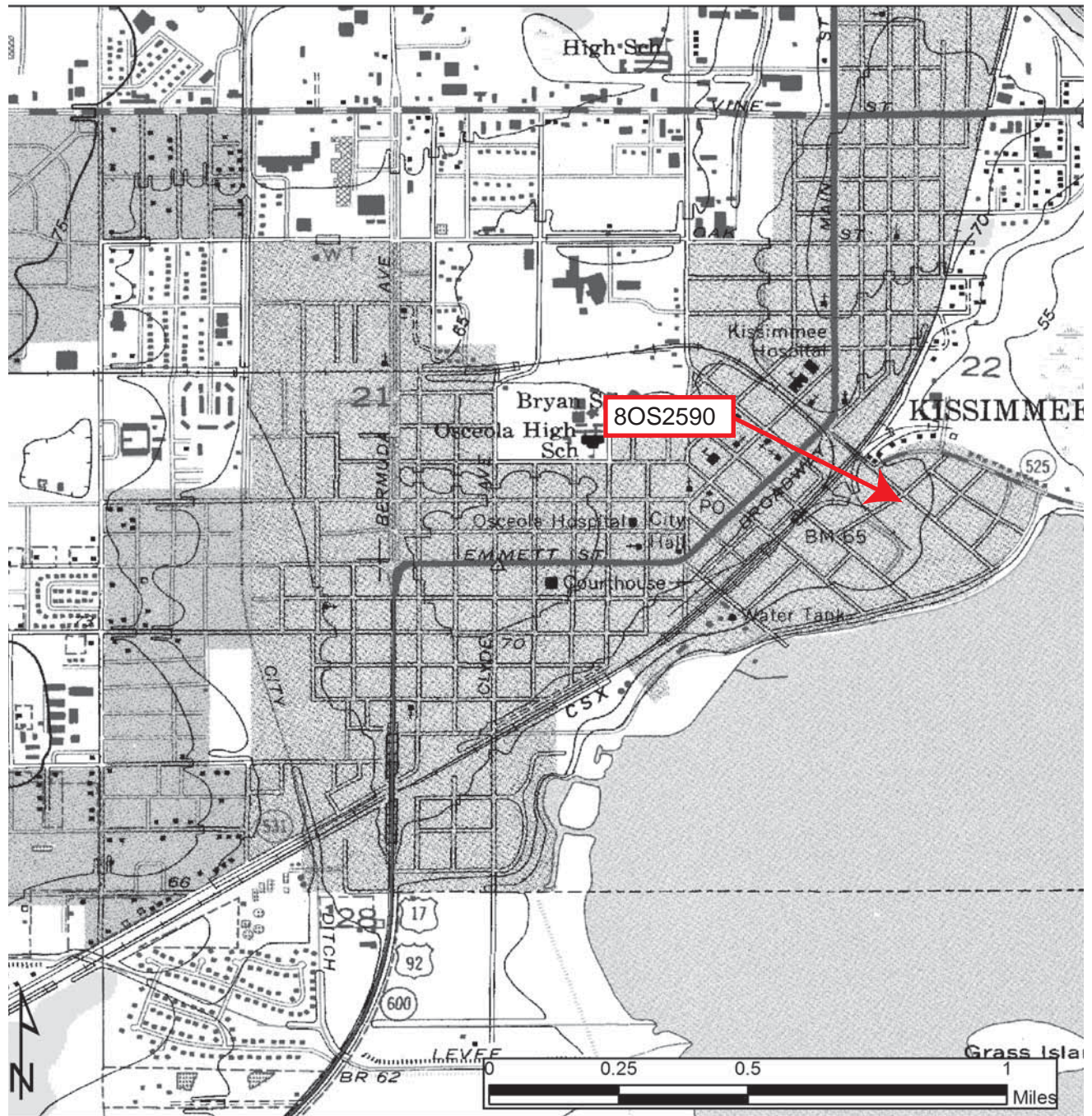
Kissimmee, Florida





## USGS MAP

Township 25 South, Range 29 East, Section 22  
Kissimmee 1981





# HISTORICAL STRUCTURE FORM

Electronic Version 1.1.0

Site #8 OS00449

Recorder #

Field Date 3/3/2004

Form Date 4/25/2004

FormNo 200403

FormNo = Field Date (YYYYMM)

First Site Form Recorded for this Site? NO

## GENERAL INFORMATION

Site Name (address if none) 210 East Drury Avenue Multiple Listing (DHR only) \_\_\_\_\_  
 Other Names \_\_\_\_\_ >> \_\_\_\_\_  
 Survey or Project Name Kissimmee Historic Buildings Survey Survey# \_\_\_\_\_  
 National Register Category Building(s)

## LOCATION & IDENTIFICATION

### Address

Street No.	Direction	Street Name	Street Type	Direction Suffix
<u>210</u>	<u>East</u>	<u>Drury</u>	<u>Avenue</u>	

Cross Streets (nearest/ between) Clay St./Tohopekaliga Ave.

City / Town (within 3 miles) Kissimmee

In Current City Limits? YES

County Osceola

Tax Parcel #(s) 22-25-29-1180-0001-0040

Subdivision Name Cape Breeze

Block \_\_\_\_\_ Lot \_\_\_\_\_

Ownership Private Individual

Name of Public Tract (e.g., park) \_\_\_\_\_

Route to (especially if no street address) \_\_\_\_\_

## MAPPING

USGS 7.5' Map Name \_\_\_\_\_ Publication Date \_\_\_\_\_ >> KISSIMMEE, 1987  
 Township: \_\_\_\_\_ Range: \_\_\_\_\_ Section: \_\_\_\_\_ 1/4 section: \_\_\_\_\_ >> 25S ; 29E ; 22, UNSP  
 Irregular Section Name: \_\_\_\_\_  
 Landgrant \_\_\_\_\_  
 UTM: Zone \_\_\_\_\_ Easting \_\_\_\_\_ Northing \_\_\_\_\_  
 Plat or Other Map (map's name, location) \_\_\_\_\_

## DESCRIPTION

Style Frame Vernacular Other Style \_\_\_\_\_  
 Exterior Plan Rectangular Other Exterior Plan \_\_\_\_\_  
 Number of Stories 1  
 Structural System(s) \_\_\_\_\_ >> Balloon wood frame  
 Other Structural System(s) \_\_\_\_\_  
 Foundation Type(s) \_\_\_\_\_ >> Piers  
 Other Foundation Types \_\_\_\_\_  
 Foundation Material(s) \_\_\_\_\_ >> Concrete Block  
 Other Foundation Material(s) \_\_\_\_\_  
 Exterior Fabric(s) \_\_\_\_\_ >> Wood shingles  
 Other Exterior Fabric(s) board and batten  
 Roof Type(s) \_\_\_\_\_ >> Gable  
 Other Roof Type(s) \_\_\_\_\_  
 Roof Material(s) \_\_\_\_\_ >> Sheet metal: 3V crimp  
 Other Roof Material(s) \_\_\_\_\_  
 Roof Secondary Structure(s) (dormers etc) \_\_\_\_\_ >> Not applicable  
 Other Roof Secondary Structure(s) \_\_\_\_\_  
 Number of Chimneys 1  
 Chimney Material Brick  
 Other Chimney Material(s) \_\_\_\_\_  
 Chimney Location(s) Interior

# HISTORICAL STRUCTURE FORM

80S00449

## DESCRIPTION (continued)

Window Descriptions 1/1 DHS, awning

Main Entrance Description (stylistic details) none

Porches: #open \_\_\_\_\_ #closed 1 #incised \_\_\_\_\_ Location(s) front

Porch Roof Types(s) gable

Exterior Ornament exposed rafter tails

Interior Plan Unknown

Other Interior Plan \_\_\_\_\_

Condition Fair

### Structure Surroundings

Commercial: SOME of this category Residential: MOSTLY this category

Institutional: SOME of this category Undeveloped: SOME of this category

Ancillary Features (Number / type of outbuildings, major landscape features) shed

Archaeological Remains (describe): \_\_\_\_\_

If archaeological remains are present, was an Archaeological Site Form completed? \_\_\_\_\_

Narrative Description (optional) Property incorrectly given address of 120 E. Drury in 1991 survey.

## HISTORY

Construction year 1905

Architect (last name first): unknown

Builder (last name first): unknown

### Changes in Locations or Conditions

Type of Change	Year of Change	Date Change Noted	Description of Changes
>>			

### Structure Use History

Use \_\_\_\_\_ Year Use Started \_\_\_\_\_ Year Use Ended \_\_\_\_\_ >> Private residence; 1905;

Other Structure Uses \_\_\_\_\_

Ownership History (especially original owner, dates, profession, etc.) \_\_\_\_\_

## RESEARCH METHODS

Research Methods \_\_\_\_\_ >> Examine local property records

Other research methods architectural survey

## SURVEYOR'S EVALUATION OF SITE

Potentially Eligible for a Local Register? YES

Name of Local Register if Eligible Cape Breeze Historic District

Individually Eligible for National Register? NO

Potential Contributor to NR District? YES

Area(s) of historical significance \_\_\_\_\_ >> Architecture

Other Historical Associations \_\_\_\_\_

Explanation of Evaluation (required) Property is a contributing resource to the Cape Breeze Historic District.



# HISTORICAL STRUCTURE FORM

80800449

## DOCUMENTATION (Photos, Plans, etc.)

Photographic Negatives or Other Collections Not Filed with FMSF Including Field Notes, Plans, other Important Documents.

Document type: \_\_\_\_\_

Maintaining Organization: \_\_\_\_\_

File or Accession #: \_\_\_\_\_

Descriptive Information: \_\_\_\_\_

>> Photographs (archived); Other; 10/25;

## RECORDER INFORMATION

Recorder Name (Last, First) Charles Arthur and Heather YostRecorder Address/Phone URS Corporation, 200 Orchard Ridge Dr. Ste. 101, Gaithersburg, MD 20878Recorder Affiliation Other

Other Affiliation \_\_\_\_\_

Is a Text-Only Supplement File Attached (Surveyor Only)? NO

## \*\*\*\*\* MASTER SITE FILE USE ONLY \*\*\*\*\*

Cultural Resource Type: SSElectronic Form Used: S110Form Type Code: NORMForm Quality Ranking: NEWForm Status Code: SCATSupplement Information Status: NO SUPPLEMENTSupplement File Status: NO SUPPLEMENT FILE

SHPO's Evaluation of Resource

Date \_\_\_\_\_

FMSF Staffer: \_\_\_\_\_

Computer Entry Date: 5/3/2004

Form Comments: \_\_\_\_\_

### REQUIRED PAPER ATTACHMENTS

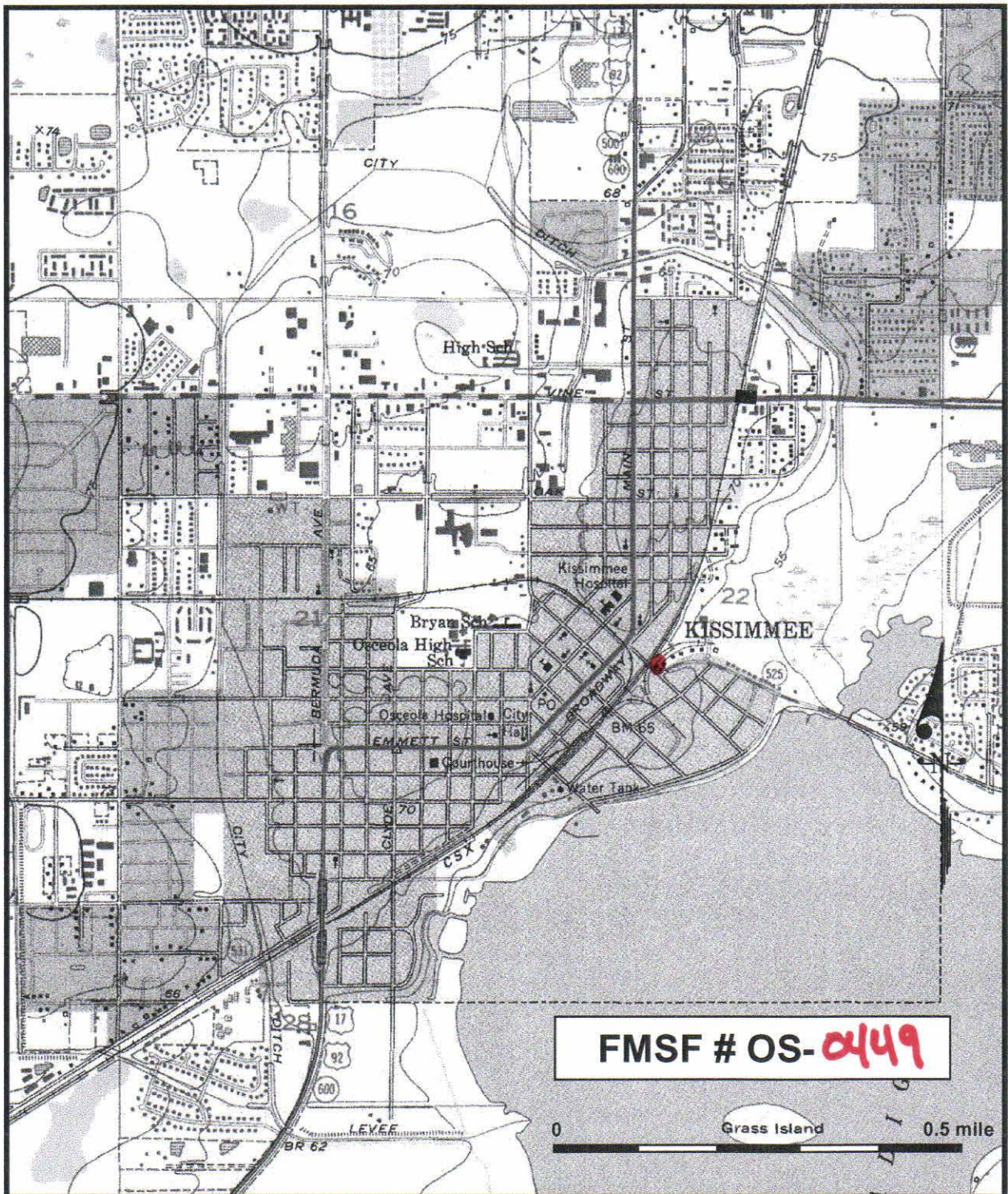
- (1) USGS 7.5" MAP WITH STRUCTURE PINPOINTED IN RED
- (2) LARGE SCALE STREET OR PLAT MAP
- (3) PHOTO OF MAIN FACADE, B&W, AT LEAST 3"X5"

# **OS00449-200403**


## **Supplementary Printout**

- > **USGS map name/year of publication or revision:**  
KISSIMMEE;1987
- > **Township/Range/Section/Qtr:**  
25S ;29E ;22;UNSP
- > **Structural system(s):**  
Balloon wood frame
- > **Foundation types:**  
Piers
- > **Foundation materials:**  
Concrete Block
- > **Exterior fabrics:**  
Wood shingles
- > **Roof types:**  
Gable
- > **Roof materials:**  
Sheet metal:3V crimp
- > **Roof secondary structures (dormers etc):**  
Not applicable
- > **Change status/year changed/date noted/nature:**
- > **Original, intermediate, present uses/year started/year ended:**  
Private residence;1905;
- > **Research methods:**  
Examine local property records  
Sanborn maps  
Other, uncoded method
- > **Area(s) of historical significance:**  
Architecture
- > **Repositories: Collection/Housed/Accession#/Describe**  
Photographs (archived);Other;10/25;
- > **[Other name(s)]:**



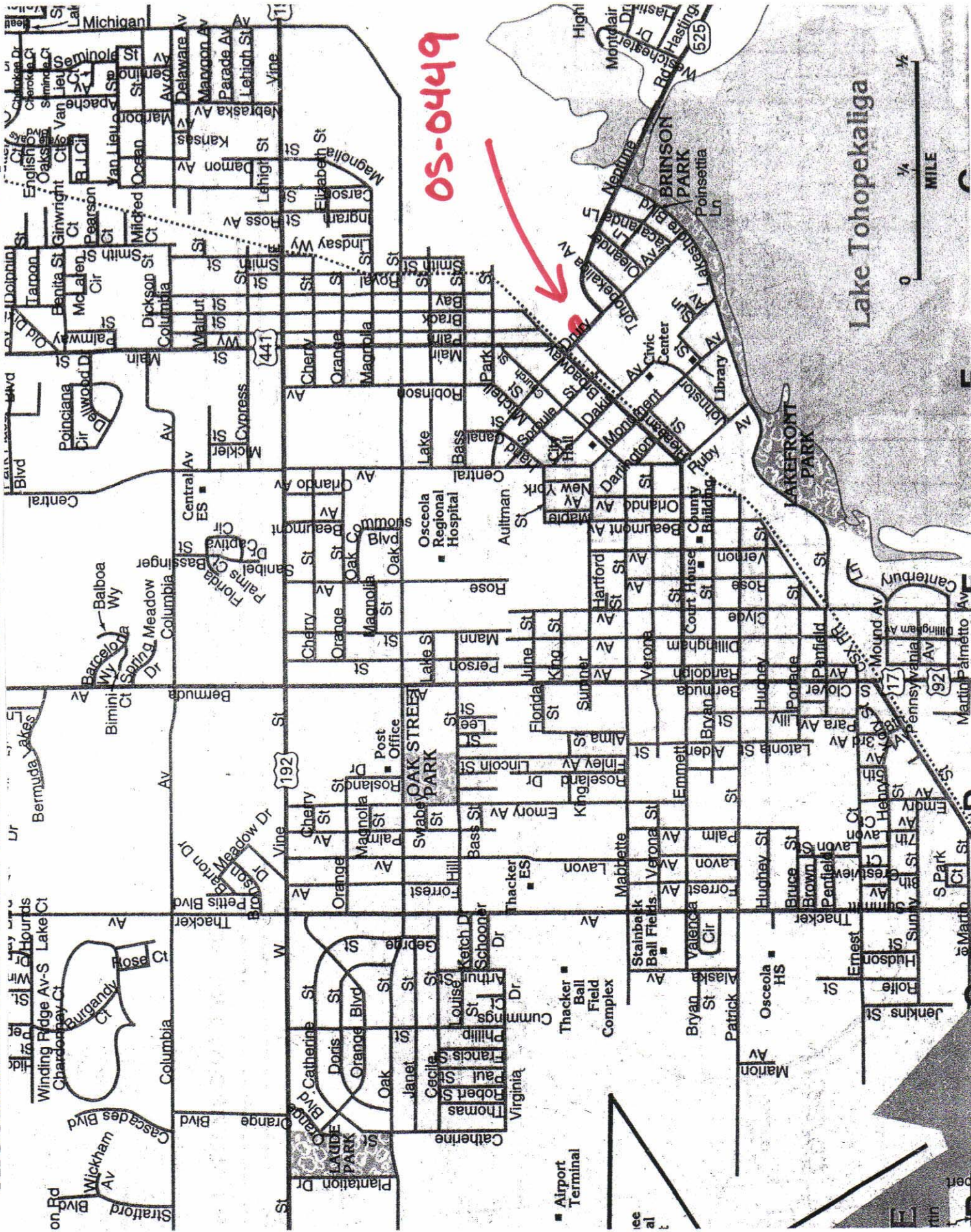


Source: USGS 7.5' Quad map, Kissimmee, FLA 1953, Photo revised 1987

CLIENT City of Kissimmee					TITLE  Surveyed Structure Location Map	
PROJ Kissimmee Historic Resources Survey						
REVISION NO		DES BY				PROJ NO 15296184
SCALE See Map		DR BY	ST	08/11/04		FIGURE
FILE		CHK BY	CT	08/11/04		



KISSIMMEE HISTORIC RESOURCES SURVEY - JUNE 2004 - URS Corporation





**SEE SITE FILE STAFF FOR  
ORIGINAL PHOTO(S) OR MAP(S)**

RECORD NUMBER: 295

Page 1

X original  
update

HISTORICAL STRUCTURE FORM  
FLORIDA MASTER SITE FILE

site 805 00449

**SITE NAME:**

**HISTORIC CONTEXTS:** Spanish-American War

**NAT. REGISTER CATEGORY:** Building

**OTHER NAMES OR MSF NOS:**

**COUNTY:** Osceola **OWNERSHIP TYPE:** Private, Individual

**PROJECT NAME:** Survey of Kissimmee: S+P

**DHR NO.** 2677

**LOCATION:**

**ADDRESS:** 120 East Drury Avenue

**CITY:** Kissimmee

**VICINITY OF/ROUTE TO:** See attached maps

**SUB:** Cape Breeze Subdivision

**BLOCK**

**LOT 3**

**PLAT OR OTHER MAP:** Property Appraisers Map of Kissimmee

**TOWNSHIP:** 25 S **RANGE:** 29 E **SECTION:** 22 1/4: 1/4-1/4:

**IRREGULAR SEC?** y n **LAND GRANT:** None

**USGS 7.5 MAP:** Kissimmee, FL 1953 PR: 1987

**UTM: ZONE:** **EASTING:** **NORTHING:**

**COORDINATES: LATITUDE:** D M S **LONGITUDE:** D M S

**HISTORY**

**ARCHITECT:**

**BUILDER:**

**CONSTRUCTION DATE:** c 1911 **RESTORATION DATE(S):**

**MODIFICATION DATE(S):**

**MOVE: DATE:**

**ORIG. LOCATION:**

**ORIGINAL USE (S):** Private Residence

**PRESENT USE (S):** Private Residence

**DESCRIPTION**

**STYLE:** Frame Vernacular

**PLAN: EXTERIOR:** Rectangular

**PLAN: INTERIOR:** Unknown

**NO. STORIES:** 1.5 **OUTBLDGS:** 0 **PORCHES:** 0 **DORMERS:** 0

**STRUCTURAL SYSTEM(S):** Wood, balloon

**EXTERIOR FABRIC(S):** Wood shingle

**FOUNDATION: TYPE:** Piers

**MATERIALS:** Brick

**INFILL:**

**PORCHES:**

**ROOF: TYPE:** Gable

**SURFACING:** Metal, 3-V crimp

**SECONDARY STRUCS:**

**CHIMNEY: NO.:** 2

**MATERIALS:** Brick

**LOCATIONS:** E: end, exterior; center: ridge

**WINDOWS:** Double-hung sash, 1/1 lights; metal sash

**EXTERIOR ORNAMENT:**

**CONDITION:** Good

**SURROUNDINGS:** Residential

**NARRATIVE:**

See continuation sheet

RECORD NO: 295  
Page 2

FMSF HISTORICAL STRUCTURE FORM

Site 8 \_\_\_\_\_

ARCHAEOLOGICAL REMAINS AT THE SITE

FMSF ARCHAEOLOGICAL FORM COMPLETED? y X n  
ARTIFACTS OR OTHER REMAINS: None observed

RECORDER'S EVALUATION OF SITE

AREAS OF SIGNIFICANCE: Architecture

ELIGIBLE FOR NAT. REGISTER?	y	X	n	likely, need info	insf	info
SIGNIF. AS PART OF DISTRICT?	y	X	n	likely, need info	insf	info
SIGNIFICANT AT LOCAL LEVEL?	X	y	n	likely, need info	insf	info

SUMMARY OF SIGNIFICANCE

See continuation sheet

\* \* \* \* DHR USE ONLY \* \* \* \* \* DHR USE ONLY \* \* \* \* \*

\* DATE LISTED ON NR \_\_\_\_\_ \*

\* KEEPER DETERMINATION OF ELIG. (DATE): \_YES \_\_\_\_\_ \_NO \_\_\_\_\_ \*

\* SHPO EVALUATION OF ELIGIBILITY (DATE): \_YES \_\_\_\_\_ \_NO \_\_\_\_\_ \*

\* LOCAL DETERMINATION OF ELIG. (DATE): \_YES \_\_\_\_\_ \_NO \_\_\_\_\_ \*

\* OFFICE \_\_\_\_\_ \*

\* \* \* \* DHR USE ONLY \* \* \* \* \* DHR USE ONLY \* \* \* \* \*

RECORDER INFORMATION: NAME: Steve Olausen

DATE: 11/01/90 AFFILIATION: Historic Property Associates, Inc.

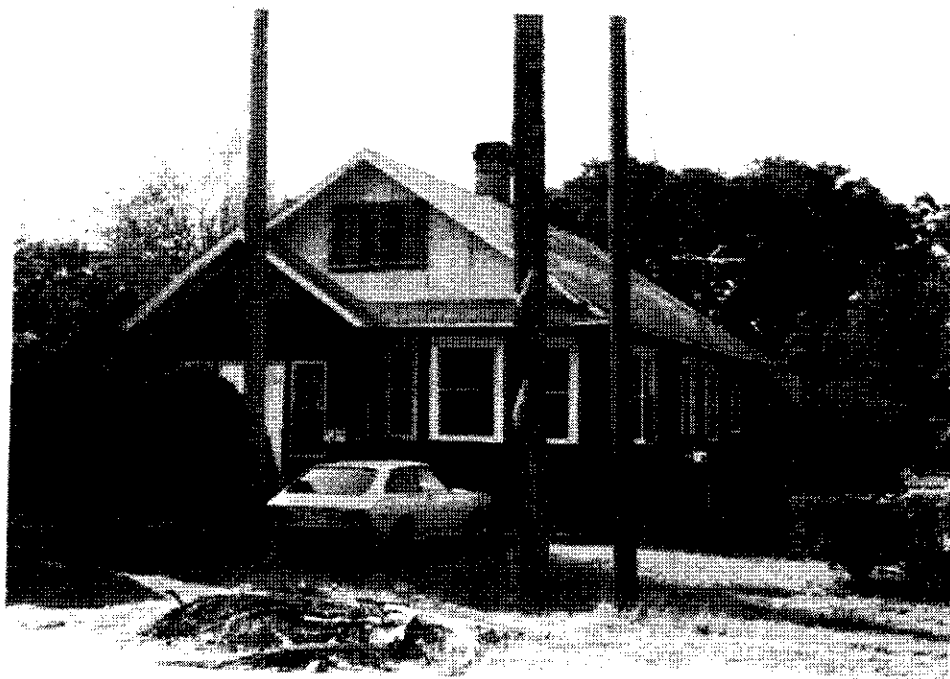
PHOTOGRAPHS

LOCATION OF NEGATIVES: HPA, Inc., St. Aug., FL

NEGATIVE NUMBERS: Roll 9, #21

PHOTOGRAPH

M A P



## STATEMENT OF SIGNIFICANCE

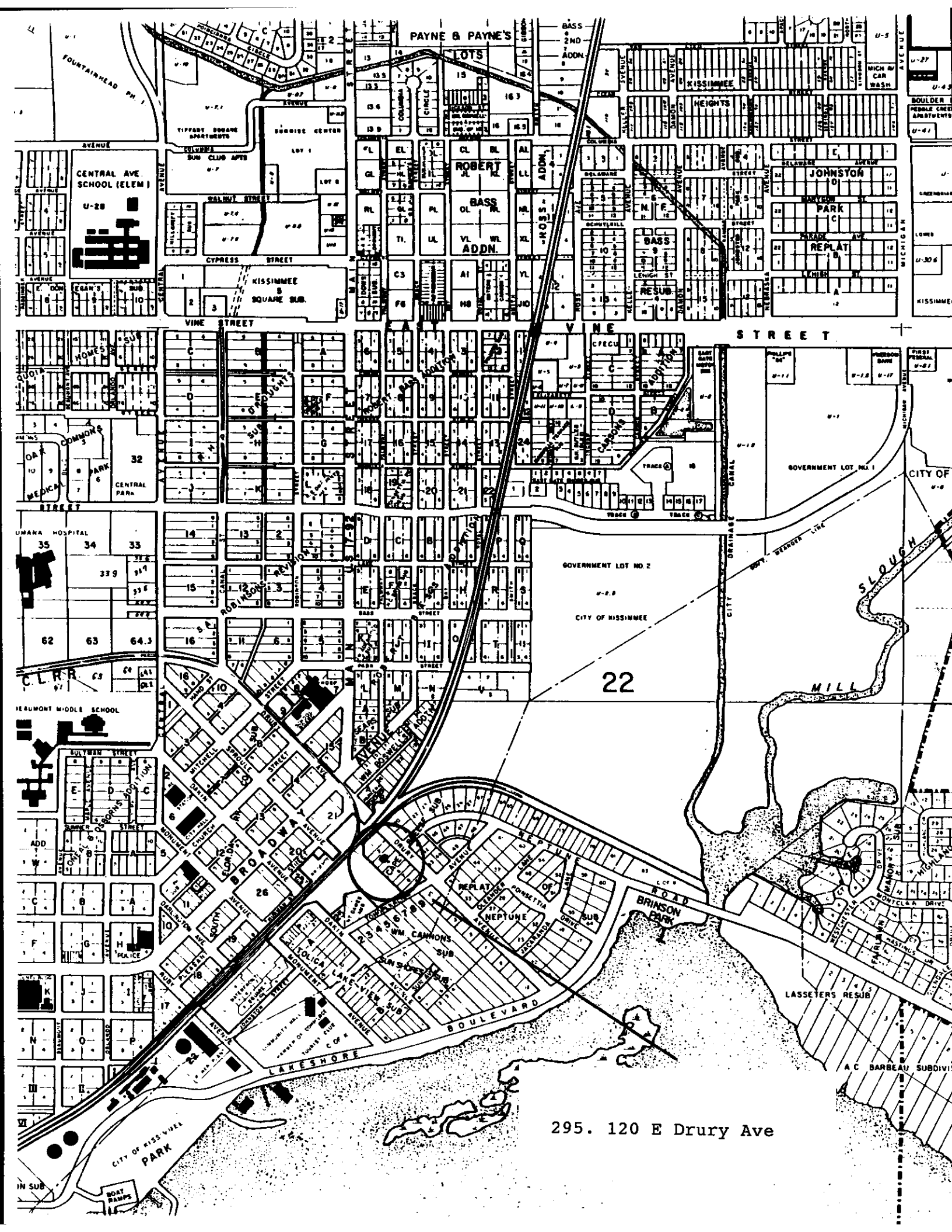
**Architectural Narrative:** This one and one-half story Frame Vernacular residential building is located at 120 East Drury Avenue. Notable architectural features include a front-facing gable roof, full cornice return, offset entrance and gable entrance vestibule. The exterior wall fabric is wood shingle. Fenestration consists of 1/1 double-hung sash windows and metal sash windows. Alterations consist of the metal sash.

**Architectural Context:** Frame Vernacular, the prevalent style of residential architecture in Florida, refers to the common wood frame construction technique employed by lay or self-taught builders. Before the Civil War, residents relied upon local materials and their own methods and designs to construct buildings. The Industrial Revolution permitted standardization of building materials and parts and exerted a pervasive influence over vernacular house design. Popular magazines helped to make architectural trends universal throughout the country. The railroad provided cheap and efficient transportation for manufactured building materials. Ultimately, individual builders had access to a myriad of finished architectural products from which to create their own designs.

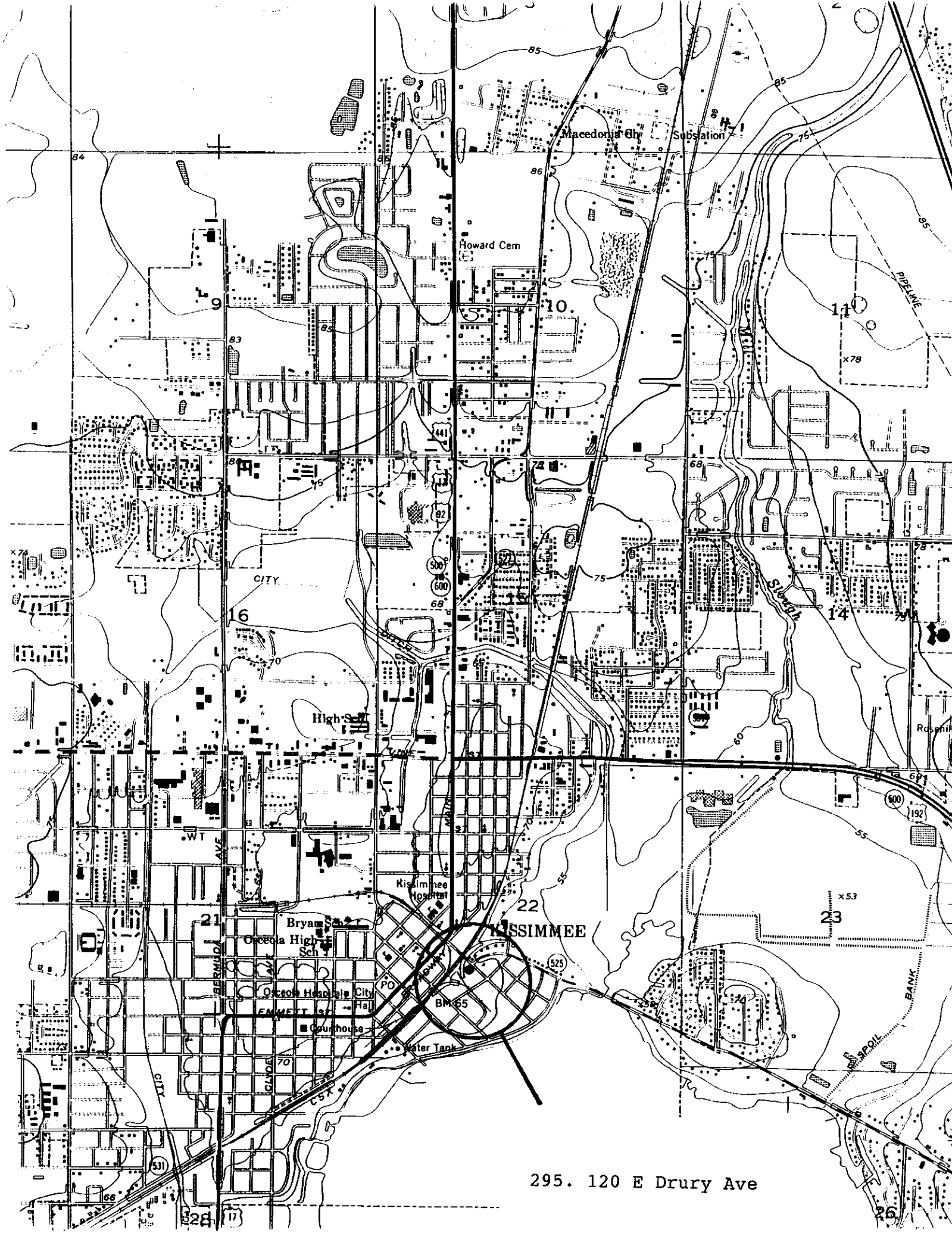
Frame Vernacular houses are typically one or two stories in height, with wood balloon frame structural systems and brick pier foundations. Plans are usually rectangular, though L-shaped plans were often used to maximize cross-ventilation. Gable or hip roofs usually have steep pitches which accommodate attic space. Horizontal drop siding and weatherboard are the most common exterior wall surface materials. Wood shingles were often used to cover the roofs, but they have nearly always been replaced by composition shingle. Porches, most commonly simple entrance or end porches, are common features of the style. Fenestration is regular, but not always symmetrical. Windows are generally double-hung sash with multi-pane glazing and doors contain recessed wood panels. Exterior decoration is sparse and limited to ornamental woodwork.

**Historical Narrative:** Located in the Cape Breeze Subdivision, platted by Richard H. Ludlam & George MacDonough in 1911, this building embodies many of the architectural characteristics of buildings erected in Kissimmee between 1900 and 1919. Evidence from Sanborn Company maps, which were prepared of Kissimmee between 1889 and 1944, combined with the date the subdivision was platted, indicate that this building was constructed about 1911.

**Historical Context:** Kissimmee, Florida, located at the north end of Lake Tohopekaliga, was incorporated in 1883 and became the seat of government for Osceola County in 1887. The city's founding is related to the Disston Purchase of 1881, which opened much of the peninsula to development during the late nineteenth century. Serving as the northern terminus of Disston's extensive drainage project, which connected by waterway Central Florida to Fort Myers, Kissimmee was little more than a settlement in 1885. The introduction of the South Florida Railroad spurred development and by 1890 the population had grown to 1,086. Devastating freezes in the mid-1890s and the cessation of drainage efforts in 1896 slowed that initial period of development. Later, in the early twentieth century, fires destroyed many of the community's earliest buildings. Geared to the fortunes of the citrus and cattle industries, significant building construction in Kissimmee resumed about 1910. In addition to the construction of numerous residential and commercial buildings, civic improvements included the introduction of electricity, brick-paved roads, and water mains. By 1915, when the population reached 2,200, the commercial district had been extended along Broadway and much of the surrounding area filled with residential buildings. Following World War I, in what has been termed the Great Florida Land Boom of the 1920s, numerous subdivisions were platted in Kissimmee. Construction, however, fell short of expectations and relatively few buildings were erected in that era. Development, which remained lethargic during the Great Depression, did not resume until after World War II. The emergence of Disney World in the 1960s brought renewed development, which led, in part, to the destruction of many of Kissimmee's historic buildings. Those buildings that remain, many of which embody Bungalow, Folk Victorian, Italianate, Neoclassical, and other formal styles, are an important part of Florida's rich architectural tradition. They constitute a cultural legacy that should be preserved through the use of sensitive historic preservation planning and management, and public awareness.







295. 120 E Drury Ave



295. 120 E Drury Ave

OS449





OS# ~~1952~~ 0449  
HOUSE  
210 E. DRURY  
KISSIMMEE  
OSCEOLA  
MARCH 2004



# HISTORICAL STRUCTURE FORM

Electronic Version 1.1.0

Site #8 OS00453

Recorder #

Field Date 3/3/2004

Form Date 3/23/2004

FormNo 200403

FormNo = Field Date (YYYYMM)

First Site Form Recorded for this Site? NO

## GENERAL INFORMATION

Site Name (address if none) 216 East Drury Avenue Multiple Listing (DHR only) \_\_\_\_\_  
Other Names \_\_\_\_\_ >> \_\_\_\_\_  
Survey or Project Name Kissimmee Historic Buildings Survey Survey# \_\_\_\_\_  
National Register Category Building(s)

## LOCATION & IDENTIFICATION

### Address

Street No.	Direction	Street Name	Street Type	Direction Suffix
<u>216</u>	<u>East</u>	<u>Drury</u>	<u>Avenue</u>	

Cross Streets (nearest/ between) SEE ATTACHED MAP

City / Town (within 3 miles) Kissimmee

In Current City Limits? YES

County Osceola

Tax Parcel #(s) 22-25-29-1180-0001-0080

Subdivision Name Cape Breeze

Block \_\_\_\_\_ Lot 9

Ownership Private Individual

Name of Public Tract (e.g., park) \_\_\_\_\_

Route to (especially if no street address) \_\_\_\_\_

## MAPPING

USGS 7.5' Map Name \_\_\_\_\_ Publication Date >> KISSIMMEE, 1987  
Township: \_\_\_\_\_ Range: \_\_\_\_\_ Section: \_\_\_\_\_ 1/4 section: \_\_\_\_\_ >> 25S ; 29E ; 22 ; UNSP  
Irregular Section Name: \_\_\_\_\_  
Landgrant none  
UTM: Zone \_\_\_\_\_ Easting \_\_\_\_\_ Northing \_\_\_\_\_  
Plat or Other Map (map's name, location) Property Appraiser's Map of Kissimmee

## DESCRIPTION

Style Frame Vernacular Other Style \_\_\_\_\_  
Exterior Plan Rectangular Other Exterior Plan \_\_\_\_\_  
Number of Stories 1  
Structural System(s) >> Balloon wood frame  
Other Structural System(s) \_\_\_\_\_  
Foundation Type(s) >> Piers  
Other Foundation Types \_\_\_\_\_  
Foundation Material(s) >> Concrete Block  
Other Foundation Material(s) \_\_\_\_\_  
Exterior Fabric(s) >> wood shingles  
Other Exterior Fabric(s) weatherboard, T-111  
Roof Type(s) >> Rip  
Other Roof Type(s) \_\_\_\_\_  
Roof Material(s) >> Sheet metal: 3V crimp  
Other Roof Material(s) \_\_\_\_\_  
Roof Secondary Structure(s) (dormers etc) >> \_\_\_\_\_  
Other Roof Secondary Structure(s) \_\_\_\_\_  
Number of Chimneys 2  
Chimney Material Brick  
Other Chimney Material(s) \_\_\_\_\_  
Chimney Location(s) E: offset; S: ridge



# HISTORICAL STRUCTURE FORM

80800453

## DESCRIPTION (continued)

Window Descriptions double-hung sash, 1/1 lights

Main Entrance Description (stylistic details) none

Porches: #open \_\_\_\_\_ #closed \_\_\_\_\_ #Incised 1 Location(s) front

Porch Roof Types(s) \_\_\_\_\_

Exterior Ornament \_\_\_\_\_

Interior Plan Unknown

Other Interior Plan \_\_\_\_\_

Condition Fair

### Structure Surroundings

Commercial: SOME of this category Residential: MOSTly this category

Institutional: SOME of this category Undeveloped: SOME of this category

Ancillary Features (Number / type of outbuildings, major landscape features) \_\_\_\_\_

Archaeological Remains (describe): \_\_\_\_\_

If archaeological remains are present, was an Archaeological Site Form completed? \_\_\_\_\_

Narrative Description (optional) \_\_\_\_\_

## HISTORY

Construction year 1905

Architect (last name first): Unknown

Builder (last name first): Unknown

### Changes in Locations or Conditions

Type of Change	Year of Change	Date Change Noted	Description of Changes
>>			

### Structure Use History

Use \_\_\_\_\_ Year Use Started \_\_\_\_\_ Year Use Ended \_\_\_\_\_ >> Private residence, 1905;

Other Structure Uses \_\_\_\_\_

Ownership History (especially original owner, dates, profession, etc.) \_\_\_\_\_

## RESEARCH METHODS

Research Methods \_\_\_\_\_ >> Examine local property records

Other research methods Architectural Survey

## SURVEYOR'S EVALUATION OF SITE

Potentially Eligible for a Local Register? NO

Name of Local Register if Eligible \_\_\_\_\_

Individually Eligible for National Register? NO

Potential Contributor to NR District? NO

Area(s) of historical significance \_\_\_\_\_

>> Architecture

Other Historical Associations \_\_\_\_\_

Explanation of Evaluation (required) Property is not a contributing resource to a historic district.

# HISTORICAL STRUCTURE FORM

80800453

## DOCUMENTATION (Photos, Plans, etc.)

Photographic Negatives or Other Collections Not Filed with FMSF. Including Field Notes, Plans, other Important Documents.

Document type: \_\_\_\_\_

Maintaining Organization: \_\_\_\_\_

File or Accession #: \_\_\_\_\_

Descriptive information: \_\_\_\_\_

>> Photographs (archived); Other; 6/31;

## RECORDER INFORMATION

Recorder Name (Last, First) Charles Arthur and Heather YostRecorder Address/Phone URS Corporation, 200 Orchard Ridge Dr. Ste. 101, Gaithersburg, MD 20878Recorder Affiliation Other Other Affiliation \_\_\_\_\_Is a Text-Only Supplement File Attached (Surveyor Only)? NO

## \*\*\*\*\* MASTER SITE FILE USE ONLY \*\*\*\*\*

Cultural Resource Type: SSElectronic Form Used: 8110Form Type Code: NORMForm Quality Ranking: NEWForm Status Code: SCATSupplement Information Status: NO SUPPLEMENTSupplement File Status: NO SUPPLEMENT FILE

SHPO's Evaluation of Resource

Date \_\_\_\_\_

FMSF Staffer: \_\_\_\_\_

Computer Entry Date: 7/23/2004

Form Comments: \_\_\_\_\_

### REQUIRED PAPER ATTACHMENTS

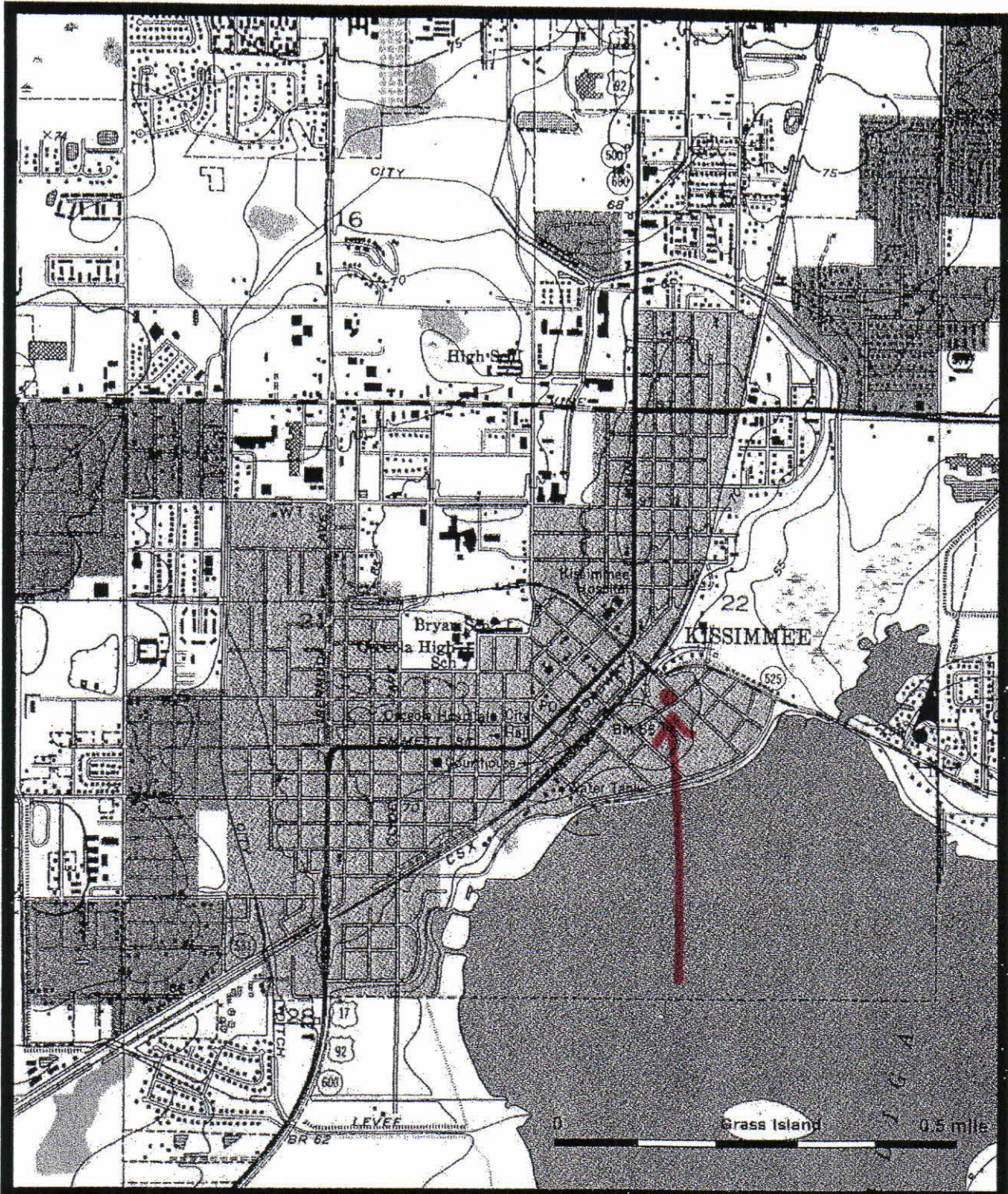
- (1) USGS 7.5" MAP WITH STRUCTURE PINPOINTED IN RED
- (2) LARGE SCALE STREET OR PLAT MAP
- (3) PHOTO OF MAIN FACADE, B&W, AT LEAST 3"X5"

# **OS00453-200403**

## **Supplementary Printout**

- > **USGS map name/year of publication or revision:**  
KISSIMMEE;1987
- > **Township/Range/Section/Qtr:**  
25S ;29E ;22;UNSP
- > **Structural system(s):**  
Balloon wood frame
- > **Foundation types:**  
Piers
- > **Foundation materials:**  
Concrete Block
- > **Exterior fabrics:**  
Wood shingles
- > **Roof types:**  
Hip
- > **Roof materials:**  
Sheet metal:3V crimp
- > **Roof secondary structures (dormers etc):**
- > **Change status/year changed/date noted/nature:**
- > **Original, intermediate, present uses/year started/year ended:**  
Private residence;1905;
- > **Research methods:**  
Examine local property records  
Sanborn maps  
Other, uncoded method
- > **Area(s) of historical significance:**  
Architecture
- > **Repositories: Collection/Housed/Accession#/Describe**  
Photographs (archived);Other;6/31;
- > **[Other name(s)]:**

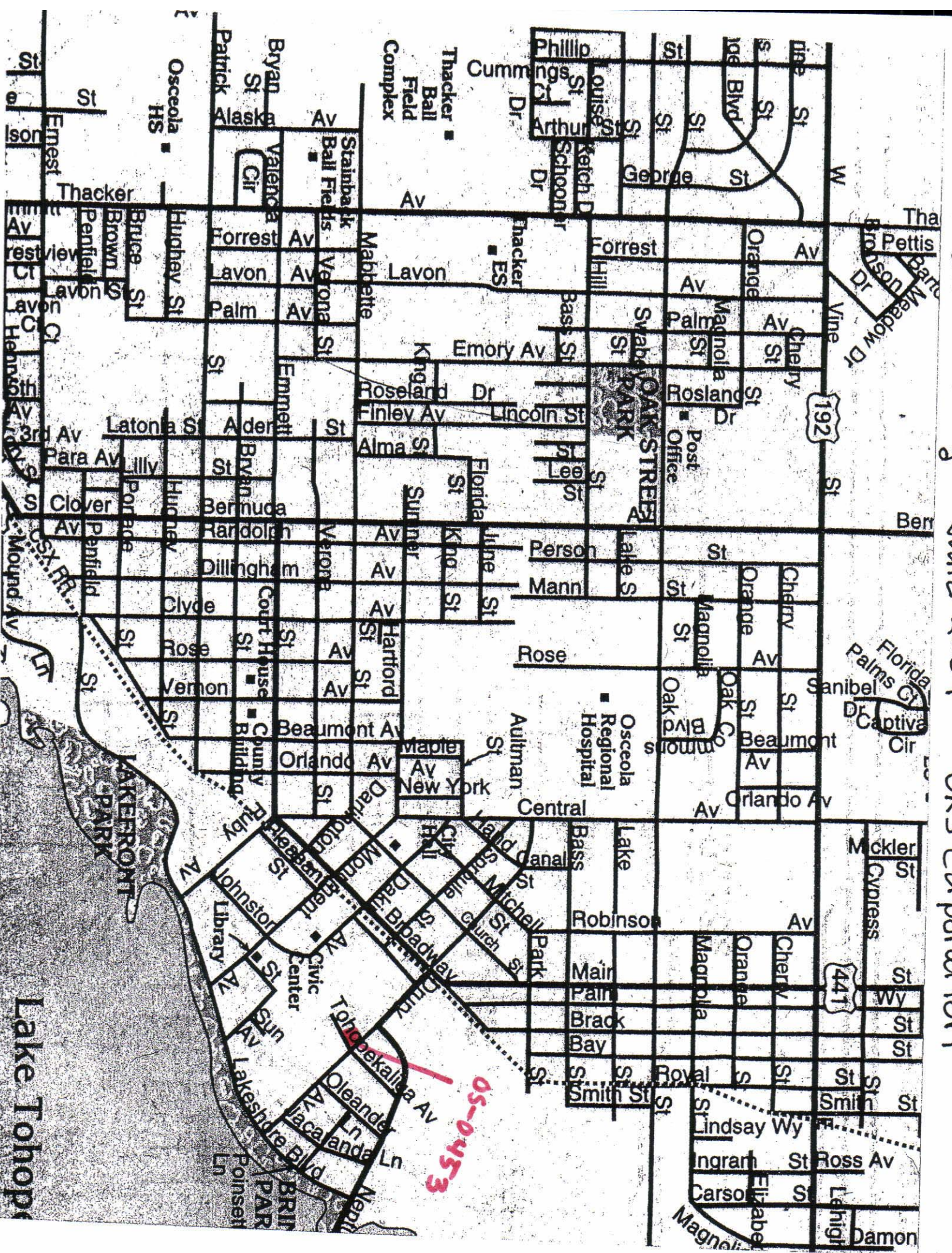




PROJ	City of Kissimmee	<div>05-0453</div> <div><b>URS</b></div>	
SCALE	1 inch = 4016 feet		
SOURCE	USGS 7.5' Quad map, Kissimmee, FLA 1953, Photorevised 1987	<div>PROJECT NO. 15296184</div> <div>FIGURE NO.</div>	



Kissimmee Historic Survey -- June 2004 -- URS Corporation





SEE SITE FILE STAFF FOR  
ORIGINAL PHOTO(S) OR MAP(S)

RECORD NUMBER: 299

Page 1

X original  
update

HISTORICAL STRUCTURE FORM  
FLORIDA MASTER SITE FILE

site 8 OS 00453

SITE NAME:

HISTORIC CONTEXTS: Spanish-American War

NAT. REGISTER CATEGORY: Building

OTHER NAMES OR MSF NOS:

COUNTY: Osceola OWNERSHIP TYPE: Private, Individual

PROJECT NAME: Survey of Kissimmee: S+P

DHR No. 2677

LOCATION:

ADDRESS: 216 East Drury Avenue

CITY: Kissimmee

VICINITY OF/ROUTE TO: See attached maps

SUB: Cape Breeze Subdivision

BLOCK

LOT 9

PLAT OR OTHER MAP: Property Appraisers Map of Kissimmee

TOWNSHIP: 25 S RANGE: 29 E SECTION: 22 1/4: 1/4-1/4:

IRREGULAR SEC? y n LAND GRANT: None

USGS 7.5 MAP: Kissimmee, FL 1953 PR: 1987

UTM: ZONE: EASTING: NORTHING:

COORDINATES: LATITUDE: D M S LONGITUDE: D M S

HISTORY

ARCHITECT:

BUILDER:

CONSTRUCTION DATE: c 1910 RESTORATION DATE(S):

MODIFICATION DATE(S):

MOVE: DATE: ORIG. LOCATION:

ORIGINAL USE (S): Private Residence

PRESENT USE (S): Private Residence

DESCRIPTION

STYLE: Frame Vernacular

PLAN: EXTERIOR: Rectangular

PLAN: INTERIOR: Unknown

NO. STORIES: 1 OUTBLDGS: 0 PORCHES: 1 DORMERS: 0

STRUCTURAL SYSTEM(S): Wood, balloon

EXTERIOR FABRIC(S): Wood shingle

FOUNDATION: TYPE: Piers

MATERIALS: Concrete block

INFILL: Concrete block

PORCHES: N/entrance/integrated roof, posts, screened/2 bays

ROOF: TYPE: gable

SURFACING: Metal, 3-V crimp

SECONDARY STRUCS: cross gable, hip extension

CHIMNEY: NO.: 2

MATERIALS: Brick

LOCATIONS: E:offset; S:ridge

WINDOWS: Double-hung sash, 1/1 lights

EXTERIOR ORNAMENT: Multi-level roof system

CONDITION: Good

SURROUNDINGS: Residential

NARRATIVE:

See continuation sheet



RECORD NO: 299

Page 2

FMSF HISTORICAL STRUCTURE FORM

Site 8

ARCHAEOLOGICAL REMAINS AT THE SITE

FMSF ARCHAEOLOGICAL FORM COMPLETED? y X n

ARTIFACTS OR OTHER REMAINS: None observed

RECORDER'S EVALUATION OF SITE

AREAS OF SIGNIFICANCE: Architecture

ELIGIBLE FOR NAT. REGISTER?	y	X	n	likely, need info	insf info
SIGNIF. AS PART OF DISTRICT?	y	X	n	likely, need info	insf info
SIGNIFICANT AT LOCAL LEVEL?	X	y	n	likely, need info	insf info

SUMMARY OF SIGNIFICANCE

See continuation sheet

\* \* \* DHR USE ONLY \* \* \* DHR USE ONLY \* \* \*  
\* DATE LISTED ON NR \_\_\_\_\_ \*  
\* KEEPER DETERMINATION OF ELIG.(DATE): \_YES \_NO \_ \*  
\* SHPO EVALUATION OF ELIGIBILITY (DATE): \_YES \_NO \_ \*  
\* LOCAL DETERMINATION OF ELIG. (DATE): \_YES \_NO \_ \*  
\* OFFICE \_\_\_\_\_ \*  
\* \* \* DHR USE ONLY \* \* \* DHR USE ONLY \* \* \*

RECORDER INFORMATION: NAME: Steve Olausen

DATE: 11/01/90 AFFILIATION: Historic Property Associates, Inc.

PHOTOGRAPHS

LOCATION OF NEGATIVES: HPA, Inc., St. Aug., FL

NEGATIVE NUMBERS: Roll 9, #25

PHOTOGRAPH

M A P

See Attachments

**STATEMENT OF SIGNIFICANCE**

**Architectural Narrative:** This one-story Frame Vernacular residential building is located at 216 East Drury Avenue. Notable architectural features include a hip roof, hip extension, front-facing gable extension, and an entrance porch. The porch has an integrated roof supported by wooden posts. The exterior wall fabric is wooden shingle. Fenestration consists of 1/1 double-hung sash windows. With few alterations, this building has retained most of its architectural integrity.

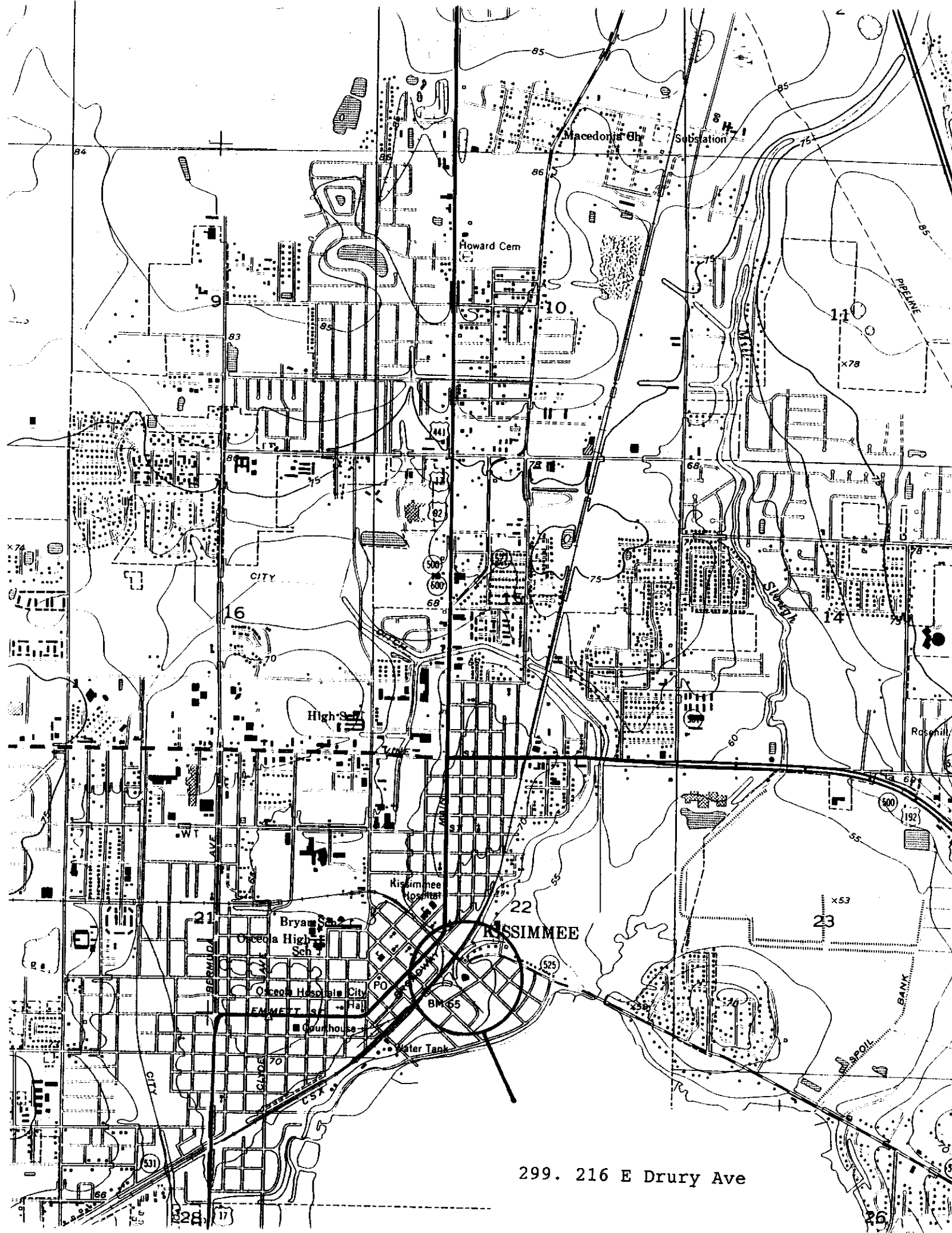
**Architectural Context:** Frame Vernacular, the prevalent style of residential architecture in Florida, refers to the common wood frame construction technique employed by lay or self-taught builders. Before the Civil War, residents relied upon local materials and their own methods and designs to construct buildings. The Industrial Revolution permitted standardization of building materials and parts and exerted a pervasive influence over vernacular house design. Popular magazines helped to make architectural trends universal throughout the country. The railroad provided cheap and efficient transportation for manufactured building materials. Ultimately, individual builders had access to a myriad of finished architectural products from which to create their own designs.

Frame Vernacular houses are typically one or two stories in height, with wood balloon frame structural systems and brick pier foundations. Plans are usually rectangular, though L-shaped plans were often used to maximize cross-ventilation. Gable or hip roofs usually have steep pitches which accommodate attic space. Horizontal drop siding and weatherboard are the most common exterior wall surface materials. Wood shingles were often used to cover the roofs, but they have nearly always been replaced by composition shingle. Porches, most commonly simple entrance or end porches, are common features of the style. Fenestration is regular, but not always symmetrical. Windows are generally double-hung sash with multi-pane glazing and doors contain recessed wood panels. Exterior decoration is sparse and limited to ornamental woodwork.

**Historical Narrative:** Located on a parcel in the City of Kissimmee, this building embodies many of the architectural characteristics of buildings erected in Kissimmee between 1900 and 1919. According to Sanborn Company maps, which were prepared of Kissimmee between 1889 and 1944, this building was constructed about 1910. Oral sources indicate that this building originally served as the Midland Railroad Station, built about 1890 and moved to its present location some time after 1944. Sanborn Company maps do not agree with this source (Andy Herrmann, interview by Sidney Johnston, December, 1990).

**Historical Context:** Kissimmee, Florida, located at the north end of Lake Tohopekaliga, was incorporated in 1883 and became the seat of government for Osceola County in 1887. The city's founding is related to the Disston Purchase of 1881, which opened much of the peninsula to development during the late nineteenth century. Serving as the northern terminus of Disston's extensive drainage project, which connected by waterway Central Florida to Fort Myers, Kissimmee was little more than a settlement in 1885. The introduction of the South Florida Railroad spurred development and by 1890 the population had grown to 1,086. Devastating freezes in the mid-1890s and the cessation of drainage efforts in 1896 slowed that initial period of development. Later, in the early twentieth century, fires destroyed many of the community's earliest buildings. Geared to the fortunes of the citrus and cattle industries, significant building construction in Kissimmee resumed about 1910. In addition to the construction of numerous residential and commercial buildings, civic improvements included the introduction of electricity, brick-paved roads, and water mains. By 1915, when the population reached 2,200, the commercial district had been extended along Broadway and much of the surrounding area filled with residential buildings. Following World War I, in what has been termed the Great Florida Land Boom of the 1920s, numerous subdivisions were platted in Kissimmee. Construction, however, fell short of expectations and relatively few buildings were erected in that era. Development, which remained lethargic during the Great Depression, did not resume until after World War II. The emergence of Disney World in the 1960s brought renewed development, which led, in part, to the destruction of many of Kissimmee's historic buildings. Those buildings that remain, many of which embody Bungalow, Folk Victorian, Italianate, Neoclassical, and other formal styles, are an important part of Florida's rich architectural tradition. They constitute a cultural legacy that should be preserved through the use of sensitive historic preservation planning and management, and public awareness.





299. 216 E Drury Ave





299. 216 E Drury Ave

OS 453



050453

HOUSE

216 E. DRURY

KISSIMMEE

OSCEOLA

MARCH 2004



# HISTORICAL STRUCTURE FORM

Electronic Version 1.1.0

Site #8 OS01950

Recorder # \_\_\_\_\_

Field Date 3/3/2004

Form Date 4/25/2004

FormNo 200403

FormNo = Field Date (YYYYMM)

First Site Form Recorded for this Site? YES

## GENERAL INFORMATION

Site Name (address if none) 204 East Drury Avenue Multiple Listing (DHR only) \_\_\_\_\_

Other Names \_\_\_\_\_ >> \_\_\_\_\_

Survey or Project Name Kissimmee Historic Buildings Survey Survey# \_\_\_\_\_

National Register Category Building(s)

## LOCATION & IDENTIFICATION

### Address

Street No.	Direction	Street Name	Street Type	Direction Suffix
<u>204</u>	<u>East</u>	<u>Drury</u>	<u>Avenue</u>	

Cross Streets (nearest/ between) Tohopekaliga Ave./Clay St.

City / Town (within 3 miles) Kissimmee In Current City Limits? YES

County Osceola Tax Parcel #(s) 22-25-29-1180-0001-0010

Subdivision Name Cape Breeze Block \_\_\_\_\_ Lot \_\_\_\_\_

Ownership Private Individual

Name of Public Tract (e.g., park) \_\_\_\_\_

Route to (especially if no street address) \_\_\_\_\_

## MAPPING

USGS 7.5' Map Name \_\_\_\_\_ Publication Date \_\_\_\_\_ >> KISSIMMEE, 1987

Township: \_\_\_\_\_ Range: \_\_\_\_\_ Section: \_\_\_\_\_ 1/4 section: \_\_\_\_\_ >> 25S ; 29E ; 22 ; UNSP

Irregular Section Name: \_\_\_\_\_

Landgrant \_\_\_\_\_

UTM: Zone \_\_\_\_\_ Easting \_\_\_\_\_ Northing \_\_\_\_\_

Plat or Other Map (map's name, location) \_\_\_\_\_

## DESCRIPTION

Style Bungalow Other Style \_\_\_\_\_

Exterior Plan Square Other Exterior Plan \_\_\_\_\_

Number of Stories 1

Structural System(s) \_\_\_\_\_ >> Balloon wood frame

Other Structural System(s) \_\_\_\_\_

Foundation Type(s) \_\_\_\_\_ >> Piers

Other Foundation Types \_\_\_\_\_

Foundation Material(s) \_\_\_\_\_ >> Concrete Block

Other Foundation Material(s) \_\_\_\_\_

Exterior Fabric(s) \_\_\_\_\_ >> Aluminum

Other Exterior Fabric(s) \_\_\_\_\_

Roof Type(s) \_\_\_\_\_ >> Gable

Other Roof Type(s) \_\_\_\_\_

Roof Material(s) \_\_\_\_\_ >> Sheet metal: 3V crimp

Other Roof Material(s) \_\_\_\_\_

Roof Secondary Structure(s) (dormers etc) \_\_\_\_\_ >> Not applicable

Other Roof Secondary Structure(s) \_\_\_\_\_

Number of Chimneys 0

Chimney Material \_\_\_\_\_

Other Chimney Material(s) \_\_\_\_\_

Chimney Location(s) \_\_\_\_\_

# HISTORICAL STRUCTURE FORM

80S01950

## DESCRIPTION (continued)

Window Descriptions 2/2 DHS, awning

Main Entrance Description (stylistic details) none

Porches: #open 1 #closed        #incised        Location(s) front

Porch Roof Types(s) shed

Exterior Ornament porch columns, brackets under eaves, porch balustrade

Interior Plan Unknown

Other Interior Plan       

Condition Good

### Structure Surroundings

Commercial: MOSTly this category Residential: SOME of this category

Institutional: SOME of this category Undeveloped: SOME of this category

Ancillary Features (Number / type of outbuildings, major landscape features) large parking area next to building

Archaeological Remains (describe):       

If archaeological remains are present, was an Archaeological Site Form completed?       

Narrative Description (optional) house converted into business

## HISTORY

Construction year 1905

Architect (last name first): unknown

Builder (last name first): unknown

### Changes in Locations or Conditions

Type of Change	Year of Change	Date Change Noted	Description of Changes
>>			<u>Unspecified;;;residential use to commerical use</u>

### Structure Use History

Use        Year Use Started        Year Use Ended        >> Commercial unspecified;1905;

Other Structure Uses presently commerical

Ownership History (especially original owner, dates, profession, etc.)       

## RESEARCH METHODS

Research Methods        >> Examine local property records

Other research methods architectural survey

## SURVEYOR'S EVALUATION OF SITE

Potentially Eligible for a Local Register? YES

Name of Local Register if Eligible Cape Breeze Historic District

Individually Eligible for National Register? NO

Potential Contributor to NR District? YES

Area(s) of historical significance        >> Architecture

Other Historical Associations       

Explanation of Evaluation (required) Property is a contributing resource to the Cape Breeze Historic District.



# HISTORICAL STRUCTURE FORM

80801950

## DOCUMENTATION (Photos, Plans, etc.)

Photographic Negatives or Other Collections Not Filed with FMSF. Including Field Notes, Plans, other Important Documents.

Document type: \_\_\_\_\_

Maintaining Organization: \_\_\_\_\_

File or Accession #: \_\_\_\_\_

Descriptive Information: \_\_\_\_\_

>> Photographs (archived); Other; 10/24;

## RECORDER INFORMATION

Recorder Name (Last, First) Charles Arthur and Heather YostRecorder Address/Phone URS Corporation, 200 Orchard Ridge Dr. Ste. 101, Gaithersburg, MD 20878Recorder Affiliation Other

Other Affiliation \_\_\_\_\_

Is a Text-Only Supplement File Attached (Surveyor Only)? NO

## \*\*\*\*\* MASTER SITE FILE USE ONLY \*\*\*\*\*

Cultural Resource Type: SSElectronic Form Used: S110Form Type Code: NORMForm Quality Ranking: NEWForm Status Code: SCATSupplement Information Status: NO SUPPLEMENTSupplement File Status: NO SUPPLEMENT FILE

FMSF Staffer: \_\_\_\_\_

Computer Entry Date: 4/29/2004

SHPO's Evaluation of Resource

\_\_\_\_\_  
Date \_\_\_\_\_Form Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### REQUIRED PAPER ATTACHMENTS

- (1) USGS 7.5" MAP WITH STRUCTURE PINPOINTED IN RED
- (2) LARGE SCALE STREET OR PLAT MAP
- (3) PHOTO OF MAIN FACADE, B&W, AT LEAST 3"X5"

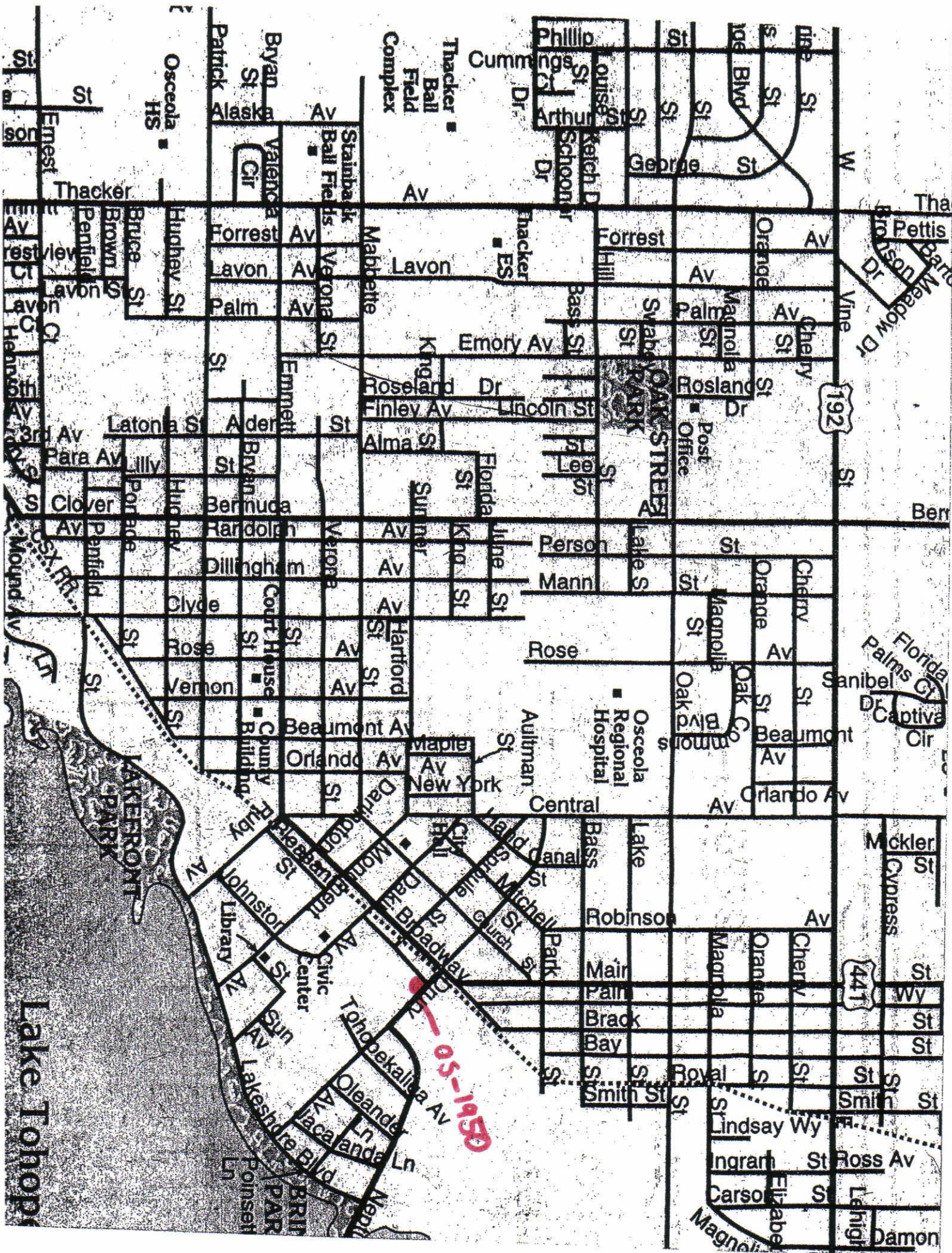
# **OS01950-200403**

## **Supplementary Printout**

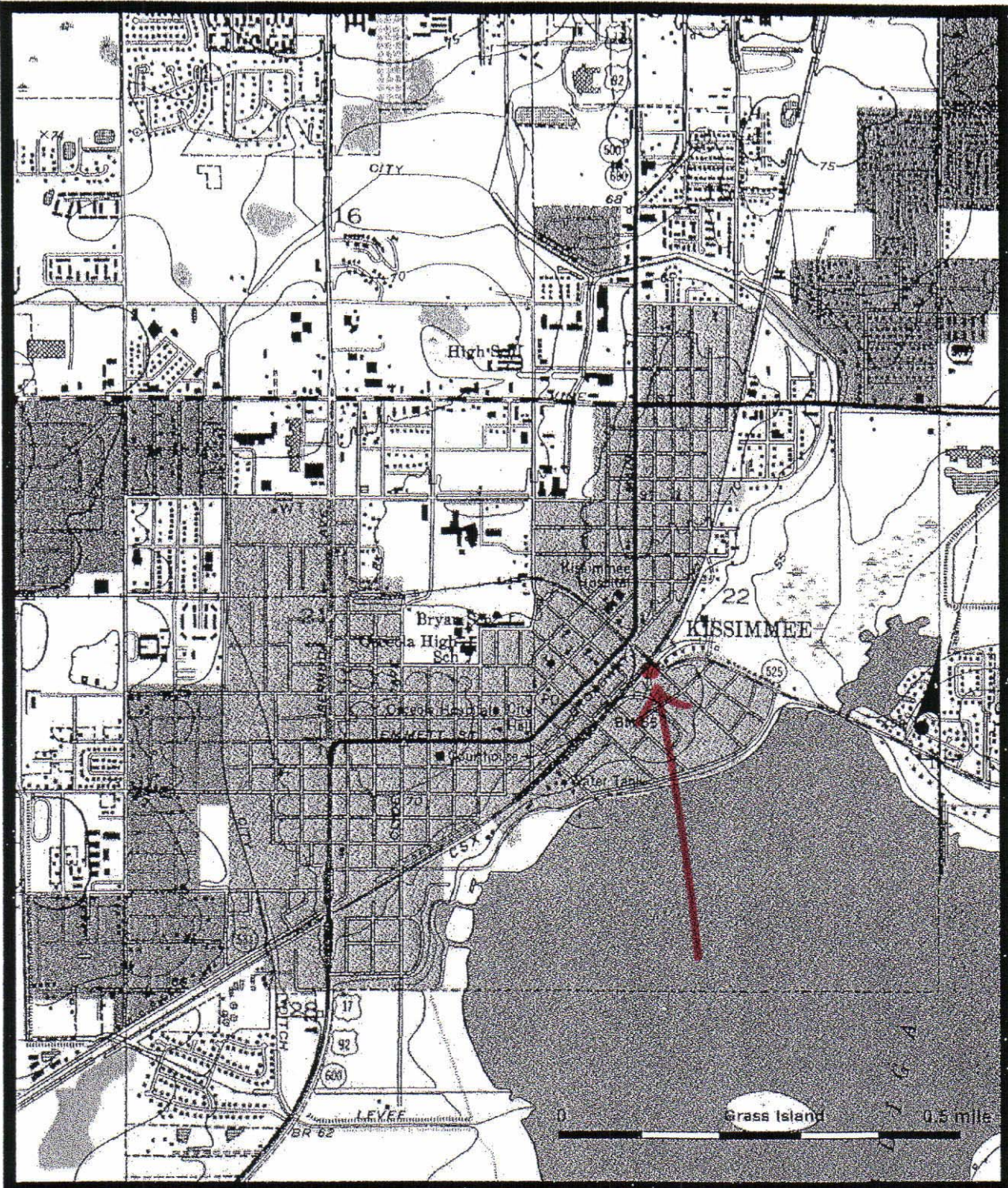
- > **USGS map name/year of publication or revision:**  
KISSIMMEE;1987
- > **Township/Range/Section/Qtr:**  
25S ;29E ;22;UNSP
- > **Structural system(s):**  
Balloon wood frame
- > **Foundation types:**  
Piers
- > **Foundation materials:**  
Concrete Block
- > **Exterior fabrics:**  
Aluminum
- > **Roof types:**  
Gable
- > **Roof materials:**  
Sheet metal;3V crimp
- > **Roof secondary structures (dormers etc):**  
Not applicable
- > **Change status/year changed/date noted/nature:**  
Unspecified;;;residential use to commerical use
- > **Original, intermediate, present uses/year started/year ended:**  
Commercial unspecified;1905;  
Residence--private;;  
Residence--private;1905;
- > **Research methods:**  
Examine local property records  
Sanborn maps  
Other, uncoded method
- > **Area(s) of historical significance:**  
Architecture
- > **Repositories: Collection/Housed/Accession#/Describe**  
Photographs (archived);Other;10/24;
- > **[Other name(s)]:**



Kissimmee Historic Survey -- June 2004 -- URS Corporation







PROJ	City of Kissimmee	<b>OS-1950</b> <b>URS</b>	
SCALE	1 inch = 4016 feet		
SOURCE	USGS 7.5' Quad map, Kissimmee, FLA 1953, Photorevised 1987	PROJECT NO. 15296184 FIGURE NO.	







051950  
House  
204 E. Drury Ave  
Kissimmee  
Oscola  
March 2004

MAILED 08/04/2004 ---

IMAGE ACE PHOTOGRAPHY



# HISTORICAL STRUCTURE FORM

Electronic Version 1.1.0

Site #8 OS01954  
Recorder # \_\_\_\_\_  
Field Date 3/3/2004  
Form Date 4/25/2004  
FormNo 200403  
FormNo = Field Date (YYYYMM)

First Site Form Recorded for this Site? YES

## GENERAL INFORMATION

Site Name (address if none) 212 East Drury Avenue Multiple Listing (DHR only) \_\_\_\_\_  
Other Names \_\_\_\_\_ >> \_\_\_\_\_  
Survey or Project Name Kissimmee Historic Buildings Survey Survey# \_\_\_\_\_  
National Register Category Building(s)

## LOCATION & IDENTIFICATION

### Address

Street No.	Direction	Street Name	Street Type	Direction Suffix
<u>212</u>	<u>East</u>	<u>Drury</u>	<u>Avenue</u>	

Cross Streets (nearest/ between) Tohopekaliga Ave./Clay St.

City / Town (within 3 miles) Kissimmee In Current City Limits? YES

County Osceola Tax Parcel #(s) 22-25-29-1180-0001-0060

Subdivision Name Cape Breeze Block \_\_\_\_\_ Lot \_\_\_\_\_

Ownership Private Individual

Name of Public Tract (e.g., park) \_\_\_\_\_

Route to (especially if no street address) \_\_\_\_\_

## MAPPING

USGS 7.5' Map Name \_\_\_\_\_ Publication Date \_\_\_\_\_ >> KISSIMMEE, 1987

Township: \_\_\_\_\_ Range: \_\_\_\_\_ Section: \_\_\_\_\_ 1/4 section: \_\_\_\_\_ >> 25S ; 29E ; 22 ; UNSP

Irregular Section Name: \_\_\_\_\_

Landgrant \_\_\_\_\_

UTM: Zone \_\_\_\_\_ Easting \_\_\_\_\_ Northing \_\_\_\_\_

Plat or Other Map (map's name, location) \_\_\_\_\_

## DESCRIPTION

Style Minimal Traditional

Other Style \_\_\_\_\_

Exterior Plan Rectangular

Other Exterior Plan \_\_\_\_\_

Number of Stories 1

Structural System(s) \_\_\_\_\_ >> Concrete block

Other Structural System(s) \_\_\_\_\_

Foundation Type(s) \_\_\_\_\_ >> Continuous

Other Foundation Types \_\_\_\_\_

Foundation Material(s) \_\_\_\_\_ >> Concrete Block

Other Foundation Material(s) \_\_\_\_\_

Exterior Fabric(s) \_\_\_\_\_ >> Concrete block

Other Exterior Fabric(s) standing seam metal

Roof Type(s) \_\_\_\_\_ >> Gable

Other Roof Type(s) \_\_\_\_\_

Roof Material(s) \_\_\_\_\_ >> Asphalt Shingles

Other Roof Material(s) \_\_\_\_\_

Roof Secondary Structure(s) (dormers etc) \_\_\_\_\_ >> Not applicable

Other Roof Secondary Structure(s) \_\_\_\_\_

Number of Chimneys 0

Chimney Material \_\_\_\_\_

Other Chimney Material(s) \_\_\_\_\_

Chimney Location(s) \_\_\_\_\_

# HISTORICAL STRUCTURE FORM

80S01954

## DESCRIPTION (continued)

Window Descriptions casements

Main Entrance Description (stylistic details) screened door

Porches: #open \_\_\_\_\_ #closed \_\_\_\_\_ #incised 1 Location(s) front entry

Porch Roof Types(s) gable

Exterior Ornament decorative ironwork

Interior Plan Unknown

Other Interior Plan \_\_\_\_\_

Condition Good

### Structure Surroundings

Commercial: SOME of this category Residential: MOSTLY this category

Institutional: SOME of this category Undeveloped: SOME of this category

Ancillary Features (Number / type of outbuildings, major landscape features) none

Archaeological Remains (describe): \_\_\_\_\_

If archaeological remains are present, was an Archaeological Site Form completed? \_\_\_\_\_

Narrative Description (optional) \_\_\_\_\_

## HISTORY

Construction year 1940

Architect (last name first): unknown

Builder (last name first): unknown

### Changes in Locations or Conditions

Type of Change	Year of Change	Date Change Noted	Description of Changes
>>			

### Structure Use History

Use \_\_\_\_\_ Year Use Started \_\_\_\_\_ Year Use Ended \_\_\_\_\_ >> Apartment; 1940;

Other Structure Uses \_\_\_\_\_

Ownership History (especially original owner, dates, profession, etc.) \_\_\_\_\_

## RESEARCH METHODS

Research Methods \_\_\_\_\_ >> Examine local property records

Other research methods architectural survey

## SURVEYOR'S EVALUATION OF SITE

Potentially Eligible for a Local Register? YES

Name of Local Register if Eligible Cape Breeze Historic District

Individually Eligible for National Register? NO

Potential Contributor to NR District? YES

Area(s) of historical significance \_\_\_\_\_ >> Architecture

Other Historical Associations \_\_\_\_\_

Explanation of Evaluation (required) Property is a contributing resource to the Cape Breeze Historic District.

# HISTORICAL STRUCTURE FORM

80801954

## DOCUMENTATION (Photos, Plans, etc.)

Photographic Negatives or Other Collections Not Filed with FMSF, Including Field Notes, Plans, other Important Documents.

Document type: \_\_\_\_\_

Maintaining Organization: \_\_\_\_\_

File or Accession #: \_\_\_\_\_

Descriptive Information: \_\_\_\_\_

>> Photographs (archived); Other; 10/26;

## RECORDER INFORMATION

Recorder Name (Last, First) Charles Arthur and Heather Yost

Recorder Address / Phone URS Corporation, 200 Orchard Ridge Dr. Ste. 101, Gaithersburg, MD 20878

Recorder Affiliation Other

Other Affiliation \_\_\_\_\_

Is a Text-Only Supplement File Attached (Surveyor Only)? NO

## \*\*\*\*\* MASTER SITE FILE USE ONLY \*\*\*\*\*

Cultural Resource Type: BS

Electronic Form Used: S110

Form Type Code: NORM

Form Quality Ranking: NEW

Form Status Code: SCAT

Supplement Information Status: NO SUPPLEMENT

Supplement File Status: NO SUPPLEMENT FILE

FMSF Staffer: \_\_\_\_\_

Computer Entry Date: 5/3/2004

SHPO's Evaluation of Resource

\_\_\_\_\_  
Date \_\_\_\_\_

Form Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### REQUIRED PAPER ATTACHMENTS

- (1) USGS 7.5" MAP WITH STRUCTURE PINPOINTED IN RED
- (2) LARGE SCALE STREET OR PLAT MAP
- (3) PHOTO OF MAIN FACADE, B&W, AT LEAST 3"X5"

# **OS01954-200403**

## **Supplementary Printout**

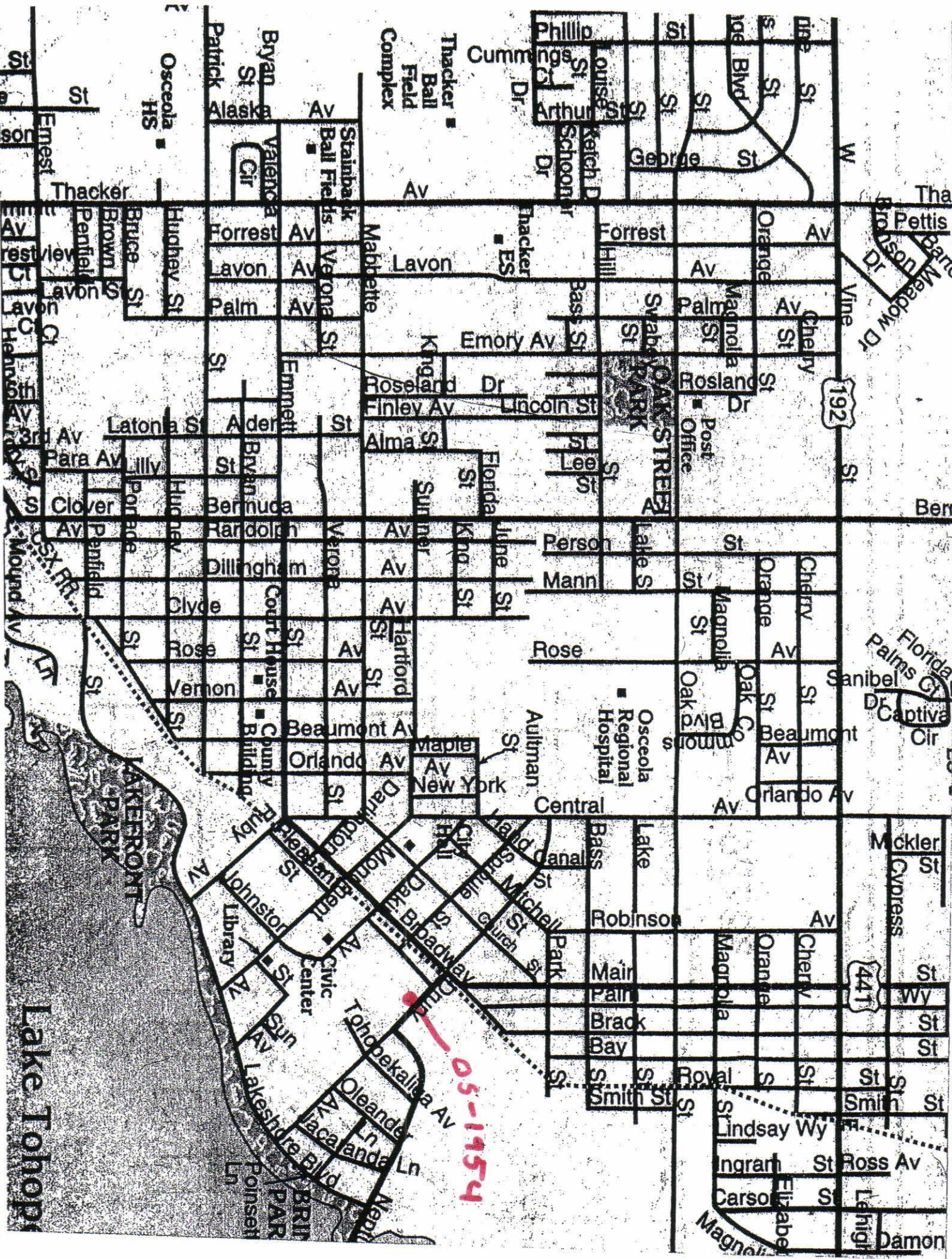
- > **USGS map name/year of publication or revision:**  
KISSIMMEE;1987
- > **Township/Range/Section/Qtr:**  
25S ;29E ;22;UNSP
- > **Structural system(s):**  
Concrete block
- > **Foundation types:**  
Continuous
- > **Foundation materials:**  
Concrete Block
- > **Exterior fabrics:**  
Concrete block
- > **Roof types:**  
Gable
- > **Roof materials:**  
Asphalt Shingles
- > **Roof secondary structures (dormers etc):**  
Not applicable
- > **Change status/year changed/date noted/nature:**
- > **Original, intermediate, present uses/year started/year ended:**  
Apartment;1940;
- > **Research methods:**  
Examine local property records  
Sanborn maps  
Other, uncoded method
- > **Area(s) of historical significance:**  
Architecture
- > **Repositories: Collection/Housed/Accession#/Describe**  
Photographs (archived);Other;10/26;
- > **[Other name(s)]:**



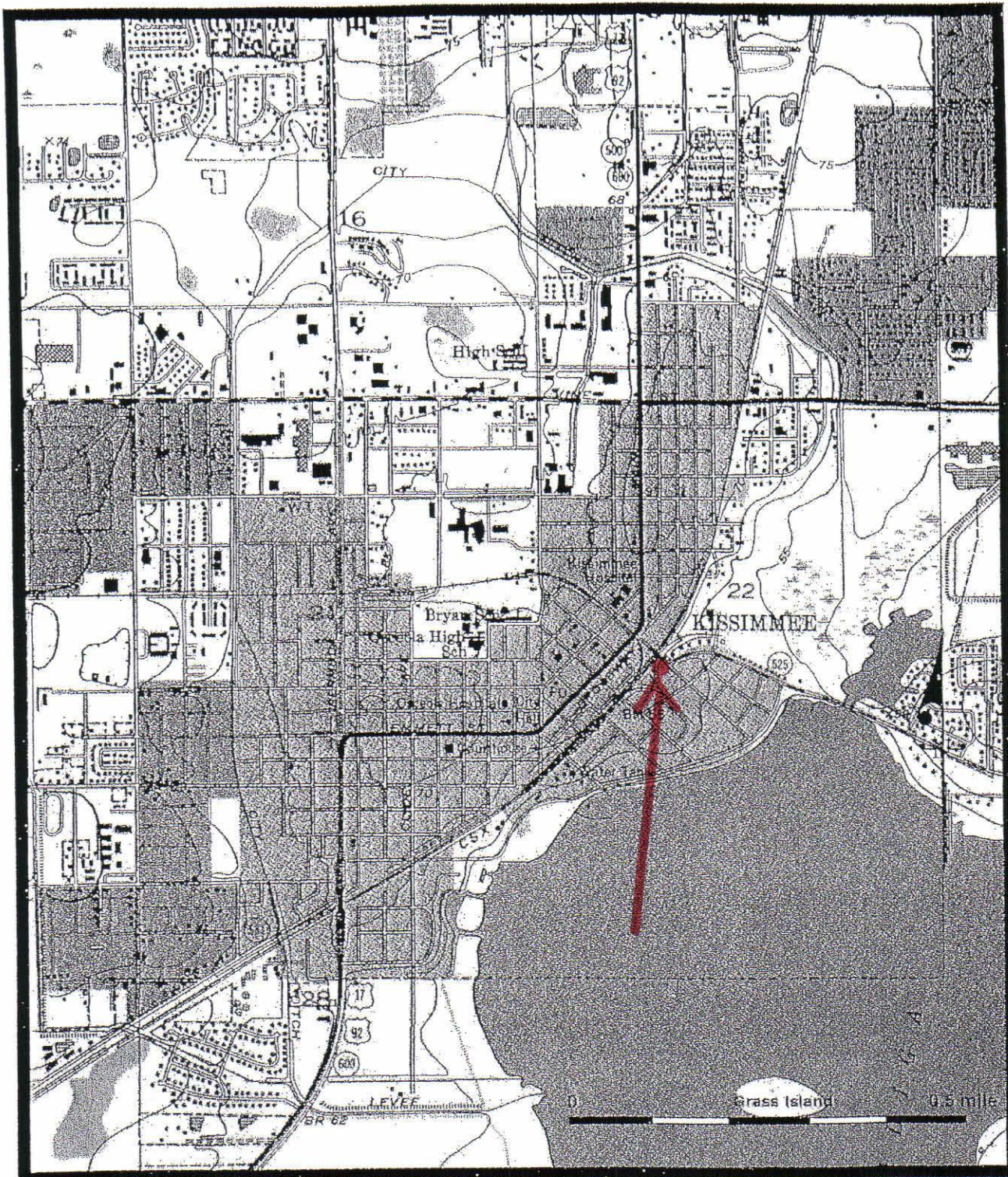




Kissimmee Historic Survey -- June 2004 -- URS Corporation







PROJ	City of Kissimmee	<b>OS-1954</b> <b>URS</b>	
SCALE	1 inch = 4016 feet		
SOURCE	USGS 7.5' Quad map, Kissimmee, FLA 1953, Photorevised 1987	PROJECT NO. 15296184	
		FIGURE NO.	





OS01954  
House  
212 East Drury Avenue  
Kissimmee  
Osceola  
October 2004

003

746

003 BA 00000000 0000 2 0404



**HISTORICAL STRUCTURE FORM****FLORIDA MASTER SITE FILE**

Version 3.0 11/96

Consult Guide To Historical Structure Forms for detailed instructions.

Site #8 VO7605

Recorder # 13/17

Field Date 7/6/05

Form Date 7/12/05

☒ Original☐ Update

(give site #)

Site Name(s) (address if none) 2510 Old New York Avenue

Survey CRAS, Central Florida Commuter Rail Transit, Environmental Assessment, OS, OR, SE, &amp; VO Counties

Multiple Listing [DHR only]

Survey # 12573

National Register Category (Please check one: consult with Site File before using last four):

☒ building ☐ structure ☐ district ☐ site ☐ object**LOCATION & IDENTIFICATION**

Address (Include N,S,E,W, #, St., Ave., etc.) 2510 Old New York Avenue

Cross Streets (nearest/between) between Lakeview Drive &amp; CSX Railroad on south

City/Town (within 3 miles) DeLand

In Current City Limits: ☐ y ☒ n ☐ unknown

County Volusia

Tax Parcel #(s) 13-17-29-04-13-0070

Subdivision name

Block

Lot 7,8,10,11&amp;16

Ownership (Please check one):

☐ private-profit ☒ private-individual ☐ city ☐ county ☐ Native American  
☐ private-nonprofit ☐ private-unspecified ☐ state ☐ federal ☐ foreign ☐ unknown

Name of Public Tract (e.g., park)

Route to (especially if no street address)

**MAPPING**

USGS 7.5' Map Name &amp; Date De Land, Fla. 1964, PR 1980

Township 17S Range 29E Section

1/4 section: ☐ NW ☒ SW ☐ SE ☐ NE

Landgrant

UTM: Zone

☐ 16 ☒ 17

Easting 465624

Northing 3209901

Plat or other map (map's name, location)

**DESCRIPTION**

Style\* Masonry Vernacular

Exterior Plan\* irregular

Number of Stories 2

Structural System(s)\* masonry

Foundation: Type(s)\* slab

Material(s)\* concrete block

Exterior Fabric(s)\* concrete block, asbestos shingle

Roof: Type(s)\* front gable, flat

Material(s)\* composition roll

Roof secondary strucs. (dormers etc.)\*

Chimney: No. 0

Material(s)\*

Location(s)\*

Windows (types, materials, etc.)\* 4 light awning, metal, paired and independent; 3 light awning, metal, independent

Main Entrance (stylistic details) swing door with 2/2 SHS inset

Porches: #open 3 #closed #incised Location(s) north entrance, north entrance, north entrance

Porch roof type(s) shed, shed, shed, shed

Exterior Ornament wide overhanging eaves, louvered vent in gable face, wood exterior stairs on east elevation

Interior Plan\* unknown

Condition (Please check one): ☐ excellent ☐ good ☒ fair ☐ deteriorated ☐ ruinous

Surroundings (N=None, S=Some, M=Most, A=All/nearly all) S commercial S residential N institutional S undeveloped

Ancillary Features (No., type of outbuildings; major landscape features. Use continuation sheet for descriptions of interior, landscaping, etc.)

Although recorded separately, this property is located on the same parcel as 2504 Old New York Avenue (8VO7606).

2532 Old New York Avenue also appears on this parcel, but was not accessible.

Archaeological Remains None Observed

☐ Check if Archaeological Form completed

\*Consult Guide to Historical Structure Forms for preferred descriptions (coded fields at the Site File).

**DHR USE ONLY\*\*\*\*\*OFFICIAL EVALUATIONS\*\*\*\*\*DHR USE ONLY**

NR DATE

KEEPER-NR ELIGIBILITY ☐ yes ☐ no

Date

SHPO-NR ELIGIBILITY: ☐ yes ☒ no ☐ potentially elig. ☐ insufficient info

Date 11/29/05 SJA

DELIST DATE

LOCAL DESIGNATION:

Date

Local office

National Register Criteria for Evaluation

☐ a ☐ b ☐ c ☐ d

(See National Register Bulletin 15, p.2)

**HISTORICAL STRUCTURE FORM**

Site # 8 VO7605

Consult Guide to Historical Structure Forms for detailed instructions

**HISTORY**

Construction date: Exactly \_\_\_\_\_ (year) Approximately 1953 (year) Earlier than \_\_\_\_\_ (year) Later than \_\_\_\_\_ (year)  
 Architect (last name first): unknown Builder (last name first): unknown  
 Moves: ☐ yes ☒ no ☐ unknown Dates \_\_\_\_\_ Original address \_\_\_\_\_  
 Alterations: ☒ yes ☐ no ☐ unknown Dates ca. 1970 Nature\* replaced windows \_\_\_\_\_  
 Additions: ☒ yes ☐ no ☐ unknown Dates ca. 1970 Nature\* addition on west \_\_\_\_\_  
 Original Use\* (give date ranges) unknown \_\_\_\_\_  
 Intermediate Uses\* (give date ranges) unknown \_\_\_\_\_  
 Present Use\* (give date ranges) private residence \_\_\_\_\_  
 Ownership History (especially original owner, dates, profession, etc.) John R. & Carolyn L. Murray \_\_\_\_\_

\*Consult Guide to Historical Structure Forms for preferred descriptions (coded fields at the Site File).

**RESEARCH METHODS (Check all choices that apply; if needed write others at bottom)**

☐ formal archaeological survey ☒ past surveys search at FMSF ☐ local library research ☒ Sanborn maps  
☐ informal archaeological inspection ☒ past sites search at FMSF ☐ non-local library research ☐ subdivision maps  
☒ Public Lands Survey (DEP) ☐ FL Archives (Gray Building) ☐ building permits ☐ plat maps  
☐ tax records/property deeds ☐ FL Photo Archives (Gray Building) ☐ demolition permits ☐ local newspaper files  
☒ tax records only ☐ occupant/owner interview ☐ commercial permits  
☐ interior inspection ☐ neighbor interview ☐ occupation permits  
☐ other methods (specify) \_\_\_\_\_

**SURVEYOR'S EVALUATION OF SITE (Check one choice on each line)**

Potentially eligible for local register? ☐ yes: name register at right ☒ no ☐ insufficient info Name of local register if eligible: \_\_\_\_\_  
 Individually eligible for National Register? ☐ yes ☒ no ☐ insufficient info \_\_\_\_\_  
 Potential contributor to Nat. Reg. district? ☐ yes ☒ no ☐ insufficient info \_\_\_\_\_  
 Area(s) of Historical Significance (See National Register Bulletin 15, p. 8 for categories: e.g. "architecture," "ethnic heritage," "community planning & development," etc.) \_\_\_\_\_  
 Community Planning and Development \_\_\_\_\_

Explanation of Evaluation (required, whether positive or not; limit to three lines; attach longer statement, if needed, on separate sheet)  
 The Masonry Vernacular style is a common building type found throughout the area. In addition, limited research uncovered no historical associations with this building. As a result, 8VO7605 does not appear eligible for listing in the NRHP.

**DOCUMENTATION (Photos, Plans, etc.)**

Bibliographic References (Use Continuation Sheet, give FMSF Manuscript # if relevant) Volusia County Property Appraiser

Photographs (required) B&W print(s) at least 3x5, at least one main facade.  
 Location of negatives & negative numbers Archaeological Consultants, Inc. Roll 13, #17-16

**RECORDER**

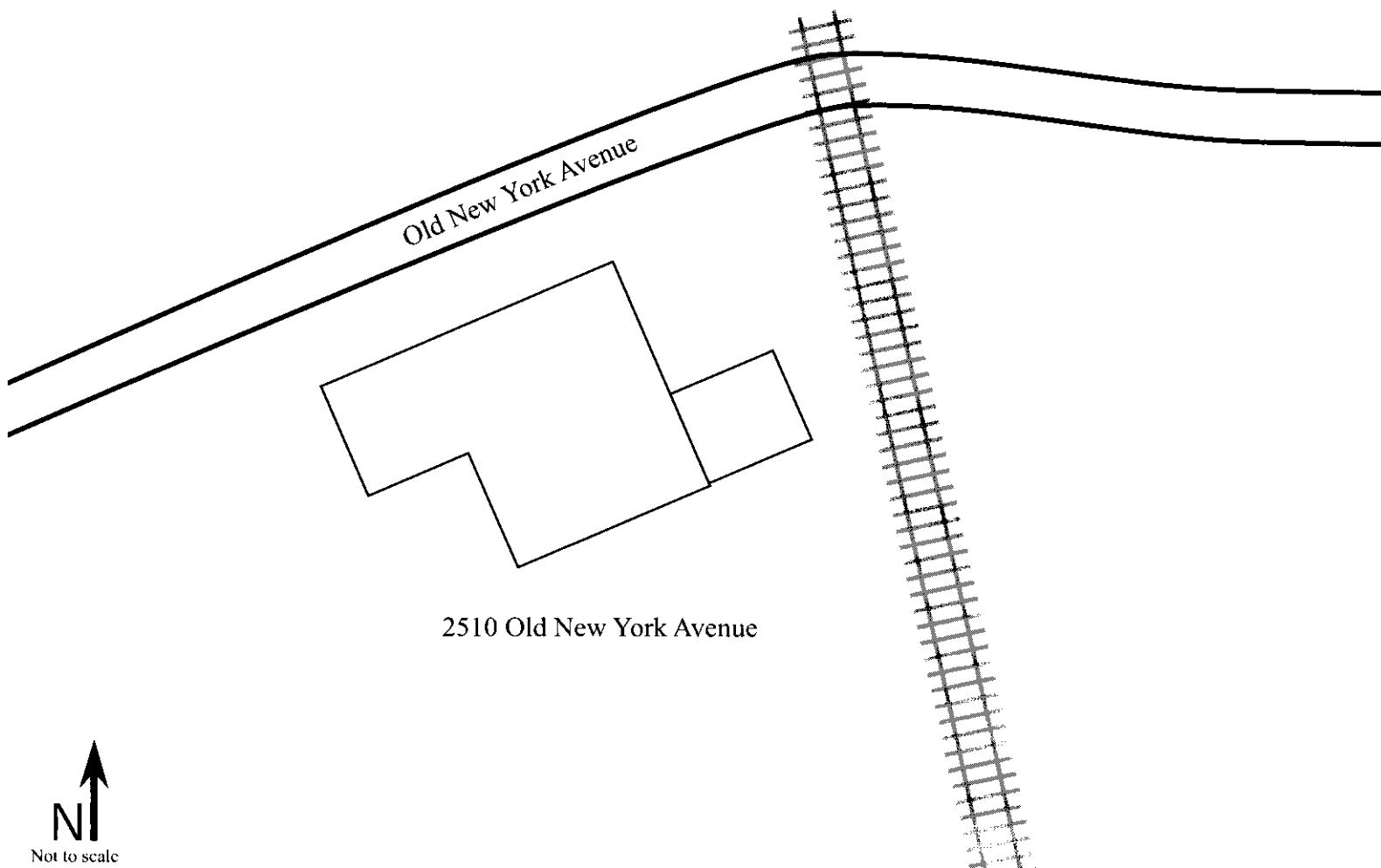
Name (last name first)/Address/Phone/Fax/Email/Affiliation Ross, Aimee and Katherine Baar  
 Archaeological Consultants, Inc./ P.O. Box 5103, Sarasota, FL 34277-5103/(941)379-6206/(941)379-6216/ACIFlorida@comcast.net

Remember: Use a Supplement for Site Forms or other continuation sheet for descriptions that do not fit in the spaces above.

**REQUIRED:** (1) USGS 7.5' MAP WITH STRUCTURE PINPOINTED IN RED  
 (2) LARGE SCALE STREET OR PLAT MAP  
 (3) PHOTO OF MAIN FACADE, PREFER B&W, AT LEAST 3x5

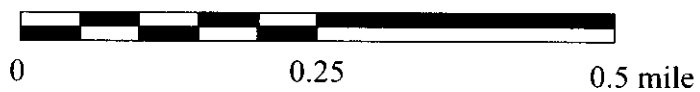
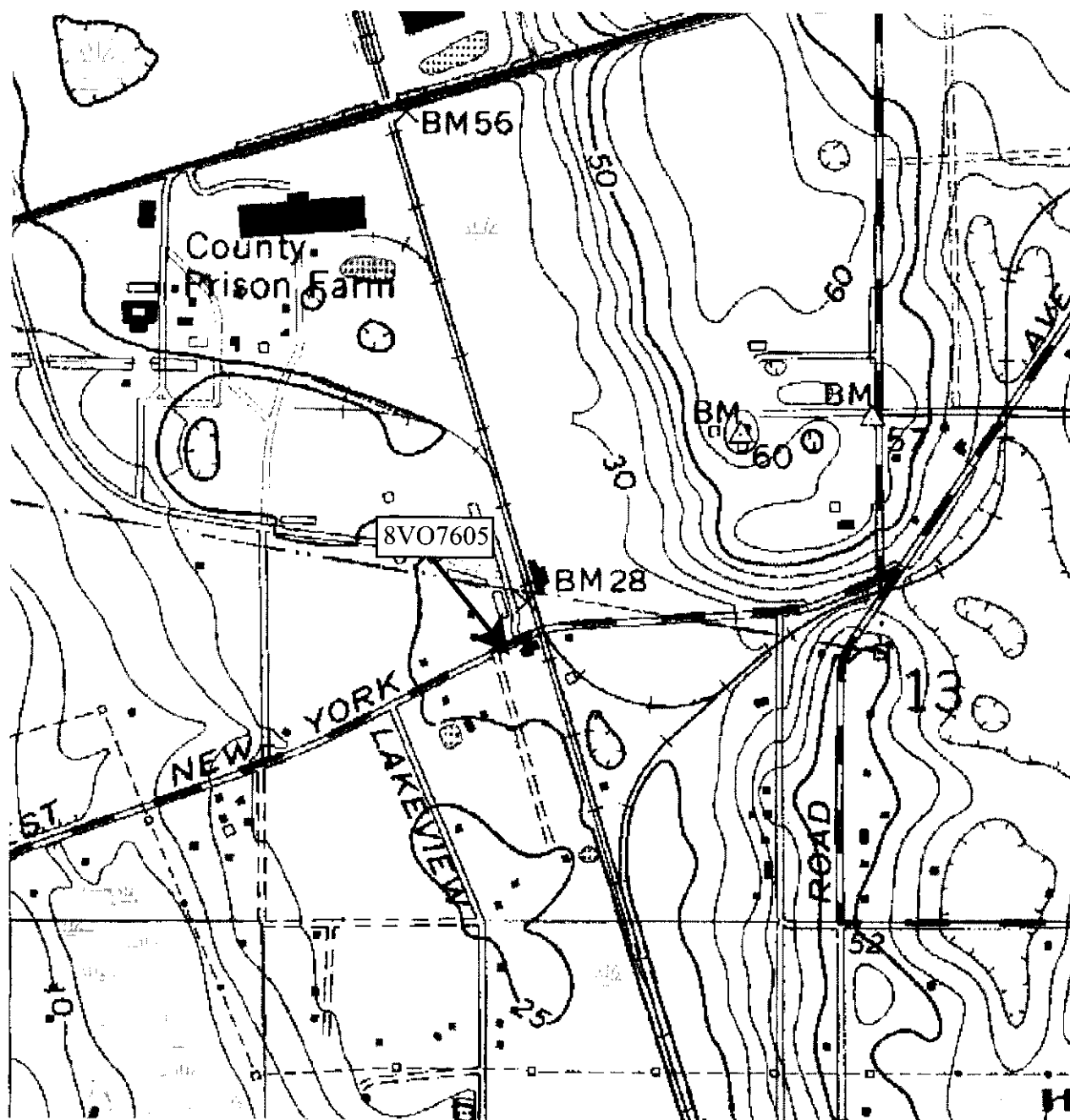
PHOTOGRAPH

STREET OR PLAT MAP



USGS MAP

De Land, Fla. 1964, PR 1980







8407605

2510 Old New York Ave.

NE

7/05

13-16

009

301

009 BA QANXONG NIN 0 1936

# HISTORICAL STRUCTURE FORM

## FLORIDA MASTER SITE FILE

Version 3.0 11/96

Consult Guide To Historical Structure Forms for detailed instructions.

Site #8 VO7606

Recorder # 13/15

Field Date 7/6/05

Form Date 7/12/05

☒ Original  
☐ Update  
 (give site #)

Site Name(s) (address if none) 2504 Old New York Avenue

Survey CRAS, Central Florida Commuter Rail Transit, Environmental Assessment, OS, OR, SE, &amp; VO Counties

Multiple Listing [DHR only]

National Register Category (Please check one: consult with Site File before using last four):

☒ building ☐ structure ☐ district ☐ site ☐ object

Survey # 12573

### LOCATION & IDENTIFICATION

Address (Include N,S,E,W,#;St.,Ave.,etc.) 2504 Old New York Avenue

Cross Streets (nearest/between) between Lakeview Drive &amp; CSX Railroad on south

City/Town (within 3 miles) DeLand

In Current City Limits: ☐ y ☒ n ☐ unknown

County Volusia

Tax Parcel #(s) 13-17-29-04-13-0070

Subdivision name

Block

Lot 7,8,10,11&amp;16

Ownership (Please check one):

☐ private-profit ☒ private-individual ☐ city ☐ county ☐ Native American  
☐ private-nonprofit ☐ private-unspecified ☐ state ☐ federal ☐ foreign ☐ unknown

Name of Public Tract (e.g., park)

Route to (especially if no street address)

### MAPPING

USGS 7.5' Map Name &amp; Date De Land, Fla. 1964, PR 1980

Township 17S Range 29E Section

1/4 section:

☐ NW☒ SW☐ SE☐ NE☒ Irregular-name: 13

Landgrant

UTM: Zone

☐ 16 ☒ 17

Easting 465644

Northing 3209916

Plat or other map (map's name, location)

### DESCRIPTION

Style\* Masonry Vernacular

Exterior Plan\* irregular

Number of Stories 1.5

Structural System(s)\* masonry

Foundation: Type(s)\* continuous

Material(s)\* concrete block

Exterior Fabric(s)\* concrete block, asbestos shingle

Roof: Type(s)\* intersecting saltbox

Material(s)\* asphalt roll

Roof secondary strucs. (dormers etc.)\*

Chimney: No.0 Material(s)\*

Location(s)\*

 Windows (types, materials, etc.)\* 3 light awning, metal, independent; 2/2 SHS, metal, independent; 1 light fixed, metal, paired;  
 1/1 SHS, metal, independent & paired; 2 light casement, metal, independent

Main Entrance (stylistic details) wood, paneled swing door behind metal screen door

Porches: #open 2 #closed #incised Location(s) north entrance; north elevation

Porch roof type(s) gable; gable

 Exterior Ornament louvered vents in gable face, wood window surrounds, exposed rafters, masonry sills, vertical, scalloped  
 siding in porch gable

Interior Plan\* unknown

Condition (Please check one): ☐ excellent ☐ good ☒ fair ☐ deteriorated ☐ ruinous

Surroundings (N=None, S=Some, M=Most, A=All/nearly all) S commercial S residential N institutional S undeveloped

Ancillary Features (No., type of outbuildings; major landscape features. Use continuation sheet for descriptions of interior, landscaping, etc.)

Although recorded separately, this property is located on the same parcel as 2510 Old New York Avenue (8VO7605).

2532 Old New York Avenue also appears on this parcel, but was not accessible.

Archaeological Remains None Observed

☐ Check if Archaeological Form completed

\*Consult Guide to Historical Structure Forms for preferred descriptions (coded fields at the Site File).

### DHR USE ONLY\*\*\*\*\*OFFICIAL EVALUATIONS\*\*\*\*\*DHR USE ONLY

NR DATE	KEEPER-NR ELIGIBILITY: <input type="checkbox"/> yes <input type="checkbox"/> no	Date
	SHPO-NR ELIGIBILITY: <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> potentially elig. <input type="checkbox"/> insufficient info	Date 11/29/05 SOA
DELIST DATE	LOCAL DESIGNATION:	Date
	Local office	
National Register Criteria for Evaluation <input type="checkbox"/> a <input type="checkbox"/> b <input type="checkbox"/> c <input type="checkbox"/> d (See National Register Bulletin 15, p.2)		

**HISTORICAL STRUCTURE FORM**

Site # 8 VO7606

Consult Guide to Historical Structure Forms for detailed instructions

**HISTORY**

Construction date: Exactly \_\_\_\_ (year) Approximately 1947 (year) Earlier than \_\_\_\_ (year) Later than \_\_\_\_ (year)  
 Architect (last name first): unknown Builder (last name first): unknown  
 Moves: ☐ yes ☒ no ☐ unknown Dates \_\_\_\_ Original address \_\_\_\_  
 Alterations: ☒ yes ☐ no ☐ unknown Dates ca. 1965;75 Nature\* replaced some windows; repl. some windows; repl. some windows  
 Additions: ☒ yes ☐ no ☐ unknown Dates ca. 1975;85 Nature\* addition on south; addition on west  
 Original Use\* (give date ranges) unknown  
 Intermediate Uses\* (give date ranges) unknown  
 Present Use\* (give date ranges) private residence  
 Ownership History (especially original owner, dates, profession, etc.) John R. & Carolyn L. Murray

\*Consult Guide to Historical Structure Forms for preferred descriptions (coded fields at the Site File).

**RESEARCH METHODS (Check all choices that apply; if needed write others at bottom)**

☐ formal archaeological survey ☒ past surveys search at FMSF ☐ local library research ☒ Sanborn maps  
☐ informal archaeological inspection ☒ past sites search at FMSF ☐ non-local library research ☐ subdivision maps  
☒ Public Lands Survey (DEP) ☐ FL Archives (Gray Building) ☐ building permits ☐ plat maps  
☐ tax records/property deeds ☐ FL Photo Archives (Gray Building) ☐ demolition permits ☐ local newspaper files  
☒ tax records only ☐ occupant/owner interview ☐ commercial permits  
☐ interior inspection ☐ neighbor interview ☐ occupation permits  
☐ other methods (specify) \_\_\_\_\_

**SURVEYOR'S EVALUATION OF SITE (Check one choice on each line)**

Potentially eligible for local register? ☐ yes: name register at right ☒ no ☐ insufficient info Name of local register if eligible: \_\_\_\_\_  
 Individually eligible for National Register? ☐ yes ☒ no ☐ insufficient info  
 Potential contributor to Nat. Reg. district? ☐ yes ☒ no ☐ insufficient info  
 Area(s) of Historical Significance (See National Register Bulletin 15, p. 8 for categories: e.g. "architecture," "ethnic heritage," "community planning & development," etc.)  
 Community Planning and Development \_\_\_\_\_

Explanation of Evaluation (required, whether positive or not; limit to three lines; attach longer statement, if needed, on separate sheet)  
 Due to non-historic alterations and additions and a lack of historical significance with this residence, 8VO7606 does not appear eligible for listing in the NRHP.

**DOCUMENTATION (Photos, Plans, etc.)**

Bibliographic References (Use Continuation Sheet, give FMSF Manuscript # if relevant) Volusia County Property Appraiser

Photographs (required) B&amp;W print(s) at least 3x5, at least one main facade.

Location of negatives &amp; negative numbers Archaeological Consultants, Inc. Roll 13, #15-14

**RECORDER**

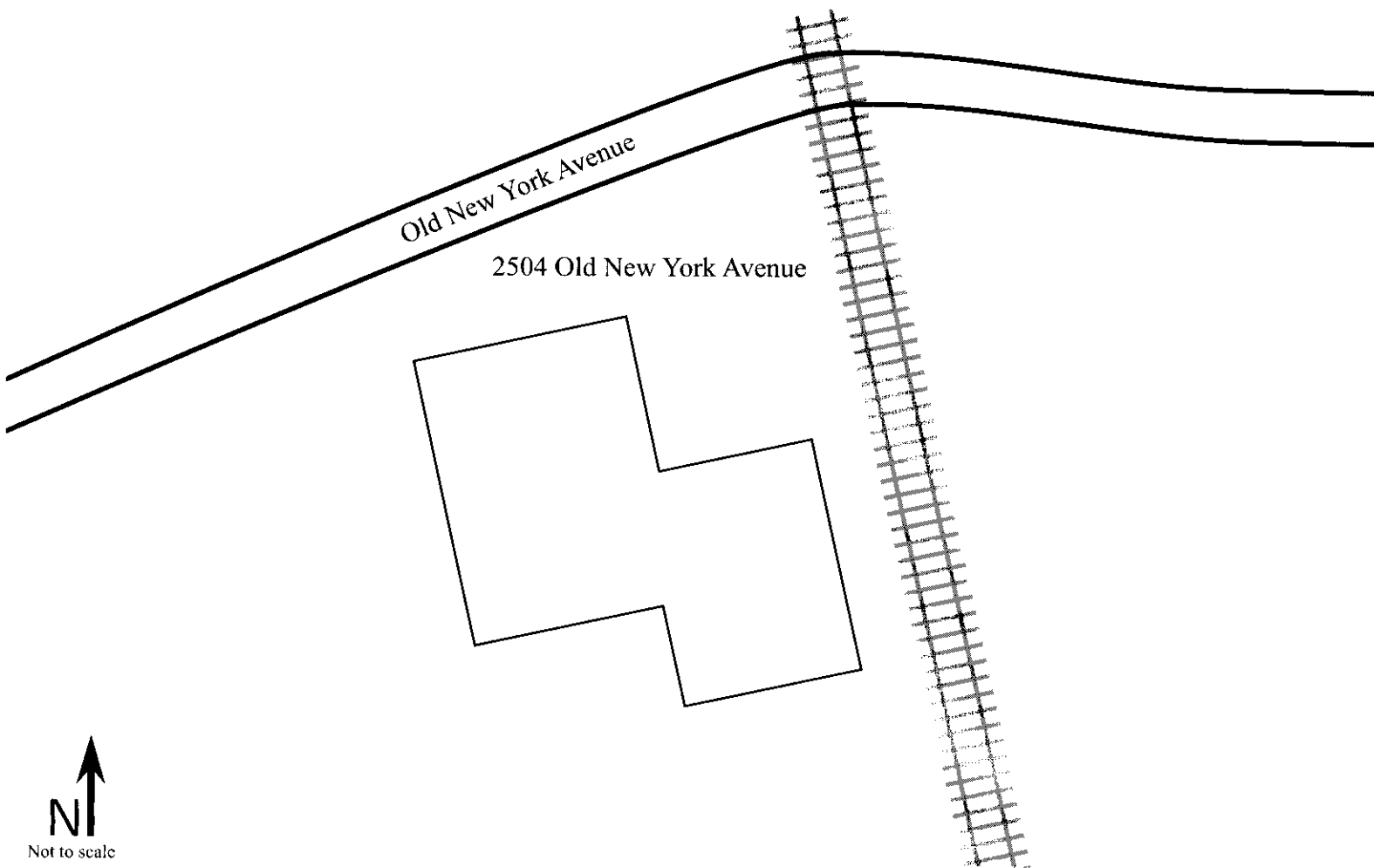
Name (last name first)/Address/Phone/Fax/Email/Affiliation Ross, Aimee and Katherine Baar  
 Archaeological Consultants, Inc./ P.O. Box 5103, Sarasota, FL 34277-5103/(941)379-6206/(941)379-6216/ACIFlorida@comcast.net

Remember: Use a Supplement for Site Forms or other continuation sheet for descriptions that do not fit in the spaces above.

**REQUIRED:** (1) USGS 7.5' MAP WITH STRUCTURE PINPOINTED IN RED  
 (2) LARGE SCALE STREET OR PLAT MAP  
 (3) PHOTO OF MAIN FACADE, PREFER B&W, AT LEAST 3x5

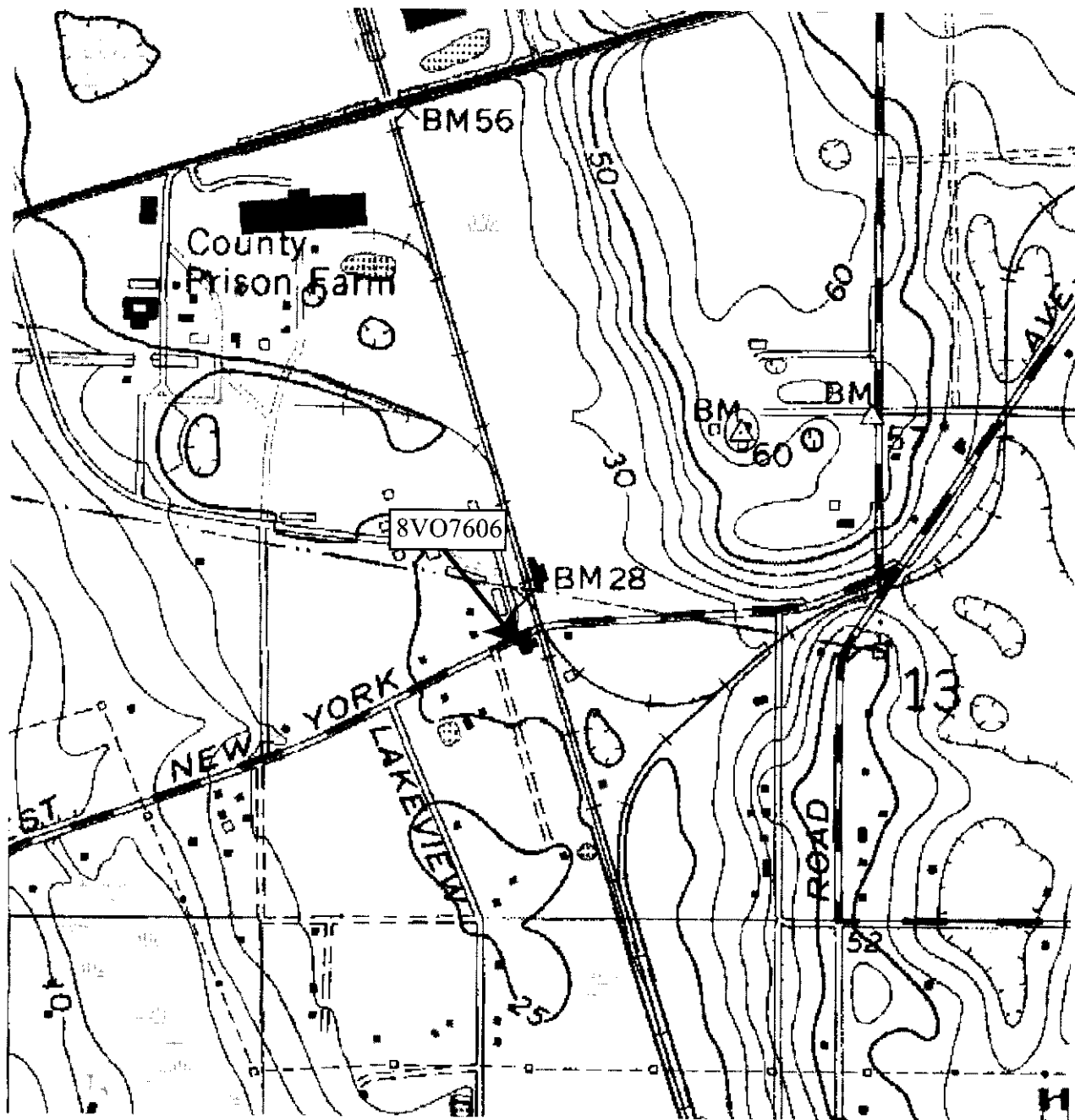
PHOTOGRAPH

STREET OR PLAT MAP



USGS MAP

De Land, Fla. 1964, PR 1980



0 0.25 0.5 mile





# HISTORICAL STRUCTURE FORM

## FLORIDA MASTER SITE FILE

Version 3.0 11/96

Consult Guide To Historical Structure Forms for detailed instructions.

Site #8 VO7607

Recorder # 13/13

Field Date 7/6/05

Form Date 7/12/05

☒ Original  
☐ Update  
 (give site #)

Site Name(s) (address if none) The Inn Between BarSurvey CRAS, Central Florida Commuter Rail Transit, Environmental Assessment, OS, OR, SE, & VO Counties

National Register Category (Please check one: consult with Site File before using last four):

☒ building ☐ structure ☐ district ☐ site ☐ object

Multiple Listing [DHR only]

Survey # 12573

### LOCATION & IDENTIFICATION

Address (Include N,S,E,W, #; St, Ave., etc.) 2486 Old New York AvenueCross Streets (nearest/between) between CSX Railroad & West Avenue on southCity/Town (within 3 miles) DeLandIn Current City Limits: ☐ y ☒ n ☐ unknownCounty VolusiaTax Parcel #(s) 13-17-29-04-00-0040

Subdivision name

Block

Lot 4

Ownership (Please check one):

☒ private-profit ☐ private-individual ☐ city ☐ county ☐ Native American  
☐ private-nonprofit ☐ private-unspecified ☐ state ☐ federal ☐ foreign ☐ unknown

Name of Public Tract (e.g., park)

Route to (especially if no street address)

### MAPPING

USGS 7.5' Map Name & Date De Land, Fla. 1964, PR 1980Township 17S Range 29E Section

1/4 section:

☐ NW☒ SW☐ SE☐ NE☒ Irregular-name: 13

Landgrant

UTM: Zone ☐ 16 ☒ 17Easting 465743Northing 3209925

Plat or other map (map's name, location)

### DESCRIPTION

Style\* Frame VernacularExterior Plan\* irregularNumber of Stories 1Structural System(s)\* wood frameFoundation: Type(s)\* continuousMaterial(s)\* masonryExterior Fabric(s)\* brick veneer, vertical plank siding, lapboardRoof: Type(s)\* saltboxMaterial(s)\* 5V crimp metal

Roof secondary strucs. (dormers etc.)\*

Chimney: No 0 Material(s)\*

Location(s)\*

Windows (types, materials, etc.)\* 1 light fixed, wood, ribbon (4); 2/2 SHS, vinyl, independentMain Entrance (stylistic details) swing doorPorches: #open 1 #closed

#incised

Location(s) north entrancePorch roof type(s) front gableExterior Ornament brick sills, brick belt course, cantilevered porch supports, louvered vent in gable faceInterior Plan\* unknownCondition (Please check one): ☐ excellent ☐ good ☒ fair ☐ deteriorated ☐ ruinousSurroundings (N=None, S=Some, M=Most, A=All/nearly all) S commercial S residential N institutional S undeveloped

Ancillary Features (No., type of outbuildings; major landscape features. Use continuation sheet for descriptions of interior, landscaping, etc.)

barbecue shelter on southArchaeological Remains None Observed☐ Check if Archaeological Form completed

\*Consult Guide to Historical Structure Forms for preferred descriptions (coded fields at the Site File).

### DHR USE ONLY\*\*\*\*\*OFFICIAL EVALUATIONS\*\*\*\*\*DHR USE ONLY

NR DATE

KEEPER-NR ELIGIBILITY: ☐ yes ☐ no

Date

SHPO-NR ELIGIBILITY: ☐ yes ☒ no ☐ potentially elig ☐ insufficient infoDate 11/29/05 SM

DELIST DATE

LOCAL DESIGNATION

Date

Local office

National Register Criteria for Evaluation ☐ a ☐ b ☐ c ☐ d (See National Register Bulletin 15, p.2)

## HISTORICAL STRUCTURE FORM

Site # 8 VO7607

Consult Guide to Historical Structure Forms for detailed instructions

## HISTORY

Construction date: Exactly \_\_\_\_\_ (year) Approximately 1924 \_\_\_\_\_ (year) Earlier than \_\_\_\_\_ (year) Later than \_\_\_\_\_ (year)

Architect (last name first): unknown Builder (last name first): unknown

Moves: ☐ yes ☒ no ☐ unknown Dates \_\_\_\_\_ Original address \_\_\_\_\_

Alterations: ☒ yes ☐ no ☐ unknown Dates ca. 1985 Nature\* replaced windows, exterior siding & porch supports

Additions: ☒ yes ☐ no ☐ unknown Dates ca. 1985 Nature\* addition on east

Original Use\* (give date ranges) unknown

Intermediate Uses\* (give date ranges) unknown

Present Use\* (give date ranges) commercial - The Inn Between Bar

Ownership History (especially original owner, dates, profession, etc.) Marye Best (since 1997)

\*Consult Guide to Historical Structure Forms for preferred descriptions (coded fields at the Site File).

## RESEARCH METHODS (Check all choices that apply; if needed write others at bottom)

☐ formal archaeological survey ☒ past surveys search at FMSF ☐ local library research ☒ Sanborn maps

☐ informal archaeological inspection ☒ past sites search at FMSF ☐ non-local library research ☐ subdivision maps

☒ Public Lands Survey (DEP) ☐ FL Archives (Gray Building) ☐ building permits ☐ plat maps

☐ tax records/property deeds ☐ FL Photo Archives (Gray Building) ☐ demolition permits ☐ local newspaper files

☒ tax records only ☐ occupant/owner interview ☐ commercial permits

☐ interior inspection ☐ neighbor interview ☐ occupation permits

☐ other methods (specify) \_\_\_\_\_

## SURVEYOR'S EVALUATION OF SITE (Check one choice on each line)

Potentially eligible for local register? ☐ yes: name register at right ☒ no ☐ insufficient info Name of local register if eligible: \_\_\_\_\_

Individually eligible for National Register? ☐ yes ☒ no ☐ insufficient info

Potential contributor to Nat. Reg. district? ☐ yes ☒ no ☐ insufficient info

Area(s) of Historical Significance (See National Register Bulletin 15, p. 8 for categories: e.g. "architecture," "ethnic heritage," "community planning & development," etc.)

Community Planning and Development \_\_\_\_\_

Explanation of Evaluation (required, whether positive or not; limit to three lines; attach longer statement, if needed, on separate sheet)

Non-historic alterations and additions have resulted in a loss of architectural integrity. In addition, limited research revealed no significant historical associations. Therefore, 8VO7607 does not appear eligible for listing in the NRHP.

## DOCUMENTATION (Photos, Plans, etc.)

Bibliographic References (Use Continuation Sheet, give FMSF Manuscript # if relevant) Volusia County Property Appraiser

Photographs (required) B&W print(s) at least 3x5, at least one main facade.

Location of negatives & negative numbers Archaeological Consultants, Inc. Roll 13, #13-12

## RECORDER

Name (last name first)/Address/Phone/Fax/Email/Affiliation Ross, Aimee and Katherine Baar

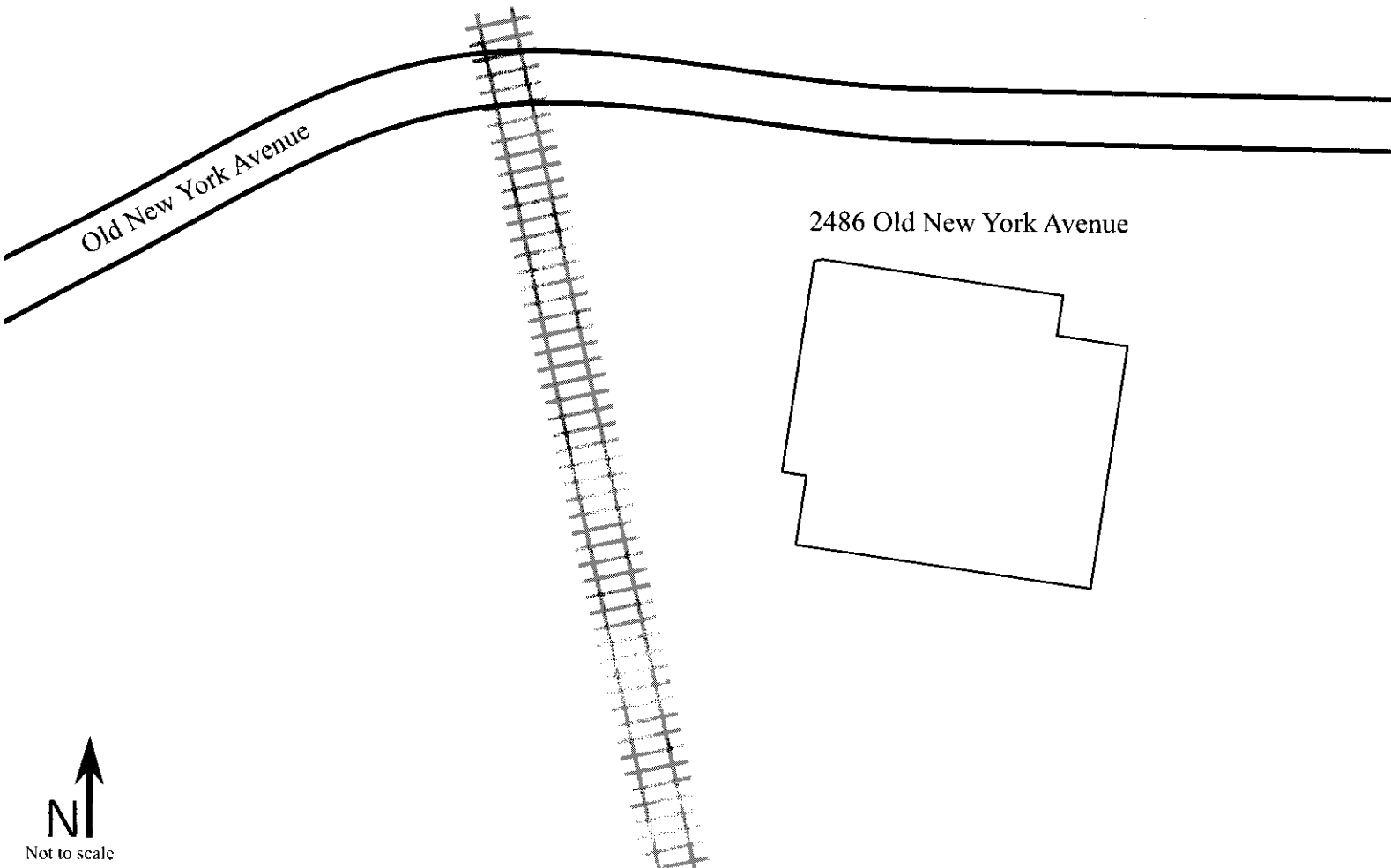
Archaeological Consultants, Inc./ P.O. Box 5103, Sarasota, FL 34277-5103/(941)379-6206/(941)379-6216/ACIFlorida@comcast.net

Remember: Use a Supplement for Site Forms or other continuation sheet for descriptions that do not fit in the spaces above.

**REQUIRED:** (1) USGS 7.5' MAP WITH STRUCTURE PINPOINTED IN RED  
(2) LARGE SCALE STREET OR PLAT MAP  
(3) PHOTO OF MAIN FACADE, PREFER B&W, AT LEAST 3x5

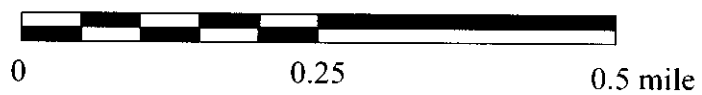
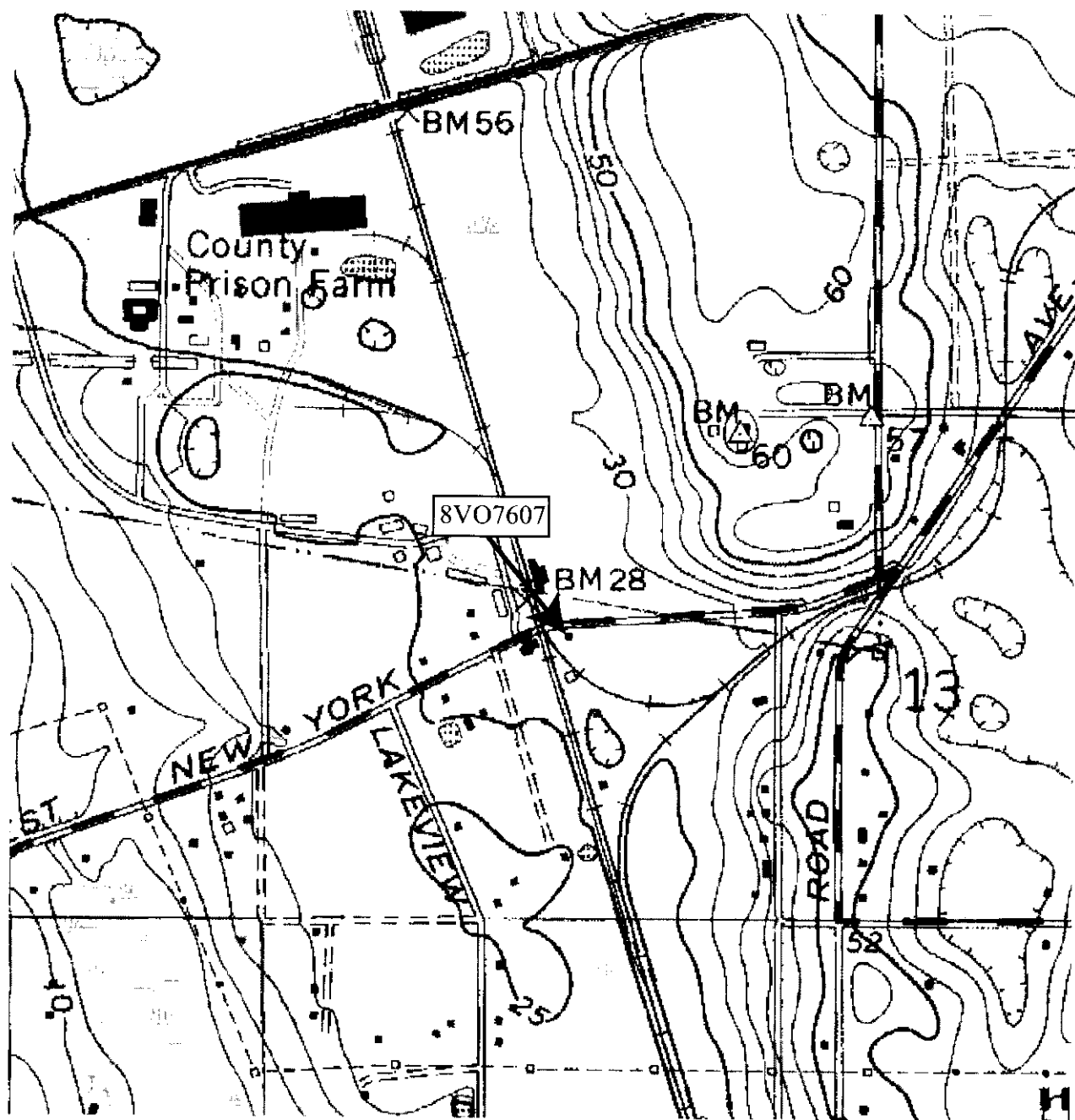
PHOTOGRAPH

STREET OR PLAT MAP



USGS MAP

De Land, Fla. 1964, PR 1980







8V07607  
The Inn Between Bar  
2486 Old New York Ave.

N

7/05

13-12

013

305

013 BA DANXONG NIN 0 1936

## **Appendix B:** Survey Log

Ent D (FMSF only) \_\_\_\_/\_\_\_\_/\_\_\_\_



# Survey Log Sheet

Florida Master Site File  
Version 4.1 1/07

Survey # (FMSF only) \_\_\_\_\_

Consult *Guide to the Survey Log Sheet* for detailed instructions.

## Identification and Bibliographic Information

Survey Project (name and project phase) \_\_\_\_\_

Report Title (exactly as on title page) \_\_\_\_\_

Report Author(s) (as on title page— individual or corporate; last names first) \_\_\_\_\_

Publication Date (year) \_\_\_\_\_ Total Number of Pages in Report (count text, figures, tables, not site forms) \_\_\_\_\_

Publication Information (Give series and no. in series, publisher and city. For article or chapter, cite page numbers. Use the style of *American Antiquity*.) \_\_\_\_\_

Supervisor(s) of Fieldwork (whether or not the same as author(s); last name first) \_\_\_\_\_

Affiliation of Fieldworkers (organization, city) \_\_\_\_\_

Key Words/Phrases (Don't use the county, or common words like *archaeology*, *structure*, *survey*, *architecture*. Limit each word or phrase to 25 characters.) \_\_\_\_\_

Survey Sponsors (corporation, government unit, or person who is directly paying for fieldwork)

Name \_\_\_\_\_

Address/Phone \_\_\_\_\_

Recorder of *Log Sheet* \_\_\_\_\_ Date *Log Sheet* Completed \_\_\_\_/\_\_\_\_/\_\_\_\_

Is this survey or project a continuation of a previous project? ☐ No ☐ Yes: Previous survey #(s) (FMSF only) \_\_\_\_\_

## Mapping

Counties (List each one in which field survey was done - do not abbreviate; use supplement sheet if necessary) \_\_\_\_\_

USGS 1:24,000 Map(s) : Map Name/Date of Latest Revision (use supplement sheet if necessary): \_\_\_\_\_

## Description of Survey Area

Dates for Fieldwork: Start \_\_\_\_/\_\_\_\_/\_\_\_\_ End \_\_\_\_/\_\_\_\_/\_\_\_\_ Total Area Surveyed (fill in one) \_\_\_\_\_ hectares \_\_\_\_\_ acres

Number of Distinct Tracts or Areas Surveyed \_\_\_\_\_

If Corridor (fill in one for each): Width \_\_\_\_\_ meters \_\_\_\_\_ feet Length \_\_\_\_\_ kilometers \_\_\_\_\_ miles

## Research and Field Methods

Types of Survey (check all that apply): ☐ archaeological ☐ architectural ☐ historical/archival ☐ underwater ☐ other: \_\_\_\_\_

Preliminary Methods (✓ Check as many as apply to the project as a whole.)

- |   |   |  |  |
|---|---|--|--|
| <input type="checkbox"/> Florida Archives (Gray Building)       | <input type="checkbox"/> library research- <i>local public</i>        | <input type="checkbox"/> local property or tax records | <input type="checkbox"/> other historic maps |
| <input type="checkbox"/> Florida Photo Archives (Gray Building) | <input type="checkbox"/> library-special collection - <i>nonlocal</i> | <input type="checkbox"/> newspaper files               | <input type="checkbox"/> soils maps or data  |
| <input type="checkbox"/> Site File property search              | <input type="checkbox"/> Public Lands Survey (maps at DEP)            | <input type="checkbox"/> literature search             | <input type="checkbox"/> windshield survey   |
| <input type="checkbox"/> Site File survey search                | <input type="checkbox"/> local informant(s)                           | <input type="checkbox"/> Sanborn Insurance maps        | <input type="checkbox"/> aerial photography  |
| <input type="checkbox"/> other (describe): _____                |   |  |  |

Archaeological Methods (✓ Check as many as apply to the project as a whole.)

☐ Check here if **NO** archaeological methods were used.

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> surface collection, controlled           | <input type="checkbox"/> other screen shovel test (size: _____) | <input type="checkbox"/> block excavation (at least 2x2 M) |
| <input type="checkbox"/> surface collection, <u>un</u> controlled | <input type="checkbox"/> water screen (finest size: _____)      | <input type="checkbox"/> soil resistivity                  |
| <input type="checkbox"/> shovel test-1/4" screen                  | <input type="checkbox"/> posthole tests                         | <input type="checkbox"/> magnetometer                      |
| <input type="checkbox"/> shovel test-1/8" screen                  | <input type="checkbox"/> auger (size: _____)                    | <input type="checkbox"/> side scan sonar                   |
| <input type="checkbox"/> shovel test 1/16" screen                 | <input type="checkbox"/> coring                                 | <input type="checkbox"/> unknown                           |
| <input type="checkbox"/> shovel test-unscreened                   | <input type="checkbox"/> test excavation (at least 1x2 M)       |  |
| <input type="checkbox"/> other (describe): _____                  |   |  |

Historical/Architectural Methods (✓ Check as many as apply to the project as a whole.)

☐ Check here if **NO** historical/architectural methods were used.

- |  |   |   |   |
|--|---|---|---|
| <input type="checkbox"/> building permits        | <input type="checkbox"/> demolition permits       | <input type="checkbox"/> neighbor interview | <input type="checkbox"/> subdivision maps |
| <input type="checkbox"/> commercial permits      | <input type="checkbox"/> exposed ground inspected | <input type="checkbox"/> occupant interview | <input type="checkbox"/> tax records      |
| <input type="checkbox"/> interior documentation  | <input type="checkbox"/> local property records   | <input type="checkbox"/> occupation permits | <input type="checkbox"/> unknown          |
| <input type="checkbox"/> other (describe): _____ |   |   |   |

Scope/Intensity/Procedures \_\_\_\_\_

## Survey Results (cultural resources recorded)

Site Significance Evaluated? ☐ Yes ☐ No If Yes, circle NR-eligible/significant site numbers below.

Site Counts: Previously Recorded Sites \_\_\_\_\_ Newly Recorded Sites \_\_\_\_\_

Previously Recorded Site #'s with Site File Update Forms (List site #'s without "8." Attach supplementary pages if necessary) \_\_\_\_\_

Newly Recorded Site #'s (Are you sure all are originals and not updates? Identify methods used to check for updates, i.e., researched Site File records.

List site #'s without "8." Attach supplementary pages if necessary.) \_\_\_\_\_

Site Form Used: ☐ Site File Paper Form ☐ SmartForm II Electronic Recording Form**REQUIRED: ATTACH PLOT OF SURVEY AREA ON PHOTOCOPIES OF USGS 1:24,000 MAP(S)**

## DO NOT USE

## SITE FILE USE ONLY

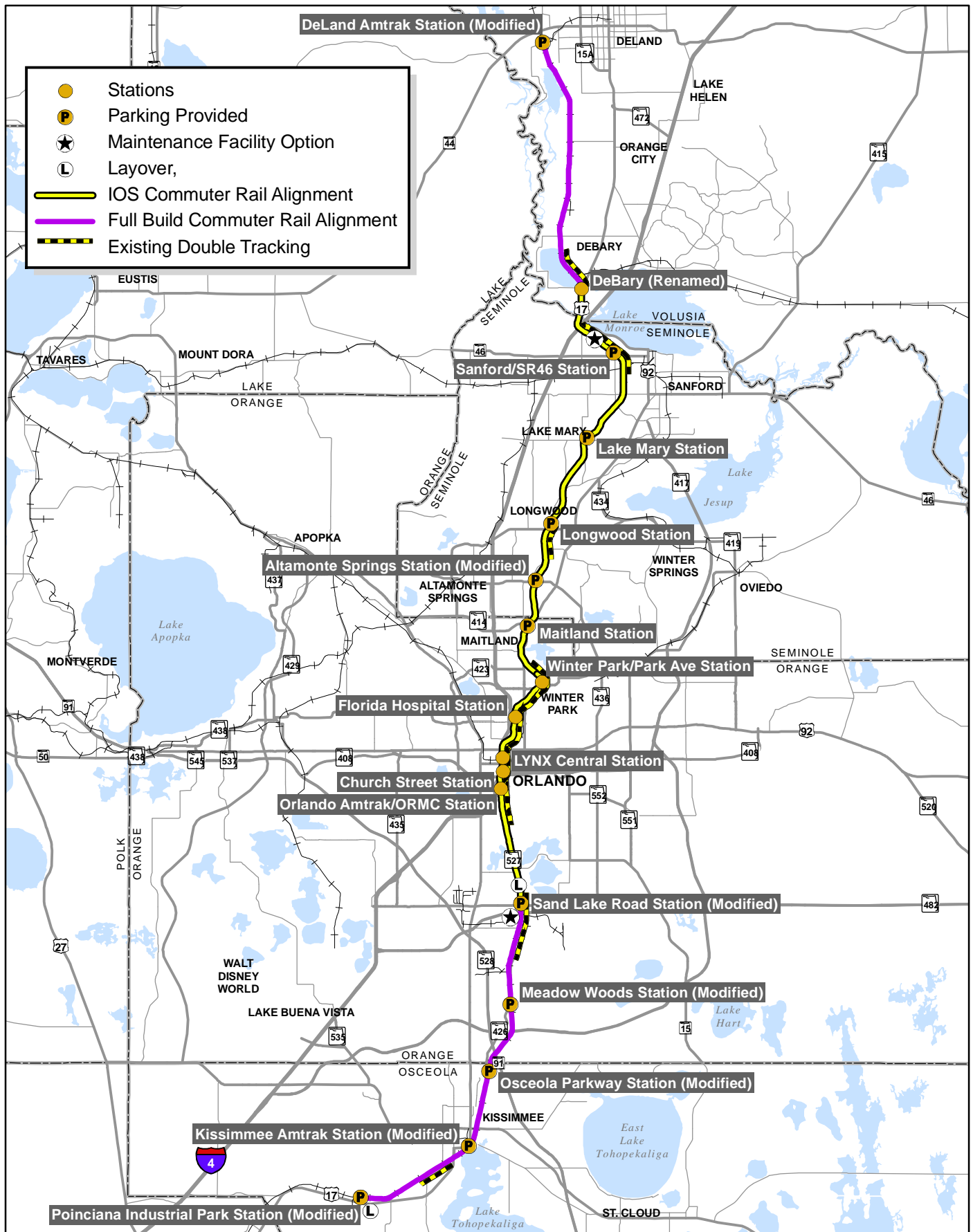
## DO NOT USE

## BAR Related

- |                               |                                       |
|-------------------------------|---------------------------------------|
| <input type="checkbox"/> 872  | <input type="checkbox"/> 1A32 # _____ |
| <input type="checkbox"/> CARL | <input type="checkbox"/> UW           |

## BHP Related

- |  |
|--|
| <input type="checkbox"/> State Historic Preservation Grant |
| <input type="checkbox"/> Compliance Review: CRAT # _____   |









FLORIDA DEPARTMENT OF STATE

**Kurt S. Browning**

Secretary of State

DIVISION OF HISTORICAL RESOURCES

Mr. William Walsh  
Florida Department of Transportation  
133 South Semoran Boulevard  
Orlando, Florida 32807

January 26, 2010

RE: DHR Project File No.: 2009-7614  
Financial Project ID No.: 412994-2-22-01  
Project: *Cultural Resources Assessment Survey Technical Memorandum for Seven  
Modified Station Sites*  
County: Orange, Osceola, Seminole, and Volusia Counties

Dear Mr. Walsh:

Our office received and reviewed the above referenced project in accordance with Section 106 of the National Historic Preservation Act of 1966 as amended, 36 CFR Part 800: Protection of Historic Properties, and Chapter 267, Florida Statutes. It is the responsibility of the State Historic Preservation Officer to advise and assist, as appropriate, Federal and State agencies in carrying out their historic preservation responsibilities; to cooperate with agencies to ensure that historic properties are taken into consideration at all levels of planning and development; and to consult with the appropriate agencies in accordance with the National Historic Preservation Act of 1966 as amended, on undertakings that may affect historic properties.

The project includes the construction of the Central Florida Commuter Rail Transit project along a 60.8 mile-long portion of the existing CSXT railroad corridor that extends through Orange, Osceola, Seminole, and Volusia Counties. The submitted cultural resources study evaluated seven associated station sites/locations (Sand Lake, Meadow Woods, Osceola Parkway, Poinciana Park, DeLand, Altamonte Springs, and Kissimmee). Research and fieldwork conducted for the project noted that there were no archaeological sites or historic structures within the area of potential effects (APE) for Sand Lake, Meadow Woods, Osceola Parkway and Poinciana Park station sites. However, historic resources were identified within the APE for the proposed station sites at DeLand, Altamonte Springs, and Kissimmee. These resources included:

- Three previously-recorded historic structures (8VO7605, 8VO7606, and 8VO7607) that were identified within the APE for the proposed DeLand Station site. These resources were determined to be ineligible for listing in the National Register of Historic Places (NRHP) by this office. The survey also documented one newly-recorded site, 8VO9215. The report site recommended that the site be considered ineligible for listing in the NRHP due to lack of architectural and historic import.

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

☐ Director's Office  
850.245.6300 • FAX: 245.6436

☐ Archaeological Research  
850.245.6444 • FAX: 245.6452

☐ Historic Preservation  
850.245.6333 • FAX: 245.6437

- One previously-recorded historic structure (8SE2036) within the APE for the proposed Altamonte Springs Station site that was determined to be ineligible for listing in the NRHP by this office; and
- Four previously-recorded historic structures (8OS449, 8OS453, 8OS1950, and 8OS1954) and two newly-identified historic structures (8OS2570 and 8OS2590) within the proposed Kissimmee Amtrak Station site. The report also documented one resource group, the Cape Breeze Historic District (8OS2662), within the Kissimmee Amtrak Station APE. The six individually-documented resources (8OS449, 8OS453, 8OS1950, 8OS1954, 8OS2570, and 8OS2590) are located within the boundaries of the Cape Breeze Historic District. Although the Cape Breeze Historic District was initially identified and recommended as NRHP-eligible by a cultural resources survey report in 2004, the current survey recommended it as ineligible for listing in the NRHP.

The survey report concluded that there were no historic properties within the project's APE and therefore, that the proposed activities would have *no effect* on significant historic resources. The Florida Department of Transportation (FDOT) further determined that the project would have *no adverse effects* on the nearby NRHP-eligible DeLand Railroad Station (8VO2653) and Kissimmee ACL Railroad Station (8OS415) based on commitments to avoid or minimize effects as previously outlined in a letter dated March 9, 2009.

After a review of the submitted report, this office concurs with the recommendations regarding the station sites at Sand Lake, Meadow Woods, Osceola Parkway, Poinciana Park, and Altamonte Springs and finds that the proposed work will result in *no effects* [as per 36 C.F.R. Part 800, § 800.4(d)(1)] at these locations. This office also concurs with the Florida Department of Transportation's recommendation that the proposed work will have *no adverse effect* [as per 36 C.F.R. Part 800, § 800.5(b)] on the nearby NRHP-eligible DeLand Railroad Station (8VO2653) and Kissimmee ACL Railroad Station (8OS415) contingent upon previous commitments to avoid or minimize effects and FDOT's commitment to continue coordination with our office.

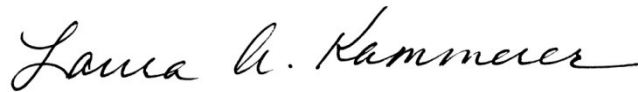
In regards to the status of the Cape Breeze Historic District (8OS2662), this office finds that there is insufficient information to determine the resource's significance. However, this office concurs with the report's recommendation that the project will have *no effects* [as per 36 C.F.R. Part 800, § 800.4(d)(1)] on this resource group due to the nature and location of the proposed project activities.

Please note that a review of Florida Master Site Files and records maintained by the Volusia County Property Appraiser indicated that there are two unrecorded, potentially-significant historic resource groupings near the proposed station site at DeLand. Specifically, Volusia County Parcel ID #s 13172904000060 and 40172903010030, which once served as the former Circus Winter Headquarters (Old Volusia Fairgrounds), are located on Old New York Road directly north of the project area. This site contains a number of historic-age buildings,

including 8VO7680, which has been identified as NRHP eligible by this office. Similarly, Volusia County Parcel ID #40172903020010, which is located northwest of the DeLand Station Site, once served as the Old County Prison Farm. The parcel contains 13 buildings, 6 of which are historic-age according to the Volusia County Property Appraiser. Three of the resources located within this parcel (8VO2650, 8VO2657, and 8VO3087) are Art Moderne Style masonry buildings dating from circa 1930-1940. A large portion of this parcel was initially identified for use by the current project. However, subsequent correspondence received from FDOT staff indicated that the parcel will no longer be included as part of the DeLand station modifications. Therefore, if the final site location for this project results in the use of any portion of Volusia County Parcel ID #s 13172904000060, 40172903010030, or 40172903020010 by the FDOT, this office will require that the historic-age resources within the boundaries of the landholding be documented and their significance assessed prior to any groundbreaking activities. If these resources are determined to be significant, either individually or as a group, then this office will also require a discussion of the affects if any, that the project will have on the resource(s).

If there are any questions concerning our comments or recommendations, please contact Jennifer Ross, Architectural Historian, by phone at 850.245.6333, or via electronic mail at [jross@dos.state.fl.us](mailto:jross@dos.state.fl.us).

Sincerely,

A handwritten signature in cursive script that reads "Laura A. Kammerer".

Laura A. Kammerer  
Deputy State Historic Preservation Officer  
For Review and Compliance

PC: Sandra Gutierrez, FDOT Urban Office, Orlando  
Roy Jackson, FDOT CEMO, Tallahassee/#5500

## **Appendix D**

**D-1**    Endangered Species Biological Assessment (ESBA)

**D-2**    US Fish and Wildlife Service - Letter of Concurrence









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Feet

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Appendix C-1 (Revised)

Location of Observed Protected Species and Proposed Project Impacts

Study Area

Limit of Proposed Grading

Stream / Ditch

Culvert

Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands

Native Habitats

510

Habitat Code

S

Scrub Jay Area

O

Osprey Nest

B

Black Bear

GT

Gopher Tortoise Burrow(s)

Central Florida  
Commuter Rail Transit

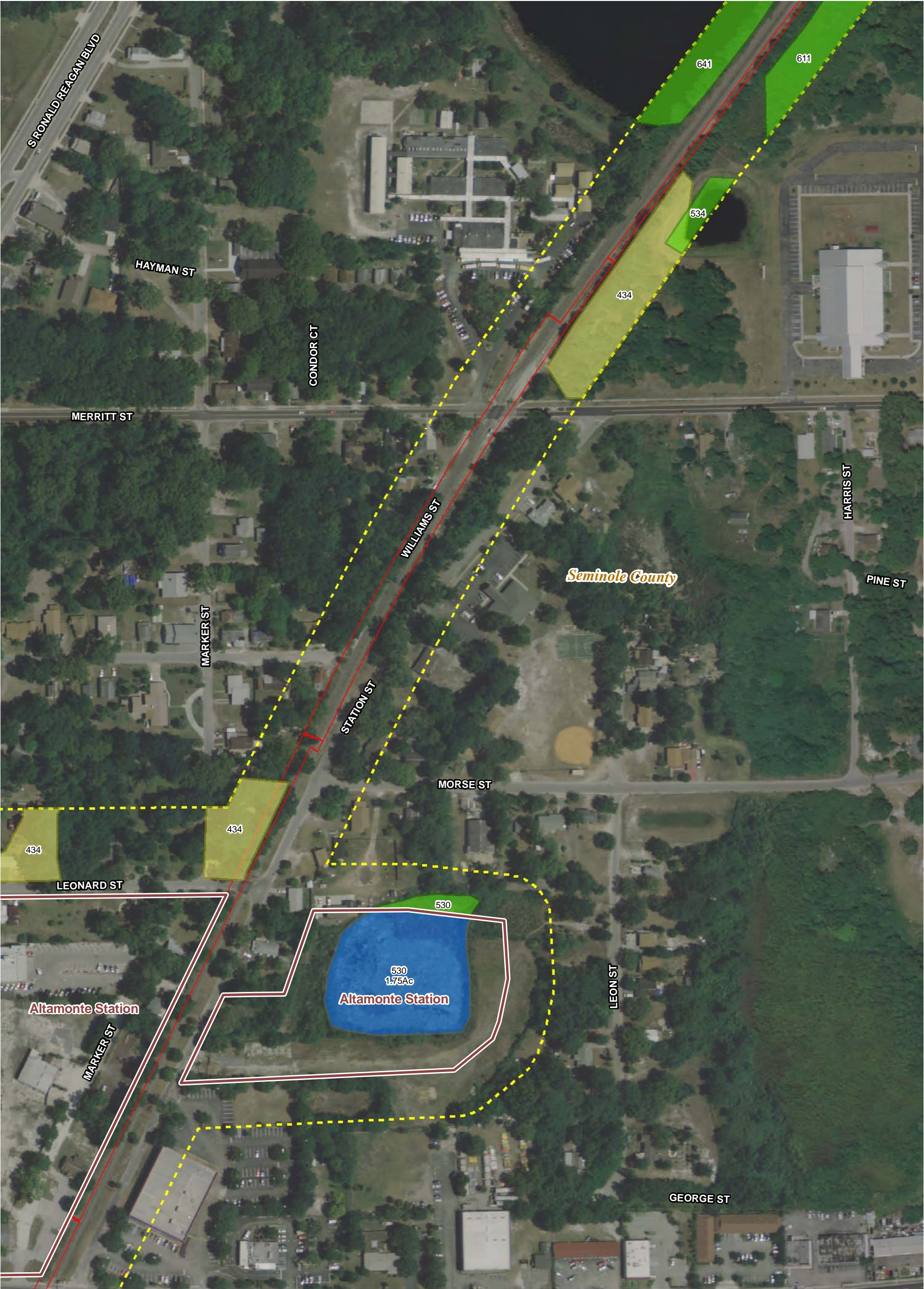
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DEPARTMENT OF TRANSPORTATION

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Feet

N

Appendix C-55 (Revised)

Location of Observed Protected Species and Proposed Project Impacts

Study Area

Limit of Proposed Grading

Stream / Ditch

Culvert

Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands

Native Habitats

510

Habitat Code

S

Scrub Jay Area

O

Osprey Nest

B

Black Bear

GT

Gopher Tortoise Burrow(s)

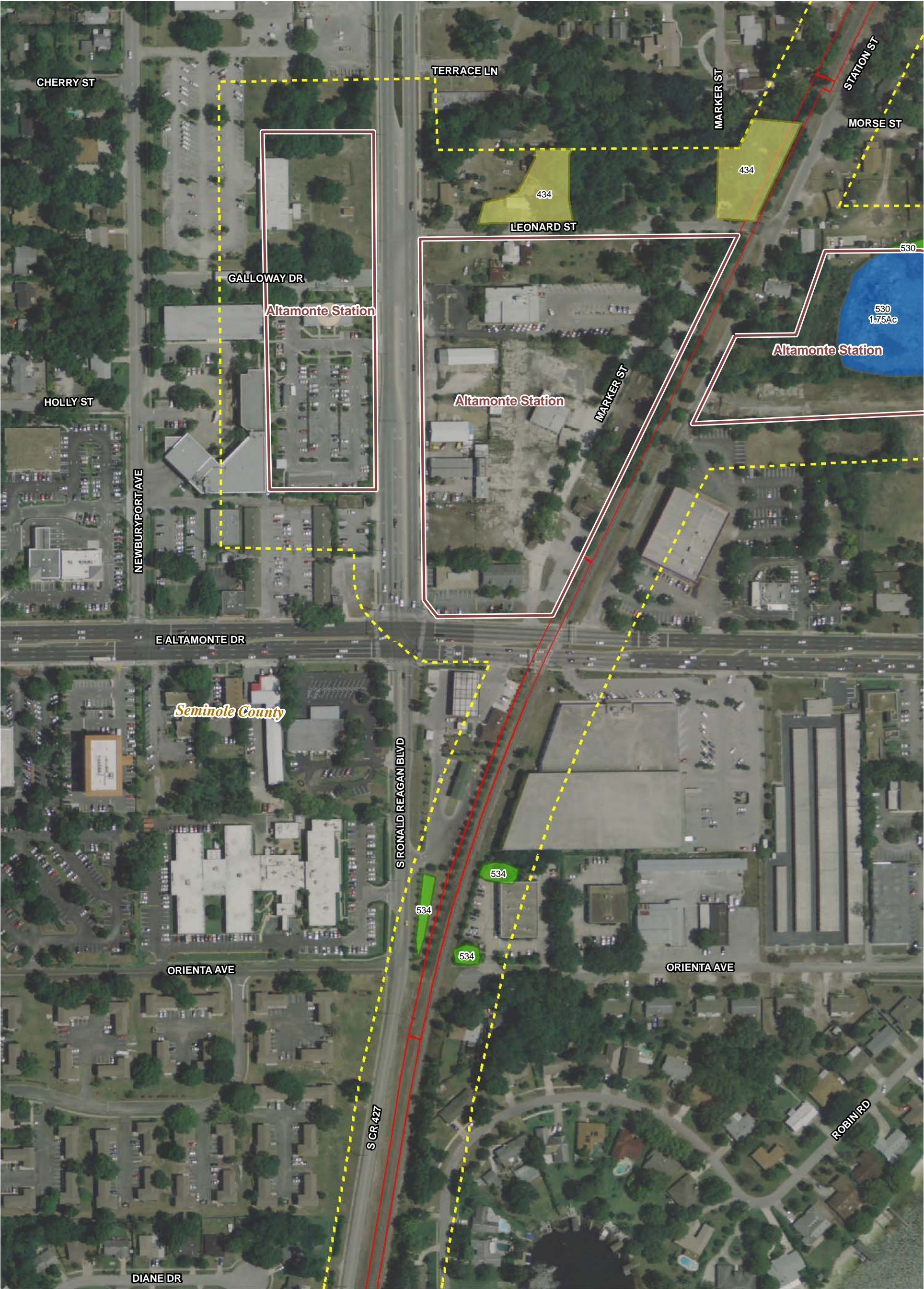
Central Florida  
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0100200400

Feet

N

Appendix C-56 (Revised)

Location of Observed Protected Species and Proposed Project Impacts

Study Area

Limit of Proposed Grading

Stream / Ditch

Culvert

Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands

Native Habitats

510

Habitat Code

S

Scrub Jay Area

O

Osprey Nest

B

Black Bear

GT

Gopher Tortoise Burrow(s)

Central Florida  
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Feet

N

Appendix C-87 (Revised)

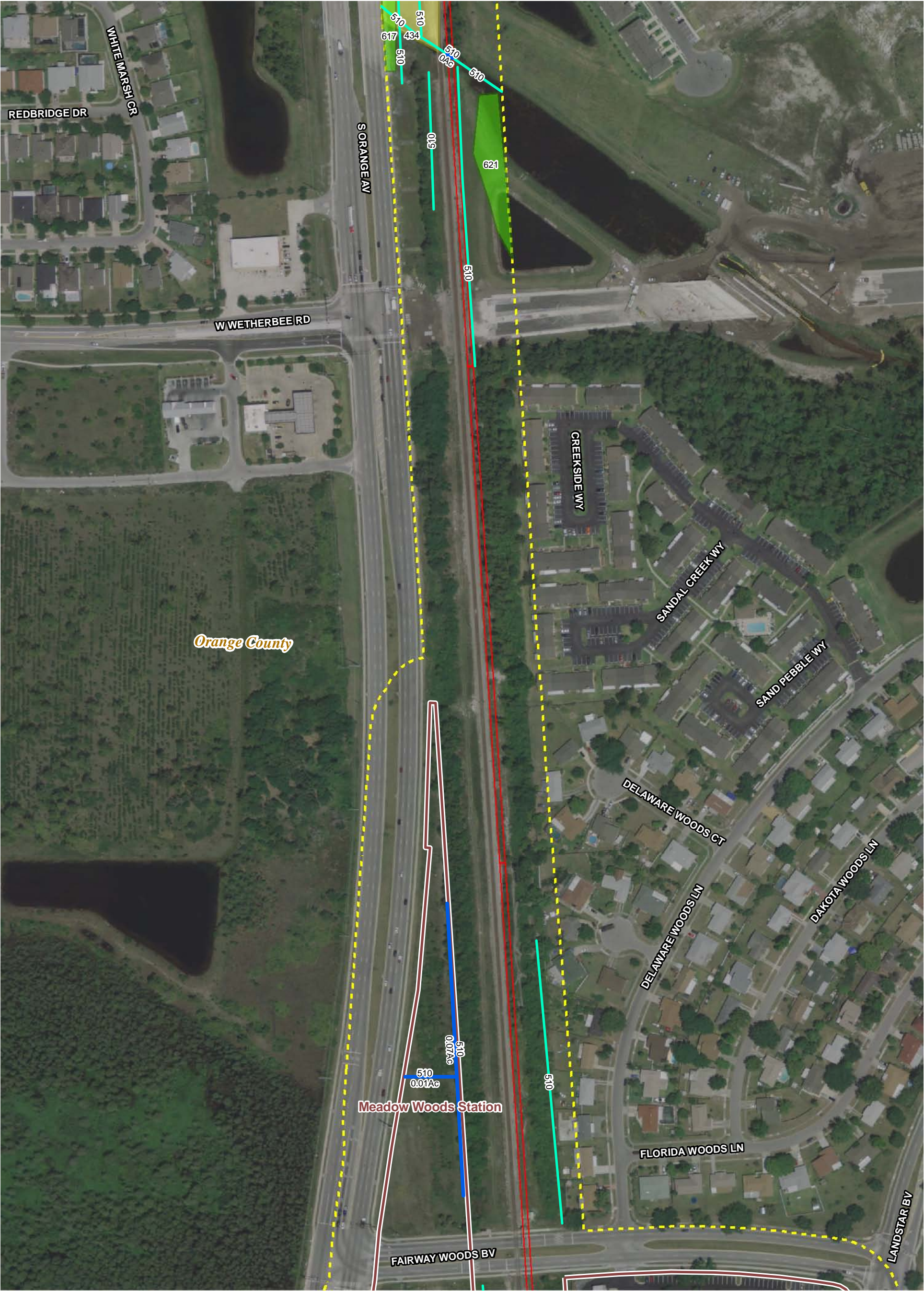
Location of Observed Protected Species and Proposed Project Impacts

Central Florida  
Commuter Rail Transit  
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STATE OF FLORIDA  
DEPARTMENT OF TRANSPORTATION

Study Area	Culvert	Wetlands	Scrub Jay Area	Gopher Tortoise Burrow(s)
Limit of Proposed Grading	Stream / Ditch Impacted (Area in Acres)	Native Habitats	Osprey Nest	
Stream / Ditch	Wetlands Impacted (Area in Acres)	Habitat Code	Black Bear	





0100200400

Feet

N

Appendix C-95 (Revised)

Location of Observed Protected Species and Proposed Project Impacts

Study Area

Limit of Proposed Grading

Stream / Ditch

Culvert

Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands

Native Habitats

510

Habitat Code

S

Scrub Jay Area

O

Osprey Nest

B

Black Bear

GT

Gopher Tortoise Burrow(s)

Central Florida  
Commuter Rail Transit

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION





0100200400

Feet

N

Appendix C-96 (Revised)

Location of Observed Protected Species and Proposed Project Impacts

Study Area

Limit of Proposed Grading

Stream / Ditch

Culvert

Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands

Native Habitats

510

Habitat Code

S

Scrub Jay Area

O

Osprey Nest

B

Black Bear

GT

Gopher Tortoise Burrow(s)

Central Florida  
Commuter Rail Transit



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DEPARTMENT OF TRANSPORTATION





0100200400

Feet

N

Appendix C-97 (Revised)

Location of Observed Protected Species and Proposed Project Impacts

Study Area

Limit of Proposed Grading

Stream / Ditch

Culvert

Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands

Native Habitats

510

Habitat Code

S

Scrub Jay Area

O

Osprey Nest

B

Black Bear

GT

Gopher Tortoise Burrow(s)

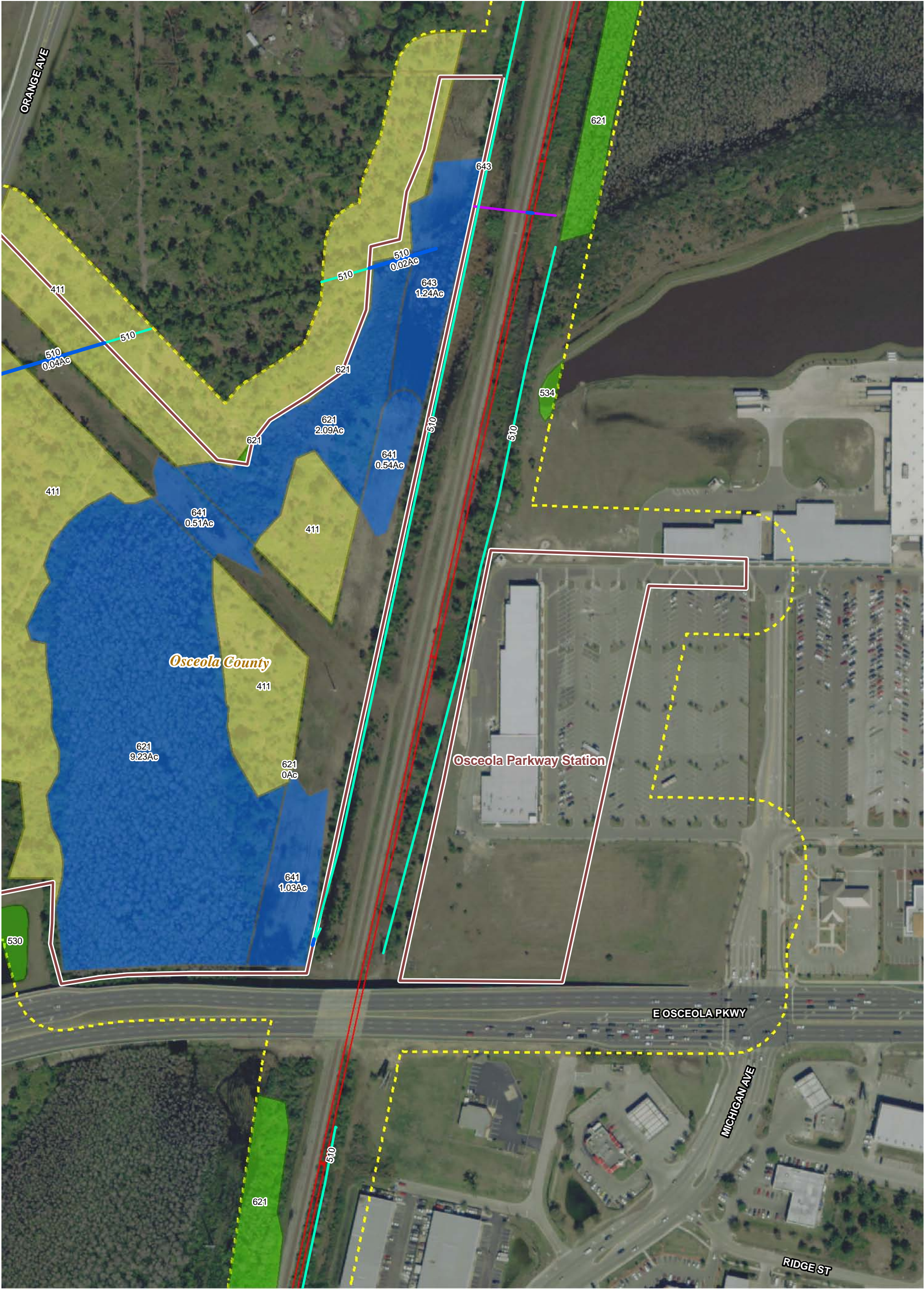
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Feet

N

Appendix C-102 (Revised)

Location of Observed Protected Species and Proposed Project Impacts

Study Area

Limit of Proposed Grading

Stream / Ditch

Culvert

Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands

Native Habitats

510

Habitat Code

S

Scrub Jay Area

O

Osprey Nest


B

Black Bear

GT

Gopher Tortoise Burrow(s)

Central Florida  
Commuter Rail Transit



...to take you places

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION







0100200400

Feet

N

Appendix C- 102-A(Revised)

**Location of Observed Protected Species and Proposed Project Impacts**



Study Area

Limit of Proposed Grading

Stream / Ditch

Culvert

Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands

Native Habitats

Habitat Code

S

O

B

Scrub Jay Area

Osprey Nest

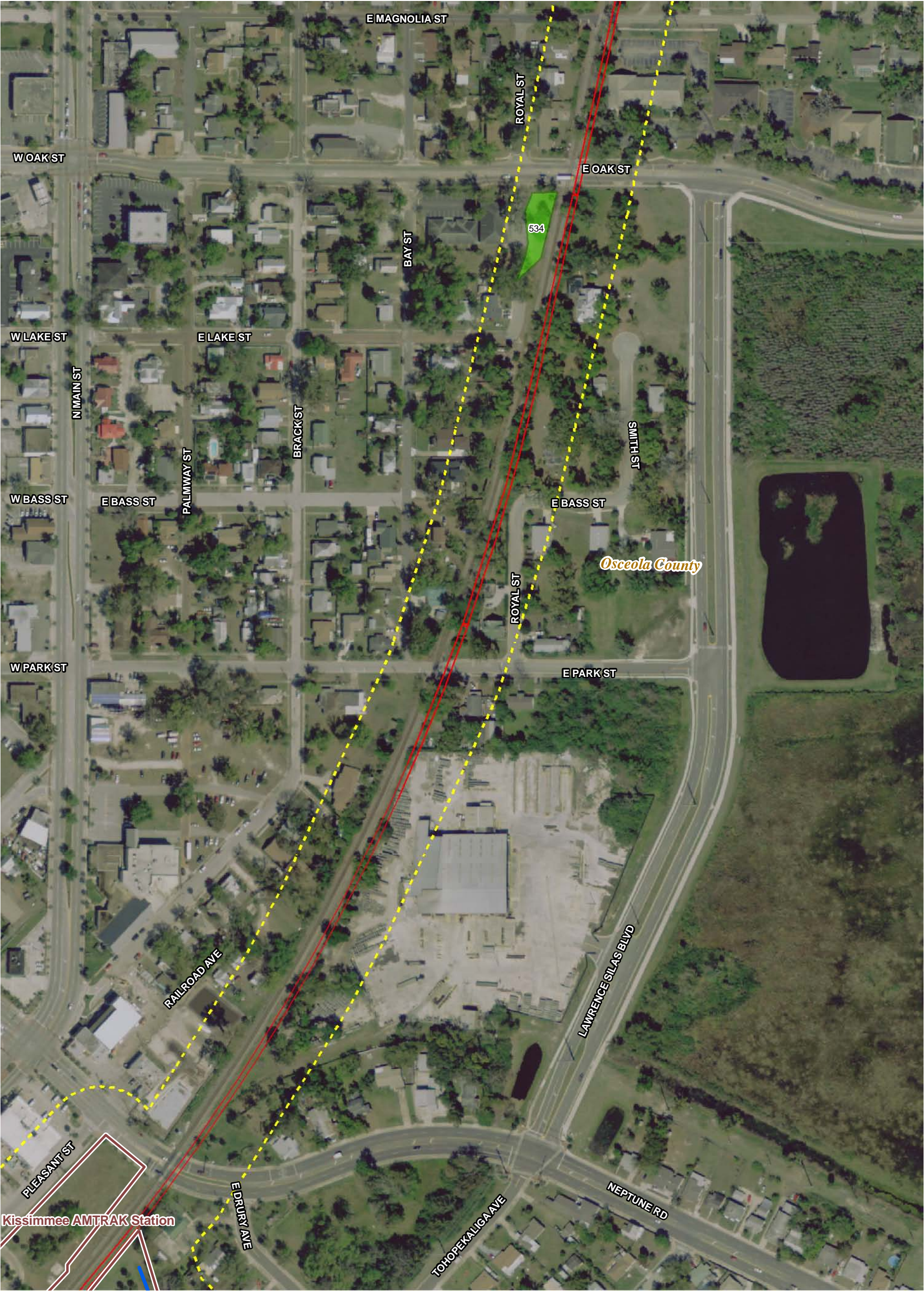
Black Bear

GT

Gopher Tortoise Burrow(s)

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Feet

N

Appendix C-108 (Revised)

Location of Observed Protected Species and Proposed Project Impacts

Study Area

Limit of Proposed Grading

Stream / Ditch

Culvert

Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands

Native Habitats

510

Habitat Code

S

Scrub Jay Area

O

Osprey Nest

B

Black Bear

GT

Gopher Tortoise Burrow(s)

Central Florida  
Commuter Rail Transit









0100200400

Feet

N

Appendix C- 122 (Revised)

Location of Observed Protected Species and Proposed Project Impacts

Study Area

Limit of Proposed Grading

Stream / Ditch

Culvert

Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands

Native Habitats

510

Habitat Code

S

Scrub Jay Area

O

Osprey Nest


B

Black Bear

GT

Gopher Tortoise Burrow(s)

Central Florida  
Commuter Rail Transit

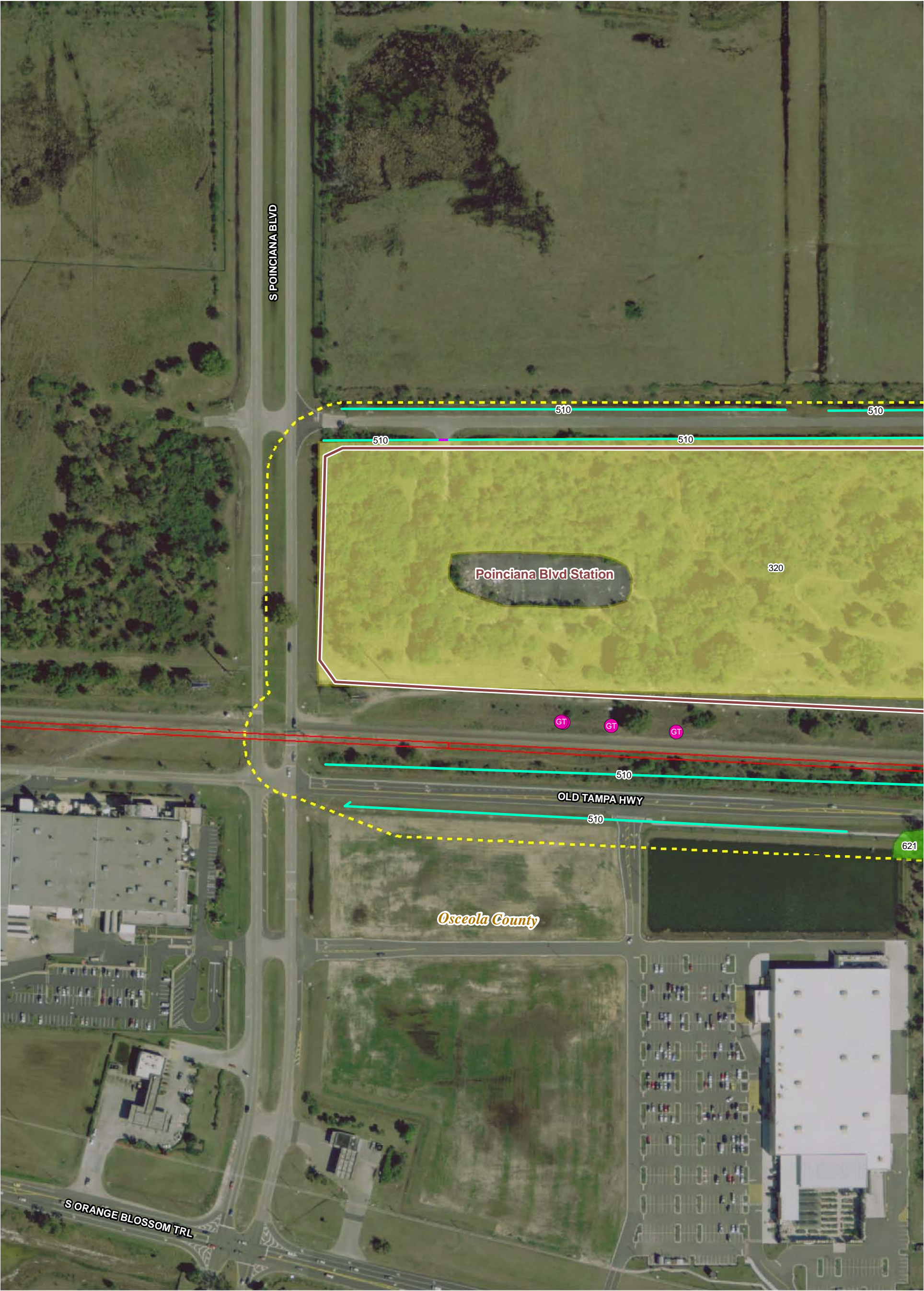


...take you places

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION





0100200400

Feet

N

Appendix C- 123 (Revised)

**Location of Observed Protected Species and Proposed Project Impacts**

Study Area

Limit of Proposed Grading

Stream / Ditch

Culvert

Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands

Native Habitats

510

Habitat Code

S

Scrub Jay Area

O

Osprey Nest

B

Black Bear

GT

Gopher Tortoise Burrow(s)

Central Florida

Commuter Rail Transit

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION

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# United States Department of the Interior

## U. S. FISH AND WILDLIFE SERVICE

7915 BAYMEADOWS WAY, SUITE 200  
JACKSONVILLE, FLORIDA 32256-7517

IN REPLY REFER TO:

FWS Log. No. 41910-2007-I-0291

December 29, 2009

Bob Gleason  
Environmental Administrator  
Florida Department of Transportation  
719 South Woodland Boulevard, MS 501  
DeLand, FL 32720

Dear Mr. Gleason:

Our office has reviewed the second *Addendum to the Endangered Species Biological Assessment* (December 15, 2009) for the proposed Central Florida Commuter Rail Transit (CFCRT) project. The proposed project is to construct the CFCRT along the existing CSXT active freight and passenger railroad corridor from DeLand Amtrak Station to Poinciana Industrial Park, a distance of 60.8 miles. The proposed action will occur in portions of Volusia, Seminole, Orange, and Osceola Counties.

We submit the following comments in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*); the Marine Mammal Protection Act of 1972 (MMPA), as amended (16 U.S.C. 1361 *et seq.*); and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*).

### **ENDANGERED SPECIES ACT/MARINE MAMMAL PROTECTION ACT**

The Service originally concurred with the Florida Department of Transportation's (Department) determination of effects to listed species on 21 February 2007. Consultation was reinitiated 17 July 2008 with the addition of two new commuter rail stations, Fort Florida Road Station and Maitland Station, along with reconfigured park and ride lots at Longwood Station; the DeBary/Saxon Boulevard Station was eliminated from the proposed action. The Service concurred with the Department's determination of effects for the modified proposed action on 8 September 2009. The latest reinitiation for consultation involves an additional 91.7 acres of impacts to the landscape at the following station sites: DeLand Amtrak Station; Altamonte Springs Station; Sand Lake Road Station; Meadow Woods Station; Osceola Parkway Station; Kissimmee Amtrak Station; and Poinciana Industrial Park Station.

Field surveys conducted in October and November of this year revealed no listed species within the boundaries surveyed. Wetland impacts will increase from the original consultation as well as the second consultation. The proposed mitigation measures, as outlined in the original *Endangered Species Biological Assessment*, remain unchanged and are still appropriate and valid. No revised or additional protection measures will be necessary to protect listed species as a result of the proposed scope changes.


Although this does not represent a biological opinion as described in section 7 of the Act, it does fulfill the requirements of the Act and no further action is required. Reinitiating consultation is required if new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this consultation; the agency action is subsequently modified in a manner that causes an effect to a listed species or critical habitat not considered in this consultation; or a new species is listed or critical habitat designated that may be affected by the action.

### **FISH AND WILDLIFE COORDINATION ACT**

The Service recommends that wetlands in the project area be delineated and evaluated by using a functional assessment analysis such as the Wetland Rapid Assessment Procedure (WRAP) or the Uniform Mitigation Assessment Method (UMAM). This will aid in the mitigation proposal to ensure that the wetland functions and values of the existing communities impacted will be documented and appropriate replacement is implemented in the forms of creation, restoration, enhancement, and/or preservation to achieve the "no net wetland loss" policy.

With the development and approval of a mitigation plan, coupled with the type and extent of the action, the proposed project will not significantly affect other fish and wildlife resources. If you have any questions regarding this response, please contact Mr. Todd Mecklenborg at (727) 820-3705.

Sincerely,

  
David L. Hankla  
Field Supervisor

cc: Ms. Tawny Olore, FDOT  
Randy Turner, USACE

## **Appendix E**

**E-1** Wetlands Evaluation Report (WER)










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Feet

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Appendix A-1 (Revised)

Location of Wetlands and Potential Wetland Impacts





Study Area

Limit of Proposed Grading

Stream / Ditch

Culvert

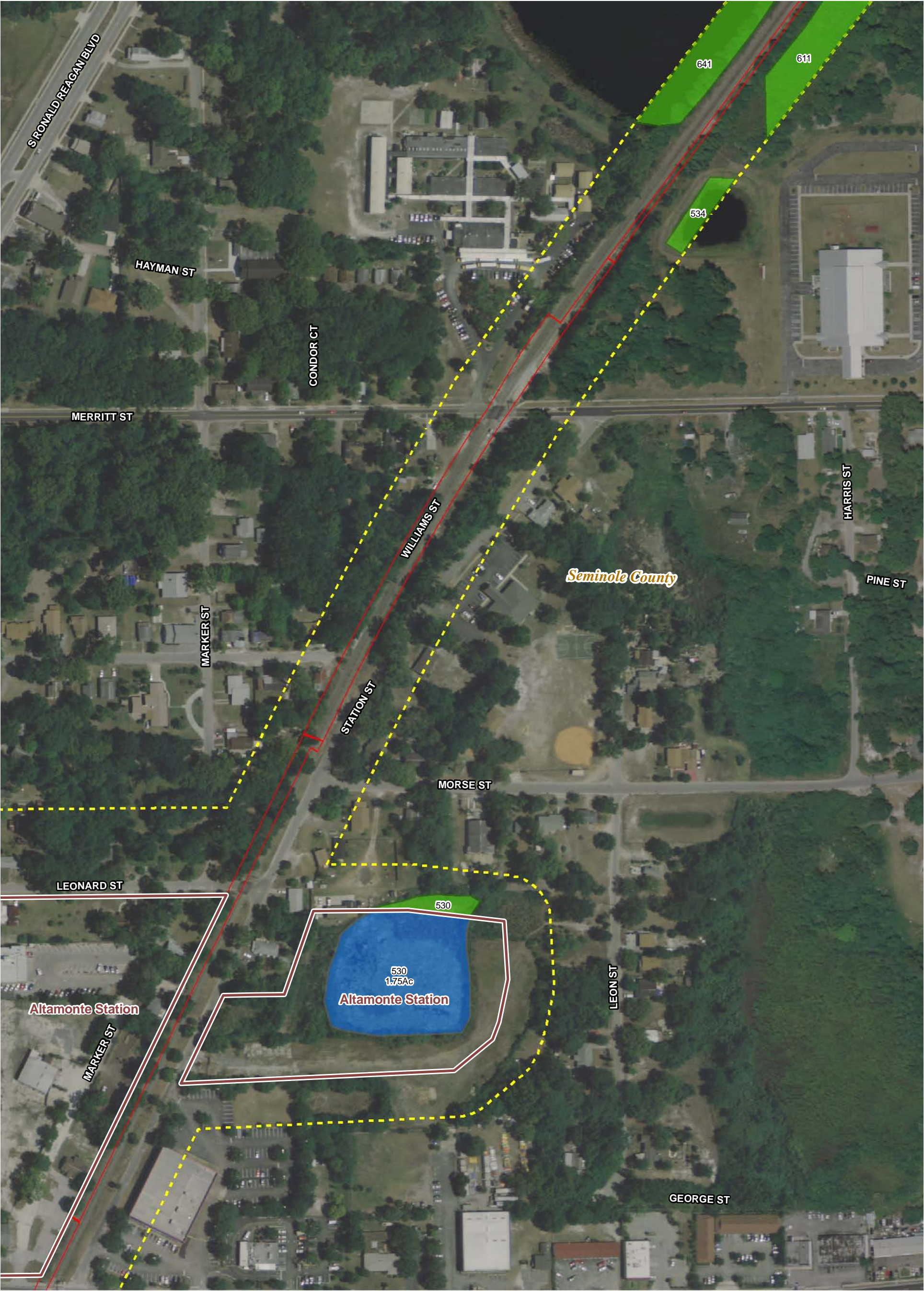
Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands

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Feet

N

Appendix A- 55 (Revised)

**Location of Wetlands and Potential Wetland Impacts**

Study Area

Limit of Proposed Grading

Stream / Ditch

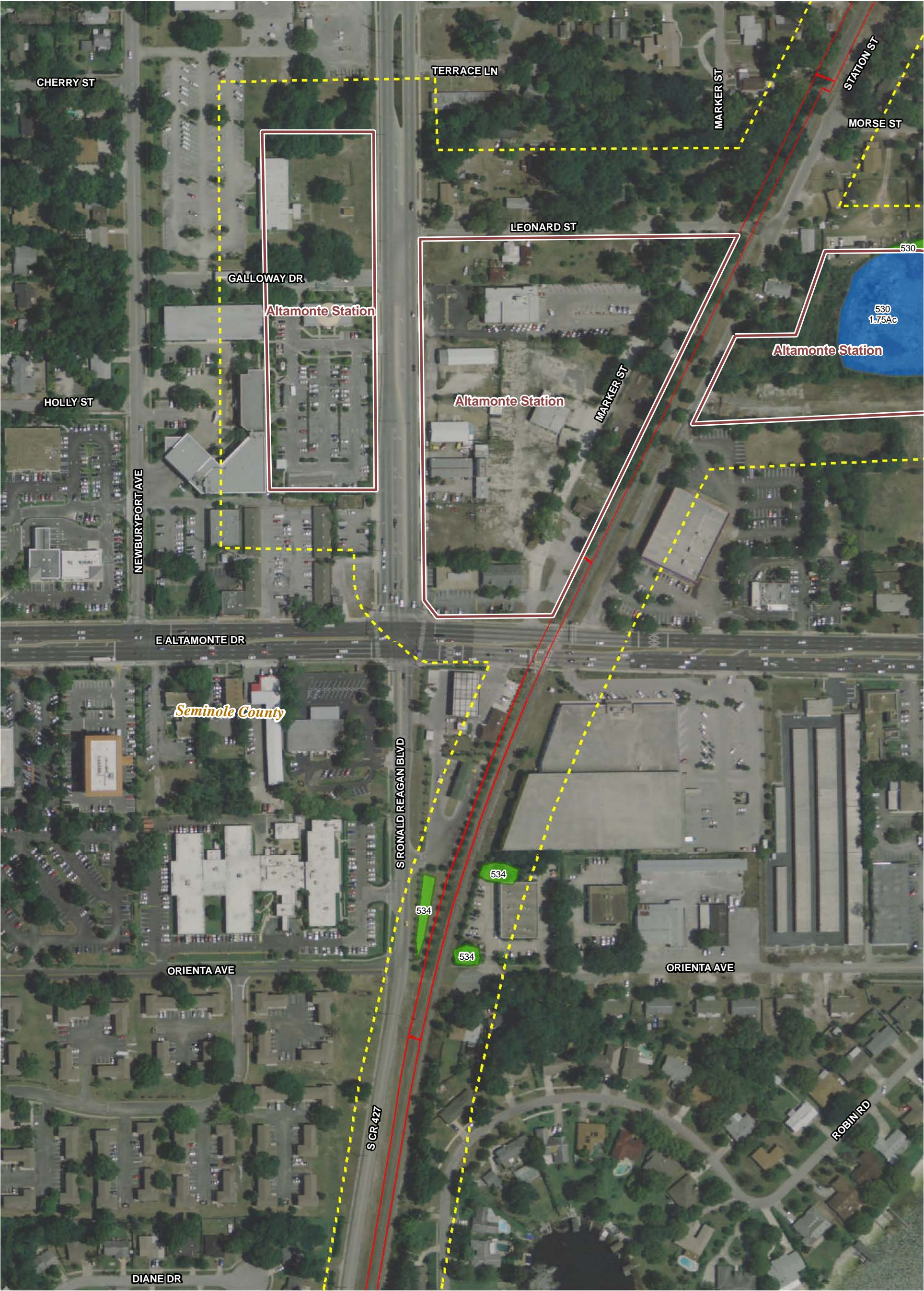
Culvert

Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands





0100200400

Feet

N

Appendix A- 56 (Revised)

**Location of Wetlands and Potential Wetland Impacts**

Study Area

Limit of Proposed Grading

Stream / Ditch

Culvert

Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands





0100200400

Feet

N

Appendix A- 86 (Revised)

Location of Wetlands and Potential Wetland Impacts

Study Area

Limit of Proposed Grading

Stream / Ditch

Culvert

Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands

Central Florida  
Commuter Rail Transit

take you places

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION

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






Feet

N

Appendix A- 87 (Revised)

Location of Wetlands and Potential Wetland Impacts



 Study Area	 Culvert	 Wetlands
 Limit of Proposed Grading	 Stream / Ditch Impacted (Area in Acres)	
 Stream / Ditch	 Wetlands Impacted (Area in Acres)	











0100200400








Feet

N

Appendix A- 96 (Revised)

**Location of Wetlands and Potential Wetland Impacts**



 Study Area	 Culvert	 Wetlands
 Limit of Proposed Grading	 Stream / Ditch Impacted (Area in Acres)	
 Stream / Ditch	 Wetlands Impacted (Area in Acres)	











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






Feet

N

Appendix A- 102 (Revised)

**Location of Wetlands and Potential Wetland Impacts**



 Study Area	 Culvert	 Wetlands
 Limit of Proposed Grading	 Stream / Ditch Impacted (Area in Acres)	
 Stream / Ditch	 Wetlands Impacted (Area in Acres)	







0100200400

Feet

N

Appendix A- 102-A(Revised)

**Location of Wetlands and Potential Wetland Impacts**



Study Area

Limit of Proposed Grading

Stream / Ditch

Culvert

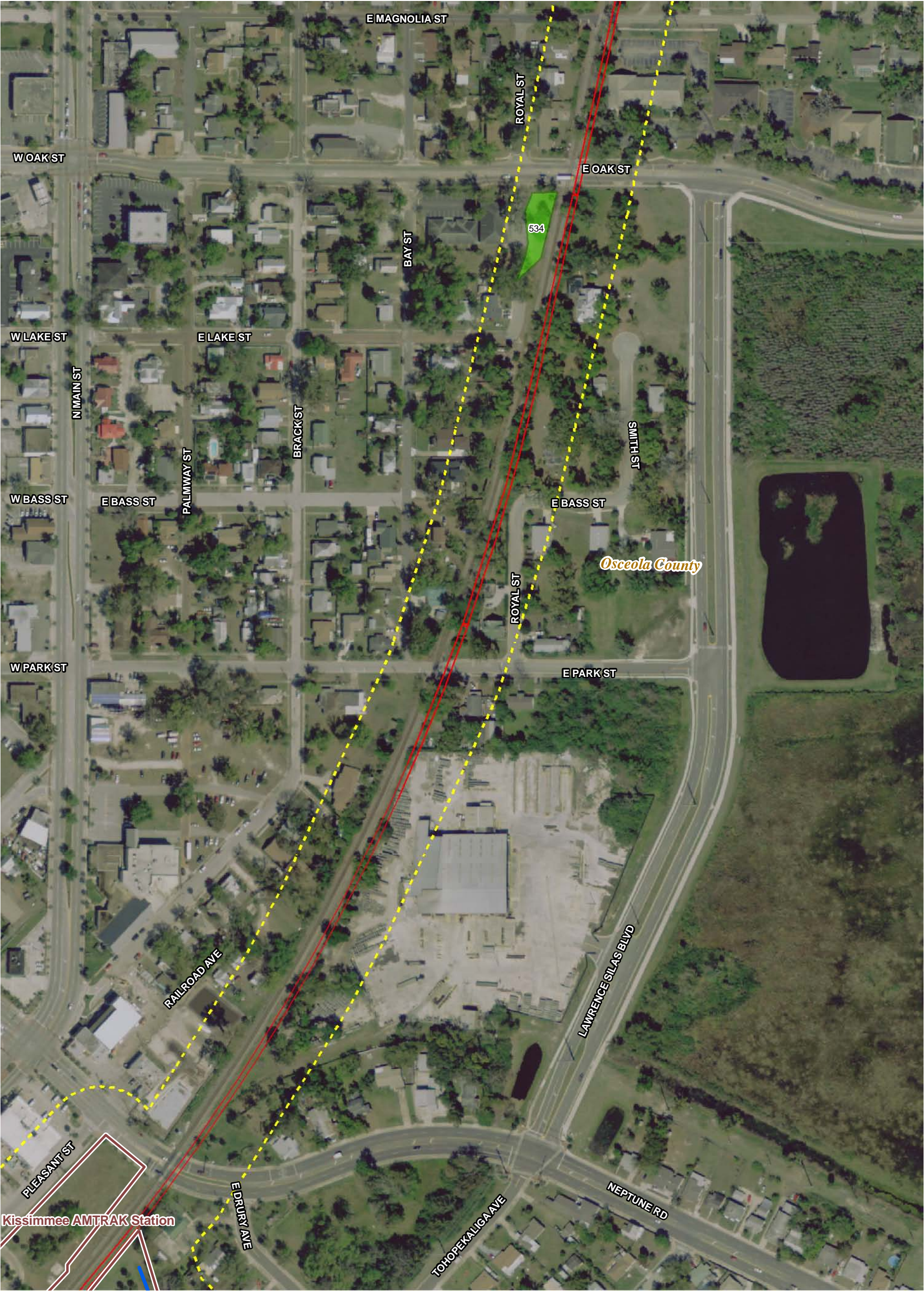
Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands

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Feet

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Appendix A- 108 (Revised)

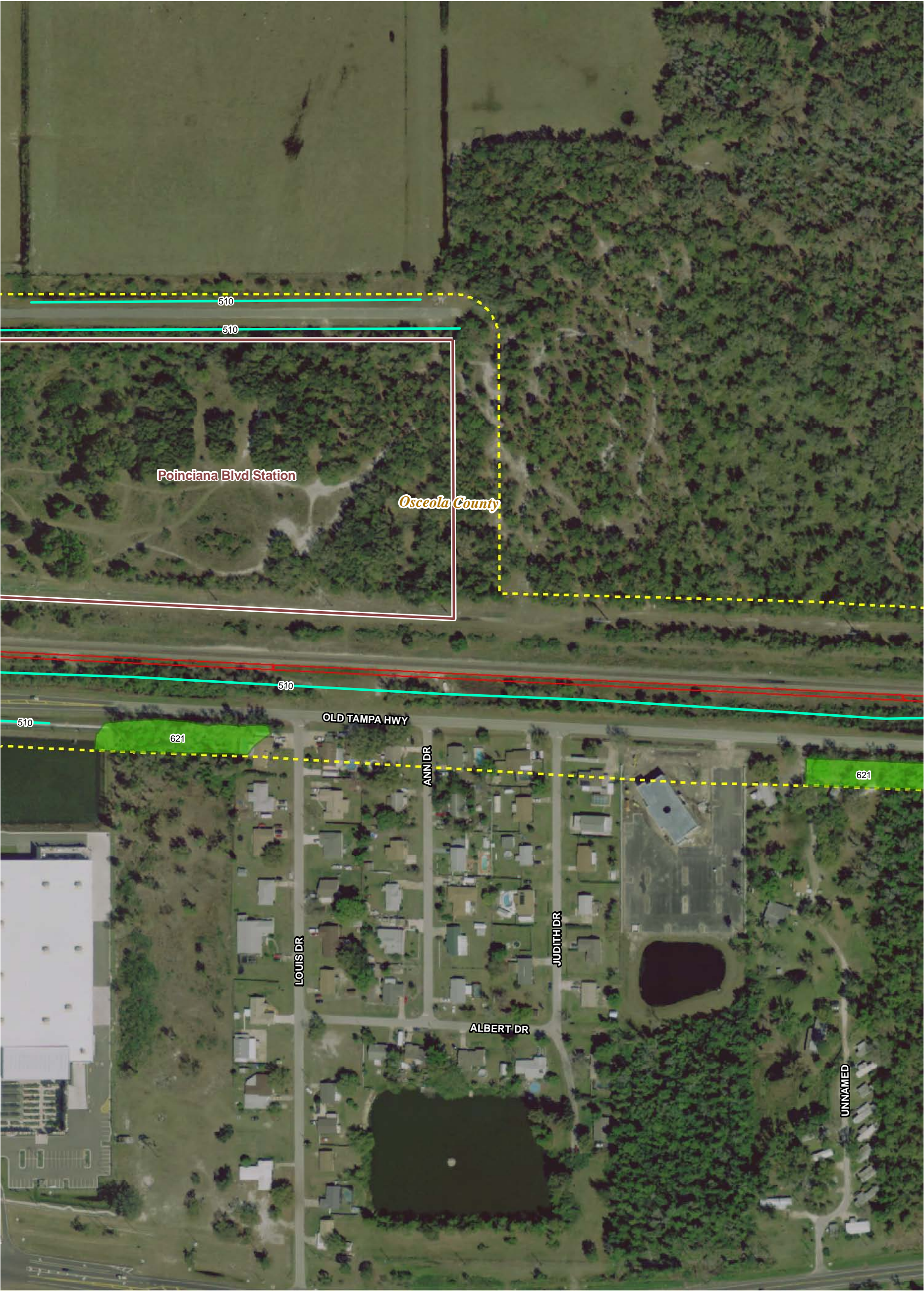
**Location of Wetlands and Potential Wetland Impacts**

Study Area	Culvert	Wetlands
Limit of Proposed Grading	Stream / Ditch Impacted (Area in Acres)	
Stream / Ditch	Wetlands Impacted (Area in Acres)	









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Feet

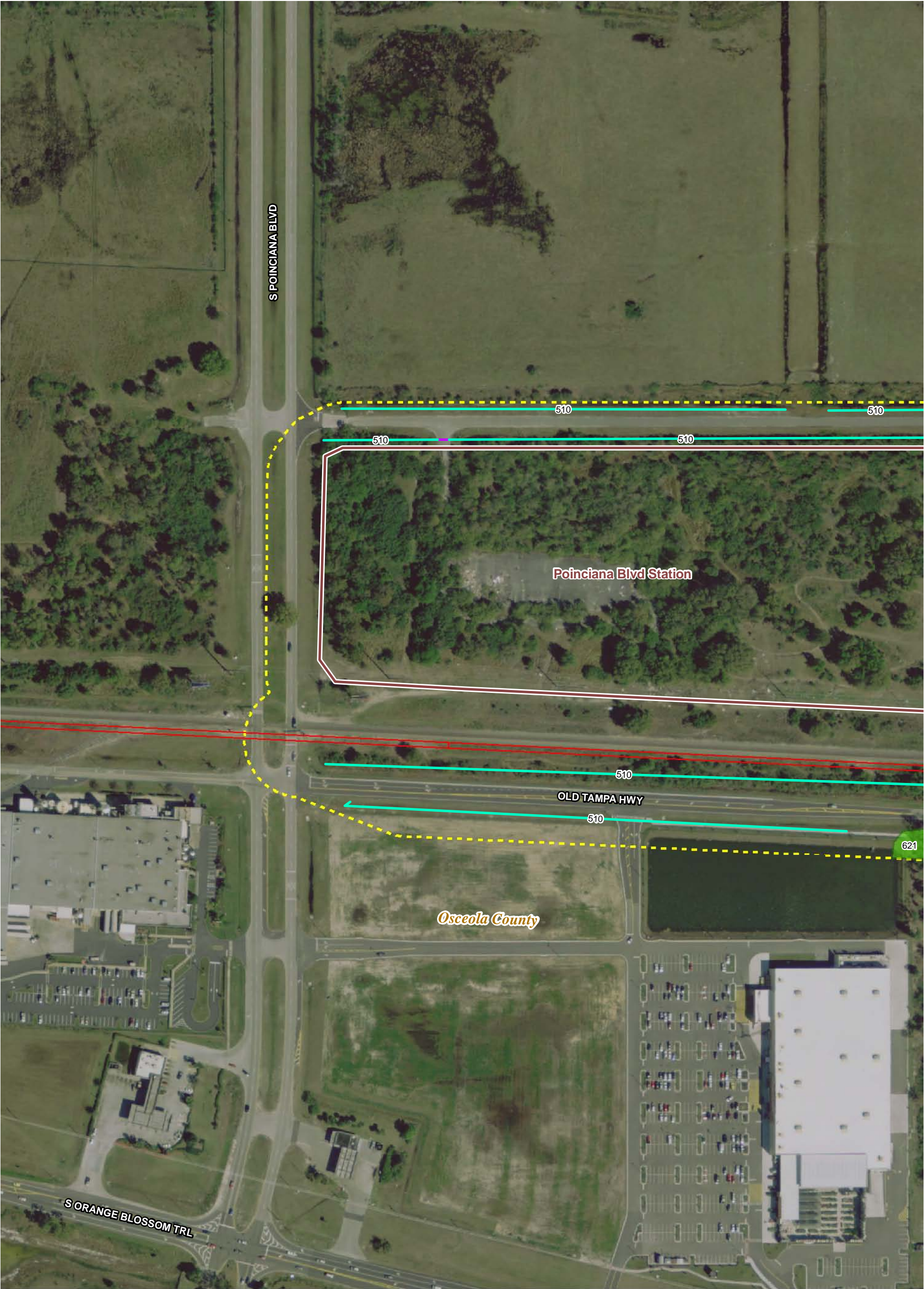
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Appendix A- 122 (Revised)

**Location of Wetlands and Potential Wetland Impacts**

Study Area	Culvert	Wetlands
Limit of Proposed Grading	Stream / Ditch Impacted (Area in Acres)	
Stream / Ditch	Wetlands Impacted (Area in Acres)	





0100200400

Feet

N

Appendix A- 123 (Revised)

**Location of Wetlands and Potential Wetland Impacts**

Central Florida  
Commuter Rail Transit  
...to take you places

Study Area

Limit of Proposed Grading

Stream / Ditch

Culvert

Stream / Ditch Impacted (Area in Acres)

Wetlands Impacted (Area in Acres)

Wetlands

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## **Appendix F**

### **F-1      Impacted Parcels and Potential Relocations**

Table 1 - Impacted Parcels

Station	Parcel ID	Street Address	Owner's Name
Deland AMTRAK Station	40-17-29-02-01-0010	N/A	CSX TRANSPORTATION
Deland AMTRAK Station	13-17-29-04-00-0042	N/A	CHANDLER WILLIAM & CYNTHIA
Deland AMTRAK Station	13-17-29-04-00-0040	2486 OLD NEW YORK AV DELAND	BEST MARY BLANCHE TR
Deland AMTRAK Station	13-17-29-04-00-0070	2532 OLD NEW YORK AV DELAND	MURRAY JOHN R & CAROLYN L
Altamonte Springs Station	18-21-30-507-0000-00U1	STATION (OFF) RD	LEIFFER EARL M
Altamonte Springs Station	18-21-30-507-0000-00U2	STATION (OFF) RD	LEIFFER EARL M
Altamonte Springs Station	18-21-30-507-0000-0180	105 STATION ST, ALTAMONTE SPRINGS 32701	PARKER PINKEY & CLIFFORD JACKSON
Altamonte Springs Station	18-21-30-507-0000-0200	STATION ST	LEIFFER EARL M
Altamonte Springs Station	18-21-30-508-0000-0600	2721 RONALD REAGAN BLVD S	UNITED STATES POSTAL SERVICE
Sand Lake Road Station	25-23-29-8170-02-000	8000 S ORANGE AVE	GM-1 PARTNERSHIP
Sand Lake Road Station	25-23-29-8170-02-001	8008 S ORANGE AVE	A AND A PROPERTIES
Sand Lake Road Station	25-23-29-8170-01-001	8026 OFFICE CT	A A SHAREHOLDERS L P
Sand Lake Road Station	25-23-29-8170-01-000	8022 OFFICE CT	LINCOLN TRUST CO TR
Sand Lake Road Station	25-23-29-8170-02-002	N/A	A AND A PROPERTIES
Meadow Woods Station	24-24-29-5551-00-020	12300 LANDSTAR BLVD	REALTY INCOME CORP
Meadow Woods Station	24-24-29-5551-00-010	120 FAIRWAY WOODS BLVD	LANDSTAR DEVELOPMENT CORP
Meadow Woods Station	24-24-29-5551-00-011	110 FAIRWAY WOODS BLVD	PATEL JIGNASU & PATEL KALPANA J
Meadow Woods Station	24-24-29-5551-00-002	12508 LANDSTAR BLVD	MEADOW WOODS SHOPPING CENTER LTD
Meadow Woods Station	24-24-29-5551-00-001	RETENTION	MEADOW WOODS SHOPPING CENTER LTD
Meadow Woods Station	24-24-29-0000-00-019	RETENTION	LANDSTAR DEVELOPMENT CORP
Osceola Parkway Station	03-25-29-4598-0001-0040	ORANGE AVE	DEERFIELD LAND CORP
Osceola Parkway Station	03-25-29-4575-0001-00C0	E OSCEOLA PKWY	DEERFIELD LAND CORP
Osceola Parkway Station	03-25-29-4598-0001-0030	ORANGE AVE	DEERFIELD LAND CORP
Osceola Parkway Station	03-25-29-4598-0001-0020	ORANGE AVE	DEERFIELD LAND CORP
Kissimmee AMTRAK Station	22-25-29-1160-0001-0060	N/A	CITY OF KISSIMMEE
Kissimmee AMTRAK Station	22-25-29-1160-0001-0020	E DAKIN AVE	CITY OF KISSIMMEE
Kissimmee AMTRAK Station	22-25-29-1270-000B-0010	TOHOPEKALIGA AVE	CITY OF KISSIMMEE
Kissimmee AMTRAK Station	22-25-29-1270-000A-0010	TOHOPEKALIGA AVE	CITY OF KISSIMMEE

Table 2 – Potential Relocations

Property Type	Station	Parcel ID	Street Address	Owner's Name
Business	Deland AMTRAK Station	40-17-29-02-01-0010	N/A	CSX TRANSPORTATION
Light Manufacturing	Deland AMTRAK Station	13-17-29-04-00-0042	N/A	CHANDLER WILLIAM & CYNTHIA
Business	Deland AMTRAK Station	13-17-29-04-00-0040	2486 OLD NEW YORK AV DELAND	BEST MARY BLANCHE TR
Business	Deland AMTRAK Station	13-17-29-04-00-0070	2532 OLD NEW YORK AV DELAND	MURRAY JOHN R & CAROLYN L
Federal Business	Altamonte Springs Station	18-21-30-508-0000-0600	2721 RONALD REAGAN BLVD S	UNITED STATES POSTAL SERVICE
Business	Sand Lake Road Station	25-23-29-8170-02-000	8000 S ORANGE AVE	GM-1 PARTNERSHIP
Business	Sand Lake Road Station	25-23-29-8170-02-001	8008 S ORANGE AVE	A AND A PROPERTIES
Business	Sand Lake Road Station	25-23-29-8170-01-001	8026 OFFICE CT	A A SHAREHOLDERS L P
Business	Sand Lake Road Station	25-23-29-8170-01-000	8022 OFFICE CT	LINCOLN TRUST CO TR
Business	Meadow Woods Station	24-24-29-5551-00-020	12300 LANDSTAR BLVD	REALTY INCOME CORP
Business	Meadow Woods Station	24-24-29-5551-00-010	120 FAIRWAY WOODS BLVD	LANDSTAR DEVELOPMENT CORP
Business	Meadow Woods Station	24-24-29-5551-00-011	110 FAIRWAY WOODS BLVD	PATEL JIGNASU & PATEL KALPANA J



## **Appendix G**

**G-1** Noise and Vibration Analysis Technical Report – April 2010



## Central Florida Commuter Rail Transit

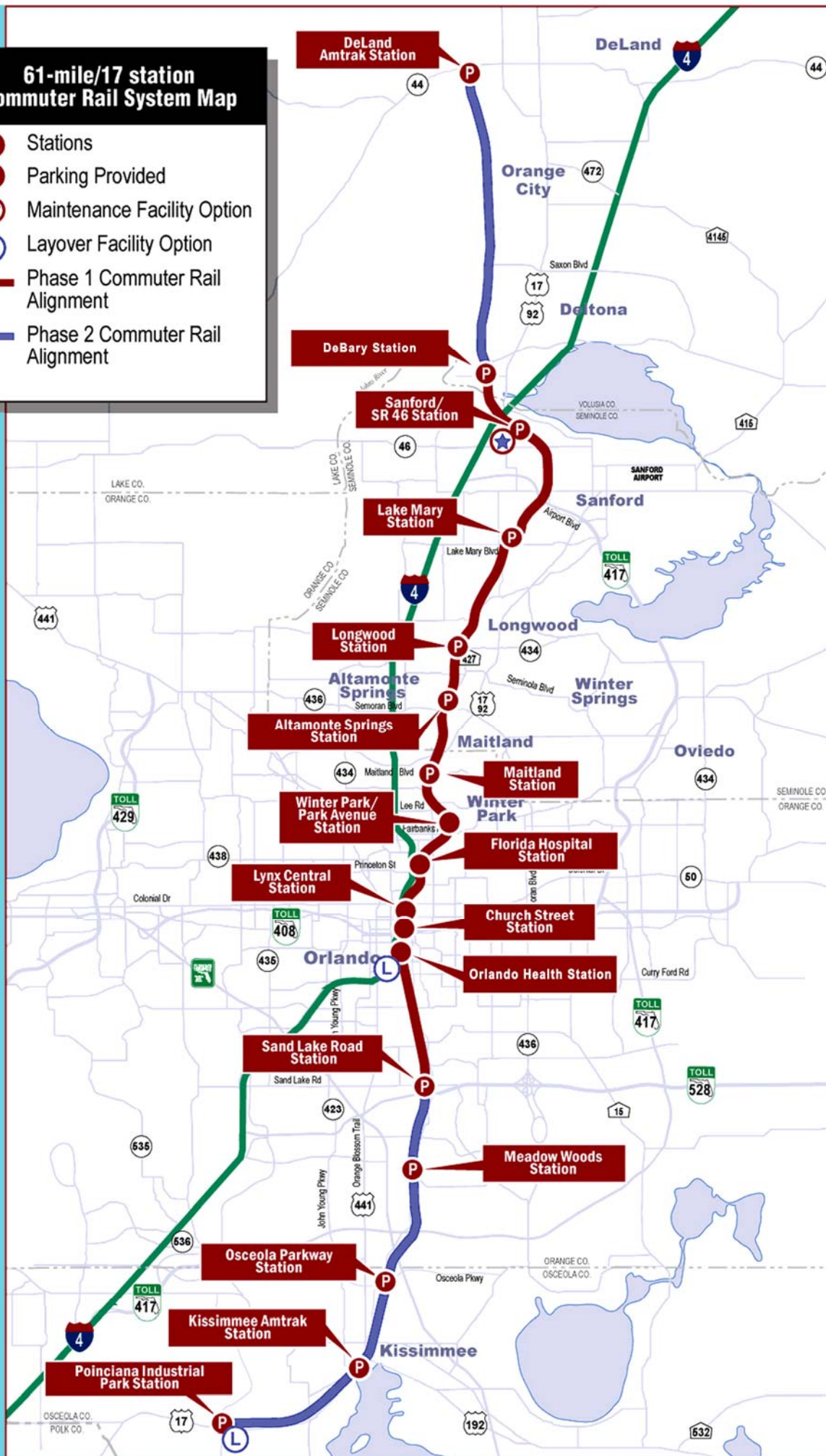
## Noise and Vibration Analysis Technical Report

APRIL 2010



**61-mile/17 station  
Commuter Rail System Map**

- Stations
- P Parking Provided
- ★ Maintenance Facility Option
- L Layover Facility Option
- Phase 1 Commuter Rail Alignment
- Phase 2 Commuter Rail Alignment



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# 1. Introduction

The Federal Transit Administration is serving as the lead agency in the preparation of a Supplemental Environmental Assessment for the Central Florida Commuter Rail Transit (CFCRT) Project. The CFCRT Project sponsors include the Florida Department of Transportation (FDOT), the Central Florida Regional Transportation Authority, and Volusia County Public Transit System.

The Commuter Rail Transit (CRT) Project proposes to add commuter rail service to serve the greater Orlando region by utilizing an existing and active 60.8 mile CSXT A-Line freight /passenger rail corridor. The existing freight and passenger corridor currently operates 26 trains per day – 6 Amtrak passenger trains, 10 local freight trains and 10 road freights (or through) trains. The through freight trains include Intermodal trains, Auto-rack trains, Merchandise trains and Bulk, Coal and Rock unit trains with consists that include two or three locomotives per train pulling more than 100 freight cars. The 10 local freights operate on small portions of the corridor and do not have a major impact on corridor-wide noise and vibration. Of the six Amtrak passenger trains, four operate daily over the entire corridor and two do not operate south of Sanford. Most through freight operate between Taft Yard and DeLand. Consequently, not all areas of the corridor are equally affected by existing noise and vibration.

Although CSXT has stated that it may re-route some of the freight activity from the Project corridor, it is likely there will still be a number of freight trains and the six Amtrak trains per day that will continue to operate along the Project corridor. For the purpose of the subsequent noise impact analysis, however, it is assumed that all existing freight and passenger operations will continue to exist in the CRT Corridor. As stipulated by FTA guidance for the purpose of this vibration analysis, it is assumed that the freight and Amtrak operations were absent.

The Initial Operating Segment (IOS) is 32 miles long with 12 stations from DeBary Station in the north to Sand Lake Road Station in the south, and will operate 32 trains per day at 30-minute headways during two 3-hour peak periods and a 120-minute off peak service. The Full Build option of the CFCRT is 60.8 miles long extending along the CSXT A-Line from the DeLand Amtrak station in DeLand in the north to Poinciana Boulevard in the south. The Full Build Alternative of the CRT Project will include 17 stations and will operate 56 trains per day at 15-minute bi-directional headways during peak-hour periods with 60 minute off-peak service. The proposed commuter rail service will be operated with a single 3,200 HP diesel locomotive pulling up to three (3) bi-level standard coach/cab passenger rail cars. The communities potentially impacted by the CRT Project are DeLand, Orange City and DeBary in Volusia County; Sanford, Lake Mary, Longwood and Altamonte Springs in Seminole County; Maitland, Winter Park, Orlando, Edgewood and Meadow Woods in Orange County; and Kissimmee in Osceola County.

The noise and vibration study was performed along the Full Build Project Corridor from DeLand in Volusia County to Poinciana Boulevard in Osceola County. The noise and vibration analyses were performed in accordance with the methodology contained in the FTA

Transit Noise and Vibration Impact Assessment<sup>1</sup> guidelines and in the FDOT *Project Development & Environmental Manual* (PD&E) and Rail Noise Standards at 40 CFR Part 201<sup>2</sup>. The results presented in this report have been revised to include trains with diesel locomotives and standard passenger rail cars, rather than the Diesel Multiple Units (DMU) used in the original CFCRT North/South Corridor Project Environmental Assessment (EA) approved December 15, 2006.

---

<sup>1</sup> "Transit Noise and Vibration Impact Assessment", Federal Transit Administration, (DOT-T-95-16), April 1995; updated May 2006.

<sup>2</sup> FDOT 40 CFR 201 Rail Noise Standards, Updated July 1 2001.

## 2. Noise

This chapter includes an introduction to basic noise concepts including noise descriptors, the prediction methodologies and modeling assumptions, the results of the ambient noise monitoring program, and the evaluation of potential impacts along the Central Florida Commuter Rail Transit (CFCRT) Corridor.

### 2.1. Human Perception of Noise

The characteristics and properties of noise are explained in the following subsections.

#### 2.1.1. Describing Noise

Noise is “unwanted sound” and, by this very definition, the perception of noise is a subjective process. Several factors affect the actual level and quality of sound (or noise) as perceived by the human ear and can generally be described in terms of loudness, pitch (or frequency), and time variation.

**Loudness.** The loudness, or magnitude, of noise determines its intensity and is measured in decibels (dB). The noise decibel is used to describe a large range of sound levels. For example, ambient noise ranges from 40 decibels from the rustling of leaves to over 70 decibels from a truck passby to over 100 decibels from a rock concert.

**Pitch.** Pitch describes the character and frequency content of noise. Measured in Hertz (Hz), frequency is typically used to identify the annoying characteristics of noise and thereby identify the proper mitigation to help eliminate or minimize its magnitude. The human ear is typically sensitive to noise frequencies between 20 Hz (low-pitched noise) and 20,000 Hz (high-pitched noise). For example, noise may range from very low-pitched “rumbling” noise from stereo sub-woofers to mid-range traffic noise to very high-pitched whistle noise.

**Time Variation.** The time variation of some noise sources can be characterized as continuous, such as a building ventilation fan, intermittent, such as for a train passby, or impulsive, like a car backfire.

#### 2.1.2. Description of Noise Levels

Various levels are used to quantify noise from transit sources including a sound's loudness, duration, and tonal character. For example, the A-weighted decibel (dBA) is commonly used to describe the overall noise level. Because the decibel is based on a logarithmic scale, a 10-decibel increase in noise level is generally perceived as a doubling of loudness, while a 3-decibel increase in noise is just barely perceptible to the human ear. The A-weighting is an attempt to take into account the human ear's response to audible frequencies. Typical A-weighted sound levels from transit and other common sources are shown in Figure 2-1. The following A-weighted noise descriptors are typically used to determine impacts from transit related sources:

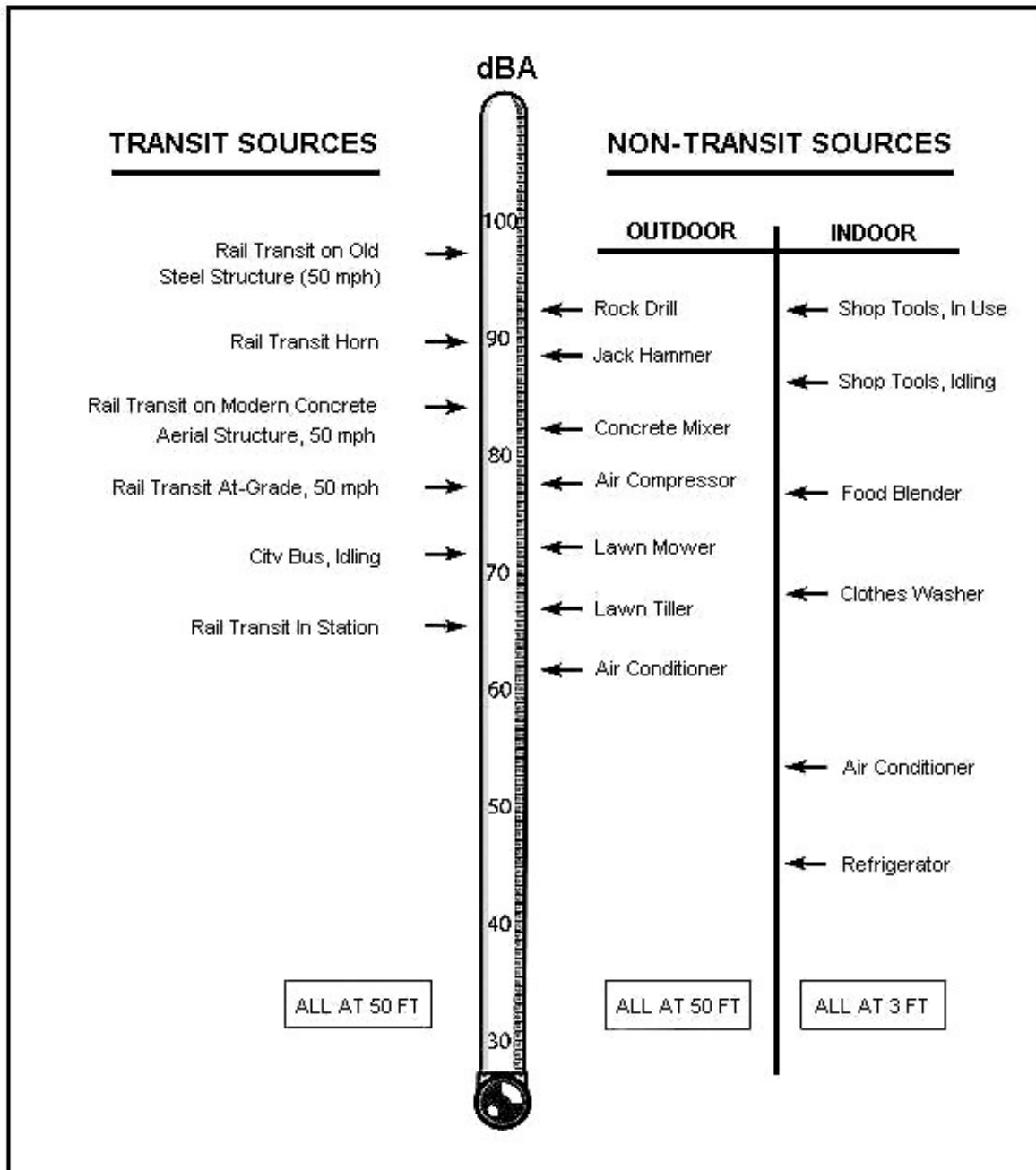


Figure 2-1 - A-Weighted Noise Levels



- $L_{MAX}$  represents the maximum noise level that occurs during an event or train passby and is the noise level actually heard during the event or passby.
- $L_{EQ}$  represents a level of constant noise with the same acoustical energy as the fluctuating noise levels (e.g., highway traffic) observed during a given interval such as one hour. For transit projects the  $L_{EQ}$  noise level is commonly used to describe levels at non-residential receptors (such as offices, schools, and churches) with primarily daytime uses.  $L_{EQ}(h)$  is a noise level averaged over one hour.
- $L_{DN}$ , the day-night noise level, represents the average noise level evaluated over a 24-hour period. A 10-decibel penalty is added to events that occur during the nighttime hours (10:00 PM to 7:00 AM) to account for people's increased sensitivity to noise while they are sleeping. For transit projects the  $L_{DN}$  is commonly used to describe noise at residences.
- SEL is the sound exposure level typically used to predict overall transit source levels. The SEL converts the time period of the  $L_{EQ}$  to one second allowing for the direct comparison of events or passbys with different time durations.

Unlike the  $L_{max}$  level, the hourly  $L_{EQ}$  noise level describes noise over a longer time duration than just a single event. For example, a single six-car train passby at 50 mph has an  $L_{max}$  of 88 dBA but a  $L_{EQ}(h)$  level of only 54 dBA. This is due to the concept of time averaging whereby the overall average noise level ( $L_{EQ}$ ) during the one-hour period is much less than the short-duration passby level of the event ( $L_{max}$ ). The  $L_{max}$  and the hourly  $L_{EQ}$  levels are theoretically equivalent for constant noise sources such as a transformers or rooftop ventilation units.

## 2.2. Noise Evaluation Criteria

The criteria used to evaluate noise impacts are described in the following subsections.

### 2.2.1. Operational Noise

Operational criteria are used to assess noise impacts from the project alternatives when they are fully operational. These criteria are, therefore, typically evaluated against the project operations that occur in the design year (2030).

In predicting the impacts of future rail operations, it is necessary to understand the probable future rail operations throughout the corridor. The existing freight and passenger corridor currently operates 26 trains per day – 6 Amtrak passenger trains, 10 local freight trains and 10 road freights (or through) trains. The Full Build Alternative of the CRT Project will include 17 stations and will operate 56 trains per day at 15-minute bi-directional headways during peak-hour periods with 60 minute off-peak service. Amtrak operation will continue to operate throughout the CRT Corridor. As part of the purchase agreement between CSXT and FDOT, passenger rail traffic will be allowed access for 19 hours per day with exclusive passenger rail access for 12 hours per day. Freight rail traffic will be allowed for 12 hours per day with exclusive freight access for 5 hours per day. See Appendix C for detailed operating windows.

Table 2-1 presents a summary of weekly train operations for the existing, 2012 Opening Day and the 2030 Full Build conditions.

**Table 2-1 - Summary of Weekday Train Operations - Existing, 2012 Opening Year, and 2030 Full Build**

	Amtrak Passenger <sup>1</sup>	Amtrak Auto Train <sup>2</sup>	Through Freight Trains <sup>3 5</sup>	Local Freight Trains <sup>3 5</sup>	CRT Trains <sup>5</sup>	Total All Trains
<b>Existing Conditions - 2005<sup>6</sup></b>						
Daytime Hrs (7AM – 10PM)	4.9	1.9	5.4	5.8	0	18
Nighttime Hrs (10PM - 7AM)	0.8	0	5.6	2.2	0	8.6
<b>Total</b>	5.7	1.9	11	8	0	26.6
AM Peak Hour	0	0.2	1.2	1.4	0	2.8
PM Peak Hour	1.5	1.1	1.5	1.4	0	5.5
<b>Build – 2012</b>						
Daytime Hrs (7AM – 10PM)	4.9	1.9	6.6	6	27	46.4
Nighttime Hrs (10PM – 7AM)	0.8	0	4.4	3.8	5	14
<b>Total</b>	5.7	1.9	11	9.8	32	60.4
AM Peak Hour	0	0.2	0	0	12	12.2
PM Peak Hour	1.5	1.1	0	0	12	14.6
<b>Full Build – 2030<sup>7</sup></b>						
Daytime Hrs (7AM – 10PM)	4.9	1.9	5.6	6	48	66.4
Nighttime Hrs (10PM – 7AM)	0.8	0	5.4	4.8	8	19
<b>Total</b>	5.7	1.9	11	10.8	56	85.4
AM Peak Hour	0	0.2	0	0	16	16.2
PM Peak Hour	1.5	1.1	0	0	16	18.6

Notes:

1. Three northbound and three southbound Amtrak passenger trains per day along the entire length of the project corridor based on schedules in effect early 2005 (pre-Katrina). The Sunset Limited has not returned to service since Katrina but the train service is still included for Build 2012 and 2030. The proposed CRT signal system is designed for 7.5 minute headways to allow for Amtrak to have access in the corridor during 2030 Build peak periods with 15 minute headways. The Amtrak Orlando Station will have a 3<sup>rd</sup> station track added to prevent delays. There is no growth expected for Amtrak on the A Line.
2. One northbound and one southbound Amtrak Auto Train per day between DeLand Station and Amtrak Auto Train Station, travelling 16 miles from the north of the project corridor.
3. The data analyzed indicated there is an average of nineteen freight trains operating on the corridor daily. The through trains either terminate in Taft Yard and return or travel through the corridor. Five of these operations occur during daytime hours, and six of these operations occur during nighttime hours. The data also indicated there are eight local trains servicing carload customers along the corridor. These service patterns vary depending on customer deliveries with the highest concentration between Taft Yard and Kaley Yard Trains (4 mile trip length) and customers near Rand Yard. There are many locomotive only trips during the month.
4. CRT Trains statistics for the Build 2012 and Build 2030 were obtained from the Transit Operating Plans Report schedules.
5. The 2012 Build and 2030 Build freight train operations were also assumed to not change from their average current level of operations except that in the Full-Build some of the freight train operations will shift from peak-hour operations to off-peak daytime operations to avoid conflict with the project related DMU commuter rail operations.
6. Data used for Environmental Assessment – No Build
7. Data used for Environmental Assessment – 2030 Full Build

For purposes of determining the noise impacts of CRT commuter service, future nighttime operations must be distinguished from future daytime operations. For noise modeling purposes, the presumption is that total future non-CFCRT operations will not change in the corridor from the existing 26 trains. Only two (2) to three (3) existing local freight operations are expected to be moved from daytime to nighttime operations in

2030. These nighttime operations will occur in limited areas of the corridor and will not be included in CRT noise prediction. The day-night average sound level (L<sub>dn</sub>) will be calculated to predict cumulative noise exposure from all events over a full 24 hours. Based upon the CRT Operations Plan Schedule in Appendix C, 2030 corridor conditions will include the addition of 48 daytime CRT trains and eight (8) nighttime CRT trains (between 5:30 AM and 7:00 AM).

#### ▪ Federal Noise Guidelines

The Federal Transit Administration's *Transit Noise and Vibration Impact Assessment* guidance manual (DOT-95-16, April 1995) presents the basic concepts, methods, and procedures for evaluating the extent and severity of noise impacts from transit projects. The noise from the FTA's 1995 guidance manual was used in this analysis to be consistent with the previous assessment that was completed prior to the revisions to the FTA guidance manual issued in 2006. Transit noise impacts are assessed based on land use categories and sensitivity to noise from transit sources under the FTA guidelines. The FTA noise impact criteria are defined by two curves that allow increasing project noise levels as existing noise increases up to a point, beyond which impact is determined based on project noise alone. The FTA land use categories and required noise metric are described in Table 2-2.

**Table 2-2 - FTA Land Use Categories and Noise Levels**

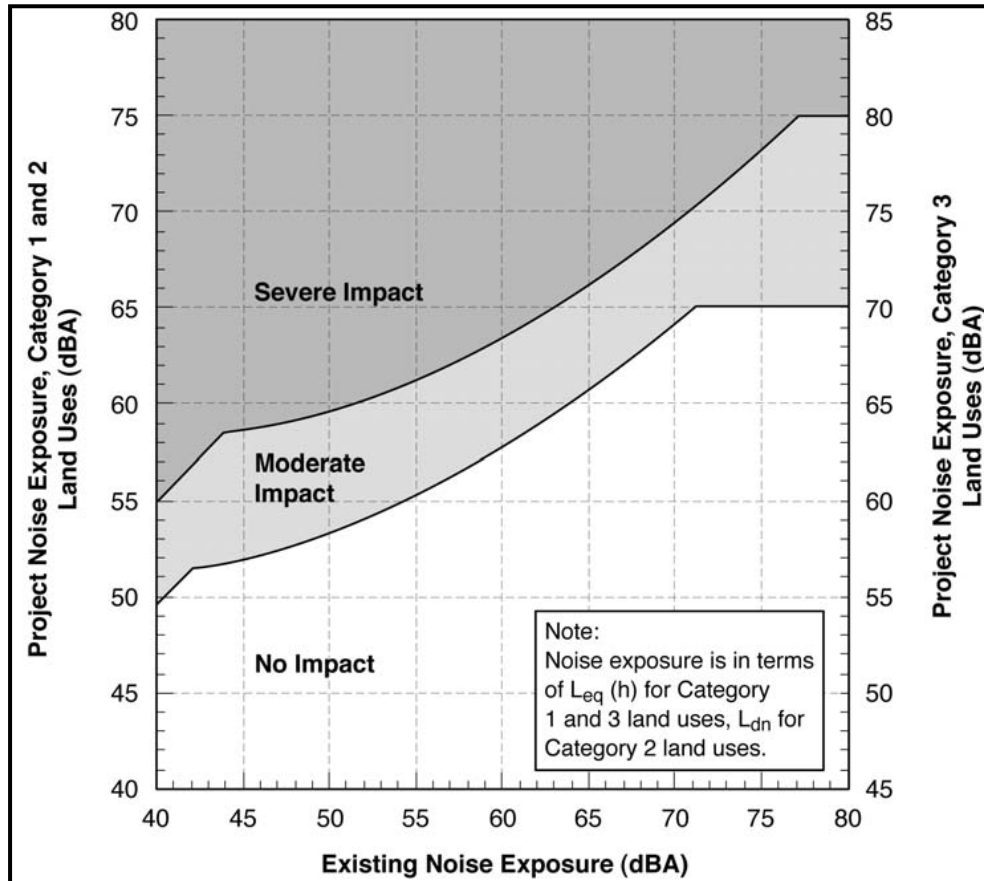
<b>LAND USE CATEGORY</b>	<b>NOISE LEVEL</b>	<b>DESCRIPTION</b>
1	L <sub>EQ</sub> (h)	Tracts of land set aside for serenity and quiet, such as outdoor amphitheaters, concert pavilions, and historic landmarks.
2	L <sub>DN</sub>	Buildings used for sleeping such as residences, hospitals, hotels, and other areas where nighttime sensitivity to noise is of utmost importance.
3	L <sub>EQ</sub> (h)	Institutional land uses with primarily daytime and evening uses including schools, libraries, churches, museums, cemeteries, historic sites, and parks, and certain recreational facilities used for study or meditation.

Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, Washington, D.C., April 1995.

The FTA noise criteria are delineated into two categories: 'moderate' impact and 'severe' impact. The moderate impact threshold defines areas where the change in noise is noticeable but may not be sufficient to cause a strong, adverse community reaction. The severe impact threshold defines the noise limits above which a significant percentage of the population would be highly annoyed by new or additional noise. Where "no impact" is anticipated, a project, on average, would result in an insignificant increase in the number of people highly annoyed by new noise.

The level of impact at any specific site can be established by comparing the predicted project noise level at the site to the existing noise level at the site. The FTA May 2006 Noise Impact Criteria for all three land use categories are shown in Figure 2-2a. Figure 2.2b is included at

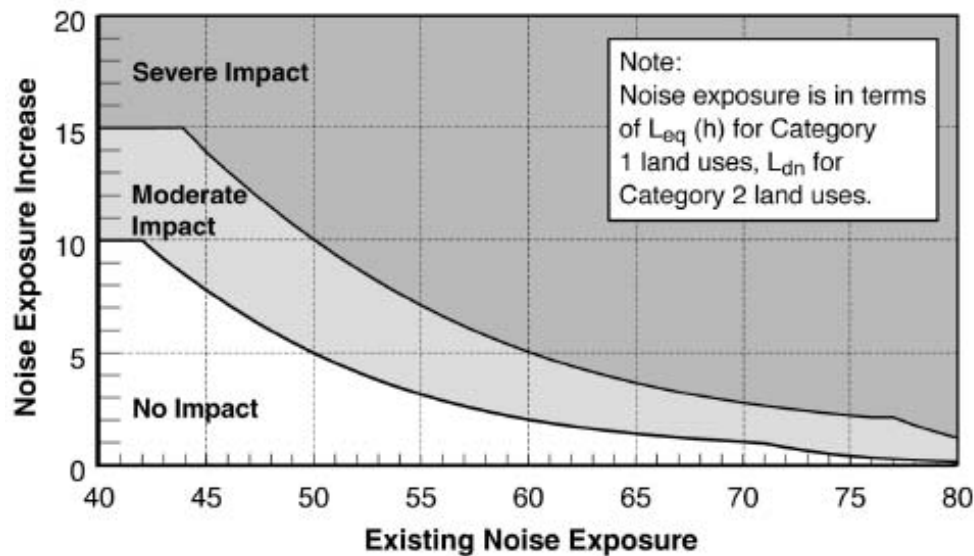
the request of FTA and demonstrates two points; 1.) the cumulative noise exposure of existing noise and increased noise, and 2.) the total amount of acceptable additional noise exposure diminishes with the increase in existing noise exposure.



Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, Washington, D.C., May 2006.

**Figure 2-2a - FTA Noise Impact Criteria for Transit Projects**





Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, Washington, D.C., May 2006.

Figure 2-2b - Increase in Cumulative Noise Levels Allowed by Criteria (Land Use Categories 1 and 2)

### 2.3. Modeling Methodology and Assumptions

A description of the modeling methodologies and the types of noise sources included in the modeling prediction are included in the following sub-sections.

#### 2.3.1. Operations

The impact assessment from future transit noise sources along the Project corridor was determined according to the FTA guidelines and includes a screening procedure, general assessment, and detailed analysis, as described below:

- **Screening Procedure** – Identifies existing noise-sensitive land uses along the proposed Project corridor and whether or not impact is likely. Further analysis is required if noise-sensitive receptors fall within FTA “screening” distances for various sources.
- **General Assessment** – Estimates the severity of noise impacts in the study area selected during the Screening Procedure analysis. When detailed Project data of existing background noise levels are not available, conservative assumptions are used to identify the noise levels at which potential impact could result.
- **Detailed Analysis** – Quantifies impacts through an in-depth analysis that includes ambient noise monitoring and a delineation of site-specific impacts and mitigation measures for each of the proposed Project alternatives.

The Screening Procedure considered a screening distance of 700 feet perpendicular to the corridor to determine the number, location, and land use types of noise-sensitive receptors along the Project corridor.

Based on the 700 foot screening distance, 4,365 potential noise-sensitive receptor locations were identified along the Project corridor, which were included in the modeling analysis. Project noise levels were developed for the Full Build Alternative operating along the existing CSXT freight and passenger rail corridor in 2030. Operations data, such as volumes, speeds, consist sizes for commuter trains, as well as other operations input data are described in the Appendix C.

#### 2.3.2. CRT Train Passbys

In this revised analysis, the CRT commuter trains will operate with diesel locomotives and standard passenger coaches in a push-pull configuration. The reference source noise levels used in the analysis are from the FTA guidance manual and are shown in Table 2-3. Train consists include 1 locomotive and up to 3 passenger rail cars that operate on continuously welded rail tracks. Adjustments to the predicted noise levels for each passby included the following:

- Track type;
- Train speed;
- Day/night operations;
- Consist size; and
- Period volumes.

For this assessment, all tracks were assumed to be at-grade, ballast, timber ties and Continuous Welded Rail. The train speed profile was separated into discrete components in 10 mph increments and the consist size and period volumes were adapted from the proposed CRT scheduling data. The specific speed data for each receptor is given in the Appendix to this report. Train operations include train consists with an average of 56 scheduled trains per 24-hour period. The proposed track infrastructure upgrades and train operations (both freight and passenger) are unchanged from the original EA. The impact assessment from future transit noise sources along the Project corridor was determined according to the FTA guidelines. In accordance with the Federal Railroad Administration's Final Rule on the "Use of Locomotive Horns at Highway-Rail Grade Crossings" (49 CFR Parts 222 and 229; April 2005), the minimum allowable warning horn  $L_{MAX}$  level of 96 dBA at a distance of 100 feet was used in the noise modeling analysis. The warning horn on the locomotive is sounded for a duration time of 15-seconds as the train approaches the grade crossing. The sounding of the warning horn ends when the train enters the grade crossing. The speed of the train and the 15-second duration time are used to determine the impact zone within which receptors located along the rail corridor could be impacted by the warning horn. For example, for a train traveling at 40 mph as it approaches the grade crossing, the train would have to start sounding the warning horn at a distance of 880 feet from the grade crossing to meet the FRA's 15-second duration time requirement.

**Table 2-3 - Summary of Noise Source Reference Data**

NOISE SOURCE		NOISE LEVEL (dBA)	
NAME	DESCRIPTION	$L_{MAX}$	SEL
LOCOMOTIVE	From FTA Guidance Manual	88	92
STANDARD RAILCAR	From FTA Guidance Manual	80	82
WARNING HORN*	FRA Lower Noise Limit	96	99
AUXILIARY EQUIPMENT	Stations (FTA Guidance manual)	65	101

\* Warning horn levels based on (a) 96 dBA at 100 feet in front of horn (and an SEL of 99 dBA at a distance of 100 feet), the minimum level established by the FRA, (b) zone of impact determined by FRA established minimum warning duration of 15 seconds from grade crossing and estimated speed of train in vicinity of grade crossing (courtesy of Harris Miller Miller & Hanson Inc. – FRA Grade Crossing Noise Model)

[Note: All other noise levels in Table 2 are based on a reference distance of 50 feet and a speed of 50 mph for mobile sources]

Using the peak- and 24-hour CRT volumes, passby noise levels from commuter rail vehicles were predicted at each of the identified receptor locations along the project corridor using the FTA fixed-guideway algorithm shown in Equations 1 and 2.

for locomotives {Equation 1}:

$$LeqM_{50}(h) = SEL_{ref} + 10 \log(N_{locos}) - 10 \log\left(\frac{S}{50}\right) + 10 \log(V) + C_T - 10 \log(3600)$$

for rail cars {Equation 2}:

$$LeqM_{50}(h) = SEL_{ref} + 10 \log(N_{cars}) + 20 \log\left(\frac{S}{50}\right) + 10 \log(V) + C_{adj} - 10 \log(3600)$$

where:

$LeqM_{50}(h)$  = hourly  $Leq$  noise level at 50 feet (in dBA) from commuter rail passbys;

$SEL_{ref}$  = reference SEL noise level at 50 feet (in dBA);

$N_{locos}$  = average number of locomotives per train consist;

$N_{cars}$  = average number of rail cars per train consist;

$C_T$  = 0 for  $T < 6$ ; and  $2(T-5)$  for  $T \geq 6$ ;

$S$  = train speed (in mph);

$V$  = average hourly commuter rail volumes as follows (in trains/hour):

$$V_D = \left( \frac{\sum_{7AM}^{10PM} \text{number of trains}}{15} \right) \quad \text{[average hourly daytime volume];}$$

$$V_N = \left( \frac{\sum_{10PM}^{7AM} \text{number of trains}}{9} \right) \quad \text{[average hourly nighttime volume];}$$

$$V_{PK} = \sum_{PK-HR} \text{number of trains} \quad \text{[average hourly peak-hour volume];}$$

$C_{ADJ}$  = adjustment factor applied to track type as follows (in dBA):  
 = +5 for jointed rail track;  
 = +4 for aerial structure with slab track; and,  
 = +3 for embedded track on grade.  
 $-10\log(3600)$  =  $L_{EQ}(h)$  adjustment factor based on the number of seconds in one hour (in dBA).

### 2.3.3. Auxiliary Equipment

Commuter rail auxiliary equipment, such as rooftop heating and ventilation units, were also included in the noise modeling analysis at stations. Although the auxiliary equipment is included in the cumulative train passby noise level, it is the dominant train noise source when the commuter trains are stopped at the station and is, therefore, modeled separately.

The FTA methodology does not provide a specific procedure for modeling particular types of warning horns and mounting systems. The FTA guidelines are based on a body of research which takes into account both the wide variety of horn and mounting systems used in railroad rolling stock, and the perceived annoyance level which takes into account psycho-acoustic research. Therefore, horn noise was modeled according to FTA requirements as shown in Equation 3. The FTA model also does not provide adjustments for the mounting height of the horn.

[Equation 3]

$$L_{EQ}(h) = SEL_{ref} - 10\log(S/50) + 10\log(V) - 35.6$$

where:

$SEL_{REF}$  = reference SEL noise level at 50 feet for warning horns (102 dBA\*);  
 [\*note that FTA specifies 108 dBA for 'Locomotive Horns' and 93 dBA for 'Transit Car Horns'. The value of 102 dBA, which was utilized in this analysis represents the level based on the minimum allowed by recent FRA legislation (FRA – 49 CFR Parts 222 and 229 – April 2005, 96 dBA @ 100 feet).]  
 $S$  = train speed (in mph);  
 $V$  = average hourly commuter rail volumes as follows (in trains/hour):

### 2.3.4. 24 -Hour $L_{DN}$ Noise Level

At residential receptors identified along the Project corridor the 24-hour  $L_{DN}$  noise level was used to assess impact against the FTA impact criteria. Using Equation 4, average hourly  $L_{EQ}$  noise levels during the daytime (from 7 AM to 10 PM) and the nighttime (from 10 PM to 7 AM) periods were used to develop an overall 24-hour  $L_{DN}$  noise level. There will be 48 daytime (7AM-10PM) and eight (8) nighttime (10PM-7AM) operations. The eight CRT



nighttime trains occur between the hours of 5:30 AM and 7:00 AM. A ten (10) dBA penalty was added for nighttime operations.

{Equation 4}

$$Ldn_{50} = 10 \log \left[ 15 \times 10^{\left( \frac{LeqD_{50}}{10} \right)} + 9 \times 10^{\left( \frac{LeqN_{50}+10}{10} \right)} \right] - 10 \log(24)$$

where:

$L_{DN50}$  = 24-hour  $L_{DN}$  noise level at 50 feet (in dBA);  
 $LeqD50$  = average daytime hourly  $Leq$  (h) noise level at 50 feet between 7 AM and 10 PM (in dBA);  
 $LeqN50$  = average nighttime hourly  $Leq$  (h) noise level at 50 feet with 10-dBA penalty applied for nighttime events between 10 PM and 7 AM (in dBA); and,  
 $-10 \log(24)$  =  $L_{DN}$  adjustment factor based on the number of hours in a day (in dBA).

## 2.4. Existing Conditions

Existing noise along the Project corridor was measured to characterize ambient background levels in the community as well as to document transit, freight and passenger sources that currently operate along the CRT Corridor. The scope and the results of the noise measurement program are described in the following subsections. Figure 2-3 shows the general location of the CRT Corridor, and Figure 2-4 shows a CRT rail corridor map. The station modifications noted in many of the figures of this technical report refer to the proposed CRT station modifications discussed in the Second Supplemental to the Environmental Assessment for the CFCRT Project

### 2.4.1. Background Ambient Noise Levels

In accordance with FTA noise guidelines, a noise-monitoring program was conducted along the CRT Corridor to (1) establish the existing ambient background levels within the Project area and (2) develop Project criteria noise limits.

As shown in Figure 2-5, noise measurements were obtained at 12 receptor locations along the Project corridor. The measurements at 10 of the locations consist of 24 hours of continuous noise monitoring at residential receptors. The remaining 2 locations were in public parks where hour-long noise measurements were collected. The results were used to establish baseline noise levels for both residential and non-residential receptors. The existing noise environment was characterized according to the FTA land use categories shown in Table 2-2.

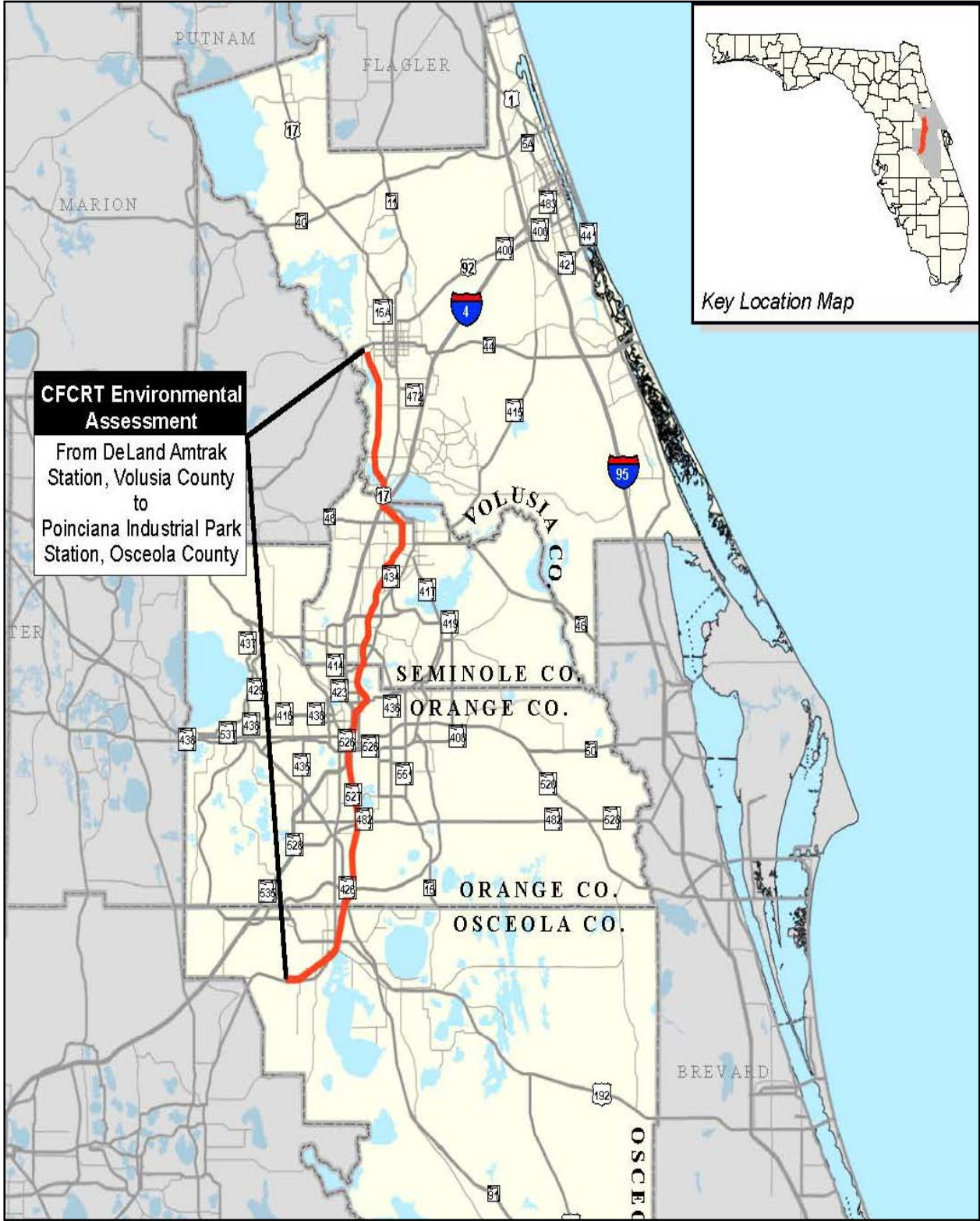


Figure 2-3 - Regional Location Map

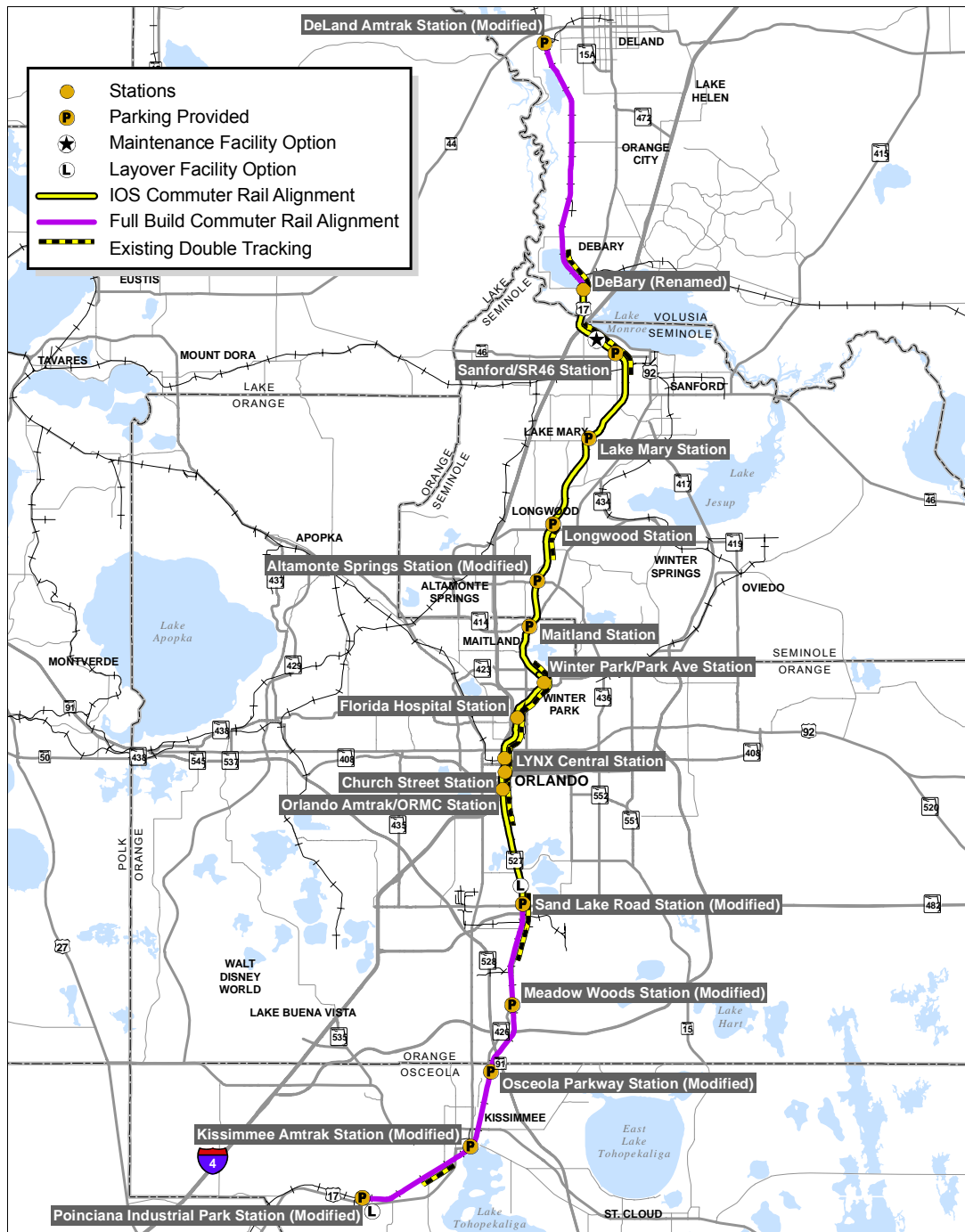
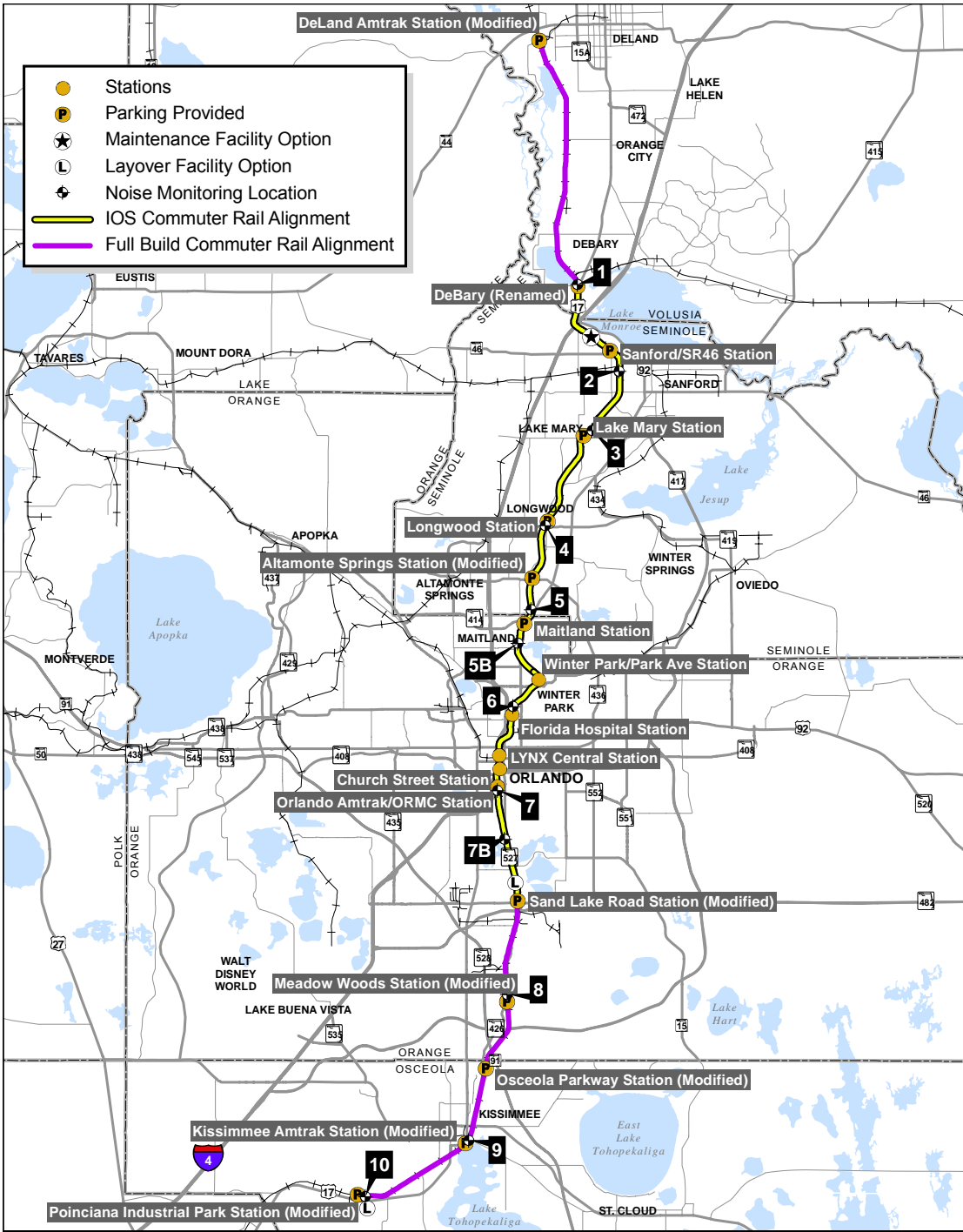


Figure 2-4 - Rail Corridor Map



### Figure 2-5 - Noise-and Vibration Monitoring Locations in the CRT Corridor



Existing land uses along the CRT corridor are exposed to a variety of noise sources ranging from vehicular traffic along major roads and cross streets to noise generated by existing freight and Amtrak passenger operations along the railway corridor.

The selection process used to determine monitoring locations began with the study of land use maps, USGS maps, and aerial photography. First, 10 preliminary locations were selected that would be (1) evenly distributed in the corridor, (2) representative of typical land use for the various communities adjacent to the corridor, and (3) were close enough to the existing railway corridor so that existing railway operations noise would be a significant component of the noise measurements. Further review resulted in two additional measurement locations to be selected (Lake Lily Park and Cypress Grove Park) to represent public parkland adjacent to the Corridor. Finally, after the noise measurement technicians visited the actual sites, some adjustments were made to a few of the locations for logistical reasons.

The results of the community noise-monitoring program were used to establish the existing background noise levels and to develop the allowable Project criteria using the FTA guidelines. The noise-monitoring program was conducted in May 2005 to establish existing peak hour  $L_{EQ}$  noise levels at non-residential locations and 24-hour  $L_{DN}$  noise levels at residences. The results of the noise-monitoring program are summarized in Table 2-4 for each of the 12 measurement locations. The measured 24-hour  $L_{DN}$  noise levels ranged from 66 dBA at location 9 to 74 dBA at location 4. This range in measured noise level is due to the distance of the receptor from the nearest track and the proximity of the receptor to a grade crossing where the warning horns from the trains approaching the grade crossing is the dominant noise source.

**Table 2-4 - Summary of Noise Measurements**

<b>NUMBER</b>	<b>DESCRIPTION</b>	<b>TOWN</b>	<b>FTA CATEGORY</b>	<b>DISTANCE FROM NEAREST RAIL</b>	<b>MEASURED NOISE LEVEL (dBA)</b>
1	25 Jason Drive	Debary	2	130 feet	68 L <sub>DN</sub>
2	121 Yale Drive	Sanford	2	100 feet	70 L <sub>DN</sub>
3	202 Melissa Court	Sanford	2	100 feet	70 L <sub>DN</sub>
4	115 West Pine Avenue	Longwood	2	70 feet	74 L <sub>DN</sub>
5	425 Lake Seminary Circle	Maitland	2	150 feet	68 L <sub>DN</sub>
5B	Lake Lily Park	Maitland	3	150 feet	56 L <sub>EQ</sub>
6	719 Nottingham Street	Orlando	2	110 feet	70 L <sub>DN</sub>
7	Orlando Amtrak Station	Orlando	3	75 feet	74 L <sub>EQ</sub>
7B	Cypress Grove Park	Orlando	3	100 feet	66 L <sub>EQ</sub>
8	12165 Sandal Creek	Orlando	2	110 feet	69 L <sub>DN</sub>
9	42 Neptune Road	Kissimmee	2	150 feet	66 L <sub>DN</sub>
10	4894 Old Tampa Highway	Kissimmee	2	150 feet	68 L <sub>DN</sub>

Source: CFCRT Noise and Vibration Technical Report, 2005.

## 2.5. Predicted Impacts and Noise Assessment

A noise assessment was completed to determine the potential noise impacts at sensitive receptor locations along the CRT Project corridor. The measured noise levels in Table 2-4 were used to determine the FTA criteria for moderate and severe impact from the curves in Figure 2-2a and Figure 2-2b. The noise levels predicted at each of the discrete receptors along the Project corridor were determined using the FTA guidelines and noise modeling methodologies. These levels were then compared to the FTA criteria to determine impact. Impacts from operations were evaluated at noise-sensitive receptors within approximately 700 feet of the nearest rail.

### 2.5.1. Predicted Noise Impacts

The results of the noise impact assessment indicate that throughout the corridor predicted noise impacts are due to the use of warning horns (dominant noise source) as the trains approach the grade crossings as well as diesel engine noise and wheel to rail noise due to the use of heavier diesel locomotive technology. These impacts occur where residential receptors are situated within close proximity of grade crossings. These zones tend to occur within approximately 400 to 800 feet of the grade crossing, depending on the speed of the train. Since there are 126 active grade crossings along the full corridor, a number of receptors were determined to have noise levels that exceed FTA impact criteria.

As documented in the original EA, without mitigation, it was estimated using the previous DMU train sets there would be 217 receptors (54 severe and 163 moderate) impacted by the CRT Project. The results of this noise assessment using the push-pull diesel locomotives with

coaches indicate that without mitigation, a total of 303 receptors would be impacted by the CRT Project. Of this total, 84 residential receptors would exceed the FTA's severe impact criteria, and 219 residential receptors would exceed the FTA's moderate impact criteria. The distribution of the moderate and severe impacted receptors is described in Table 2-5, which shows the number of impacted receptors without mitigation within the 17 regions that correspond approximately to the vicinity of each of the 17 proposed train stations along the Project corridor.

Table 2-5 also includes a comparison of the noise impacts from the DMU vehicles that were proposed in the original EA with the FRA-compliant diesel locomotive and rail cars currently proposed for the CRT Project. Both analysis include the use of warning horns at the grade crossings and use the same on-board warning horn noise levels described in Table 2-3. Because the estimated noise level is a cumulative measure from various noise sources (e.g. warning horns, engine noise, wheel to rail noise, etc.) this increase in impacts is due solely to the comparatively higher noise generated by the heavier locomotives relative to the lighter DMU vehicles. The combination of warning horn noise and locomotive noise near grade crossings resulted in a slightly higher noise level thereby increasing the number of impacts from the original EA.

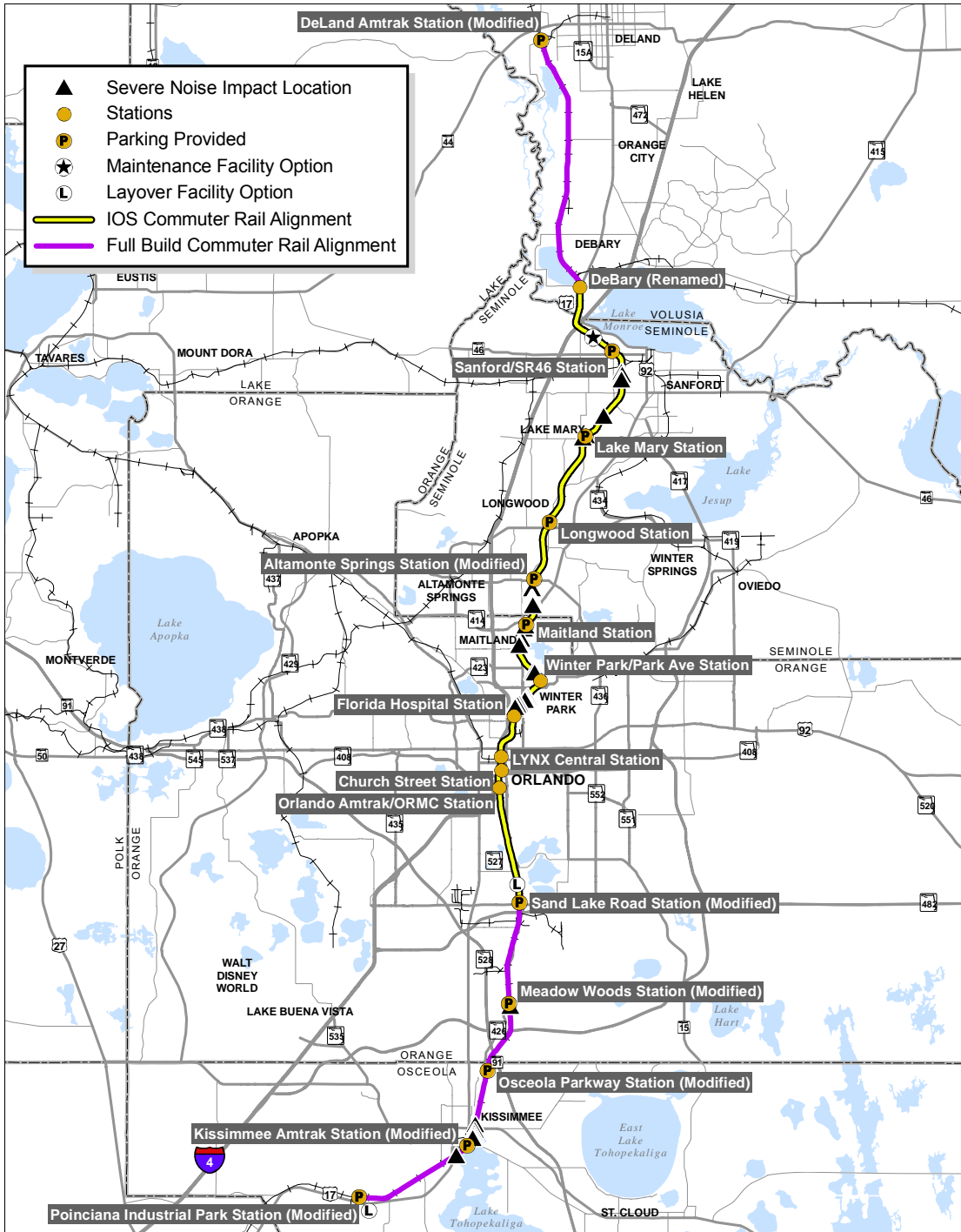
It should be noted that many of these receptors are currently exposed to noise from warning horns from the existing freight and Amtrak trains operating along the Project corridor. As shown in Figure 2-2b above, receptors already exposed to high levels of existing noise will have a larger impact due to a smaller increase in noise levels than receptors located in areas with low levels of existing noise. This exposure is captured in the existing ambient noise levels. Receptors that experience impacts from freight and passenger operations and that are not predicted to experience impacts in the moderate or severe range from the Project are not listed as impacted receptors as part of this analysis.

Figure 2-6 shows the general distribution of the severe impacted receptors along the entire Project corridor. Figures A-1 through A- 8, in Appendix A-2, show the location of the severe impacted receptors on more detailed maps of the Project corridor. These figures also include a receptor identification number that can be used to locate this receptor in the table of impacted receptors located in Appendix A-1. Appendix A of this report shows the approximate mile markers for the start and end point of each of the 17 regions. Appendix A contains a complete listing of all the impacted receptors, including receptor identification number, distance from rail corridor, approximate mile marker, train speed, impact criteria, and calculated noise level from the proposed CRT Project.

**Table 2-5 - Distribution of Noise Impacts in CRT Corridor without Mitigation (DMUs vs. Diesel Locomotive and Rail Cars)**

<i><b>REGION</b></i>	<i><b>STATION VICINITY</b></i>	<i><b>DMU RAIL VEHICLES</b></i>		<i><b>DIESEL LOCOMOTIVE AND RAIL CARS</b></i>	
		<i><b>MODERATE IMPACTS</b></i>	<i><b>SEVERE IMPACTS</b></i>	<i><b>MODERATE IMPACTS</b></i>	<i><b>SEVERE IMPACTS</b></i>
1	DeLand	2	0	3	0
2	Debary	0	0	1	0
3	Sanford	18	3	19	5
4	Lake Mary	16	2	29	3
5	Longwood	6	0	6	0
6	Altamonte Springs	20	10	29	14
7	Maitland	18	15	35	22
8	Winter Park	19	8	13	12
9	Florida Hospital	16	7	16	12
10	Lynx Central	0	0	0	0
11	Church Street	2	0	4	0
12	ORMC/Amtrak	0	0	0	0
13	Sand Lake	0	0	0	0
14	Meadow Woods	12	2	17	2
15	Osceola	0	0	0	0
16	Kissimmee	26	7	34	13
17	Poinciana	8	0	13	1
<b>Total</b>		<b>163</b>	<b>54</b>	<b>219</b>	<b>84</b>





**Figure 2-6 - General Distribution of Severe Noise Impacts in the Corridor**

#### 2.5.2. Vehicle Storage and Maintenance Facility (VSMF) and Layover Facilities

The rail yard noise assessment was performed in accordance with the procedures contained in the FTA guidance manual. A noise assessment was performed for the VSMF facility located at Rand Yard and the layover facilities located at the DeBary Station north terminus and the Poinciana Industrial Park Station south terminus.

The VSMF facility at the Rand Yard will provide for overnight storage of the trains with operations beginning at approximately 5:30 AM with the final train sets returning at approximately 11:00 PM. The yard vehicle maintenance operations include car cleaning, fueling, and maintenance work would not occur outside of this time frame. The VSMF would also be used for midday storage of the trains. The locomotives will not be left idling overnight or between peak service periods at the VSMF. The section of the maintenance building with the two pit tracks is totally enclosed with metal roll-up doors at either end of the building that can be closed. The car washing and refueling area is open with a canopy cover. The locomotives, adjusted according to the levels used in operational analysis, have an L<sub>max</sub> noise level of 74 dBA at a distance of 50 feet during engine idle. The transit cars have an L<sub>max</sub> noise level of 64 dBA at a distance of 50 feet. The nearest residences are located on Bristol Forest Trail that is approximately 1200 feet from the maintenance building and 2100 feet from the layover area where the trains are stored overnight. In addition, there is a 6 to 8 foot high wall along the rail yard property line that acts as a noise barrier to provide additional noise reduction. The estimated L<sub>DN</sub> noise level at the residences along Bristol Forest Trail is 62 dBA. Using the FTA noise impact criteria curves in Table 2, for an existing noise level of 62 dBA, the FTA 'impact' criterion is 58.6 dBA, and the 'severe impact' criterion is 64.2 dBA. Based on the expected commuter train operations at the VSMF facility, the predicted L<sub>DN</sub> noise level at the nearest residences along Bristol Forest Trail is 53.4 dBA, which is below the FTA impact criteria.

The DeBary Station Layover Facility at the north terminus of the Project corridor would be used primarily for midday storage of commuter trains between peak hour operations. No overnight storage of commuter trains is anticipated at this facility because of its proximity to Rand Yard. The nearest residential receptors are located on Quail Lake Drive approximately 3000 feet east of the layover facility. Because of the distance and the minimal level of activity at this layover facility, noise from the commuter trains will not impact the nearest residents on Quail Lake Drive.

The Poinciana Industrial Park Station Layover Facility at the south terminus of the Project corridor would be used primarily on weekdays during the mid-day period and then again for overnight storage of 4 to 5 commuter train sets to provide the first inbound service in the morning. The nearest residential receptors are located along Louis Drive approximately 1700 feet east of the layover facility. Because of the distance and the minimal level of activity at this layover facility, noise from the commuter trains will not impact the nearest residents on Louis Drive.

## 2.6. Mitigation

The results of the noise analysis indicate that a total of 84 residential receptors would be severely impacted by the warning horns. Fifty-nine (59) of these severe impacted receptors would have a noise level of 3 dBA or less above the FTA severe impact criteria, fifteen impact receptors have a noise level between 3 dBA and 5 dBA and ten of the severe impacted receptors would have a noise level between 5 to 10 dBA above the FTA severe impact criteria with the most severe impacted receptor having a noise level of 9.7 dB above the FTA severe impact criteria.

Standard warning horn mitigation measures include<sup>3</sup> changing the location of train horns on locomotives and changing the directivity of train horns. One method<sup>4</sup> of mitigation is changing the directivity of the horn by using a metal shroud with high absorption acoustic insulation. This horn shroud design has been estimated to reduce the sideline noise levels by up to 22 dBA (according to the noise study prepared for the UTA Project) while maintaining full level of on-axis output that would meet the FRA minimum sound level requirements, and FTA has concluded<sup>5</sup> that FDOT can use up to 22 dBA for horn noise mitigation.

To mitigate the horn noise impacts the CRT Project will relocate the locomotive train horn from the roof to a location approximately three (3) feet above top of rail and incorporate a metal horn shroud with high absorption acoustic insulation to reduce the sideline noise. For the CRT Project, a 22 dBA reduction would reduce the total 303 combined severe and moderate impacts to zero (0) total impacts. These results are also summarized in Table 2-6.

Prior to project start-up, all on-board horns will be calibrated to sound at the FRA minimum noise requirement of 96 dBA  $L_{max}$  measured at a distance of 100 feet from the centerline of the horn. As a part of the project start-up noise testing, corridor noise monitoring will be carried out that replicates the monitoring conducted in May 2005, using the same 12 noise sensitive receptors at the train speeds indicated. Applying these mitigation techniques to reduce sideline noise of the warning horns is expected to eliminate all moderate and severe impacts of the CRT.

During the start-up period of commuter rail operations, FTA, with the assistance of FDOT, will prepare a detailed noise assessment. This assessment will verify the predicted project noise levels in the original EA and test the efficacy of its operational and horn noise analysis and mitigation measures to ensure that there will be minimal community noise impacts from this project. If the detailed noise analysis determines the presence of the CRT Project has no impact on the project noise levels, the FTA and FDOT will be satisfied that all noise mitigation measures have been successful.

If noise monitoring during the start-up period reveals that the selected mitigation does not adequately control noise, FDOT is committed to adopting additional measures to reduce noise. Sound insulation or other mitigation measures will be installed as required at any remaining impacted noise receptors to mitigate to the "moderate" range all potential noise impacts of the CRT Project, as specified in the original FONSI. Specific

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<sup>3</sup> "Approaches to Reducing Noise Impact from Train Horns", Lance Meister, Harris Miller Miller & Hanson Inc.

<sup>4</sup> FEIS prepared for Utah Transit Authority Weber County to Salt Lake City Commuter Rail Project (April 2005).

<sup>5</sup> Federal Transit Administration, Letter to FDOT District V Secretary, Re: CFCRT SEA Technical Documentation, December 18, 2009,

application of these mitigation measures will be identified and evaluated as the project design progresses.

In this case, all impacts in the “severe” range will be eliminated and the number of impacts in the “moderate” range will be minimized. Such an outcome is consistent with FTA’s original EA and the resultant FONSI for the project.

It should be noted that the warning horns from the freight trains and Amtrak trains that will continue to operate along the Project corridor will continue to sound their warning horns when approaching the grade crossings at their current much higher  $L_{MAX}$  noise level of 110 dBA at a distance of 50 feet. The CFCRT Project will not mitigate the noise from freight and Amtrak passenger trains.

**Table 2-6 - Estimated Reduction in Number of Impacted Receptors**

Region	Station Vicinity	Without Mitigation		Horn Shroud with Estimated Reduction – 22 dBA	
		Moderate Impacts	Severe Impacts	Moderate Impacts	Severe Impacts
1	DeLand	3	0	0	0
2	Debary/Saxon	1	0	0	0
3	Sanford	19	5	0	0
4	Lake Mary	29	3	0	0
5	Longwood	6	0	0	0
6	Altamonte Springs	35	22	0	0
7	Maitland	29	14	0	0
8	Winter Park	13	12	0	0
9	Florida Hospital	16	12	0	0
10	Lynx Central	0	0	0	0
11	Church Street	4	0	0	0
12	ORMC/Amtrak	0	0	0	0
13	Sand Lake	0	0	0	0
14	Meadow Woods	17	2	0	0
15	Osceola	0	0	0	0
16	Kissimmee	34	13	0	0
17	Poinciana	13	1	0	0
<b>Totals</b>		<b>219</b>	<b>84</b>	<b>0</b>	<b>0</b>



## 3. Vibration

This section explains the FTA Vibration Criteria, the results of the existing source vibration measurement program, and the evaluation of impacts due to the change to FRA-compliant locomotives, coaches and cab cars from DMU vehicles along the Project corridor. As stipulated by FTA guidance for the purpose of this vibration analysis, it is assumed the freight and Amtrak operations were absent. It should be noted, however, that the existing CSXT A-Line freight and passenger corridor currently operates 26 trains per day – 6 Amtrak passenger trains, 10 local freight trains and 10 road freights (or through) trains. The through freight trains include Intermodal trains, Auto-rack trains, Merchandise trains and Bulk, Coal and Rock unit trains with consists that include two or three locomotives per train pulling more than 100 freight cars.

### 3.1. Human Perception of Vibration

The characteristics and properties used to describe ground-borne vibration and noise are explained in the following subsections.

#### 3.1.1. Describing Vibration

Ground-borne vibration associated with vehicle movements is usually the result of uneven interactions between the wheel and the road or rail surfaces. Examples of such interactions (and subsequent vibrations) include train wheels over a jointed rail, an untrue railcar wheel with “flats”, and motor vehicle wheels hitting a pothole or even a manhole cover.

Unlike noise, which travels in air, transit vibration typically travels along the surface of the ground. Depending on the geological properties of the surrounding ground and the type of building structure exposed to transit vibration, vibration propagation may be more or less efficient. Buildings with a solid foundation set in bedrock are “coupled” more efficiently to the surrounding ground and experience relatively higher vibration levels than those buildings located in sandy soil.

Similarly, ground-borne noise results from vibrating room surfaces located near a heavily traveled transit corridor, such as a subway line. Consequently, annoyance resulting from the “rumbling” sound of ground-borne noise is only evaluated indoors and is described using the A-weighted decibel.

#### 3.1.2. Description of Vibration Levels

Vibration induced by vehicle passbys can generally be discussed in terms of displacement, velocity, or acceleration. However, human responses and responses by monitoring instruments and other objects are more accurately described with velocity. Therefore, the vibration velocity level is used to assess vibration impacts.

To describe the human response to vibration, the average vibration amplitude called the root mean square (RMS) amplitude, is used to assess impacts. The RMS velocity is expressed in inches per second (ips) or decibels (VdB). All VdB vibration levels are referenced to 1  $\mu$ ips.

To evaluate the potential for damage to buildings, the peak particle velocity (PPV) is also used to characterize the vibration. Typically expressed in units of ips, PPV represents the maximum instantaneous vibration velocity observed during an event. Typical ground-borne vibration levels from transit and other common sources are shown in Figure 3-1.

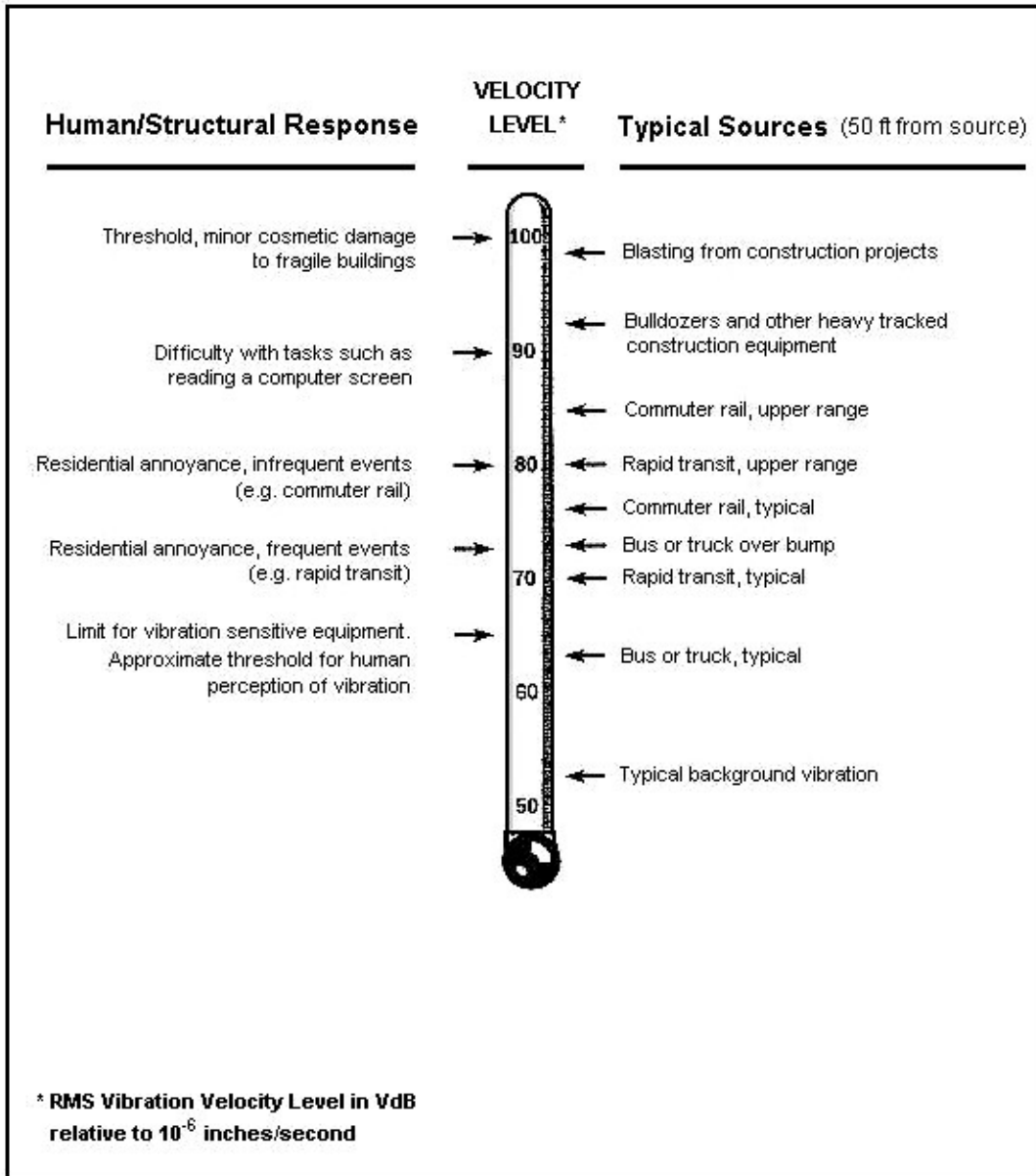


Figure 3-1 - Typical Ground-Borne Vibration Levels

### 3.2. Vibration Evaluation Criteria

As described in the following subsections, the FTA criteria will be used to assess annoyance due to vibration and ground borne noise from single event transit operations.

### 3.2.1. Federal Criteria

The FTA vibration criteria for evaluating ground borne vibration (and noise) impacts from train passbys at nearby sensitive receptors are shown in Table 3-1. These vibration criteria are related to ground borne vibration levels that are expected to result in human annoyance, and are based on RMS velocity levels expressed in VdB. The FTA's experience with community response to ground borne vibration indicates that when there are only a few train events per day, it would take higher vibration levels to evoke the same community response that would be expected from more frequent events. This is taken into account in the FTA criteria by distinguishing between projects with frequent and infrequent events, where the frequent events category is defined as more than 70 events per day. The vibration criteria levels shown in Table 3-1 are defined in terms of human annoyance for different land use categories such as high sensitivity (Category 1), residential (Category 2), and institutional (Category 3). The vibration criteria from the FTA's 1995 guidance manual was used in this analysis to be consistent with the previous vibration assessment prepared for the DMU vehicles.

According to FTA guidance (1995, p. 8-4), the CFCRT will be implemented in a heavily-used rail corridor. For purposes of determining the vibration impacts of the project, FTA guidance assumes that the 56 SunRail operations per day constitute a significant increase in the number of ground-borne vibration or noise events. Since annoyance criteria are based upon the intensity and frequency of events, the standard vibration criteria are applied to the project.

In general, the vibration threshold of human perceptibility is approximately 65 VdB. In addition, the vibration levels shown in Table 3-1 are well below the onset of building damage criteria levels of approximately 95 to 100 VdB. It is extremely rare for vibration from train operations to cause any sort of building damage, including minor cosmetic damage.

**Table 3-1 - FTA Ground-Borne Vibration Impact Criteria for Annoyance (VdB)**

<i>RECEPTOR LAND USE</i>		<i>RMS VIBRATION LEVELS (VdB)</i>		<i>GROUND-BORNE NOISE LEVELS (dBA)</i>	
<i>CATEGORY</i>	<i>DESCRIPTION</i>	<i>FREQUENT EVENTS</i>	<i>INFREQUENT EVENTS</i>	<i>FREQUENT EVENTS</i>	<i>INFREQUENT EVENTS</i>
1	Buildings where low vibration is essential for interior operations	65	65	N/A	N/A
2	Residences and buildings where people normally sleep	72	80	35	43
3	Daytime Institutional and office use	75	83	40	48
Specific Buildings	TV/Recording Studios/Concert Halls	65	65	25	25
	Auditoriums	72	80	30	38
	Theaters	72	80	35	43

Note: N/A = not applicable. Vibration-sensitive equipment is not affected by ground-borne noise.

Source: *Transit Noise and Vibration Assessment*, Federal Transit Administration, Washington, D.C., April 1995.

While vibration criteria are generally used to assess annoyance from transit sources at the exterior facade of receptors, ground borne noise, or the rumbling sound due to vibrating room surfaces, is typically assessed indoors. In general, the relationship between vibration and ground borne noise depends on the dominant frequency of the vibration and the acoustical absorption characteristics of the receiving room. Typical soil conditions were assumed everywhere along the corridor for computing ground-borne noise.

### 3.3. Modeling Methodology and Assumptions

A description of the modeling methodologies and the types of vibration sources included in the modeling prediction are described in the following sub-sections.

#### 3.3.1. Modeling Methodology

Using the FTA's General Assessment methodology, vibration levels from CRT passbys were predicted at receptors along the Project corridor.

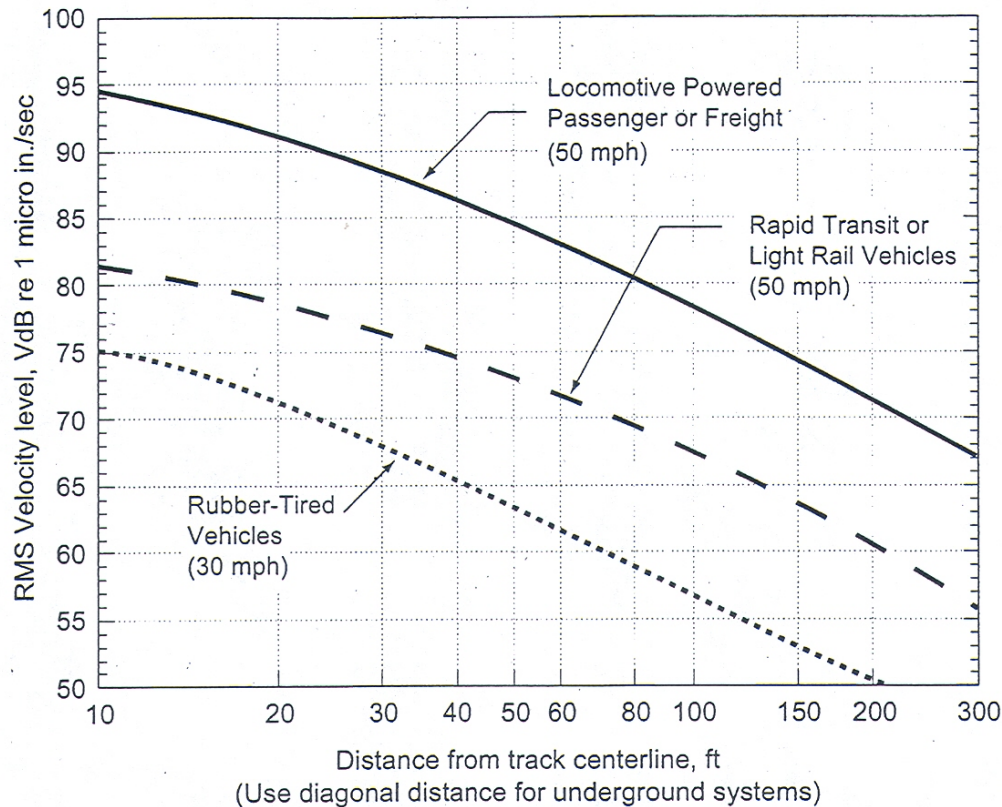
Vibration levels from CRT passbys at sensitive receptors along the Project corridor were determined using the FTA guidelines. Only train passbys along continuously welded rail and rail discontinuities such as switches, were included in the modeling analysis.

A vibration measurement program was conducted to better determine the extent of ground-borne vibration levels from existing passenger and freight trains as well as to provide insight into the type of soil conditions found along the Project corridor. The results of the measurement program are discussed in Section 3.4

The reference vibration levels used in the impact assessment for the CRT passbys are based on the FTA's generalized ground surface propagation curve for locomotives as shown in Figure 3-2. The curves in Figure 3-2 are based on measurements of ground-borne vibration from representative North American transit systems. The top curve applies to locomotive powered trains traveling at 50 mph for generalized ground propagation conditions. The curves in Figure 3-2 represent the upper range of the measured data.

The locomotive vibration curve in Figure 3-2 was adjusted for train speed to determine the vibration level for the receptors along the Project corridor. The predicted vibration levels were then compared to the FTA criteria in Table 3-1 to determine impact.





Source: *Transit Noise and Vibration Impact Assessment*, Federal Transit Administration, Washington, D.C., April 1995.

**Figure 3-2 - FTA Generalized Ground Surface Vibration Curves**

### 3.4. Existing Conditions

The scope and results of the vibration-monitoring program are described in the following section.

#### 3.4.1. Transit Source Levels

Vibration measurements were conducted at 6 of the 12 noise measurement locations as shown in Figure 2-. The measured vibration levels are indicative of either Amtrak passenger operations, or freight operations.

The results of the vibration measurements are summarized in Table 3-2. The measured vibration levels range from 74 to 83 VdB. The variation in the measured levels is mostly a function of distance and speed. However, the condition of the wheels on the locomotives and the rolling stock for the freight and Amtrak trains can have a large effect on the vibration

levels, which may account for differences in level that would not be expected based on distance and speed alone.

**Table 3-2 - Summary of Vibration Measurement Results**

<b>NUMBER</b>	<b>DESCRIPTION</b>	<b>TOWN</b>	<b>FTA CATEGORY</b>	<b>DISTANCE FROM RAIL CORRIDOR</b>	<b>MEASURED VIBRATION LEVEL (VdB)</b>
2	121 Yale Drive	Sanford	2	100 feet	74
3	202 Melissa Court	Sanford	2	100 feet	82
5	425 Lake Seminary Circle	Maitland	2	150 feet	81
6B	Florida Hospital Complex <sup>1</sup>	Orlando	2	100 feet	75
7B	Cypress Grove Park	Orlando	3	100 feet	78
9	42 Neptune Road	Kissimmee	2	150 feet	83

<sup>1</sup>For practical reasons, this measurement could not be made exactly at noise measurement location 6. The location actually used was approximately 500 feet to the south.

### 3.5. Predicted Impacts and Vibration Assessment

Vibration impacts from CRT vehicles were evaluated at discrete receptors using the FTA criteria based on the maximum vibration level generated by single-event passbys. Unlike the cumulative noise criteria, vibration criteria are evaluated based on single-event passbys.

As shown in Table 3-1, the FTA methodology provides for two levels of criteria for impact assessment – one for “Frequent”, and one for “Infrequent” events. The total number of daily operations proposed in the CRT schedule is less than 70, and therefore, the FTA criteria level for “Infrequent” events was used in the vibration assessment. Referring to Table 3-1, the impact criteria for all of the residential receptors (Category 2) in the area is therefore 80 VdB (no Category 1 receptors were found within the corridor).

The results of the vibration assessment indicate that 99 receptors along the CRT corridor are predicted to have vibration levels that are above the FTA annoyance criterion of 80 VdB for residential receptors with infrequent train events. These receptors are all located within a distance of approximately 90 feet or less from the nearest tracks. Table 3-3 shows the general distribution of the vibration impacts by region and station vicinity along the Project corridor. A more detailed description of the results of the vibration impact assessment is presented in Appendix B. These results indicate that the predicted vibration levels for the 99 impacted receptors ranged from just above 80 VdB to 89 VdB. A total of 59 impacted receptors had predicted vibration levels that were only 1 or 2 VdB above the FTA impact criterion. Seven impacted receptors had predicted vibration levels that were more than 5 VdB above the FTA impact criterion. Figure 3-3 graphically shows the distribution of the vibration-impacted receptors along the Project corridor. Figures B-1 through B-8, in Appendix B-2, show the location of these vibration-impacted receptors using more detailed maps of the Project corridor. These figures also include an identification number for each of the vibration-impacted receptors that can be referenced to the list of the impacted receptors in Appendix B-1 that also contains the predicted vibration level for each of the impacted receptors.

In the previous vibration assessment for the DMU vehicles, no vibration impacts were predicted to occur along the Project rail corridor. Because the DMUs are lighter than a diesel locomotive, at a speed of 50 mph they would generate a vibration level of 80 VdB at a distance of 15 to 25 feet from the rail corridor depending on the axle loads and suspension parameters of the particular DMU vehicle design.

**Table 3-3 - Impacted Receptors with Vibration Levels Above FTA Criterion**

<b>REGION</b>	<b>STATION VICINITY</b>	<b>NO. OF IMPACTS</b>
1	DeLand	0
2	Debary	0
3	Sanford	0
4	Lake Mary	23
5	Longwood	17
6	Altamonte Springs	26
7	Maitland	12
8	Winter Park	1
9	Florida Hospital	0
10	Lynx Central	0
11	Church Street	5
12	ORMC/Amtrak	0
13	Sand Lake	0
14	Meadow Woods	8
15	Osceola	0
16	Kissimmee	7
17	Poinciana	0
<b>Total</b>		<b>99</b>

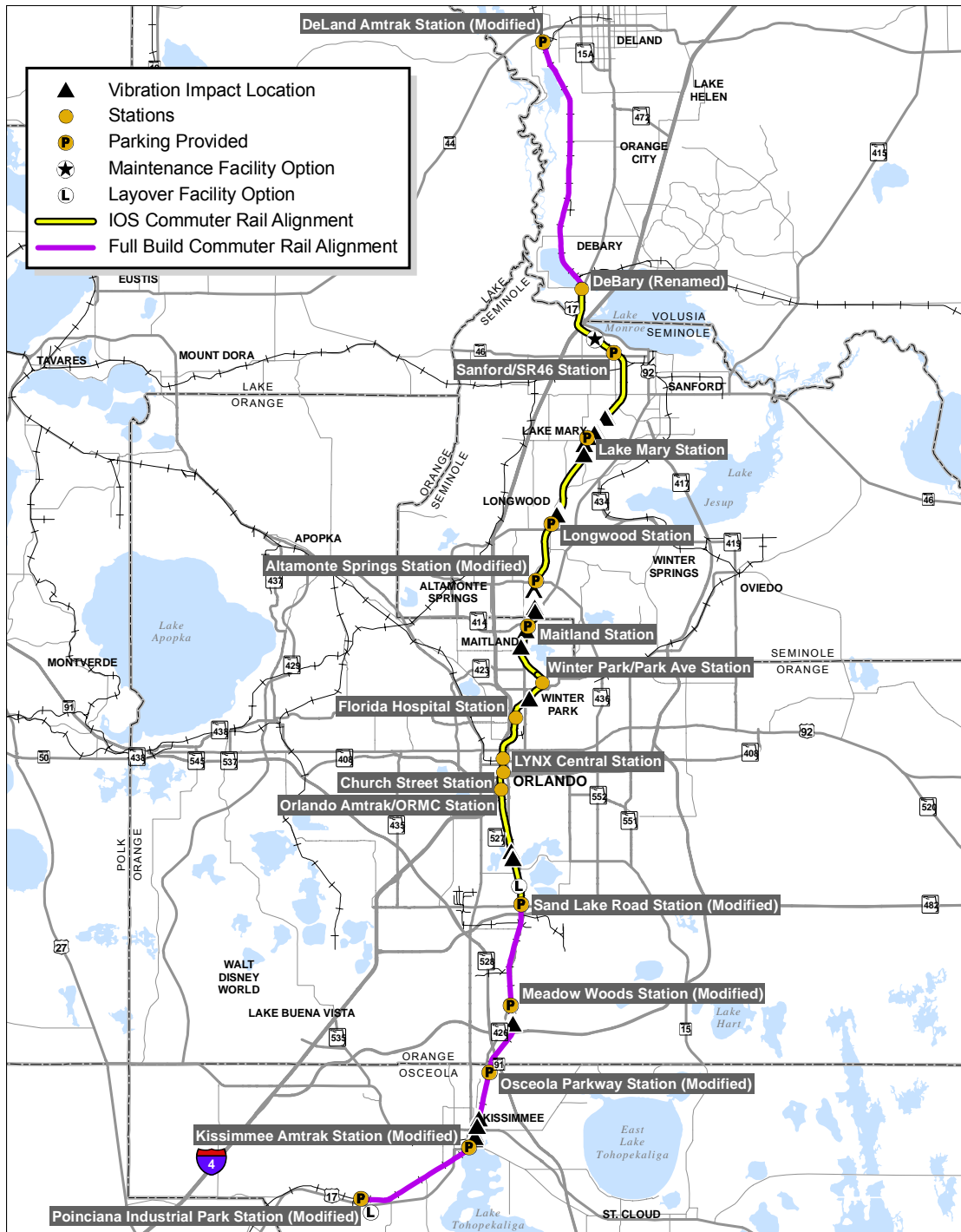


Figure 3-3 - General Distribution of Vibration Impacts on the CRT Project Corridor



### 3.6. Mitigation

It should be noted that the 99 vibration impacted receptors are already impacted by the existing freight and Amtrak trains that operate along the Project corridor. In addition, freight rail car wheel sets are generally more prone to operating with wheel flats than passenger rail cars that require regular maintenance (wheel-truing) to remove wheel flats to provide better passenger comfort. Because of wheel flats, freight cars can generate vibration levels that are equal to or even greater than the vibration levels generated by the heavier diesel locomotives. A typical through freight train in the Orlando area can have more than 100 rail cars being pulled by three 200-ton locomotives resulting in a train length of approximately 6,000 feet that will generate vibration levels for a much longer duration time than the vibration levels generated by the proposed CRT trains with one locomotive and up to three rail cars.

The FTA guidance manual states that vibration control measures developed for rail transit systems are not effective for freight trains.<sup>6</sup> This is due to their heavier weight (when loaded), and higher axle wheel loads. Problems with wheel flats and rail surfaces can increase vibration levels by as much as 20 VdB, negating the effects of even the most effective vibration control measures. As a result, because of the presence of freight on shared tracks, there are no practical measures for mitigating vibration. Because of these issues, and because this is, and will continue to be, an active freight and Amtrak rail corridor, it is not practical or recommended to mitigate vibration for the CRT Project.

Although the number of daily train trips is predicted to increase by 56 for the Full Build (2030) CRT Alternative, the vibration levels generated by each CRT train is projected to be equal to or less than the vibration levels generated by each freight or passenger train currently operating in the Project corridor. Therefore, the addition of SunRail passenger trains in the rail corridor may add to the annoyance of residents directly abutting the corridor who are already impacted by existing freight and passenger trains.

The CRT Project Corridor maintenance-of-way (MOW) and the FRA-compliant locomotive and coach and cab car train vehicle maintenance programs will include preventative and corrective maintenance activities. The Project Corridor MOW plan will maintain the mainline track at FRA Track Safety Standards Class 4 Track. The CFCRT Project will be constructing all new second mainline track with new timber cross ties and new Continuous Welded Rail (CWR) and the existing track upgrades with new CWR. With the commencement of operations of commuter rail service, the rail maintenance program activities will include Corrective Rail Profile Grinding. The CRT operational service plan will include daily, 45-day, 92-day, 180-day, 365-day inspections in accordance with FRA requirements for all rolling stock to identify defects including flat spots, wheel tread shelling, and wheel flange wear. These wheel defects will be corrected by wheel truing at the CFCRT VSMF. Suspension systems will be maintained and changed out as necessary to maintain ride quality.

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<sup>6</sup> Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006, Section 8.1.3., p. 8-6.

## Appendices

## Appendix A – Region Boundaries

**Table A- 1 - List of Analysis Regions Showing Station Vicinity and Corridor Markers**

<i><b>REGION</b></i>	<i><b>STATION VICINITY</b></i>	<i><b>START MARKER</b></i>	<i><b>END MARKER</b></i>
1	DeLand	10000.0	10225.0
2	Debary	10225.0	10594.0
3	Sanford	10594.0	10963.0
4	Lake Mary	10963.0	11280.3
5	Longwood	11280.3	11440.6
6	Altamonte Springs	11440.6	11580.1
7	Maitland	11580.1	11710.0
8	Winter Park	11710.0	11836.5
9	Florida Hospital	11836.5	11930.7
10	Lynx Central	11930.7	12005.0
11	Church Street	12005.0	12050.7
12	ORMC/Amtrak	12050.7	12259.9
13	Sand Lake	12259.9	12500.3
14	Meadow Woods	12500.3	12699.0
15	Osceola	12699.0	12847.3
16	Kissimmee	12847.3	12962.0
17	Poinciana	12962.0	13261.0

## Appendix A – 1 – List of Noise Impacted Receptors

Table A- 2 - List of All Noise Impacted Receptors(both FTA ‘ Moderate Impact’ and FTA ‘Severe Impact’)

Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
1	1	138	1007	40	68	65	63	68	2		
2	1	152	1008	20	68	67	63	68	4		
3	1	142	1023	50	68	64	63	68	1		
4	2	140	2103	50	70	65	64	69	1		
5	3	133	3012	40	70	65	64	69	1		
6	3	133	3201	20	70	67	64	69	3		
7	3	86	3202	20	70	71	64	69	7	2	YES
8	3	147	3207	20	70	67	64	69	3		
9	3	107	3208	20	70	70	64	69	6	1	YES
10	3	150	3220	20	70	67	64	69	3		
11	3	172	3231	20	70	66	64	69	2		
12	3	122	3234	20	70	68	64	69	4		
13	3	123	3236	20	70	68	64	69	4		
14	3	190	3241	20	70	65	64	69	1		
15	3	99	3242	20	70	70	64	69	6	1	YES
16	3	136	3246	20	70	67	64	69	3		
17	3	125	3248	20	70	68	64	69	4		
18	3	131	3255	20	70	68	64	69	4		
19	3	133	3256	20	70	67	64	69	3		
20	3	159	3267	20	70	66	64	69	2		
21	3	162	3268	20	70	66	64	69	2		
22	3	162	3269	20	70	66	64	69	2		
23	3	178	3282	20	70	65	64	69	1		
24	3	212	3287	20	70	65	64	69	1		
25	3	54	3288	20	70	74	64	69	10	5	YES



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Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
26	3	73	3295	20	70	72	64	69	8	3	YES
27	3	162	3296	20	70	66	64	69	2		
28	3	152	3305	20	70	66	64	69	2		
29	4	87	4006	50	70	67	64	69	3		
30	4	112	4247	50	70	65	64	69	1		
31	4	91	4248	50	70	66	64	69	2		
32	4	81	4249	50	70	67	64	69	3		
33	4	80	4250	50	70	67	64	69	3		
34	4	88	4251	50	70	67	64	69	3		
35	4	28	4299	50	70	75	64	69	11	6	YES
36	4	87	4300	50	70	67	64	69	3		
37	4	81	4307	50	70	67	64	69	3		
38	4	114	4349	50	70	65	64	69	1		
39	4	108	4358	50	70	65	64	69	1		
40	4	97	4359	50	70	66	64	69	2		
41	4	45	4504	50	70	66	64	69	2		
42	4	59	4508	50	70	65	64	69	1		
43	4	58	4509	50	70	65	64	69	1		
44	4	56	4565	50	70	65	64	69	1		
45	4	59	4566	50	70	65	64	69	1		
46	4	112	4646	50	70	65	64	69	1		
47	4	101	4647	50	70	66	64	69	2		
48	4	109	4648	50	70	65	64	69	1		
49	4	97	4649	50	70	66	64	69	2		
50	4	98	4721	50	70	66	64	69	2		
51	4	57	4722	50	70	70	64	69	6	1	YES
52	4	60	4733	20	70	73	64	69	9	4	YES
53	4	74	4739	60	70	67	64	69	3		
54	4	109	4740	60	70	65	64	69	1		
55	4	107	4768	60	70	65	64	69	1		
56	4	103	4769	60	70	65	64	69	1		

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Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
57	4	107	4770	60	70	65	64	69	1		
58	4	89	4771	60	70	66	64	69	2		
59	4	109	4772	60	70	65	64	69	1		
60	4	85	4773	60	70	66	64	69	2		
61	5	63	5112	60	74	68	65	73	3		
62	5	58	5113	60	74	69	65	73	4		
63	5	55	5114	60	74	69	65	73	4		
64	5	54	5115	60	74	69	65	73	4		
65	5	75	5162	60	74	67	65	73	2		
66	5	75	5243	30	74	70	65	73	5		
67	6	138	6033	60	68	64	63	68	1		
68	6	108	6044	60	68	64	63	68	2		
69	6	135	6067	60	68	64	63	68	1		
70	6	94	6071	60	68	66	63	68	3		
71	6	122	6072	50	68	65	63	68	2		
72	6	129	6081	30	68	66	63	68	3		
73	6	90	6090	50	68	67	63	68	4		
74	6	56	6099	50	68	70	63	68	7	2	YES
75	6	64	6143	50	68	69	63	68	6	1	YES
76	6	64	6144	50	68	69	63	68	6	1	YES
77	6	73	6151	50	68	69	63	68	6	1	YES
78	6	153	6152	50	68	64	63	68	1		
79	6	151	6153	50	68	64	63	68	1		
80	6	152	6165	50	68	64	63	68	1		
81	6	143	6182	50	68	64	63	68	1		
82	6	151	6183	50	68	64	63	68	1		
83	6	148	6184	50	68	64	63	68	1		
84	6	144	6185	50	68	64	63	68	1		
85	6	144	6186	50	68	64	63	68	1		
86	6	142	6187	50	68	63	63	68	1		
87	6	135	6188	50	68	63	63	68	1		

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Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
88	6	126	6189	50	68	64	63	68	1		
89	6	151	6190	50	68	64	63	68	1		
90	6	114	6194	50	68	65	63	68	2		
91	6	112	6195	50	68	65	63	68	2		
92	6	116	6203	50	68	65	63	68	2		
93	6	112	6212	50	68	65	63	68	2		
94	6	115	6213	50	68	65	63	68	2		
95	6	125	6220	50	68	65	63	68	2		
96	6	134	6221	50	68	64	63	68	1		
97	6	43	6229	50	68	72	63	68	9	4	YES
98	6	40	6237	50	68	73	63	68	10	5	YES
99	6	46	6238	50	68	72	63	68	9	4	YES
100	6	37	6245	50	68	73	63	68	10	5	YES
101	6	33	6246	50	68	74	63	68	11	6	YES
102	6	50	6291	50	68	71	63	68	8	3	YES
103	6	40	6305	50	68	73	63	68	10	5	YES
104	6	49	6306	50	68	71	63	68	8	3	YES
105	6	79	6312	50	68	68	63	68	5		
106	6	81	6322	50	68	68	63	68	5		
107	6	144	6323	50	68	64	63	68	1		
108	6	59	6334	50	68	70	63	68	7	2	YES
109	6	50	6345	50	68	71	63	68	8	3	YES
110	6	69	6357	50	68	69	63	68	6	1	YES
111	6	64	6370	50	68	69	63	68	6	1	YES
112	6	56	6384	50	68	70	63	68	7	2	YES
113	6	59	6385	50	68	70	63	68	7	2	YES
114	6	62	6395	50	68	70	63	68	7	2	YES
115	6	60	6404	50	68	70	63	68	7	2	YES
116	6	58	6405	50	68	70	63	68	7	2	YES
117	6	48	6413	50	68	71	63	68	8	3	YES
118	6	77	6414	50	68	68	63	68	5		

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Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
119	6	83	6423	50	68	67	63	68	4		
120	6	102	6424	50	68	66	63	68	3		
121	6	92	6429	50	68	67	63	68	4		
122	6	136	6437	50	68	64	63	68	1		
123	6	67	6438	50	68	64	63	68	1		
124	7	69	7046	50	68	69	63	68	6	1	YES
125	7	63	7047	50	68	69	63	68	6	1	YES
126	7	67	7048	50	68	69	63	68	6	1	YES
127	7	63	7053	50	68	69	63	68	6	1	YES
128	7	103	7054	50	68	66	63	68	3		
129	7	69	7055	50	68	69	63	68	6	1	YES
130	7	73	7069	50	68	68	63	68	5		YES
131	7	52	7070	50	68	71	63	68	8	3	YES
132	7	63	7071	50	68	69	63	68	6	1	YES
133	7	81	7072	50	68	68	63	68	5		
134	7	153	7078	50	68	64	63	68	1		
135	7	85	7096	40	68	69	63	68	6	1	YES
136	7	136	7098	40	68	65	63	68	2		
137	7	142	7099	40	68	65	63	68	2		
138	7	99	7100	40	68	67	63	68	4		
139	7	60	7101	40	68	71	63	68	8	3	YES
140	7	59	7102	40	68	71	63	68	8	3	YES
141	7	66	7103	40	68	70	63	68	7	2	YES
142	7	120	7179	40	68	66	63	68	3		
143	7	101	7180	40	68	67	63	68	4		
144	7	99	7181	40	68	67	63	68	4		
145	7	98	7182	40	68	67	63	68	4		
146	7	97	7190	40	68	67	63	68	4		
147	7	251	7222	20	68	64	63	68	1		
148	7	263	7255	20	68	64	63	68	1		
149	7	249	7256	20	68	64	63	68	1		



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Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
150	7	265	7257	20	68	64	63	68	1		
151	7	262	7258	20	68	64	63	68	1		
152	7	257	7264	20	68	64	63	68	1		
153	7	256	7265	20	68	64	63	68	1		
154	7	259	7266	20	68	64	63	68	1		
155	7	259	7267	20	68	64	63	68	1		
156	7	260	7287	20	68	64	63	68	1		
157	7	250	7289	20	68	64	63	68	1		
158	7	188	7290	20	68	65	63	68	2		
159	7	120	7291	20	68	69	63	68	6	1	YES
160	7	147	7292	20	68	67	63	68	4		
161	7	229	7293	20	68	64	63	68	1		
162	7	248	7296	20	68	64	63	68	1		
163	7	100	7317	20	68	70	63	68	7	2	YES
164	7	229	7337	20	68	64	63	68	1		
165	7	157	7338	20	68	67	63	68	4		
166	7	248	7348	20	68	64	63	68	1		
167	8	177	8020	20	70	65	64	69	1		
168	8	113	8035	20	70	69	64	69	5		
169	8	127	8036	20	70	68	64	69	4		
170	8	178	8049	20	70	65	64	69	1		
171	8	128	8057	20	70	68	64	69	4		
172	8	87	8058	20	70	71	64	69	7	2	YES
173	8	52	8059	20	70	74	64	69	10	5	YES
174	8	28	8060	20	70	79	64	69	15	10	YES
175	8	200	8061	20	70	65	64	69	1		
176	8	213	8065	20	70	65	64	69	1		
177	8	162	8066	20	70	66	64	69	2		
178	8	99	8070	20	70	70	64	69	6	1	YES
179	8	96	8071	20	70	70	64	69	6	1	YES
180	8	137	8072	20	70	67	64	69	3		

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Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
181	8	126	8073	20	70	68	64	69	4		
182	8	66	8074	20	70	72	64	69	8	3	YES
183	8	67	8075	20	70	72	64	69	8	3	YES
184	8	150	8076	20	70	67	64	69	3		
185	8	142	8077	20	70	67	64	69	3		
186	8	115	8078	20	70	69	64	69	5		
187	8	98	8079	20	70	70	64	69	6	1	YES
188	8	103	8080	20	70	69	64	69	5		YES
189	8	92	8081	20	70	70	64	69	6	1	YES
190	8	39	8082	20	70	76	64	69	12	7	YES
191	8	68	8083	20	70	72	64	69	8	3	YES
192	9	142	9015	20	70	67	64	69	3		
193	9	211	9016	20	70	65	64	69	1		
194	9	175	9020	20	70	65	64	69	1		
195	9	88	9022	20	70	70	64	69	6	1	YES
196	9	97	9023	20	70	70	64	69	6	1	YES
197	9	96	9027	20	70	70	64	69	6	1	YES
198	9	84	9028	20	70	71	64	69	7	2	YES
199	9	105	9029	20	70	69	64	69	5		YES
200	9	133	9030	20	70	67	64	69	3		
201	9	204	9056	20	70	65	64	69	1		
202	9	176	9059	20	70	65	64	69	1		
203	9	151	9060	20	70	67	64	69	3		
204	9	109	9061	20	70	69	64	69	5		
205	9	74	9062	20	70	72	64	69	8	3	YES
206	9	51	9063	20	70	74	64	69	10	5	YES
207	9	141	9064	20	70	67	64	69	3		
208	9	114	9065	20	70	69	64	69	5		
209	9	99	9066	20	70	70	64	69	6	1	YES
210	9	94	9067	20	70	70	64	69	6	1	YES
211	9	100	9068	20	70	70	64	69	6	1	YES

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Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
212	9	140	9083	20	70	67	64	69	3		
213	9	167	9084	20	70	66	64	69	2		
214	9	120	9085	20	70	68	64	69	4		
215	9	97	9086	20	70	70	64	69	6	1	YES
216	9	81	9087	20	70	71	64	69	7	2	YES
217	9	191	9088	20	70	65	64	69	1		
218	9	172	9099	20	70	66	64	69	2		
219	9	145	9100	20	70	67	64	69	3		
220	11	97	11058	60	74	66	65	73	1		
221	11	92	11059	60	74	66	65	73	1		
222	11	73	11060	60	74	67	65	73	2		
223	11	95	11069	60	74	66	65	73	1		
224	14	123	14039	60	69	64	63	68	1		
225	14	124	14042	60	69	64	63	68	1		
226	14	123	14063	60	69	64	63	68	1		
227	14	150	14097	20	69	67	63	68	4		
228	14	129	14098	10	69	71	63	68	8	3	YES
229	14	129	14099	10	69	71	63	68	8	3	YES
230	14	134	14100	20	69	67	63	68	4		
231	14	128	14101	20	69	68	63	68	5		
232	14	128	14102	30	69	66	63	68	3		
233	14	128	14103	30	69	66	63	68	3		
234	14	265	14104	10	69	66	63	68	3		
235	14	315	14105	10	69	64	63	68	1		
236	14	373	14106	10	69	64	63	68	1		
237	14	123	14123	40	69	65	63	68	2		
238	14	119	14124	40	69	65	63	68	2		
239	14	119	14125	40	69	65	63	68	2		
240	14	119	14126	40	69	65	63	68	2		
241	14	118	14127	50	69	64	63	68	1		
242	14	57	14219	60	69	64	63	68	1		

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Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
243	16	136	16002	60	66	63	62	67	1		
244	16	141	16003	60	66	63	62	67	1		
245	16	147	16004	60	66	63	62	67	1		
246	16	150	16005	60	66	63	62	67	1		
247	16	142	16006	60	66	63	62	67	1		
248	16	154	16007	60	66	63	62	67	1		
249	16	147	16040	60	66	63	62	67	1		
250	16	73	16122	60	66	63	62	67	1		
251	16	152	16155	40	66	64	62	67	2		
252	16	43	16173	40	66	73	62	67	11	6	YES
253	16	178	16180	40	66	63	62	67	1		
254	16	161	16181	40	66	64	62	67	2		
255	16	129	16182	40	66	65	62	67	3		
256	16	130	16183	40	66	65	62	67	3		
257	16	88	16184	40	66	68	62	67	6	1	YES
258	16	48	16185	40	66	72	62	67	10	5	YES
259	16	179	16186	40	66	63	62	67	1		
260	16	103	16187	40	66	67	62	67	5		
261	16	82	16188	40	66	69	62	67	7	2	YES
262	16	168	16189	40	66	63	62	67	1		
263	16	162	16241	40	66	64	62	67	2		
264	16	195	16242	40	66	63	62	67	1		
265	16	193	16252	40	66	63	62	67	1		
266	16	124	16254	40	66	66	62	67	4		
267	16	63	16256	40	66	70	62	67	8	3	YES
268	16	155	16263	40	66	64	62	67	2		
269	16	185	16272	40	66	63	62	67	1		
270	16	190	16275	40	66	63	62	67	1		
271	16	103	16276	40	66	67	62	67	5		
272	16	153	16277	40	66	64	62	67	2		
273	16	110	16286	40	66	66	62	67	4		



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Count	Region	Distance (feet)	ID	Train Speed (mph)	Existing Noise Level (Ldn)	Predicted Noise Level (Ldn)	Moderate Impact Level Criterion (Ldn)	Severe Impact Level Criterion (Ldn)	Noise Level Above Moderate Impact Criterion (dBA)	Noise Level Above Severe Impact Criterion (dBA)	Severe Noise Impact
274	16	138	16287	40	66	65	62	67	3		
275	16	128	16288	40	66	65	62	67	3		
276	16	103	16289	40	66	67	62	67	5		
277	16	93	16292	40	66	68	62	67	6	1	YES
278	16	166	16293	40	66	63	62	67	1		
279	16	100	16295	40	66	67	62	67	5		YES
280	16	122	16296	40	66	66	62	67	4		
281	16	80	16297	40	66	69	62	67	7	2	YES
282	16	59	16298	40	66	71	62	67	9	4	YES
283	16	99	16299	40	66	68	62	67	6		YES
284	16	29	16302	40	66	76	62	67	14	9	YES
285	16	101	16303	40	66	68	62	67	6	1	YES
286	16	197	16304	40	66	63	62	67	1		
287	16	72	16433	60	66	68	62	67	6	1	YES
288	16	123	16436	40	66	66	62	67	4		
289	16	151	16451	40	66	64	62	67	2		
290	17	104	17003	40	68	67	63	68	4		
291	17	148	17024	40	68	64	63	68	1		
292	17	156	17036	40	68	64	63	68	1		
293	17	122	17041	40	68	66	63	68	3		
294	17	167	17050	40	68	64	63	68	1		
295	17	121	17073	60	68	64	63	68	1		
296	17	161	17075	40	68	64	63	68	1		
297	17	127	17086	40	68	65	63	68	2		
298	17	140	17100	40	68	65	63	68	2		
299	17	80	17101	40	68	69	63	68	6	1	YES
300	17	129	17214	60	68	64	63	68	1		
301	17	127	17218	60	68	64	63	68	1		
302	17	138	17223	60	68	64	63	68	1		
303	17	129	17224	60	68	64	63	68	1		

## **Appendix A – 2 – Noise Impact Detail Maps**

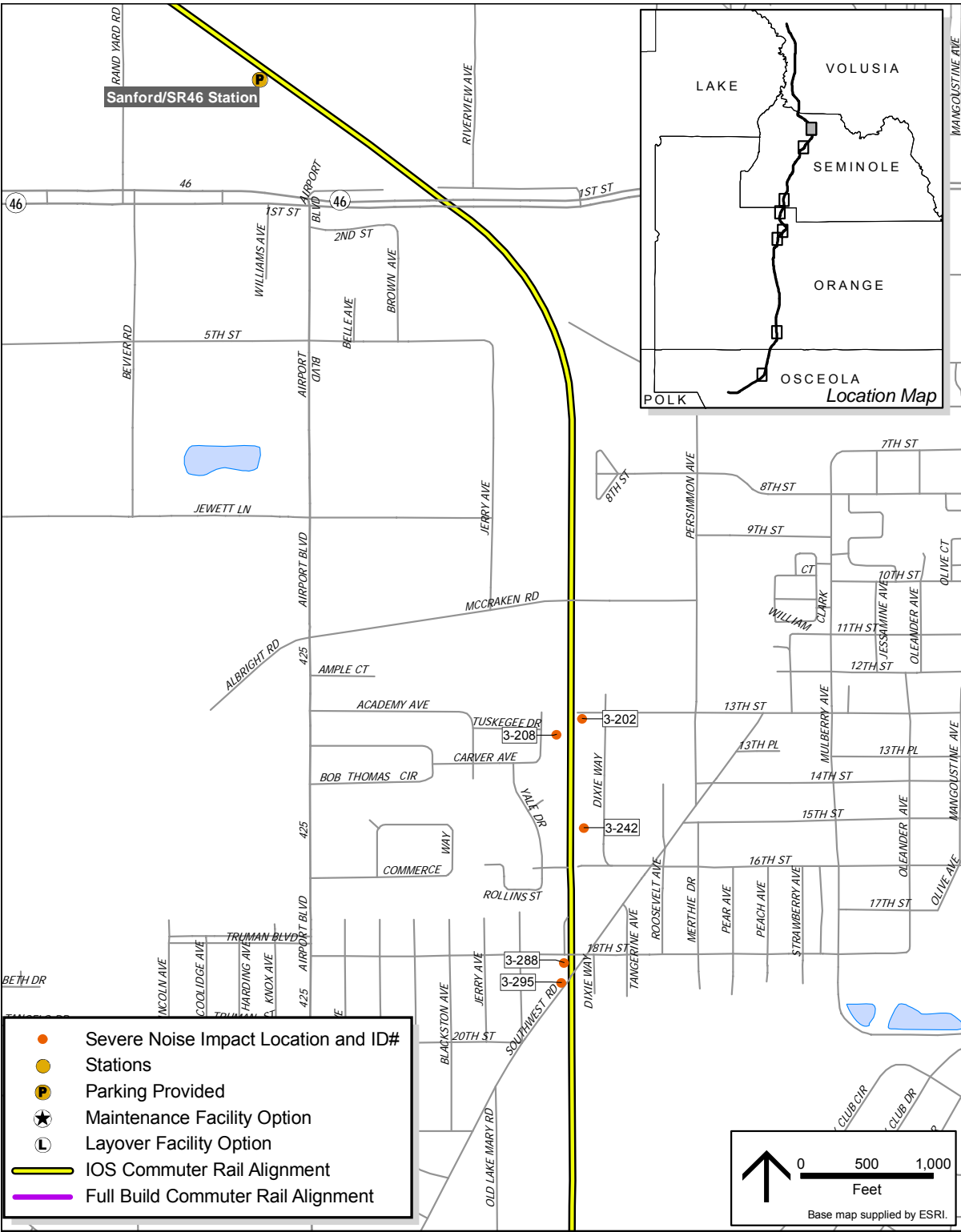


Figure A - 1 - Severe Noises Impacts - Sanford

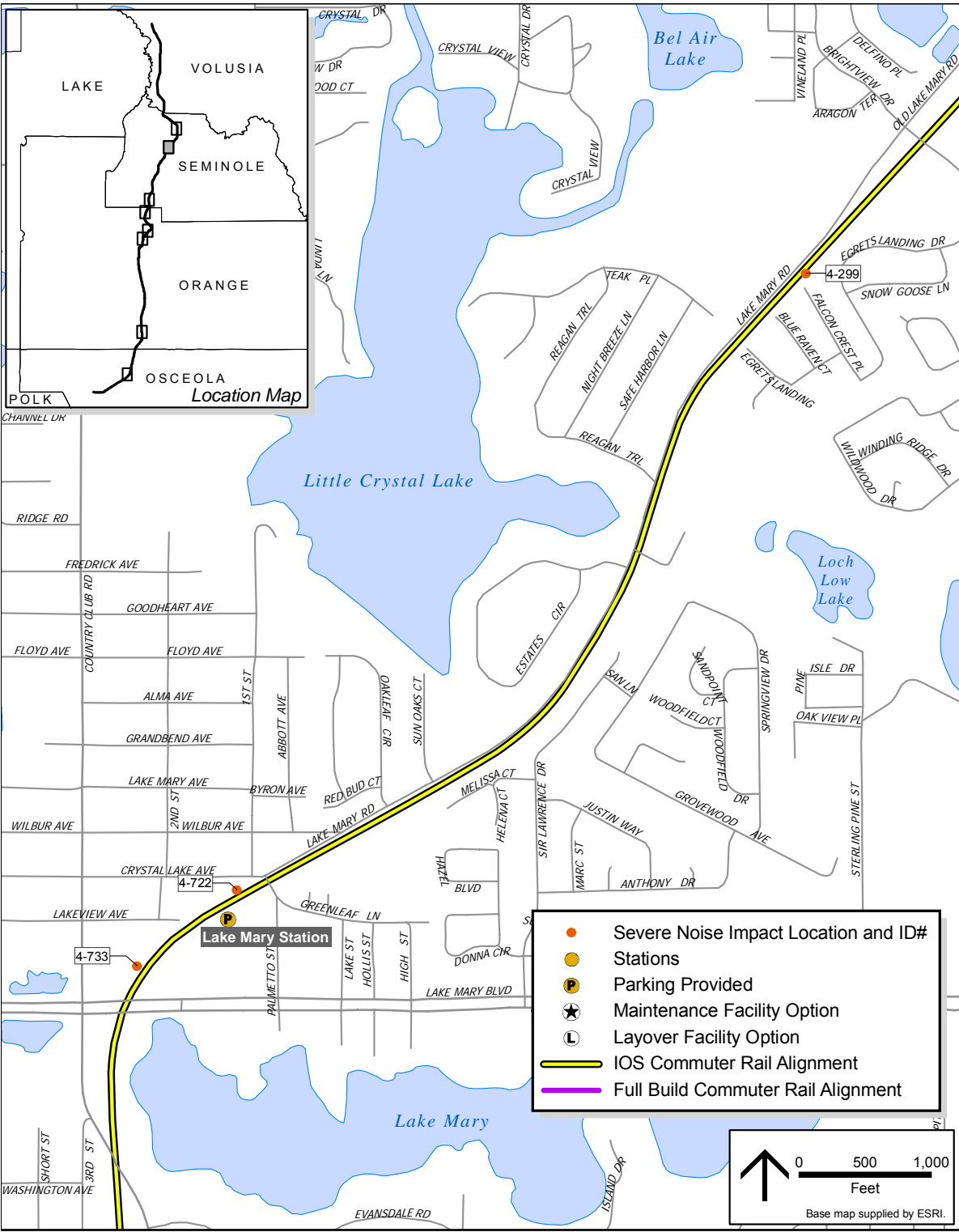


Figure A - 2 - Severe Noises Impacts - Lake Mary



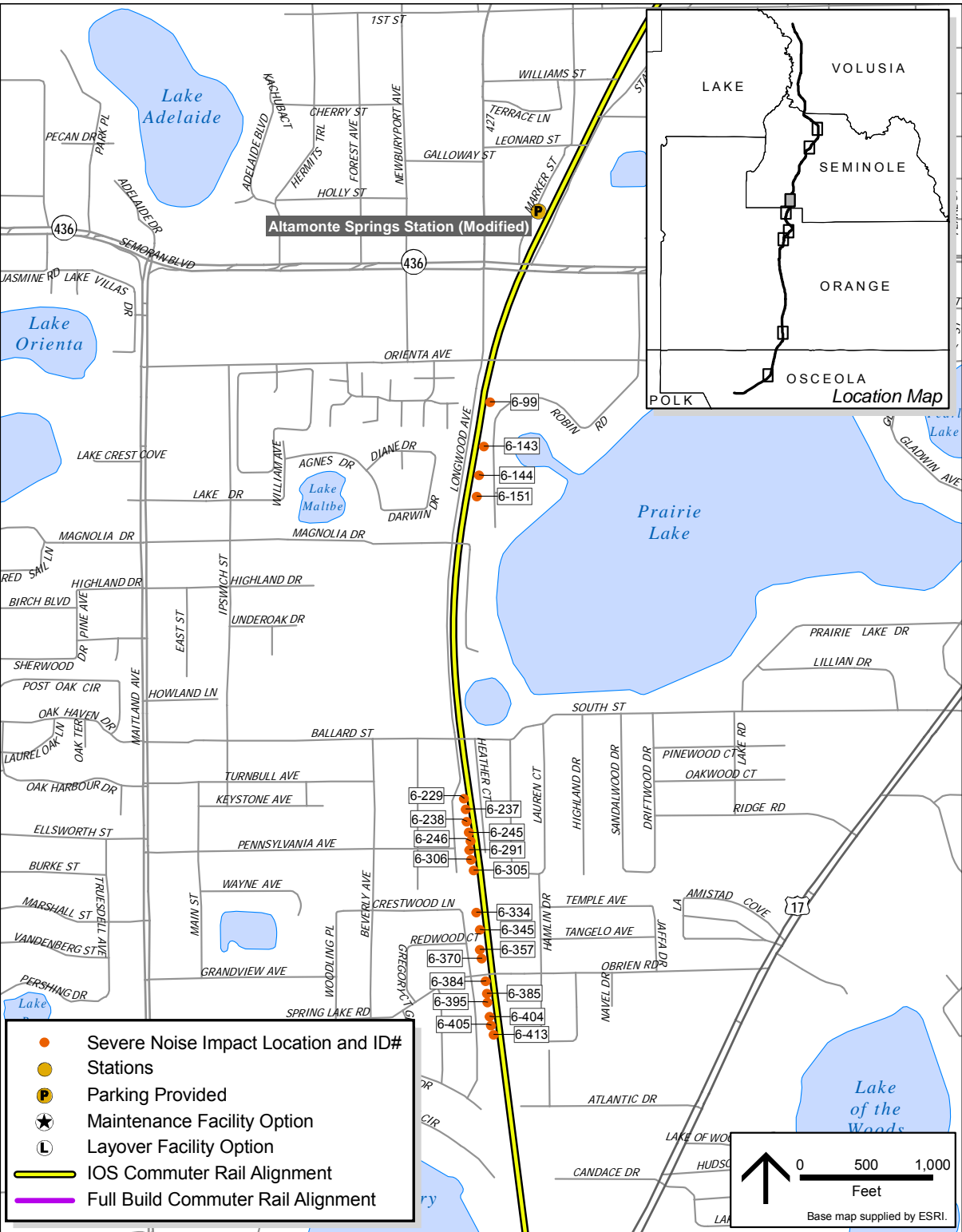


Figure A - 3 - Severe Noises Impacts - Altamonte Springs



Figure A - 4 - Severe Noises Impacts - Maitland

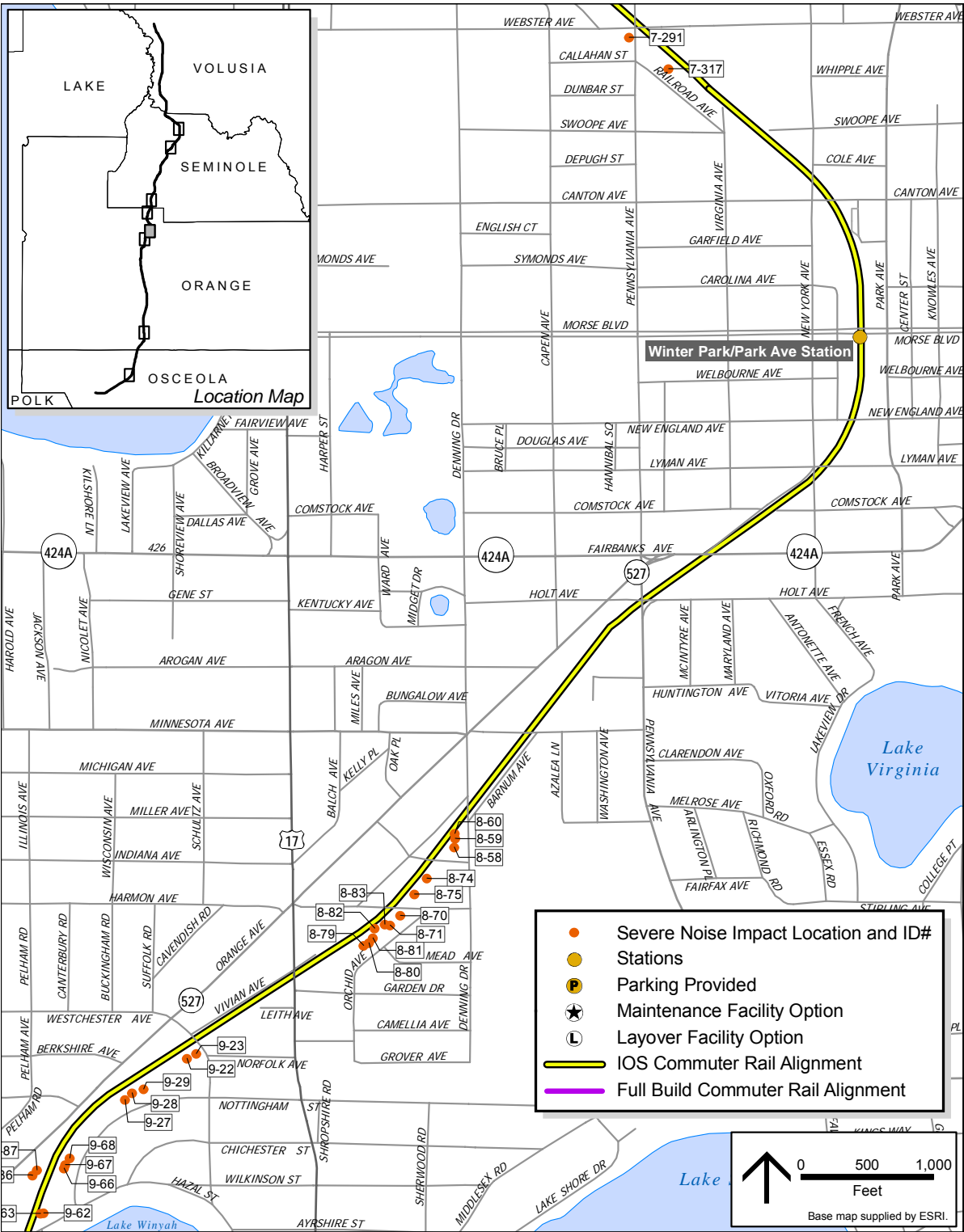
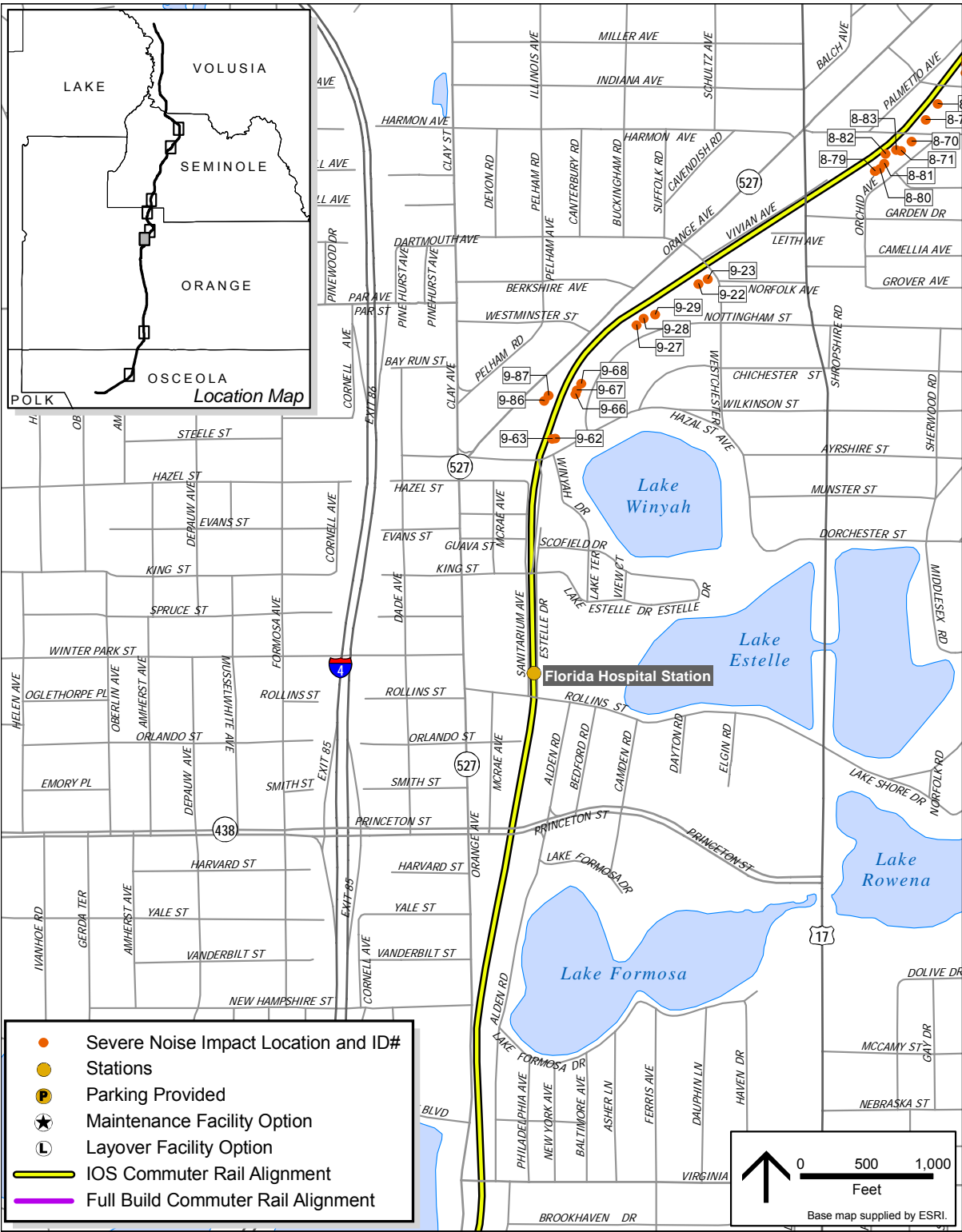


Figure A - 5 - Severe Noises Impacts - Winter Park





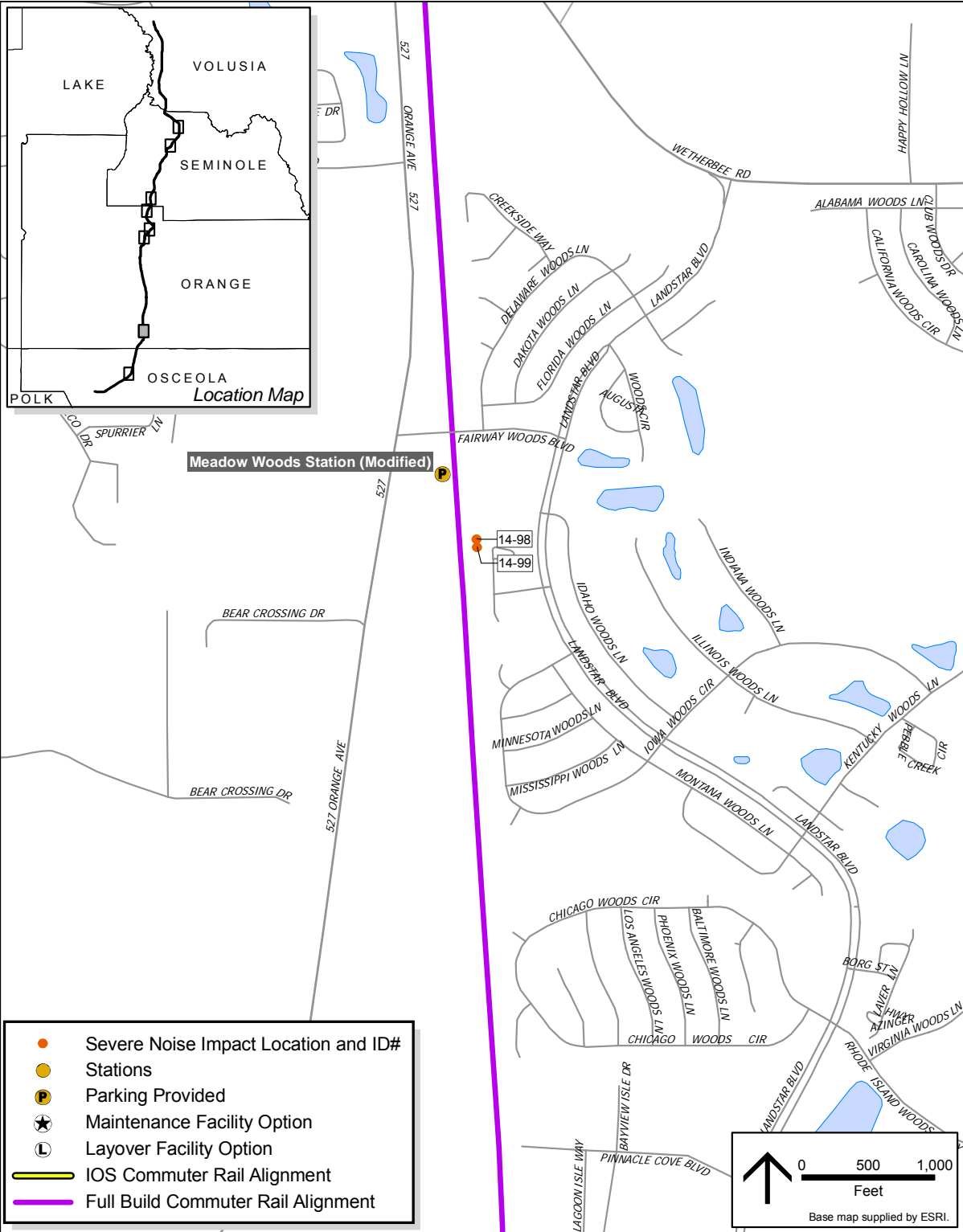


Figure A - 7 - Severe Noises Impacts - Meadow Woods

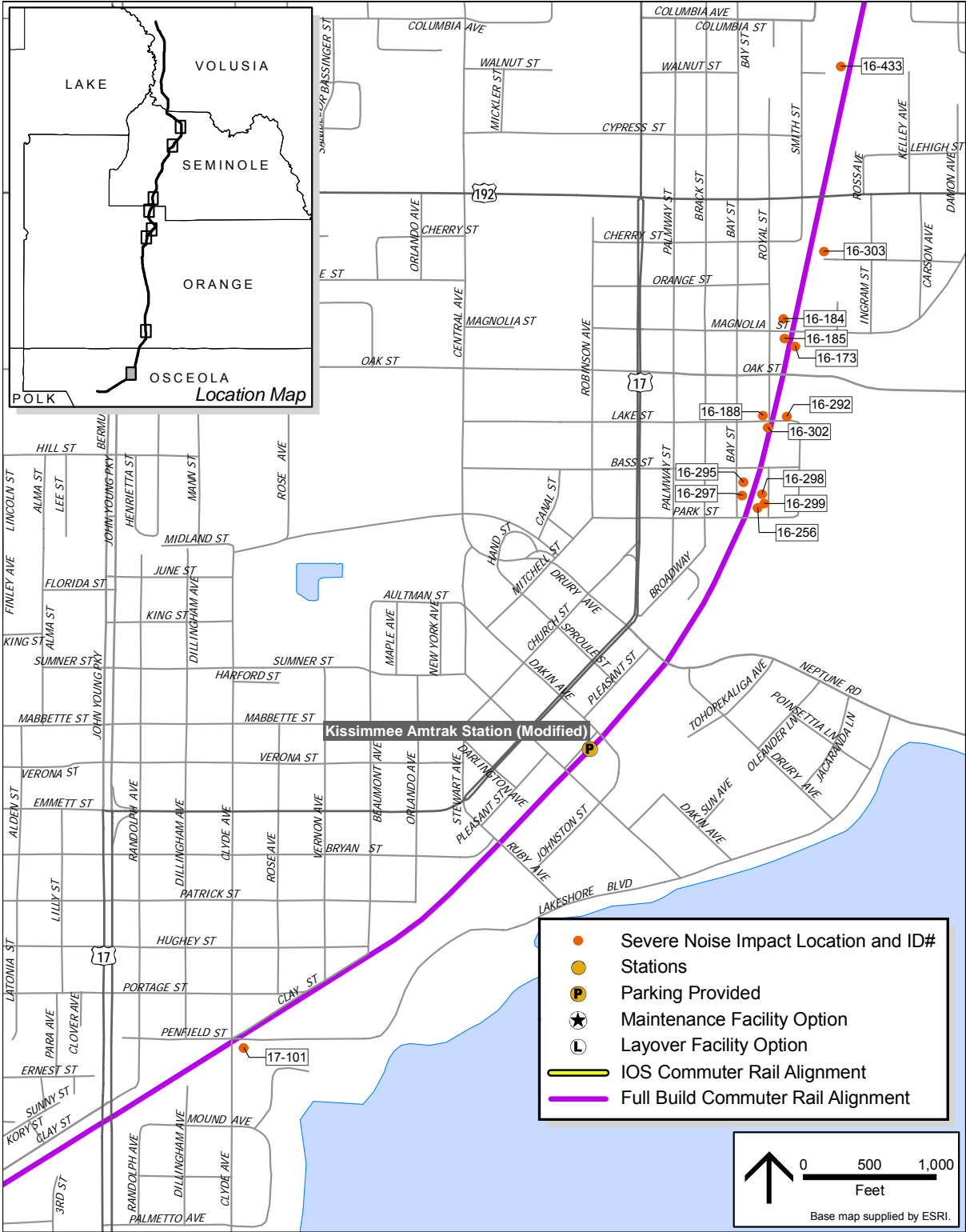


Figure A - 8 - Severe Noises Impacts - Kissimmee

## Appendix B – 1 – List of Vibration Impacted Receptors

Table B - 1 - List of All Vibration Impacted Receptors

Count	Region	Distance (feet)	ID	Train Speed (mph)	Predicted Vibration Level (VdB)	Impact Level Criterion for Infrequent Events (VdB)	Vibration Level Above Infrequent Criterion (VdB)
1	4	81	4249	50	81	80	1
2	4	80	4250	50	81	80	1
3	4	28	4299	50	89	80	9
4	4	81	4307	50	81	80	1
5	4	63	4500	50	83	80	3
6	4	45	4504	50	85	80	5
7	4	73	4505	50	81	80	1
8	4	70	4506	50	82	80	2
9	4	65	4507	50	82	80	2
10	4	59	4508	50	83	80	3
11	4	58	4509	50	83	80	3
12	4	65	4510	50	82	80	2
13	4	56	4565	50	83	80	3
14	4	59	4566	50	83	80	3
15	4	70	4586	50	82	80	2
16	4	79	4587	50	81	80	1
17	4	81	4588	50	81	80	1
18	4	71	4597	50	81	80	1
19	4	75	4598	50	81	80	1
20	4	69	4610	50	82	80	2
21	4	57	4722	50	83	80	3
22	4	74	4739	60	83	80	3
23	4	84	4826	60	81	80	1
24	5	78	5100	60	82	80	2
25	5	82	5101	60	82	80	2
26	5	84	5102	60	81	80	1
27	5	77	5103	60	82	80	2
28	5	72	5104	60	83	80	3
29	5	71	5105	60	83	80	3
30	5	85	5106	60	81	80	1
31	5	86	5107	60	81	80	1
32	5	81	5108	60	82	80	2
33	5	80	5109	60	82	80	2
34	5	81	5110	60	82	80	2
35	5	77	5111	60	82	80	2
36	5	63	5112	60	84	80	4
37	5	58	5113	60	85	80	5

Count	Region	Distance (feet)	ID	Train Speed (mph)	Predicted Vibration Level (VdB)	Impact Level Criterion for Infrequent Events (VdB)	Vibration Level Above Infrequent Criterion (VdB)
38	5	55	5114	60	85	80	5
39	5	54	5115	60	85	80	5
40	5	75	5162	60	82	80	2
41	6	56	6099	50	84	80	4
42	6	64	6143	50	82	80	2
43	6	64	6144	50	82	80	2
44	6	73	6151	50	81	80	1
45	6	43	6229	50	86	80	6
46	6	40	6237	50	86	80	6
47	6	46	6238	50	85	80	5
48	6	37	6245	50	87	80	7
49	6	33	6246	50	88	80	8
50	6	50	6291	50	84	80	4
51	6	40	6305	50	86	80	6
52	6	49	6306	50	85	80	5
53	6	79	6312	50	81	80	1
54	6	81	6322	50	81	80	1
55	6	59	6334	50	83	80	3
56	6	50	6345	50	85	80	5
57	6	69	6357	50	82	80	2
58	6	64	6370	50	82	80	2
59	6	56	6384	50	83	80	3
60	6	59	6385	50	83	80	3
61	6	62	6395	50	83	80	3
62	6	60	6404	50	83	80	3
63	6	58	6405	50	83	80	3
64	6	48	6413	50	85	80	5
65	6	77	6414	50	81	80	1
66	6	67	6438	50	82	80	2
67	7	76	7035	50	81	80	1
68	7	69	7046	50	82	80	2
69	7	63	7047	50	82	80	2
70	7	67	7048	50	82	80	2
71	7	63	7053	50	82	80	2
72	7	69	7055	50	82	80	2
73	7	73	7069	50	81	80	1
74	7	52	7070	50	84	80	4
75	7	63	7071	50	82	80	2
76	7	81	7072	50	81	80	1
77	7	60	7101	40	81	80	1
78	7	66	7103	40	81	80	1
79	8	28	8060	20	81	80	1
80	11	85	11038	60	81	80	1



Count	Region	Distance (feet)	ID	Train Speed (mph)	Predicted Vibration Level (VdB)	Impact Level Criterion for Infrequent Events (VdB)	Vibration Level Above Infrequent Criterion (VdB)
81	11	92	11059	60	81	80	1
82	11	73	11060	60	83	80	3
83	11	84	11061	60	81	80	1
84	11	95	11069	60	81	80	1
85	14	67	14217	60	83	80	3
86	14	57	14219	60	85	80	5
87	14	87	14262	60	81	80	1
88	14	79	14263	60	82	80	2
89	14	84	14264	60	81	80	1
90	14	84	14265	60	81	80	1
91	14	81	14266	60	82	80	2
92	14	81	14292	60	82	80	2
93	16	86	16121	60	81	80	1
94	16	73	16122	60	83	80	3
95	16	48	16185	40	83	80	3
96	16	63	16256	40	81	80	1
97	16	59	16298	40	81	80	1
98	16	29	16302	40	87	80	7
99	16	72	16433	60	83	80	3

## **Appendix B – 2 – Vibration Impact Detail Maps**

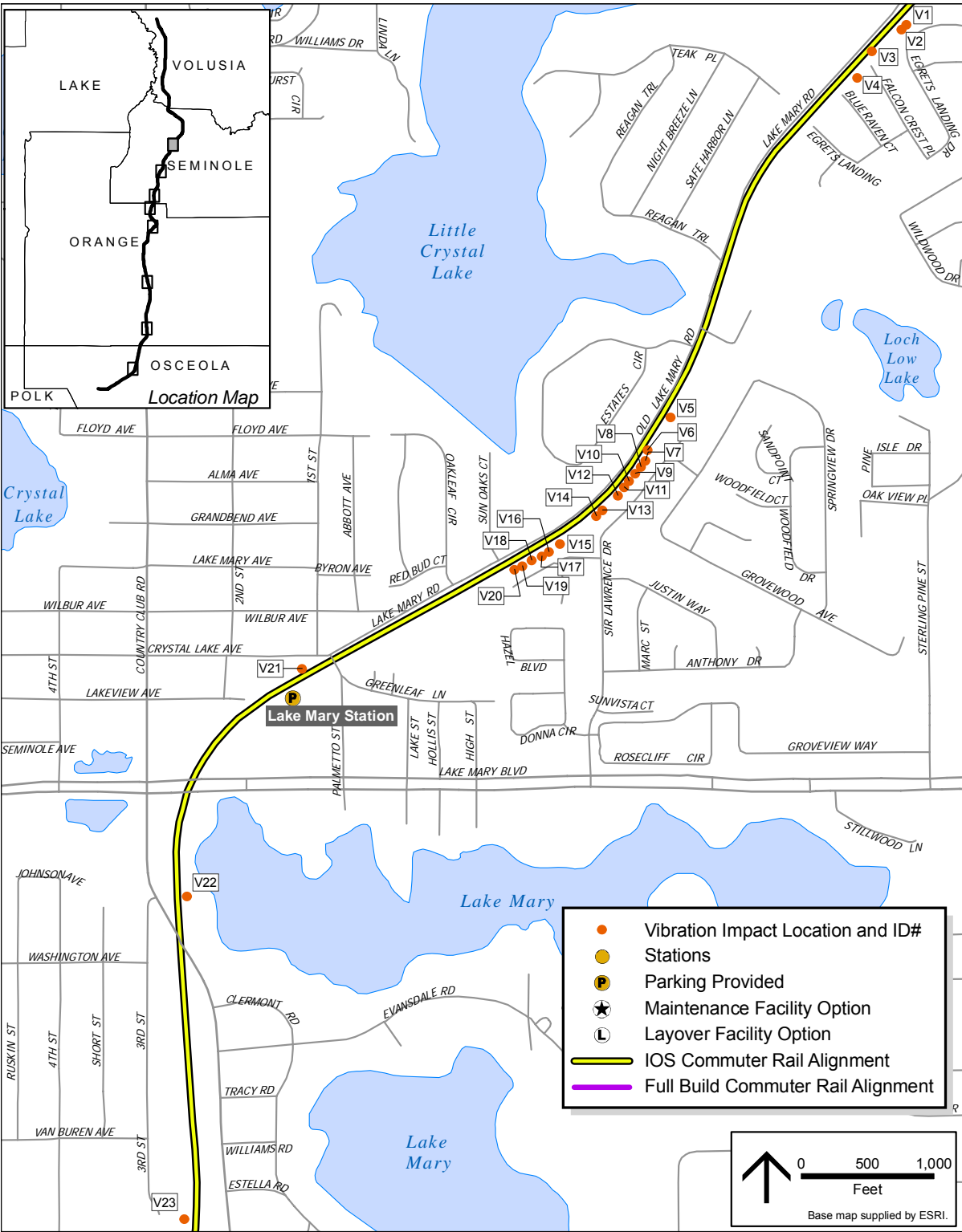


Figure B - 1 - Severe Vibration Impacts - Lake Mary

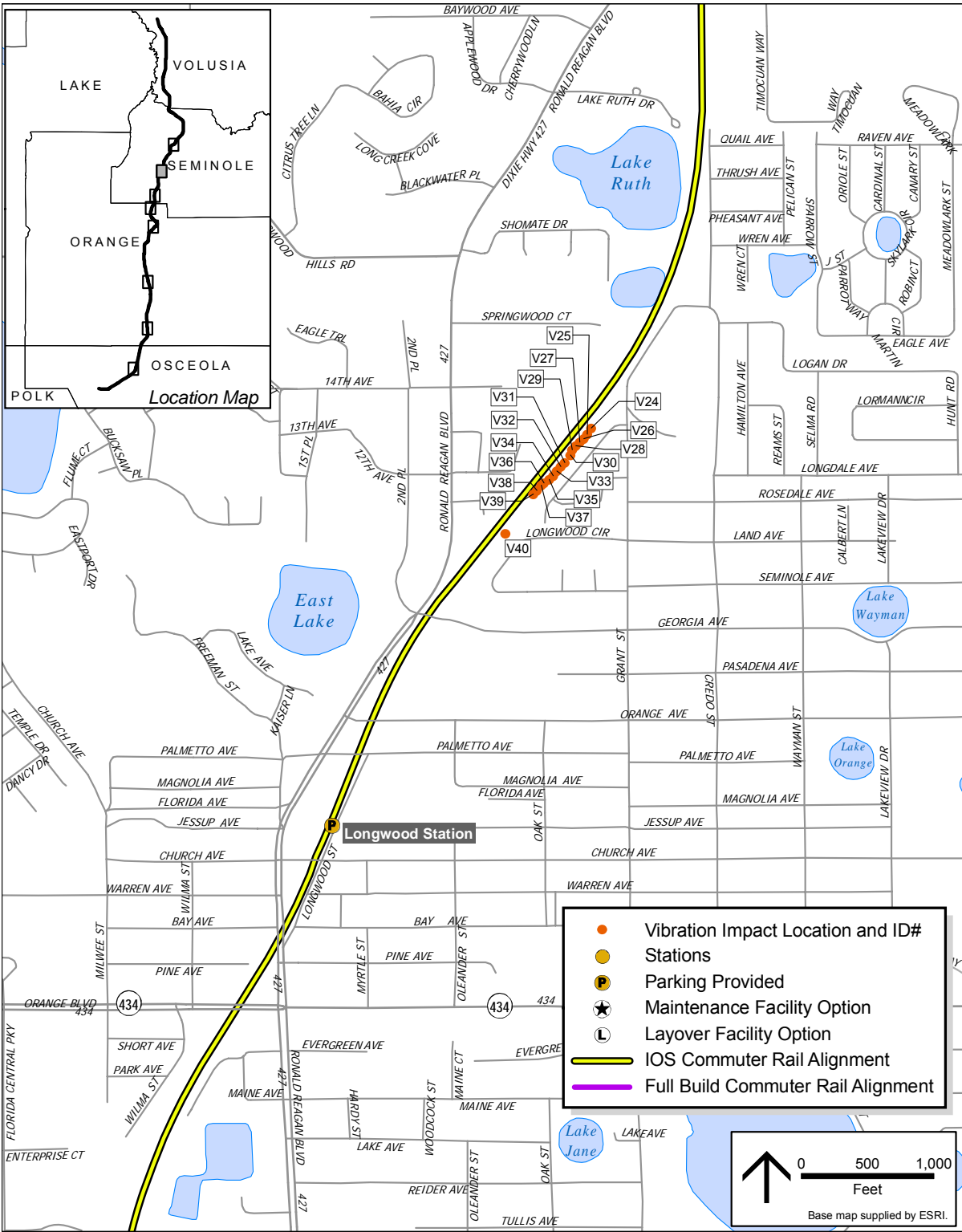


Figure B - 2 - Severe Vibration Impacts - Longwood



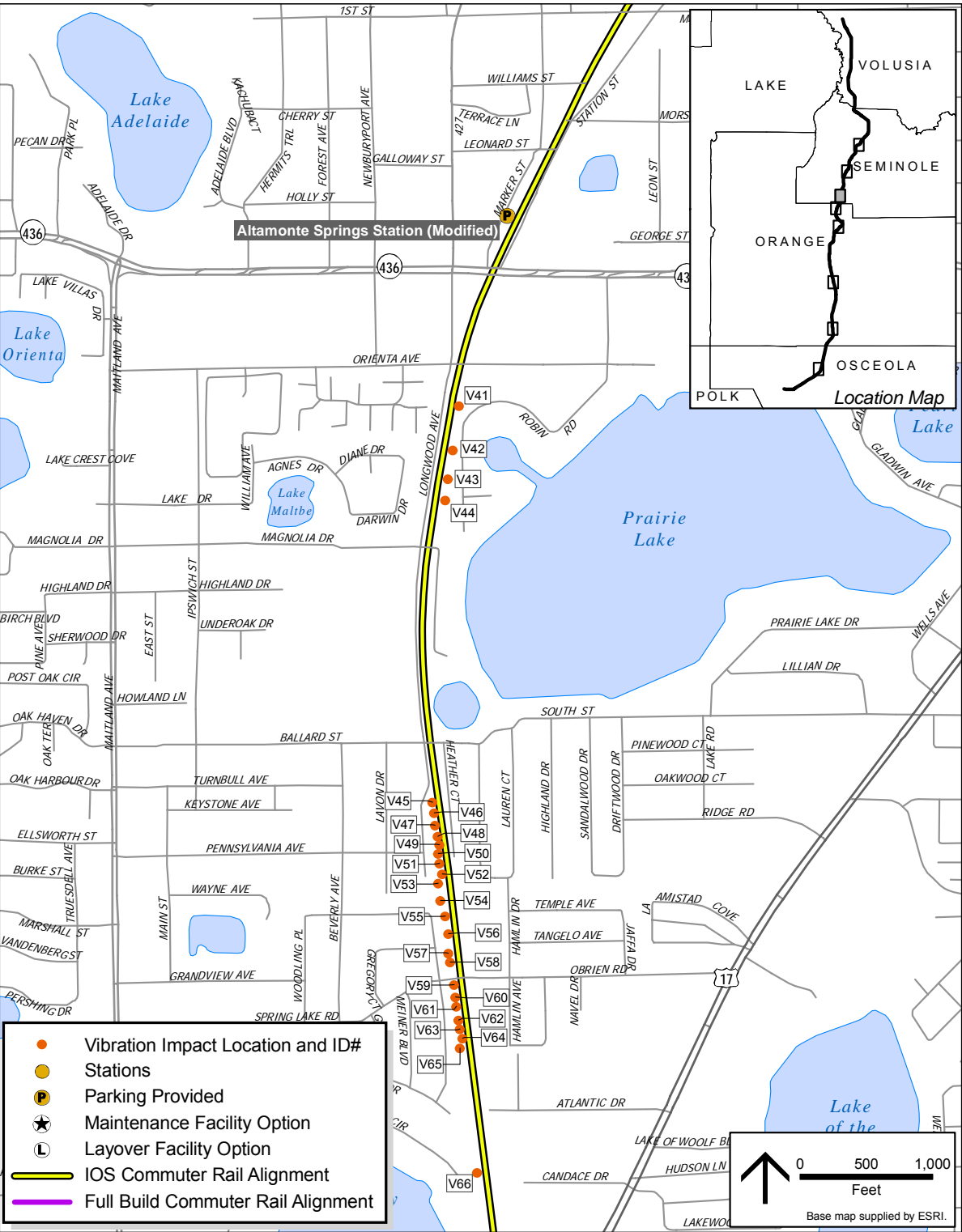


Figure B - 3 - Severe Vibration Impacts - Altamonte Springs

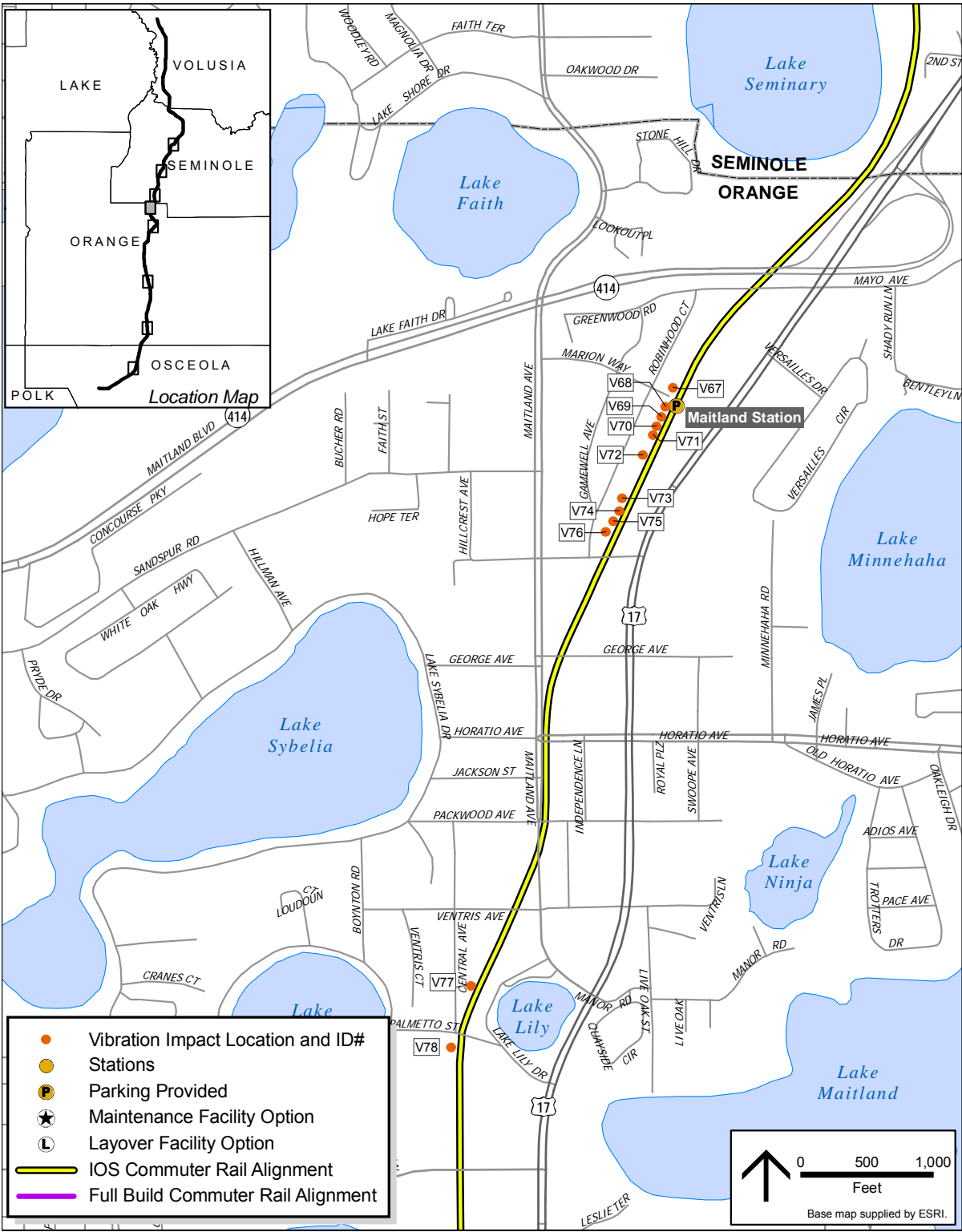


Figure B - 4 - Severe Vibration Impacts - Maitland

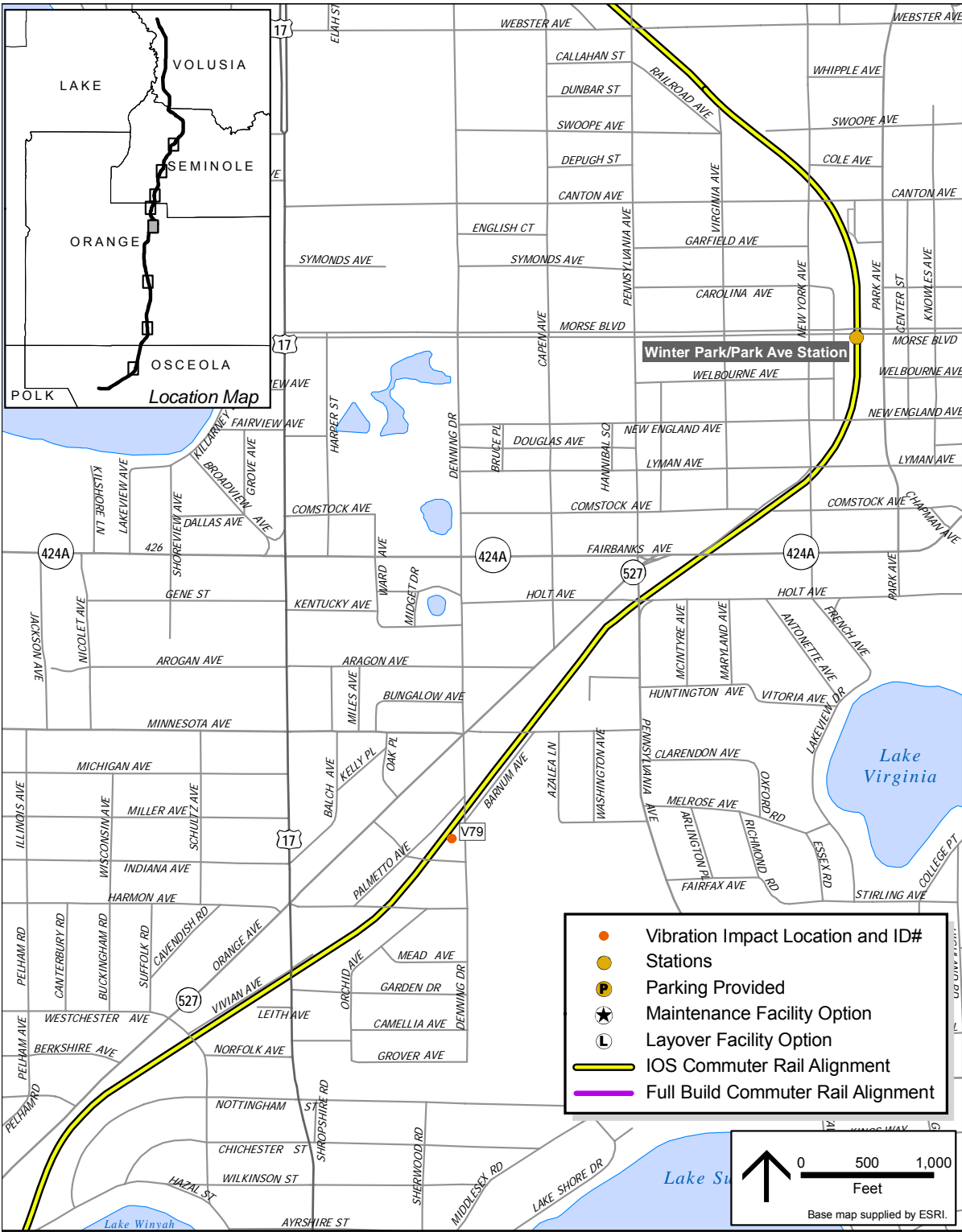


Figure B - 5 - Severe Vibration Impacts - Winter Park



Figure B - 6 - Severe Vibration Impacts - N. Sand Lake



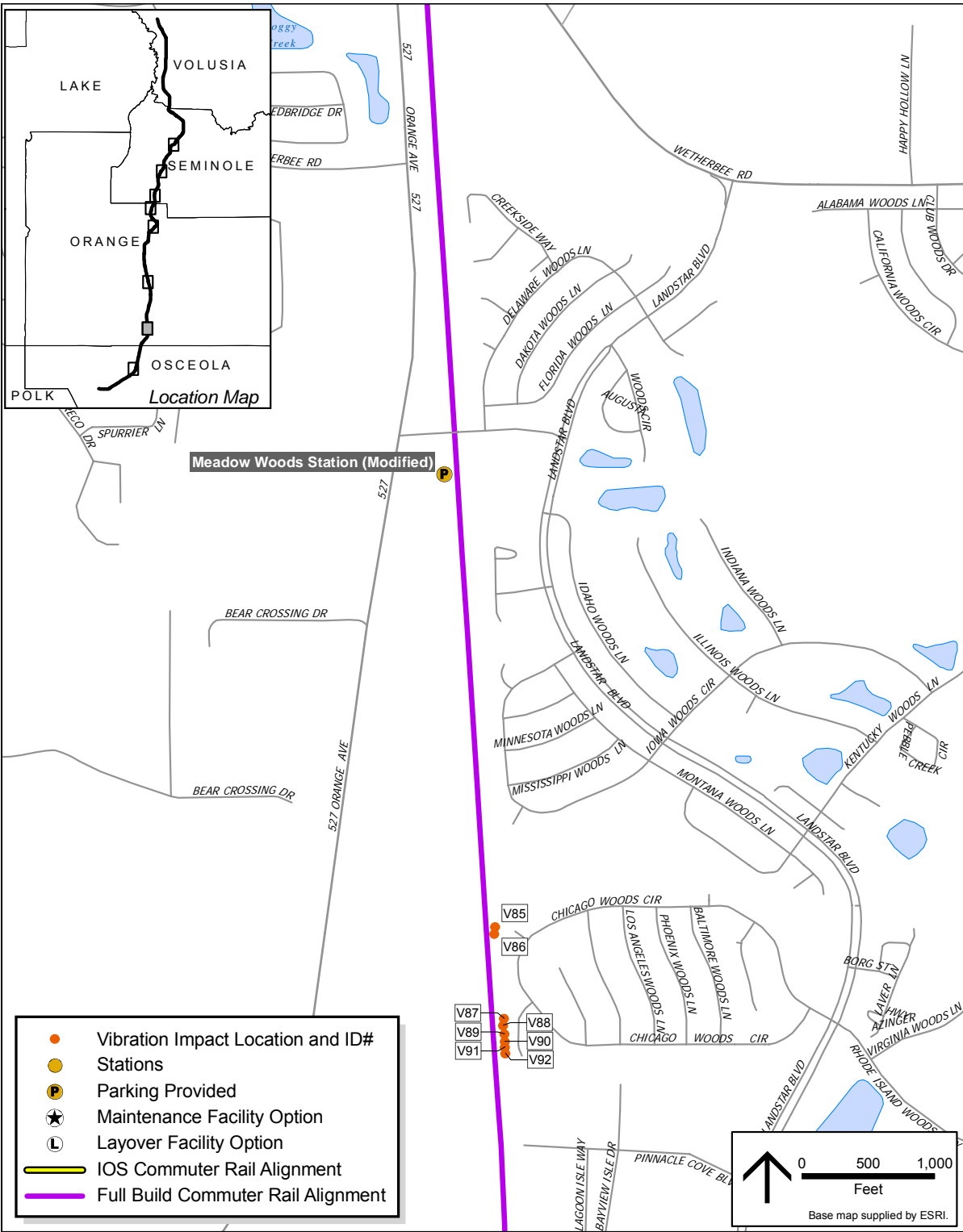


Figure B - 7 - Severe Vibration Impacts - Meadow Woods

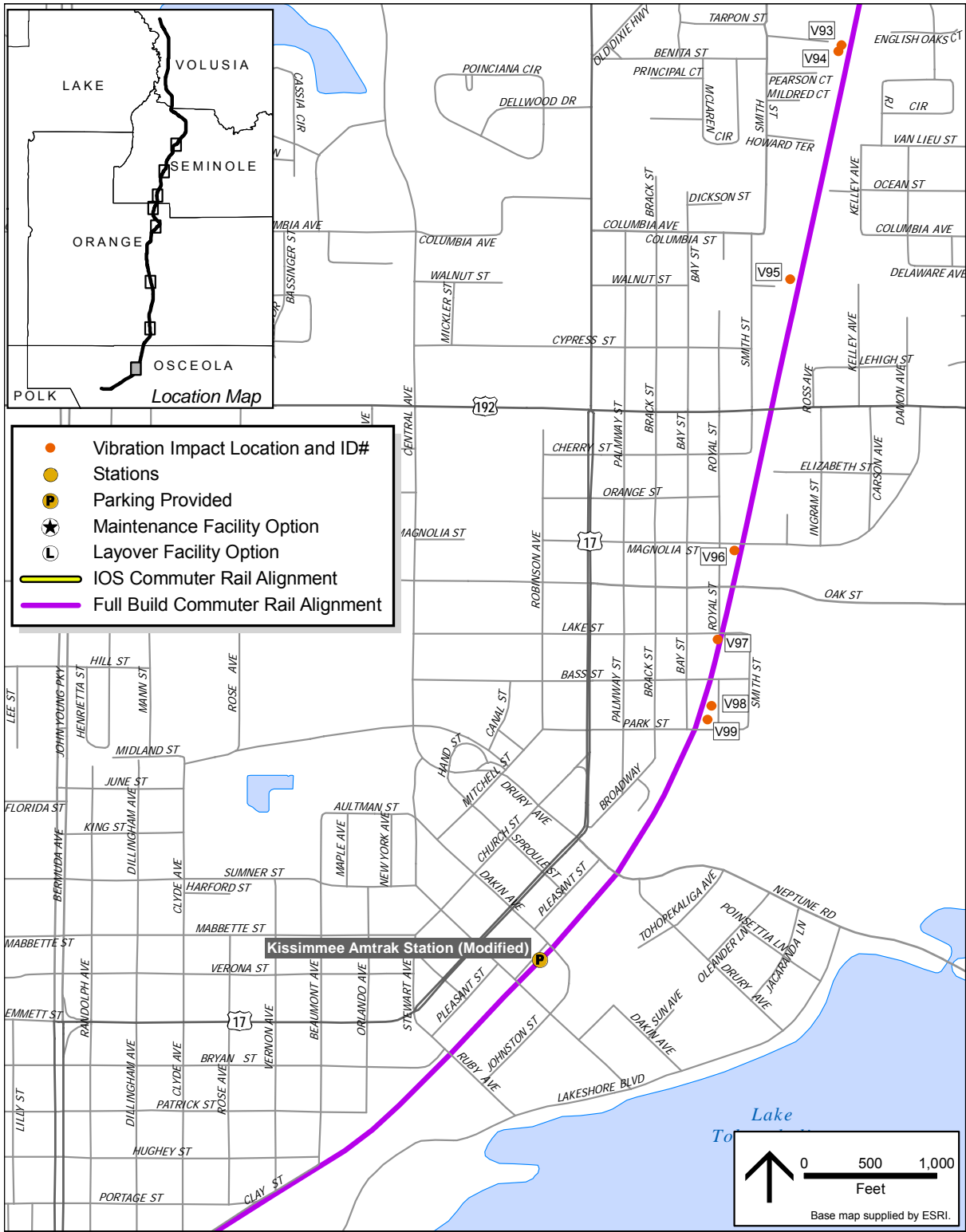


Figure B - 8 - Severe Vibration Impacts - Kissimmee

## Appendix C – Operating Plan Summary

### 1. Introduction

The Federal Transit Administration (FTA) is serving as the lead agency in the preparation of a Supplemental environmental Assessment for the Central Florida Commuter Rail Transit (CFCRT) Project. The CFCRT Project sponsors include the Florida Department of Transportation (FDOT), the Central Florida Regional Transportation Authority, and Volusia County Transit System.

The Central Florida Commuter Rail Transit (CFCRT) Project proposes to add commuter rail service to service the greater Orlando region by utilizing an existing and active 61 mile CSXT A-Line freight/passenger rail corridor. The existing freight and passenger corridor currently operates 26 trains per day – six (6) Amtrak passenger trains, 10 local freight trains and 10 road freights (or through) trains. The through freight trains include intermodal trains, Auto-rack trains, Merchandise trains and Bulk, Coal and rock unit trains with consists that include two or three locomotives per train pulling more than 100 freight cars.

The 10 local freights operate on small portions of the corridor and do not have a major impact on corridor-wide noise and vibration. Of the six Amtrak passenger trains, four operate daily over the entire corridor and two do not operate south of Sanford. Most through freight operate between Taft Yard and Deland. Consequently, not all areas of the corridor are equally affected by existing noise and vibration.

### 2. CFCRT Project Corridor Existing Train Operations

The following summarizes the operational information and analysis used in developing compatible freight and passenger operation on the 61 mile CFCRT corridor.

#### 2.1. Existing Amtrak Operations

Amtrak operates the following four services along the CSXT A-Line:

1. The Silver Star Service is a passenger train operating daily southbound from New York (Train 91) and northbound from Miami (Train 92), and operates over the entire 61 mile proposed CFCRT territory.
2. The Silver Meteor Service is a passenger train operating daily southbound from New York (Train 97) and northbound from Miami (Train 98), with both trains making a side trip to Tampa. The turnout to Tampa occurs south of the proposed Poinciana Industrial Park station so this train operates over the entire 61 mile proposed CFCRT territory.
3. The Sunset Limited Service was a passenger train between Los Angeles, California and Orlando, Florida. It operated over the corridor southbound as Train 2 on Monday, Wednesday, and Saturday and northbound as Train 1 on Sunday, Tuesday, and Thursday. Train 2 terminated at the Orlando Amtrak station, dropped its passengers, and proceeded south to Taft Yard. Train 2 then exited Taft Yard and proceeded, as a nighttime

move, north to the Amtrak Yard at Sanford for storage. The northbound Amtrak Sunset Limited reversed this pattern. Since the CFCRT Operating Plan would be in effect for all non-holiday weekdays, the southbound and northbound Sunset Limited slots were included, although both trains did not operate concurrently. The Sunset Limited Service was suspended after the September 2005 Hurricane Katrina damage to CSX tracks in Louisiana and Mississippi; Amtrak's schedule for restoring this service is unknown.

4. The Auto Train® transports passengers and automobiles/trailers/ motorcycles between Lorton, VA, and the Amtrak Auto Yard at Sanford on a daily basis, southbound as Train 53 and northbound as Train 52. It does not operate south of Sanford and consequently has less potential impact on CFCRT service. All Amtrak Auto Train® switching will occur within the Amtrak Yard at Sanford.

Table 2-1 lists the scheduled times for these Amtrak services.

Table 2-1 - Amtrak Service Schedules over Proposed CFCRT Corridor

SERVICE:	SILVER STAR	SILVER METEOR	SUNSET LTD.	AUTO-TRAIN®
<b>SOUTHBOUND (SB)</b>			(Mo/We/Sa)	
DeLand	7:06 AM	10:11 AM	7:09 PM	↓
Sanford	7:26 AM	10:32 AM	7:34 PM	8:30 AM
Winter Park	7:55 AM	10:57 AM	8:03 PM	-
Orlando Amtrak Arr.	8:20 AM	11:20 AM	8:45 PM	-
Orlando Amtrak Dep.	8:30 AM	11:30 AM	-	-
Kissimmee	8:53 AM	11:51 AM	-	-
<b>NORTHBOUND (NB)</b>			(Su/Tu/Th)	
Kissimmee	6:55 PM	3:19 PM	-	-
Orlando Amtrak Arr.	7:27 PM	3:45 PM	-	-
Orlando Amtrak Dep.	7:37 PM	3:55 PM	1:45 PM	-
Winter Park	7:55 PM	4:13 PM	2:03 PM	-
Sanford	8:19 PM	4:37 PM	2:28 PM	4:00 PM
DeLand	8:39 PM	4:57 PM	2:51 PM	↓

Amtrak train performance was calibrated by creating a simulation consist similar to that actually operated by Amtrak. Comfort Braking input braking was adjusted to the TPC runs to approximate the observed inter-station run times of the actual Amtrak trains which were observed April 5<sup>th</sup> and 6<sup>th</sup>, 2005. Observed Amtrak dwells averaged about 10 minutes at Orlando Amtrak and about 4 minutes at all other stops; these average values were used for all Amtrak simulations.

As Amtrak trains were assumed to always occupy Track 1 (the easternmost track) at Orlando Amtrak Station, a third track was added as part of the CFCRT Initial Operating Segment (IOS) to ensure an Amtrak train station stop at Orlando Amtrak would not block CFCRT operations.

## 2.2. Existing Freight Operations

The existing 61 mile A-Line corridor includes both local and through freight traffic. There are two major CSXT rail yards, Rand Yard and Taft Yard, one small rail yard, Kaley Yard, as well as three rock distribution yards, near Benson Jct., Sanford, and Kaley Yard, owned by Conrad Yelvington. Figure 4 is a map showing this 61 mile corridor mainline, sidings, yards, spurs, and side tracks. Mixed freight through trains deliver carloads to the Taft and Rand rail



yards for local distribution to the many rail customers serviced by CSXT using local trains based from these rail yards. Intermodal and Autorack trains entering the corridor terminate in Taft Yard at the TOFC. Additional freight traffic include unit coal trains to OUC electric generating plant on the Stanton Spur at MP 800 south of Taft Yard and Florida Central Railroad (FCEN) freight transfers entering the corridor south of Robinson St., in Orlando, six miles south to Taft Yard.

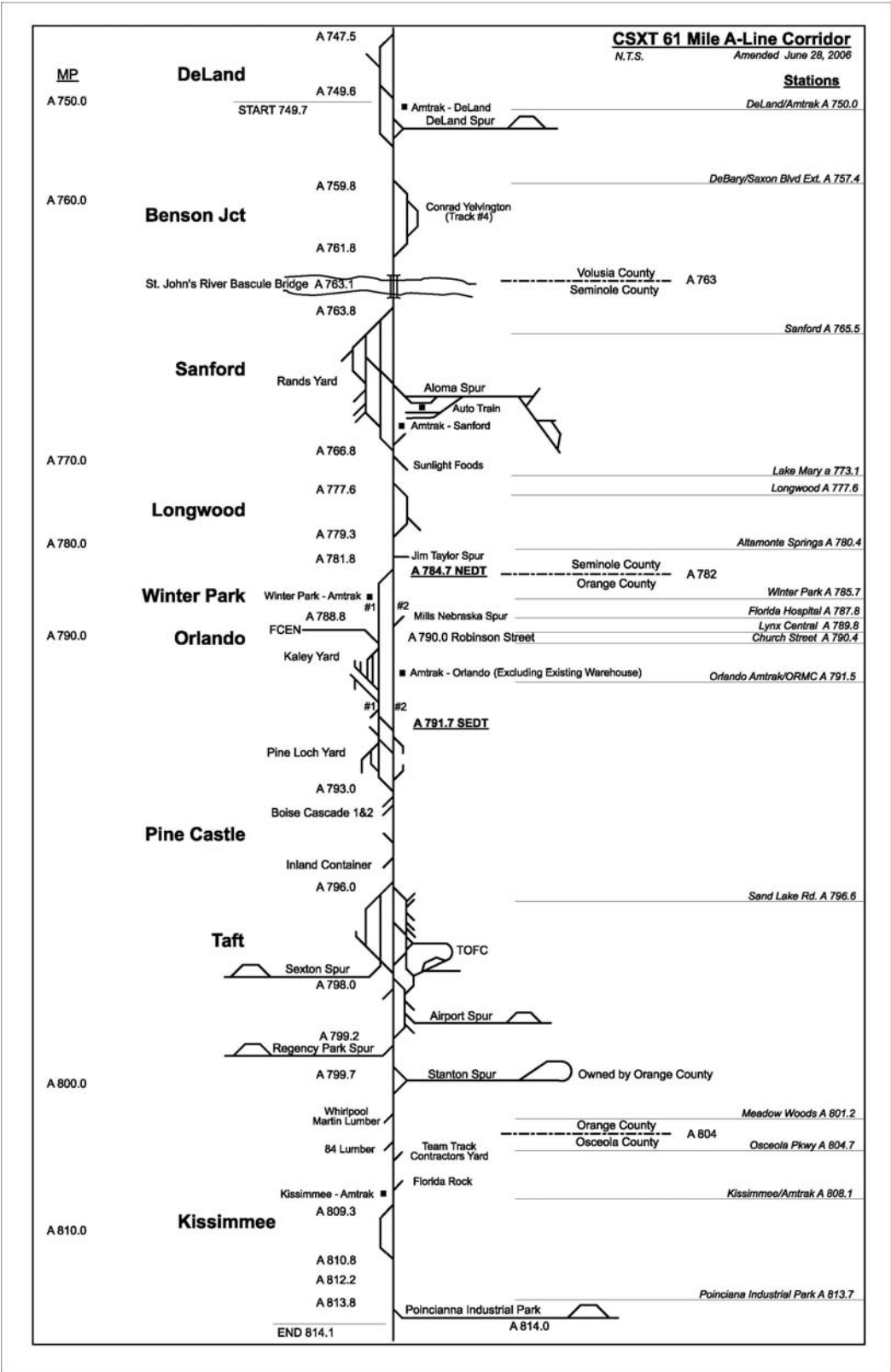


Figure 4 - Existing CSXT 61 Mile Corridor

#### 2.2.1. Existing CSXT Local and Through Freight Operations

CSXT Transportation does not use a formal schedule on the A-Line corridor for freight operations. CSXT establishes traffic patterns for specific origin/destinations for through freight trains and a CSXT Trainmaster is located at Taft Yard to control local train activity in the 61 mile corridor. The majority of the carload deliveries are to local freight customers located within a four mile segment between Taft Yard and Kaley Yard and within the Taft Yard area. The variation in origin and destinations of through freight and local freight traffic trips, with only a few trains traveling the entire 61 mile corridor, results in a large variation in the level of freight train activity within the corridor.

CSXT provided 2005 tabulated train operations data for the month of July and graphical string line chart data for two weeks in August. This data was used to estimate train counts along the corridor as summarized in Table 2 and Table 3.

The July 2005 tabulated data is the “OS” (Control Center dispatcher) data for existing freight operations in the corridor. This data was filtered for weekday traffic and was broken down into the following seven train types:

- a. “A” & “O” trains (CSXT Locals)
- b. “K” trains (bulk—a regularly-occurring rock train)
- c. “N” trains (unit—a regularly-occurring coal train)
- d. “Q100” trains (intermodal)
- e. “Q200” trains (auto rack)
- f. “Q400” trains (general merchandise)
- g. “Z” trains (Florida Central Railroad local freight trains)

This tabulated data is summarized in Table 2-2 and shows an average of 8 weekday local freight trains and 10 weekday through freight trains during this period (Amtrak Passenger and Auto Train® Service were not included.). The data was further refined to determine the 90<sup>th</sup> percentile length (100<sup>th</sup> percentile representing the longest train) for each type of train.

**Table 2-2 – July 2005 weekday freight traffic for each type of train**

<b>LOCALS</b>		<b>COUNT</b>		<b>Rounded Total</b>	<b>LENGTH (FEET)</b>	
		<b>WEEKDAYS, JULY, 2005</b>	<b>Average Weekday</b>		<b>AVERAGE</b>	<b>90<sup>TH</sup> PERCENTILE</b>
<b>A&amp;O</b>	<b>Trains</b>	35	1.67	2	581	810
	<b>Light engines</b>	89	4.24	4	n/a	n/a
<b>Z</b>	<b>Trains</b>	36	1.71	2	1783	1890
	<b>Light engines</b>	4	0.19	0	n/a	n/a
	<b>Total Locals</b>	164	7.81	<b>8</b>		
<b>SOUTHBOUND (SB) THROUGH TRAINS</b>		<b>COUNT</b>		<b>Rounded Total</b>	<b>LENGTH (FEET)</b>	
		<b>WEEKDAYS, JULY, 2005</b>	<b>Average Weekday</b>		<b>AVERAGE</b>	<b>90<sup>TH</sup> PERCENTILE</b>
<b>K</b>	<b>Bulk Trains</b>	9	0.43	0	2333	3147
<b>N</b>	<b>Unit Trains</b>	10	0.48	1	4840	5156
<b>Q100</b>	<b>Intermodals</b>	43	2.05	2	4121	5835
<b>Q200</b>	<b>Auto-Racks</b>	20	0.95	1	4136	6230
<b>Q400</b>	<b>Merchandise</b>	24	1.14	1	4218	5674
	<b>Total SB</b>	106	5.05	<b>5</b>		
<b>NORTHBOUND (NB) THROUGH TRAINS</b>		<b>COUNT</b>		<b>Rounded Total</b>	<b>LENGTH (FEET)</b>	
		<b>WEEKDAYS, JULY, 2005</b>	<b>Average Weekday</b>		<b>AVERAGE</b>	<b>90<sup>TH</sup> PERCENTILE</b>
<b>K</b>	<b>Bulk Trains</b>	14	0.67	1	4066	5970
<b>N</b>	<b>Unit Trains</b>	10	0.48	0	4976	5535
<b>Q100</b>	<b>Intermodals</b>	45	2.14	2	6809	8652
<b>Q200</b>	<b>Auto-Racks</b>	13	0.62	1	4372	5654
<b>Q400</b>	<b>Merchandise</b>	21	1.00	1	3491	5408
	<b>Total NB</b>	103	4.9	<b>5</b>		
	<b>Total NB+SB</b>	209	<b>9.95</b>	<b>10</b>		

The August 2005 graphical string charts were used to estimate total train count and allocate trains between day (7AM to 10PM) and night (10PM to 7AM) time periods for through freight, local freights, Amtrak Passenger and Amtrak Auto Train®. Table 2-3 summarizes these train movements shown in the CSXT string charts. These charts are based on data of train movements between August 02, 2005 0000 hours and August 15, 2005 2359 hours.

The string chart data shows 8.6 average daily night time operations and 18 average daily operations for all train types.



**Table 2-3 - August 2005 CSXT Operations Data - Train Count**

<b>Train Count (August 2005 - CSXT Sample Data)</b>													
	<b>Day/Date</b>	Wed.	Thur.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.	Sun.	Total	Daily Average
	<b>Train Type</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>15</b>		
<b>7 AM to 10 PM</b>	Through Freight	6	5	6	8	3	5	5	4	6	6	54	5.4
	Local Freight	5	4	5	8	6	4	8	6	5	7	58	5.8
	Amtrak Passenger	6	5	5	5	5	5	3	6	4	5	49	4.9
	Amtrak Auto Train®	1	2	2	2	2	2	3	1	2	2	19	1.9
<b>Day Time Total:</b>												<b>18</b>	
<b>10 PM to 7 AM</b>	Through Freight	5	6	6	6	8	5	4	4	7	5	56	5.6
	Local Freight	3	3	1	1	4	4	1	2	1	2	22	2.2
	Amtrak Passenger	0	0	1	2	0	1	2	2	0	0	8	0.8
	Amtrak Auto Train®	0	0	0	0	0	0	0	0	0	0	0	0
<b>Night Time Total:</b>												<b>8.6</b>	
<b>Total</b>	Through Freight	11	11	12	14	11	10	9	8	13	11	110	11
	Local Freight	8	7	6	9	10	8	9	8	6	9	80	8
	Amtrak Passenger	6	5	6	7	5	6	5	8	4	5	57	5.7
	Amtrak Auto Train®	1	2	2	2	2	2	3	1	2	2	19	1.9
<b>Total:</b>												<b>26.6</b>	

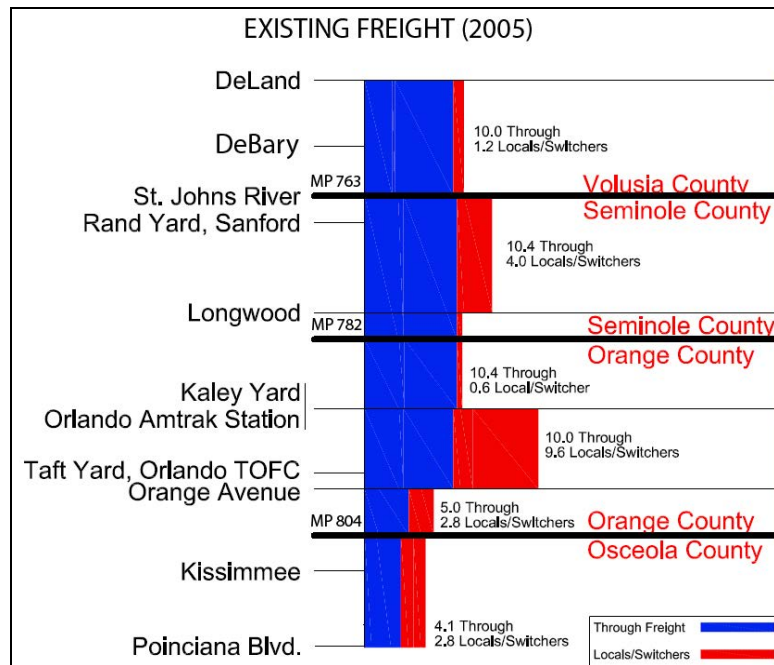
Table 4 shows minor conflicts between the proposed CFCRT peak hours periods and existing freight and existing Amtrak service. The CFCRT schedule allows for Amtrak to enter the corridor during commuter peak hour service. There are 1.5 AM peak hour and 1.5 PM peak hour conflicting through freight train moves and 1.4 AM peak hour and 1.2 PM peak hour conflicting local freight train moves. These freight train movements will not be allowed in the corridor during these peak hour times.

**Table 2-4 - August 2005 CSXT Operations Data - Peak Hour Train Count**

<b>AM/PM Peak Hour Train Count</b>													
	<b>Day/Date</b>	Wed.	Thur.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.	Sun.	Total	Daily Average
	<b>Train Type</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>15</b>		
<b>AM Peak</b>	Through Freight	1	2	0	2	0	2	1	0	2	2	12	1.2
	Local Freight	0	3	1	2	2	0	2	1	2	1	14	1.4
	Amtrak Passenger	0	0	0	0	0	0	0	0	0	0	0	0
	Amtrak Auto Train®	0	0	0	0	0	1	1	0	0	0	2	0.2
<b>PM Peak</b>	Through Freight	2	3	1	2	1	0	1	2	2	1	15	1.5
	Local Freight	1	2	1	1	2	0	0	3	0	2	12	1.2
	Amtrak Passenger	2	2	1	2	0	1	1	1	2	3	15	1.5
	Amtrak Auto Train®	1	1	1	1	1	1	2	1	1	1	11	1.1

Neither Table 2 nor Table 3 provides an accurate picture of the distribution of traffic along the corridor. In order to better understand the distribution of traffic, the July 2005 CSXT data was used to illustrate the variation in activity within the 61 mile corridor for existing freight traffic as shown in Figure 5.

The train count ranges for local freight trains between 1.2 and 9.6 trains per day with the heaviest concentration in the four miles between Taft and Kaley Yards. The through freight train count ranges from 4.1 to 10 trains per day with less traffic south of Taft Yard. The highest concentration of combined local and through freight traffic is between Rand Yard and Taft Yard.



**Figure 5 - Distribution of Local and Through Freight Corridor Traffic**

### 3. Proposed 2012 Operations

Amtrak operation will continue to operate throughout the CFCRT Corridor after acquisition. As part of the purchase agreement between CSXT and FDOT, passenger rail traffic will be allowed access for 19 hours per day with exclusive passenger rail access for 12 hours per day. Freight rail traffic will be allowed for 12 hours per day with exclusive freight access for 5 hours per day. CSXT strategic long range plans call for the re-routing of some of the existing A-Line freight trains to the CSXT S-Line, west of Metropolitan Orlando.

The following generally describes the proposed use of the corridor for train operations.

- Weekdays
  - Exclusive passenger use 12 hrs/day
  - Exclusive freight use 5 hrs/day
  - Mixed traffic use 7 hrs/day
- Weekends
  - Mixed traffic use 24 hrs/day
- Passenger use - weekdays
  - 0530-0830 – every 30 minutes
  - 0830-1530 – every 2 hours
  - 1530-1830 – every 30 minutes
  - 1830-2230 – every 2 hours
  - 2230-0530 – none
- Freight use
  - Exclusive – 0001-0500
  - 1000-1500 and 2200-2359 (mixed with passenger trains)
- Amtrak Use
  - 6 Amtrak per day – between 0530 and 1600 weekdays

#### 3.1. Proposed 2012 Amtrak Operations

Amtrak operations are not expected to increase along the A-Line corridor.

#### 3.2. Proposed 2012 Freight Operations

Because CSXT has designated the A-Line Corridor as primarily for passenger service and the S-Line Corridor for through freight service, future freight traffic is not expected to grow significantly on the A-Line. Future freight traffic growth in through train and local train service is typically accomplished by increasing carloads per train. This is more economical due to the high cost of additional trains requiring train crews, equipment, fuel, and yard/mainline track capacity improvements. Current A&O type local trains average 581' long or less than an 8 car train. The IOS upgrades will add 18 miles of second track between Rand Yard and Taft Yard resulting in almost full double track with new universal crossovers and signal system in this segment. These upgrades will provide a dramatic increase in freight capacity and efficiency for both local and through freight trains.

Figure 6 is a map showing this 61 mile corridor mainline, sidings, yards, spurs, and side tracks with the Full Build CFCRT upgrade including additional track and crossovers.

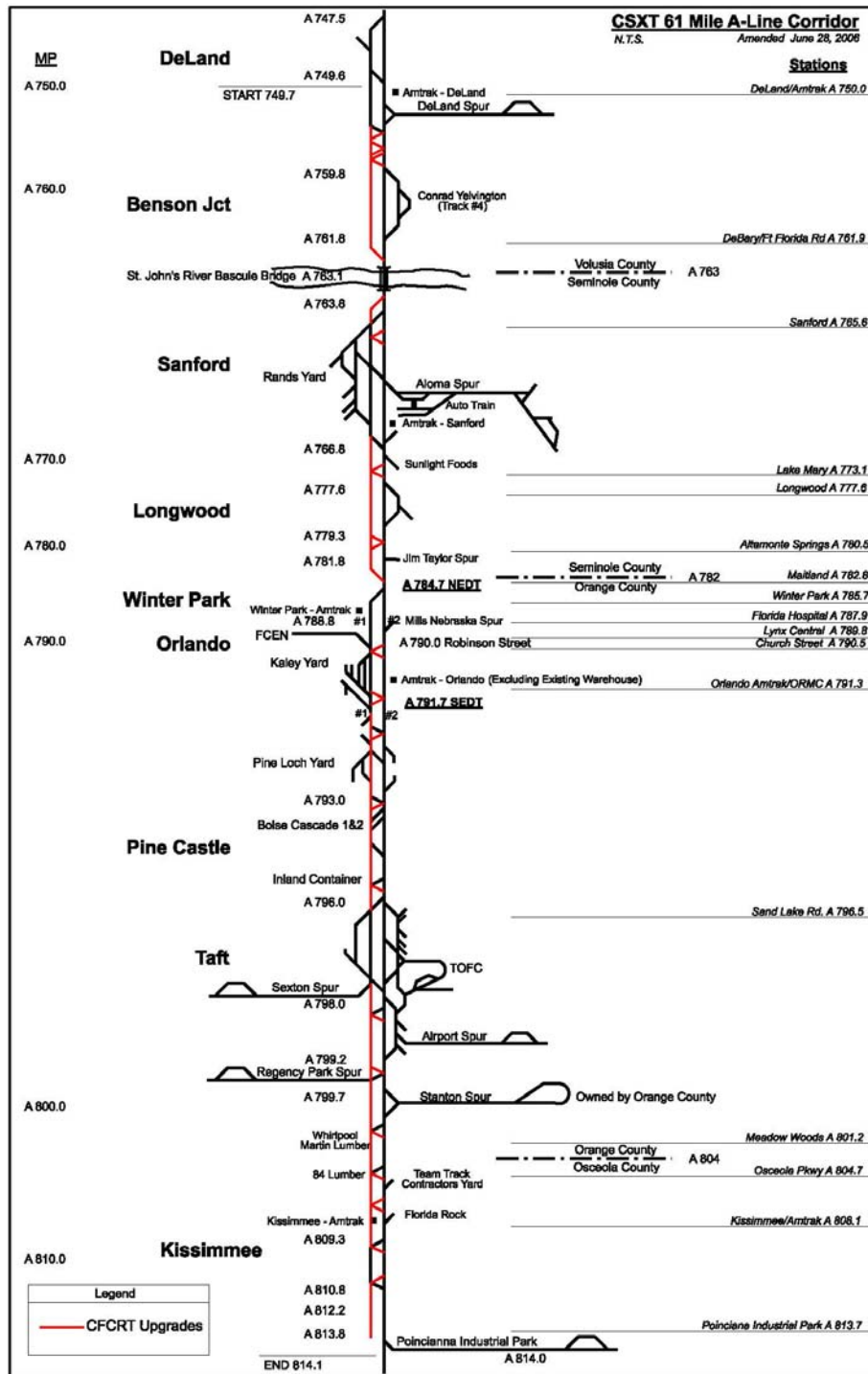


Figure 6 - 61 Mile Corridor With CFCRT Upgrades



### 3.2.1. Proposed 2012 Local Freight Operations

Table 3-1 summarizes the local freight train patterns and the expected day/night operation for 2012.

The average weekday local freight train count increases from 8 in the existing conditions to 9.8 in the Build 2012. This increase in the local train traffic is caused by the termination of through trains Q456A and Q456B at Rand Yard instead of Taft Yard. These "Q" type trains total 4 trips per week and are replaced with 8 trips per week by the local "A" type trains for the segment between Rand Yard and Taft Yard.

The number of night time local trains increases from 2.2 trains per day (Table 2-3) to 3.8 trains per day. The number of day time local trains increases from 5.8 trains per day (Table 2-3) to 6 trains per day.

**Table 3-1 - 2012 Local Freights**

Local Train Number, Pattern & Mile Post s (MP) marking end limits of Local Train Switching and/or Delivery Service Operations.	Track M/L Miles <sup>3</sup>	Mon	Tue	Wed	Thur	Fri	Day/Night Operation <sup>1</sup>
A766 (1) Rand Yd -MP 763 to DeLand Spur -MP 750 & Return	13.0	2		2			Daytime
A766 (2) Rand Yd-MP 763 to Sunlight Foods -MP 767.4 & Return	4.4		2		2		Daytime
A775 (1) Taft Yd -MP 795.5 to Kaley Yd - MP791.6	3.9	2		2		2	Night
A775 (2) Taft Yd -MP 795.5 to Kaley Yd - MP791.6	3.9		2		2		Daytime
A779 (1) Taft Manifest Yd and Taft TOFC Yd switching	Yard <sup>2</sup>	x		x		x	Daytime
A779 (2) Taft -MP 797.2 to Team Track-MP 806.6	9.4		2		2		Daytime
A784 Taft Manifest Yd to Taft TOFC Yd	Yard <sup>2</sup>	X	x	x			Night
A786 Taft Yd to Regency Park Spur-	Yard <sup>2</sup>	X	x	x	x	x	Night
A798 Taft Manifest Yd -MP 796.0 to MP 797.5	Yard <sup>2</sup>			x			Night
A455a Rand Yd to Taft Yd - replace sQ455 Rand to Taft Yd segment	28	1	1	1	1	1	Daytime
A455b Rand Yd to Taft Yd - replaces Q455 Rand to Taft Yd segment	28	1	1	1	1	1	Night
A456a Taft Yd to Rand Yd - replaces Q456 Taft to Rand Yd segment	28	1		1			Night
A456b Taft Yd to Rand Yd - replaces Q456 Taft to Rand Yd segment	28	1		1			Night
O682 MP 814.1 to Taft Yd & Return trip	18	2				2	Night
Z915 FCEN MP-790 FCEN - Robinson St to Taft Yd & return	6.0		2	2	2	2	Day

Notes:

1. Daytime is from 7AM to 10PM & Nighttime is 10PM to 7AM
2. CSXT yard operation is an existing 24 hour operation.
3. The length of track the local train operates over within the 61 mile CFCRT corridor is shown in the " Track M/L Miles " column
4. The 2012 build will add 18 miles of second track between Rand Yard and Taft Yard with crossovers no more than four miles apart, and an upgraded signal system with shorter block layout will allow more efficient local train operation (less waiting for main track access)
5. Growth will be accommodated primarily through increase in number of carloads per train trip.

An example of the pattern of operation for a typical local train is described below.

**A766** - Two operating patterns, pattern 1 reflects operation on Mon, Wed and Fri and pattern 2 reflects operation on Tue and Thu

**A766 – Pattern 1 – Mon, Wed and Fri**

- On duty at 07:00hrs at Rand
- Two hours and 20 minutes at Rand for switching and to make up its trains
- Southbound shove move - depart Rand at **09:20hrs** from Blvd Track and using crossovers at 765.7 – 765.9 run on main track to MP 767.7.

- Train occupies the main for one hour at MP 767.7 to switch Sunlight Foods (Sunlight Foods switch is at 767.4).
- Northbound pull move - depart from MP 767.7 and go to DeLand Spur.
- Work industries on DeLand spur for 3 hours (clear off the main) and R/A the train for southbound move.
- Southbound pull move on the main from Deland spur connection to Blvd Track Rand yard.
- Switch Transflo for 1 hour
- End of duty.

#### **A766 – Pattern 2 – Tue and Thu**

- On duty at 07:00hrs at Rand
- Two hours and 20 minutes at Rand for switching and to make up its trains
- Southbound shove move on the main - depart Rand at **09:20hrs** from Blvd Track and using crossovers at 765.7 – 765.9 run on main track to MP 767.7.
- Train occupies the main for one hour at MP 767.7 to switch Sunlight Foods (Sunlight Foods switch is at 767.4).
- Northbound pull move - depart from MP 767.7 and go to Blvd Track.
- Pull down into yard, run-around train, pull southward from Boulevard Track to main track (HT XO) and pull into Aloma Spur.
- Stay on Aloma Spur switching industries for 2 hrs 30 minutes clear of main.
- Northbound pull move from Aloma spur (after being away for 2:30 hrs) to clear north switch at Sanford approx MP 763.5 and stop
- Southbound shove move from MP 763.5 to Blvd track into Rand Yard.
- Switch Transflo for 1 hour.

#### 3.2.2. Proposed 2012 Through Freight Operations

Table 3-2 summarizes the through freight train patterns and the expected day/night operation for 2012 assuming there is no shift in trains to the S-Line. The average number of weekday through trains does not increase. The number of night time through trains decreases from 5.6 trains per day (Table 2-3) to 4.4 trains per day. Trains Q456A and Q456B contribute 4 night time southbound trips that terminate at Rand Yard per week (14 miles into the corridor). Trains A456A and A456B contribute 8 night time local trains per week that deliver the Q456A and Q456B carloads from Rand Yard to Taft Yard. Therefore, these four weekly “Q” trains are accounted for in the 8 weekly “A” local night time train count.

**Table 3-2 - 2012 Through Freights**

Through Train Number, Pattern & Mile Post s (MP) marking end limits of Through Train corridor Origin/Destination.	Track M/L Miles <sup>2</sup>	Mon	Tue	Wed	Thur	Fri	Day/Night Operation <sup>1</sup>
K791 Barberville to Benson Jct .to Kaley Yd	38		1		1		Night
K792 Kaley Yd to Benson Jct. to Barberville	38			1		1	50% Night
K940 Davenport to Taft Yd	18	1		1		1	Daytime
K941 Rand Yd to Taft Yd to Davenport	45			1		1	Night

Through Train Number, Pattern & Mile Post s (MP) marking end limits of Through Train corridor Origin/Destination.	Track M/L Miles <sup>2</sup>	Mon	Tue	Wed	Thur	Fri	Day/Night Operation <sup>1</sup>
K948 Davenport to Taft Yd	18	1		1		1	Daytime
K947 Taft Yd to Davenport	18		1		1		Night
Q455 Barberville to Rand Yd – Match with locals A455 a & b <sup>3</sup>	14	1	1		1	1	Daytime
Q456 Rand Yd to Barberville – Match with locals A456a & b <sup>3</sup>	14	1	1		1	1	Night
N170 Coal Barberville to Stanton (via OUC Spur ) MP 800 (was 48 miles)	47	1	1	1	1		Night
N171 Coal Stanton to Barberville (via OUC Spur ) MP 800 (was 48 miles)	47	1	1	1	1		Daytime
Q177 SB Intermodal train to Taft Yd. / TOFC	43	1	1	1	1		Night
Q178 NB Intermodal train from Taft Yd. / TOFC	43		1	1	1	1	Daytime
Q187 SB Intermodal train to Taft Yd. / TOFC	43	1	1	1		1	Night
Q188 NB Intermodal train from Taft Yd. / TOFC	43	1		1	1	1	Daytime
Q255 SB Autorack train to Taft Yd. / TOFC	43	1	1		1	1	Night
Q258 NB Autorack train from Taft Yd. / TOFC	43	1	1		1	1	Daytime

Notes:

1. Daytime is from 7AM to 10PM & Nighttime is 10PM to 7AM
2. The length of track the through train operates over within the 61 mile CFCRT corridor is shown in the "Track M/L Miles" column
3. Proposed Q456 & Q455 patterns were achieved by terminating southbound Q455 at Rand and northbound Q456 at Taft and replacing the Rand to Taft portion of their trip pattern with four shorter and faster local train trip patterns A455 a & b and A456 a & b.
4. The 2030 build will have 59 of 61 miles of double track, with crossovers no more than four miles apart, and an upgraded signal system with shorter block layout will allow CSXT priority Intermodal and Autorack trains to be accommodated in the off-peak mixed train windows between 1000 hrs and 1500 hrs. There are opportunities for delayed arrivals to be accommodated during the exclusive freight window or trains can be held at Rand Yd. or Taft Yd.

### 3.3. Proposed 2012 CFCRT Operations (IOS Operations Plan)

CFCRT service would commence in 2012 with the IOS which would extend approximately 32 miles from the DeBary Station to Sand Lake Road Station. Twelve (12) stations would be located in the Corridor at DeBary, Sanford, Lake Mary, Longwood, Altamonte Springs, Maitland, Winter Park, Florida Hospital, LYNX Central Station (LCS), Church Street (downtown Orlando), Orlando Health/Amtrak, and Sand Lake Road.

Trains would run every 30 minutes in the AM and PM peak periods and every 120 to 150 minutes during the midday and evening hours. For the 2012 IOS service plan, no service would be operated on Saturdays or Sundays. The estimated terminal-to-terminal run time is 56:48 (average commercial speed = 33.3 mph). Trains would layover about 18 minutes at each terminal.

Total train trips for CFCRT IOS operations are 32 with 5 night time trips (prior to 7AM) and the remaining 27 trips are day time trips.

The schedules for the 2012 CFCRT commuter service are shown below.

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Train No.	To From	DeBary	Sanford SR 46	Lake Mary	Longwood SR 434	Altamonte Springs	Maitland	Winter Park	Florida Hospital	Orlando LCS	Church Street	ORMC/ Amtrak	Sand Lake	Layover
2	From Yard	5:30	5:36	5:43	5:49	5:53	5:58	6:03	6:09	6:14	6:17	6:19	6:26	0:18
3	From Yard	6:00	6:06	6:13	6:19	6:23	6:28	6:33	6:39	6:44	6:47	6:49	6:56	0:18
4	From Yard	6:30	6:36	6:43	6:49	6:53	6:58	7:03	7:09	7:14	7:17	7:19	7:26	0:18
5	From Yard	7:00	7:06	7:13	7:19	7:23	7:28	7:33	7:39	7:44	7:47	7:49	7:56	0:18
1		7:30	7:36	7:43	7:49	7:53	7:58	8:03	8:09	8:14	8:17	8:19	8:26	0:18
2		8:00	8:06	8:13	8:19	8:23	8:28	8:33	8:39	8:44	8:47	8:49	8:56	To Yard
1		10:00	10:06	10:13	10:19	10:23	10:28	10:33	10:39	10:44	10:47	10:49	10:56	0:18
1		12:30	12:36	12:43	12:49	12:53	12:58	13:03	13:09	13:14	13:17	13:19	13:26	0:18
1		15:00	15:06	15:13	15:19	15:23	15:28	15:33	15:39	15:44	15:47	15:49	15:56	0:18
2	From Yard	15:30	15:36	15:43	15:49	15:53	15:58	16:03	16:09	16:14	16:17	16:19	16:26	0:18
3	From Yard	16:00	16:06	16:13	16:19	16:23	16:28	16:33	16:39	16:44	16:47	16:49	16:56	0:18
4	From Yard	16:30	16:36	16:43	16:49	16:53	16:58	17:03	17:09	17:14	17:17	17:19	17:26	0:18
5	From Yard	17:00	17:06	17:13	17:19	17:23	17:28	17:33	17:39	17:44	17:47	17:49	17:56	0:18
1		17:30	17:36	17:43	17:49	17:53	17:58	18:03	18:09	18:14	18:17	18:19	18:26	0:18
2		18:00	18:06	18:13	18:19	18:23	18:28	18:33	18:39	18:44	18:47	18:49	18:56	0:18
1		20:00	20:06	20:13	20:19	20:23	20:28	20:33	20:39	20:44	20:47	20:49	20:56	0:18

Train No.	To From	Sand Lake	ORMC Amtrak	Church Street	Orlando LCS	Florida Hospital	Winter Park	Maitland	Altamonte Springs	Longwood SR 434	Lake Mary	Sanford SR 46	DeBary	Layover
1	From Yard	6:15	6:22	6:24	6:26	6:32	6:37	6:43	6:48	6:52	6:58	7:05	7:11	0:18
2		6:45	6:52	6:54	6:56	7:02	7:07	7:13	7:18	7:22	7:28	7:35	7:41	0:18
3		7:15	7:22	7:24	7:26	7:32	7:37	7:43	7:48	7:52	7:58	8:05	8:11	To Yard
4		7:45	7:52	7:54	7:56	8:02	8:07	8:13	8:18	8:22	8:28	8:35	8:41	To Yard
5		8:15	8:22	8:24	8:26	8:32	8:37	8:43	8:48	8:52	8:58	9:05	9:11	To Yard
1		8:45	8:52	8:54	8:56	9:02	9:07	9:13	9:18	9:22	9:28	9:35	9:41	0:18
1		11:15	11:22	11:24	11:26	11:32	11:37	11:43	11:48	11:52	11:58	12:05	12:11	0:18
1		13:45	13:52	13:54	13:56	14:02	14:07	14:13	14:18	14:22	14:28	14:35	14:41	0:18
1		16:15	16:22	16:24	16:26	16:32	16:37	16:43	16:48	16:52	16:58	17:05	17:11	0:18
2		16:45	16:52	16:54	16:56	17:02	17:07	17:13	17:18	17:22	17:28	17:35	17:41	0:18
3		17:15	17:22	17:24	17:26	17:32	17:37	17:43	17:48	17:52	17:58	18:05	18:11	To Yard
4		17:45	17:52	17:54	17:56	18:02	18:07	18:13	18:18	18:22	18:28	18:35	18:41	To Yard
5		18:15	18:22	18:24	18:26	18:32	18:37	18:43	18:48	18:52	18:58	19:05	19:11	To Yard
1		18:45	18:52	18:54	18:56	19:02	19:07	19:13	19:18	19:22	19:28	19:35	19:41	0:18
2		19:15	19:22	19:24	19:26	19:32	19:37	19:43	19:48	19:52	19:58	20:05	20:11	To Yard
1		21:15	21:22	21:24	21:26	21:32	21:37	21:43	21:48	21:52	21:58	22:05	22:11	To Yard



## 4. Proposed 2030 Operations

Amtrak operation will continue to operate throughout the CFCRT Corridor. As part of the purchase agreement between CSXT and FDOT, passenger rail traffic will be allowed access for 19 hours per day with exclusive passenger rail access for 12 hours per day. Freight rail traffic will be allowed for 12 hours per day with exclusive freight access for 5 hours per day. CSXT's long range plans call for the re-routing of some of the existing A-Line freight trains to the CSXT S-Line, west of Metropolitan Orlando.

The following generally describes the proposed use of the corridor for train operations.

- Weekdays
  - Exclusive passenger use 12 hrs/day
  - Exclusive freight use 5 hrs/day
  - Mixed traffic use 7 hrs/day
- Weekends
  - Mixed traffic use 24 hrs/day
- Passenger use - weekdays
  - 0530-0830 – every 15 minutes
  - 0830-1530 – every 1 hour
  - 1530-1830 – every 15 minutes
  - 1830-2230 – every 1 hour
  - 2230-0530 – none
- Freight use
  - Exclusive – 0001-0500
  - 1000-1500 and 2200-2359 (mixed with passenger trains)
- Amtrak Use
  - 6 Amtrak per day – between 0530 and 1600 weekdays

### 4.1. Proposed 2030 Amtrak Operations

Amtrak operations are not expected to increase along the A-Line corridor.

### 4.2. Proposed 2030 Freight Operations

Because CSXT has designated the A-Line Corridor as primarily for passenger service and the S-Line Corridor for through freight service, future freight traffic is not expected to grow significantly on the A-Line. Future freight traffic growth in through train and local train service is typically accomplished by increasing carloads per train. This is more economical due to the high cost of additional trains requiring train crews, equipment, fuel, and yard/mainline track capacity improvements. Current A&O type local trains average 581' long or less than an 8 car train. The 2030 build will have 59 of 61 miles of double track, with universal crossovers no more than four miles apart, and an upgraded signal system with shorter block layout will allow more efficient local train operation. These upgrades will provide a dramatic increase in freight capacity and efficiency for both local and through freight trains.

#### 4.2.1. Proposed 2030 Local Freight Operations

Table 4-1 summarizes the local freight train patterns and the expected day/night operation for 2030.

The average weekday local freight train count increase from 8 in the existing conditions to 10.8 in the Full Build 2030. This increase in the local train traffic is caused by the termination of through trains Q456A and Q456B at Rand Yard instead of Taft Yard. These “Q” type trains total 4 trips per week and are replaced with 8 trips per week by the local “A” type trains for the segment between Rand Yard and Taft Yard.

The number of night time local trains increases from 2.2 trains per day (Table 2-3) to 4.8 trains per day. The number of day time local trains increases from 5.8 trains per day (Table 2-3) to 6 trains per day.

**Table 4-1 - 2030 Build Local Freight Train Patterns**

Local Train Number, Pattern & Mile Post s (MP) marking end limits of Local Train Switching and/or Delivery Service Operations.	Track M/L Miles <sup>3</sup>	Mon	Tue	Wed	Thur	Fri	Day/Night Operation <sup>1</sup>
A766 (1) Rand Yd -MP 763 to DeLand Spur -MP 750 & Return	13.0	2		2		0	Daytime
A766 (2) Rand Yd-MP 763 to Sunlight Foods -MP 767.4 & Return	4.4		2		2		Daytime
A775 (1) Taft Yd -MP 795.5 to Kaley Yd - MP791.6	3.9	2		2		2	Night
A775 (2) Taft Yd -MP 795.5 to Kaley Yd - MP791.6	3.9		2		2		Daytime
A779 (1) Taft Manifest Yd and Taft TOFC Yd switching	Yard <sup>2</sup>	x		x		x	Daytime
A779 (2) Taft -MP 797.2 to Team Track-MP 806.6	9.4		2		2		Daytime
A784 Taft Manifest Yd to Taft TOFC Yd	Yard <sup>2</sup>	X	x	x			Night
A786 Taft Yd to Regency Park Spur-	Yard <sup>2</sup>	X	x	x	x	x	Night
A798 Taft Manifest Yd -MP 796.0 to MP 797.5	Yard <sup>2</sup>			x			Night
A455a Rand Yd to Taft Yd - replace sQ455 Rand to Taft Yd segment	28	1	1		1	1	Daytime
A455b Rand Yd to Taft Yd - replaces Q455 Rand to Taft Yd segment	28	1	1		1	1	Night
A456a Taft Yd to Rand Yd - replaces Q456 Taft to Rand Yd segment	28	1	1	1	1		Night
A456b Taft Yd to Rand Yd - replaces Q456 Taft to Rand Yd segment	28	1	1	1	1		Night
O682 MP 814.1 to Taft Yd & Return trip	18	2		2		2	Night
Z915 FCEN MP-790 FCEN - Robinson St to Taft Yd & return	6.0	2	2	2	2	2	Day

Notes:

1. Daytime is from 7AM to 10PM & Nighttime is 10PM to 7AM
2. CSXT yard operation is an existing 24 hour operation.
3. The length of track the local train operates over within the 61 mile CFCRT corridor is shown in the “Track M/L Miles” column
4. The 2030 build will have 59 of 61 miles of double track, with crossovers no more than four miles apart, and an upgraded signal system with shorter block layout will allow more efficient local train operation (less waiting for main track access)
5. Growth will be accommodated primarily through increased in number of carloads per train trip.

#### 4.2.2. Proposed 2030 Through Freight Operations

Table 4-2 summarizes the local train patterns and the expected day/night operation for 2030. The number of night time through trains decreases from 5.6 trains per day (Table 2-3) to 5.4 trains per day. The number of day time through trains increases from 5.4 trains per day (Table 2-3) to 5.6 trains per day.

**Table 4-2 - 2030 Build Through Freight Train Patterns**

Through Train Number, Pattern & Mile Post s (MP) marking end limits of Through Train corridor Origin/Destination.	Track M/L Miles <sup>2</sup>	Mon	Tue	Wed	Thur	Fri	Day/Night Operation <sup>1</sup>
K791 Barberville to Benson Jct. to Kaley Yd	38		1		1		Night
K792 Kaley Yd to Benson Jct. to Barberville	38			1		1	50% Night
K940 Davenport to Taft Yd	18	1		1		1	Daytime

Through Train Number, Pattern & Mile Post s (MP) marking end limits of Through Train corridor Origin/Destination.	Track M/L Miles <sup>2</sup>	Mon	Tue	Wed	Thur	Fri	Day/Night Operation <sup>1</sup>
K941 Rand Yd to Taft Yd to Davenport	45			1		1	Night
K948 Davenport to Taft Yd	18	1		1		1	Daytime
K947 Taft Yd to Davenport	18		1		1		Night
Q455 Barberville to Rand Yd – Match with locals A455 a & b <sup>3</sup>	14	1	1		1	1	Daytime
Q456 Rand Yd to Barberville – Match with locals A456a & b <sup>3</sup>	14	1	1		1	1	Night
N170 Coal Barberville to Stanton (via OUC Spur ) MP 800 (was 48 miles)	47	1	1	1	1		Night
N171 Coal Stanton to Barberville (via OUC Spur ) MP 800 (was 48 miles)	47	1	1	1	1		Daytime
Q177 SB Intermodal train to Taft Yd. / TOFC	43	1	1	1	1		Night
Q178 NB Intermodal train from Taft Yd. / TOFC	43		1	1	1	1	Daytime
Q187 SB Intermodal train to Taft Yd. / TOFC	43	1	1	1		1	Night
Q188 NB Intermodal train from Taft Yd. / TOFC	43	1		1	1	1	Daytime
Q255 SB Autorack train to Taft Yd. / TOFC	43	1	1		1	1	Night
Q258 NB Autorack train from Taft Yd. / TOFC	43	1	1		1	1	Daytime

Notes:

1. Daytime is from 7AM to 10PM & Nighttime is 10PM to 7AM
2. The length of track the through train operates over within the 61 mile CFCRT corridor is shown in the "Track M/L Miles" column
3. Proposed Q456 & Q455 patterns were achieved by terminating southbound Q455 at Rand and northbound Q456 at Taft and replacing the Rand to Taft portion of their trip pattern with four shorter and faster local train trip patterns A455 a & b and A456 a & b.
4. The 2030 build will have 59 of 61 miles of double track, with crossovers no more than four miles apart, and an upgraded signal system with shorter block layout will allow CSXT priority Intermodal and Autorack trains to be accommodated in the off-peak mixed train windows between 1000 hrs and 1500 hrs. There are opportunities for delayed arrivals to be accommodated during the exclusive freight window or trains can be held at Rand Yd. or Taft Yd.

#### 4.3. Proposed 2030 CFCRT Operations (Full Build Operations Plan)

The Full Build alternative would extend from the DeLand Amtrak station to Poinciana Boulevard, a distance of 60.8 miles, via the CSXT "A" line. Seventeen (17) stations would be located in the Corridor at: DeLand Amtrak, DeBary, Sanford, Lake Mary, Longwood, Altamonte Springs, Maitland, Winter Park, Florida Hospital, LYNX Central Station (LCS), Church Street, ORMC/Orlando Amtrak, Sand Lake, Meadow Woods, Osceola Parkway, Kissimmee Amtrak, and Poinciana Industrial Park.

There will be 56 trips per day with 8 during the night time (10PM to 7AM) and 48 trips during the day 7AM to 10PM). Trains would run every 15 minutes in the AM and PM peak periods, every 60 minutes during the midday and evening hours. No service would be operated on Saturdays or Sundays. The estimated terminal-to-terminal run time is 92:50 (min:sec). (average commercial speed = 39.1 mph) The schedules for the 2030 Full Build commuter service are shown below.

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Train No.		To From	DeLand Amtrak	DeBary	Sanford Amtrak	Lake Mary	Longwood SR 434	Altamonte Springs	Maitland	Winter Park	Florida Hospital	Orlando LCS	Church Street	ORMC/ Amtrak	Sand Lake SR 408	Meadow Woods	Osceola Pkwy.	Kissimmee Amtrak	Poinciana Blvd.	Layover
1	From Yard		5:30	5:43	5:49	5:56	6:02	6:06	6:11	6:17	6:22	6:28	6:30	6:33	6:40	6:46	6:51	6:56	7:02	0:12
2	From Yard		6:15	6:28	6:34	6:41	6:47	6:51	6:56	7:02	7:07	7:13	7:15	7:18	7:25	7:31	7:36	7:41	7:47	0:12
3	From Yard		6:30	6:43	6:49	6:56	7:02	7:06	7:11	7:17	7:22	7:28	7:30	7:33	7:40	7:46	7:51	7:56	8:02	To Yard
4	From Yard		6:45	6:58	7:04	7:11	7:17	7:21	7:26	7:32	7:37	7:43	7:45	7:48	7:55	8:01	8:06	8:11	8:17	To Yard
5	From Yard		7:00	7:13	7:19	7:26	7:32	7:36	7:41	7:47	7:52	7:58	8:00	8:03	8:10	8:16	8:21	8:26	8:32	To Yard
6	From Yard		7:15	7:28	7:34	7:41	7:47	7:51	7:56	8:02	8:07	8:13	8:15	8:18	8:25	8:31	8:36	8:41	8:47	0:12
8	--		7:30	7:43	7:49	7:56	8:02	8:06	8:11	8:17	8:22	8:28	8:30	8:33	8:40	8:46	8:51	8:56	9:02	To Yard
7	From Yard		7:45	7:58	8:04	8:11	8:17	8:21	8:26	8:32	8:37	8:43	8:45	8:48	8:55	9:01	9:06	9:11	9:17	To Yard
9	--		8:00	8:13	8:19	8:26	8:32	8:36	8:41	8:47	8:52	8:58	9:00	9:03	9:10	9:16	9:21	9:26	9:32	0:27
12	--		9:00	9:13	9:19	9:26	9:32	9:36	9:41	9:47	9:52	9:58	10:00	10:03	10:10	10:16	10:21	10:26	10:32	0:27
2	--		10:00	10:13	10:19	10:26	10:32	10:36	10:41	10:47	10:52	10:58	11:00	11:03	11:10	11:16	11:21	11:26	11:32	0:27
6	--		11:00	11:13	11:19	11:26	11:32	11:36	11:41	11:47	11:52	11:58	12:00	12:03	12:10	12:16	12:21	12:26	12:32	0:27
9	--		12:00	12:13	12:19	12:26	12:32	12:36	12:41	12:47	12:52	12:58	13:00	13:03	13:10	13:16	13:21	13:26	13:32	0:27
12	--		13:00	13:13	13:19	13:26	13:32	13:36	13:41	13:47	13:52	13:58	14:00	14:03	14:10	14:16	14:21	14:26	14:32	0:27
2	--		14:00	14:13	14:19	14:26	14:32	14:36	14:41	14:47	14:52	14:58	15:00	15:03	15:10	15:16	15:21	15:26	15:32	0:27
1	From Yard		14:30	14:43	14:49	14:56	15:02	15:06	15:11	15:17	15:22	15:28	15:30	15:33	15:40	15:46	15:51	15:56	16:02	0:27
6	--		15:00	15:13	15:19	15:26	15:32	15:36	15:41	15:47	15:52	15:58	16:00	16:03	16:10	16:16	16:21	16:26	16:32	0:27
3	From Yard		15:30	15:43	15:49	15:56	16:02	16:06	16:11	16:17	16:22	16:28	16:30	16:33	16:40	16:46	16:51	16:56	17:02	0:12
4	From Yard		15:45	15:58	16:04	16:11	16:17	16:21	16:26	16:32	16:37	16:43	16:45	16:48	16:55	17:01	17:06	17:11	17:17	To Yard
9	--		16:00	16:13	16:19	16:26	16:32	16:36	16:41	16:47	16:52	16:58	17:00	17:03	17:10	17:16	17:21	17:26	17:32	To Yard
5	From Yard		16:15	16:28	16:34	16:41	16:47	16:51	16:56	17:02	17:07	17:13	17:15	17:18	17:25	17:31	17:36	17:41	17:47	0:12
8	--		16:30	16:43	16:49	16:56	17:02	17:06	17:11	17:17	17:22	17:28	17:30	17:33	17:40	17:46	17:51	17:56	18:02	To Yard
7	From Yard		16:45	16:58	17:04	17:11	17:17	17:21	17:26	17:32	17:37	17:43	17:45	17:48	17:55	18:01	18:06	18:11	18:17	To Yard
12	--		17:00	17:13	17:19	17:26	17:32	17:36	17:41	17:47	17:52	17:58	18:00	18:03	18:10	18:16	18:21	18:26	18:32	0:27
10	--		17:15	17:28	17:34	17:41	17:47	17:51	17:56	18:02	18:07	18:13	18:15	18:18	18:25	18:31	18:36	18:41	18:47	To Yard
2	--		18:00	18:13	18:19	18:26	18:32	18:36	18:41	18:47	18:52	18:58	19:00	19:03	19:10	19:16	19:21	19:26	19:32	0:27
6	--		19:00	19:13	19:19	19:26	19:32	19:36	19:41	19:47	19:52	19:58	20:00	20:03	20:10	20:16	20:21	20:26	20:32	To Yard
5	--		20:00	20:13	20:19	20:26	20:32	20:36	20:41	20:47	20:52	20:58	21:00	21:03	21:10	21:16	21:21	21:26	21:32	To Yard

Train No.		To From	Poinciana Blvd.	Kissimmee Amtrak	Osceola Pkwy.	Meadow Woods	Sand Lake SR 408	ORMC Amtrak	Church Street	Orlando LCS	Florida Hospital	Winter Park	Maitland	Altamonte Springs	Longwood SR 434	Lake Mary	Sanford Amtrak	DeBary	DeLand Amtrak	Layover
8	From Yard		5:30	5:36	5:41	5:46	5:52	5:59	6:02	6:04	6:09	6:15	6:21	6:26	6:30	6:36	6:43	6:49	7:02	0:27
9	From Yard		6:15	6:21	6:26	6:31	6:37	6:44	6:47	6:49	6:54	7:00	7:06	7:11	7:15	7:21	7:28	7:34	7:47	0:12
10	From Yard		6:30	6:36	6:41	6:46	6:52	6:59	7:02	7:04	7:09	7:15	7:21	7:26	7:30	7:36	7:43	7:49	8:02	To Yard
11	From Yard		6:45	6:51	6:56	7:01	7:07	7:14	7:17	7:19	7:24	7:30	7:36	7:41	7:45	7:51	7:58	8:04	8:17	To Yard
12	From Yard		7:00	7:06	7:11	7:16	7:22	7:29	7:32	7:34	7:39	7:45	7:51	7:56	8:00	8:06	8:13	8:19	8:32	0:27
1	--		7:15	7:21	7:26	7:31	7:37	7:44	7:47	7:49	7:54	8:00	8:06	8:11	8:15	8:21	8:28	8:34	8:47	To Yard
13	From Yard		7:30	7:36	7:41	7:46	7:52	7:59	8:02	8:04	8:09	8:15	8:21	8:26	8:30	8:36	8:43	8:49	9:02	To Yard
14	From Yard		7:45	7:51	7:56	8:01	8:07	8:14	8:17	8:19	8:24	8:30	8:36	8:41	8:45	8:51	8:58	9:04	9:17	To Yard
2	--		8:00	8:06	8:11	8:16	8:22	8:29	8:32	8:34	8:39	8:45	8:51	8:56	9:00	9:06	9:13	9:19	9:32	0:27
6	--		9:00	9:06	9:11	9:16	9:22	9:29	9:32	9:34	9:39	9:45	9:51	9:56	10:00	10:06	10:13	10:19	10:32	0:27
9	--		10:00	10:06	10:11	10:16	10:22	10:29	10:32	10:34	10:39	10:45	10:51	10:56	11:00	11:06	11:13	11:19	11:32	0:27
12	--		11:00	11:06	11:11	11:16	11:22	11:29	11:32	11:34	11:39	11:45	11:51	11:56	12:00	12:06	12:13	12:19	12:32	0:27
2	--		12:00	12:06	12:11	12:16	12:22	12:29	12:32	12:34	12:39	12:45	12:51	12:56	13:00	13:06	13:13	13:19	13:32	0:27
6	--		13:00	13:06	13:11	13:16	13:22	13:29	13:32	13:34	13:39	13:45	13:51	13:56	14:00	14:06	14:13	14:19	14:32	0:27
9	--		14:00	14:06	14:11	14:16	14:22	14:29	14:32	14:34	14:39	14:45	14:51	14:56	15:00	15:06	15:13	15:19	15:32	0:27
8	From Yard		14:30	14:36	14:41	14:46	14:52	14:59	15:02	15:04	15:09	15:15	15:21	15:26	15:30	15:36	15:43	15:49	16:02	0:27
12	--		15:00	15:06	15:11	15:16	15:22	15:29	15:32	15:34	15:39	15:45	15:51	15:56	16:00	16:06	16:13	16:19	16:32	0:27
10	From Yard		15:30	15:36	15:41	15:46	15:52	15:59	16:02	16:04	16:09	16:15	16:21	16:26	16:30	16:36	16:43	16:49	17:02	0:12
11	From Yard		15:45	15:51	15:56	16:01	16:07	16:14	16:17	16:19	16:24	16:30	16:36	16:41	16:45	16:51	16:58	17:04	17:17	To Yard
2	--		16:00	16:06	16:11	16:16	16:22	16:29	16:32	16:34	16:39	16:45	16:51	16:56	17:00	17:06	17:13	17:19	17:32	0:27
13	From Yard		16:15	16:21	16:26	16:31	16:37	16:44	16:47	16:49	16:54	17:00	17:06	17:11	17:15	17:21	17:28	17:34	17:47	To Yard
1	--		16:30	16:36	16:41	16:46	16:52	16:59	17:02	17:04	17:09	17:15	17:21	17:26	17:30	17:36	17:43	17:49	18:02	To Yard
14	From Yard		16:45	16:51	16:56	17:01	17:07	17:14	17:17	17:19	17:24	17:30	17:36	17:41	17:45	17:51	17:58	18:04	18:17	To Yard
6	--		17:00	17:06	17:11	17:16	17:22	17:29	17:32	17:34	17:39	17:45	17:51	17:56	18:00	18:06	18:13	18:19	18:32	0:27
3	--		17:15	17:21	17:26	17:31	17:37	17:44	17:47	17:49	17:54	18:00	18:06	18:11	18:15	18:21	18:28	18:34	18:47	To Yard
5	--		18:00	18:06	18:11	18:16	18:22	18:29	18:32	18:34	18:39	18:45	18:51	18:56	19:00	19:06	19:13	19:19	19:32	0:27
12	--		19:00	19:06	19:11	19:16	19:22	19:29	19:32	19:34	19:39	19:45	19:51	19:56	20:00	20:06	20:13	20:19	20:32	To Yard
2	--		20:00	20:06	20:11	20:16	20:22	20:29	20:32	20:34	20:39	20:45	20:51	20:56	21:00	21:06	21:13	21:19	21:32	To Yard



## 5. Summary of Weekday Train Operations in the Existing, 2012 Opening Year, and 2030 Full Build

CSXT has designated the A-Line Corridor as primarily for passenger service and the S-Line Corridor for freight service. Future freight traffic growth in through train and local train service is typically accomplished by increasing carloads per train. This is more economical due to the high cost of additional trains requiring train crews, equipment, fuel, and yard/mainline track capacity improvements. Therefore, the total through train count remains the same at 11 for the Existing Conditions - the Build 2012 and Full Build 2030 as shown in Table 5-1.

The nighttime total average daily local train counts increased from an existing 2.2 to 3.8 for the Build 2012 and 4.8 for the Full Build 2030. These changes are not significant and can be attributed to shifting from peak commuter train periods.

The total local freight train count increase from 8 in the existing conditions to 9.8 in the Build 2012 and increase to 10.8 in the Full Build 2030. This increase in the local train traffic is caused by the termination of through trains Q456A and Q456B at Rand Yard instead of Taft Yard. These "Q" type trains total 4 trips per week and are replaced with 8 trips per week by the local "A" type trains for the segment between Rand Yard and Taft Yard.

**Table 5-1 - Summary of Weekday Train Operations -Existing, 2012 Opening Year, and 2030 Full Build**

	Amtrak Passenger <sup>1</sup>	Amtrak Auto Train <sup>2</sup>	Through Freight Trains <sup>3 5</sup>	Local Freight Trains <sup>3 5</sup>	CFCRT Trains <sup>5</sup>	Total All Trains
<b>Existing Conditions - 2005<sup>6</sup></b>						
Daytime Hrs (7AM – 10PM)	4.9	1.9	5.4	5.8	0	18
Nighttime Hrs (10PM - 7AM)	0.8	0	5.6	2.2	0	8.6
<b>Total</b>	5.7	1.9	11	8	0	26.6
AM Peak Hour	0	0.2	1.2	1.4	0	2.8
PM Peak Hour	1.5	1.1	1.5	1.4	0	5.5
<b>Build – 2012</b>						
Daytime Hrs (7AM – 10PM)	4.9	1.9	6.6	6	27	46.4
Nighttime Hrs (10PM – 7AM)	0.8	0	4.4	3.8	5	14
<b>Total</b>	5.7	1.9	11	9.8	32	60.4
AM Peak Hour	0	0.2	0	0	12	12.2
PM Peak Hour	1.5	1.1	0	0	12	14.6
<b>Full Build – 2030<sup>7</sup></b>						
Daytime Hrs (7AM – 10PM)	4.9	1.9	5.6	6	48	66.4
Nighttime Hrs (10PM – 7AM)	0.8	0	5.4	4.8	8	19
<b>Total</b>	5.7	1.9	11	10.8	56	85.4
AM Peak Hour	0	0.2	0	0	16	16.2
PM Peak Hour	1.5	1.1	0	0	16	18.6

Notes:

1. Three northbound and three southbound Amtrak passenger trains per day along the entire length of the project corridor based on schedules in effect early 2005 (pre-Katrina). The Sunset Limited has not returned to service since Katrina but the train service is still included for Build 2012 and 2030. The proposed CFCRT signal system is designed for 7.5 minute headways to allow for Amtrak to have access in the corridor during 2030 Build peak periods with 15 minute headways. The Amtrak Orlando Station will have a 3<sup>rd</sup> station track added to prevent delays. There is no growth expected for Amtrak on the A Line.
2. One northbound and one southbound Amtrak Auto Train per day between DeLand Station and Amtrak Auto Train Station, travelling 16 miles from the north of the project corridor.
3. The data analyzed indicated there is an average of nineteen freight trains operating on the corridor daily. The through trains either terminate in Taft Yard and return or travel through the corridor. Five of these operations occur during daytime hours, and six of these operations occur during nighttime hours. The data also indicated there are eight local trains servicing carload customers along the corridor. These service patterns vary depending on customer deliveries with the highest concentration between Taft Yard and Kaley Yard Trains (4 mile trip length) and customers near Rand Yard. There are many locomotive only trips during the month.
4. CFCRT Trains statistics for the Build 2012 and Build 2030 were obtained from the Transit Operating Plans Report schedules.
5. The 2012 Build and 2030 Build freight train operations were also assumed to not change from their average current level of operations except that in the Full-Build some of the freight train operations will shift from peak-hour operations to off-peak daytime operations to avoid conflict with the project related DMU commuter rail operations.
6. Data used for Environmental Assessment – No Build
7. Data used for Environmental Assessment – 2030 Full Build