

Walton Road Multimodal Improvements Feasibility Study

St. Lucie Transportation Planning Organization

Prepared for:



St. Lucie Transportation
Planning
Organization

Prepared by:



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From Lennard Road to Indian River Drive

Prepared for:

St. Lucie Transportation Planning Organization

June 2016

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Executive Summary

The St. Lucie Transportation Planning Organization (TPO) retained Stanley Consultants, Inc. to complete this preliminary feasibility study to evaluate multimodal improvements to the Walton Road corridor from Lennard Road to Indian River Drive. Walton Road is located within the limits of the City of Port St. Lucie and is owned and maintained by St. Lucie County. A demand for multimodal facilities exist in the surrounding study area due to residential and commercial land use, St. Lucie Civic Center, St. Lucie Medical Center, Savannas Preserve State Park, Woodstork Trail, existing off road shared use paths, and the National East Coast Greenway trail.

The multimodal improvements are consistent with local transportation plans. The FY 2014/15 – FY 2015/16 Unified Planning Work Program (UPWP) for the St. Lucie TPO includes Task 4.1, Walton Road Multimodal Improvements. Sidewalk improvements to the Walton Road corridor from Lennard Road to SE Green River Parkway are included in the list of priority projects (LOPP), were identified as part of the Walk-Bike needs and network improvements, and included in the cost feasible plan for the recently adopted Go2040 St. Lucie TPO Long Range Transportation Plan (LRTP). Completing the off road shared use path missing link from Lennard Road to SE Green River Parkway was included in the recommended preferred alternative contained in the Bicycle/Pedestrian Corridor Study Area of Interest Analysis completed by the St. Lucie TPO in 2011.

The entire study corridor spans approximately 1.9 miles with the roadway right of way (ROW) width varying from 50 feet to 150 feet. The study begins at Lennard Road as a four-lane roadway with bike lanes, sidewalk and an off road shared use path for approximately 600 feet and then transitions into a two-lane roadway with no paved shoulders or bicycle facilities all the way to Indian River Drive at the end of the study. Sidewalks, bike lanes or shared use paths are not present between SE Scenic Park Street and Indian River Drive.

The study corridor was divided into three segments based on the existing multimodal facilities, ROW width and recommended alternatives. Segment A is a four-lane divided roadway starting at Lennard Road and terminating 800 feet east of the intersection. This segment currently contains multimodal facilities on both sides of Walton Road and is the only segment with a four-lane typical section with a divided median. Segment B starts at the end of Segment A and ends at SE Green River Parkway, with varying ROW width. The existing land use is residential, with vacant parcels, a private hospital to the south, and the Savannas Preserve State Park to the north. Segment C is a two-lane rural roadway from SE Green River Parkway to Indian River Drive. Segment C has a 50-foot ROW width, guardrail through the Savannas Preserve State Park, and crosses at the FEC Railroad.

An evaluation of existing traffic counts and future volumes for Walton Road was completed to determine if roadway widening would be required in the future. Based on the planning tables found in the 2013 Florida Department of Transportation Quality and Level of Service Handbook, Walton Road is expected to have a Level of Service C through the year 2040 as a two lane roadway and widening will not be necessary.

The alternative roadway typical sections presented in this study would require a variance from St. Lucie County to reduce roadway lane width to eleven feet. The following alternatives were evaluated in this preliminary study:



- **Segment A**
 - Existing multimodal features are acceptable therefore no improvements are proposed.
- **Segment B**
 - **Alternative B1** - Extend sidewalk on north side of Walton Road from SE Scenic Park Street to Green River Parkway, extend shared use path from east of SE Rainer Road to Green River Parkway, add on-street bike lanes in both directions. Minimum ROW width required for this typical section is 65 feet.
 - **Alternative B2** Roadway reconstruction – reconstruct roadway with curb and gutter, extend sidewalk on north side of Walton Road from SE Scenic Park Street to Green River Parkway, extend shared use path from east of SE Rainer Road to Green River Parkway, add on-street bike lanes in both directions. Minimum ROW width required for this typical section is 65 feet
 - Both Alternative B1 and B2 will require ROW from the vacant school board parcel.
- **Segment C**
 - **Alternative C1** - Add sidewalk on north side of Walton Road from Green River Parkway to Indian River Drive, add on-street bike lanes in both directions. Minimum ROW width required for this typical section would be dependent on stormwater swale design and permitting requirement to meet water quality standards.
 - **Alternative C2** Roadway reconstruction – reconstruct the 2 lane roadway with curb and gutter, piped drainage system, sidewalk on north side of Walton Road from Green River Parkway to Indian River Drive, add on-street bike lanes in both directions.
 - **Alternative C3** No roadway improvements – no roadway improvements but provide a separate 10-foot wide elevated shared use boardwalk structure. Required ROW would be dependent on guardrail replacement.
 - **Alternative C4** Bridge roadway – construct a new bridge on Walton Road from east of Green River Parkway over Savannas Preserve State Park to west of the FEC railroad crossing. Sidewalk and paved shoulders would be added.
 - All alternatives for Segment C will require ROW from Savannas Preserve State Park.

Additional options for Segment C:

Kayak crossing options were evaluated for this segment in order to improve connectivity from the kayak launch south of Walton Road to the Savannas Preserve State Park to the north.

- Kayak Crossing Under Walton Road – the option of adding an under road crossing for kayaks and other non-motorized watercrafts through an arch culvert. Reconstruction and raising of Walton Road would be needed to meet kayak vertical clearance requirements.
- Kayak Crossing Over Walton Road – the option of allowing multimodal water users to cross over Walton Road with a kayak portage. The alternative would require a mid-block pedestrian crossing signal and adequate ingress and egress from the waterway.



Currently in Segment B one portion of the ROW is restricted to 50 feet due to Savannas Preserve State Park to the north and a vacant parcel owned by the St. Lucie County School Board. Based on coordination with the St. Lucie County School Board, the Board may be open to donating ROW adjacent to Walton Road to add off-road paths or sidewalks.

In Segment C, if mitigation is required, it is recommended to use a mitigation bank. Moreover, it is recommended that pre-application meetings be conducted with South Florida Water Management District (SFWMD) and the US Army Corps (land owners) in order to ensure that the alternative will avoid and minimize impacts.

Estimated costs for the recommended alternatives is listed in the table below. The cost estimate for Segment C includes an estimated \$145,000 cost for FEC railroad crossing improvements based on previous TIP projects within south Florida. The alternatives for Segment C also includes a \$3,000 permit fee and under Walton road kayak option.

Segment	Alternative	Total Cost
Segment A	Maintain existing multimodal features	None
Segment B	B1. Bike lanes, sidewalk, multiuse path	\$ 1,980,000
	B2. Curb and gutter – bike lanes, sidewalk, multiuse path	\$ 6,980,000
Segment C	C1. Add bike lanes & sidewalk	\$ 3,100,000
	Permitting	\$ 3,000
	Kayak Crossing	\$ 900,000
	Total Alternative C1 Cost	\$ 4,020,000
	C2. Roadway reconstruction with curb and gutter – add bike lanes & sidewalk	\$ 6,500,000
	Permitting	\$ 3,000
	Kayak Crossing	\$ 900,000
	Total Alternative C2 Cost	\$ 7,420,000
	C3. No roadway improvements – add raised Boardwalk*	\$ 1,310,000
	Permitting	\$ 3,000
	Kayak Crossing	\$ 1,750,000
	Total Alternative C3 Cost	\$ 3,040,000
	C4. Bridge roadway – add sidewalk and paved shoulders	\$ 43,950,000
	Permitting	\$ 3,000
	Kayak Crossing	\$ 1,750,000
	Total Alternative C4 Cost	\$ 44,900,000
*Does not include \$72,000 yearly maintenance cost		

These recommended improvements would enhance pedestrian mobility, provide safety benefits to both bicyclists and pedestrians as well as provide potential connections to future trails.



1.0 Introduction

The St. Lucie Transportation Planning Organization (TPO) retained Stanley Consultants, Inc. to complete this preliminary report to evaluate multimodal improvements to increase connectivity along the Walton Road corridor from Lennard Road to Indian River Drive. The study corridor is approximately 1.9 miles, of which 1.5 miles lack existing pedestrian or bicycle facilities.

This preliminary report is consistent with several TPO transportation plans. The study corridor is identified in the adopted Go2040 St. Lucie TPO Long Range Transportation Plan (LRTP) as part of the TPO's Walk-Bike Needs and Network Improvements and Cost Feasible Plan. The FY 2014/15 – FY 2015/16 St. Lucie TPO Unified Planning Work Program (UPWP) includes Walton Road Multimodal Improvements as a task. The corridor is also listed as second in the 2014/15 priority ranking and third on the 2015/16 list of priority projects (LOPP) as a Transportation Alternatives (TA) project for adding sidewalks. Furthermore, completing the missing link of an off-road shared use path from Lennard Road to SE Green River Parkway was included with the recommended alternative in the Bicycle/Pedestrian Corridor Study Area of Interest Analysis completed by the St. Lucie TPO in 2011.

1.1 Study Area

Walton Road from Lennard Road to Indian River Drive is located within the City of Port St. Lucie and is owned and maintained by St. Lucie County. Walton Road is classified as a Minor Arterial Urban roadway and provides the only roadway, pedestrian or bicycle link between US 1 and Indian River Drive between Midway Road (6 miles north) and Jensen Beach Blvd (4 miles south).

The study begins at Lennard Road as a four-lane section for approximately 600 feet and transitions into a two-lane section with no paved shoulders or bicycle facilities all the way to Indian River Drive (the end of the study), with a roadway right of way (ROW) width varying from 50 feet to 150 feet.

The surrounding land use is predominantly residential and includes the Savannas Preserve State Park, a convenience store, churches, a private hospital, vacant school board property, and the Florida East Coast Railway (FECR) crossing at the east end of the project. The St. Lucie County School District owns a vacant property on the southeast corner of Walton Road and SE Belcrest Street. The Port St. Lucie Hospital (private hospital) is located on the southeast corner of Walton Road and SE Grand Drive.

Savannas Preserve State Park entrance is located on Walton Road within the study segment between SE Belcrest Street and SE Grand Drive. This park entrance provides access for hikers and bicyclists. The park contains over eight miles of multi-use trails for hiking, bicycling and horseback riding. The Greater Savanna Preserve Natural Area stretches for more than 10 miles from Ft. Pierce to Jensen Beach and it is the most intact remnant of Florida's east coast savannas.

The overall study area map is shown in **Figure 1.1**. The study corridor has several multimodal trip generators nearby. There is a large residential community, St. Lucie Civic Center, St. Lucie Medical Center, Port St. Lucie High School, Sandhill Crane Park, Wood Stork Trail, Savannas Preserve State Park hiking and kayak trails, Green River Parkway Trail, connections to the beach via Indian River Drive, and the National East Coast Greenway Trail.

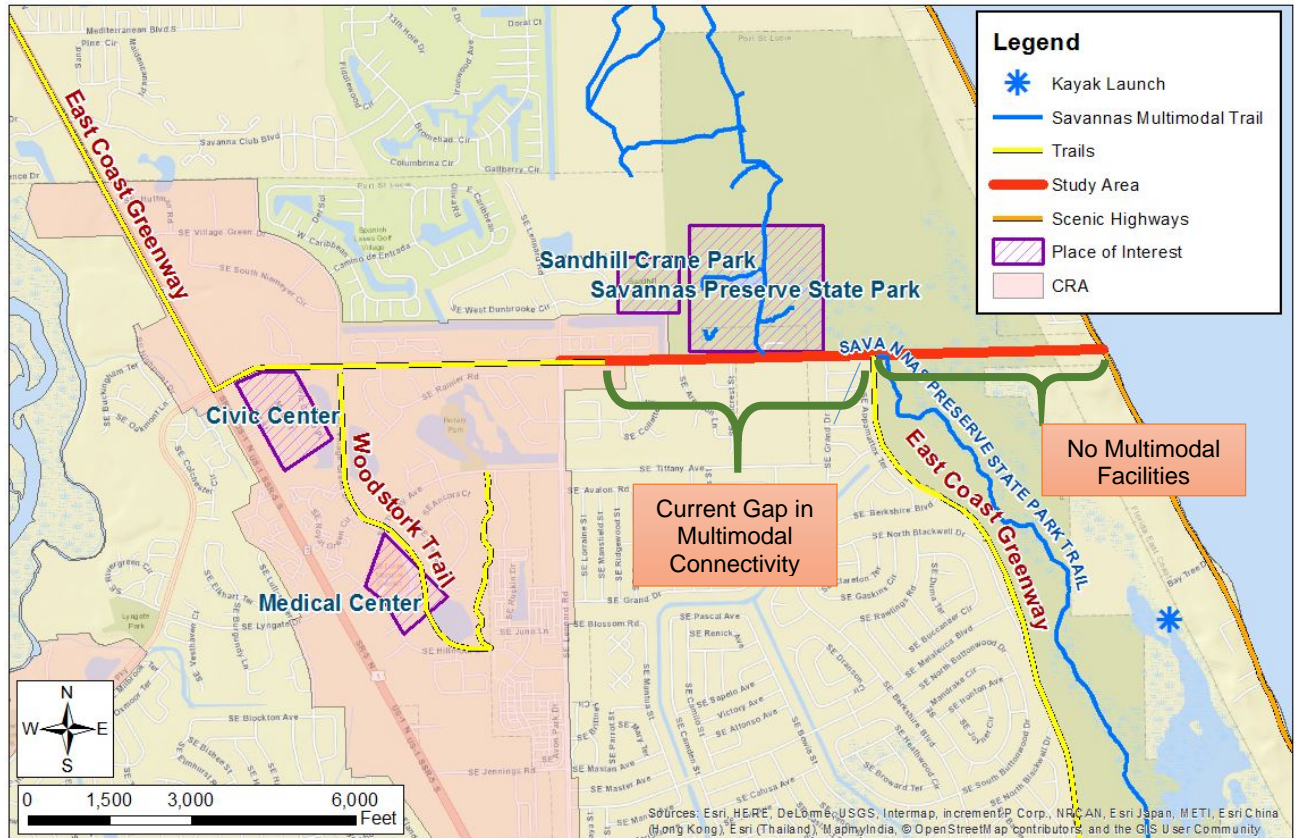


Figure 1.1 Overall Study Area

The National East Coast Greenway Trail is a 3,000-mile trail linking major cities along the Atlantic coastline from Maine to Florida. Within the Walton Road study segment, the East Coast Greenway Trail follows a variety of sidewalks and shared use paths. However, a multimodal gap exists and the national trail must utilize the two-lane rural roadside grass shoulder as the pathway until reaching the south connection that follows the Green River Parkway Trail. This study identifies improvements to fill the gap in the trail and complete other local trail and multimodal network connectivity.

The study corridor was divided into three segments based on the existing conditions and potential alternative solutions. These segments are described below and illustrated in **Figure 1.2**.

- **Segment A:** Begins at the intersection of Lennard Road and extends 800 feet east. This is where the four-lane divided roadway transitions to the two-lane rural section. The existing roadway segment contains multimodal facilities on both sides of Walton Road and is the only segment with a divided four-lane typical section.
- **Segment B:** Begins 800 feet east of Lennard Road and ends at SE Green River Parkway for a total length of 0.94 miles. This two-lane rural roadway has a ROW width from 50 ft to 150 ft. The existing roadway segment contains one sidewalk multimodal facility on the north side of Walton Road from the segment beginning to SE Scenic Park Street.



- **Segment C:** Begins at SE Green River Parkway and ends at Indian River Drive for a total length of 0.8 miles. This two-lane rural roadway has a ROW width that varies from 50 ft to 100 ft. The existing roadway segment contains no multimodal facilities.

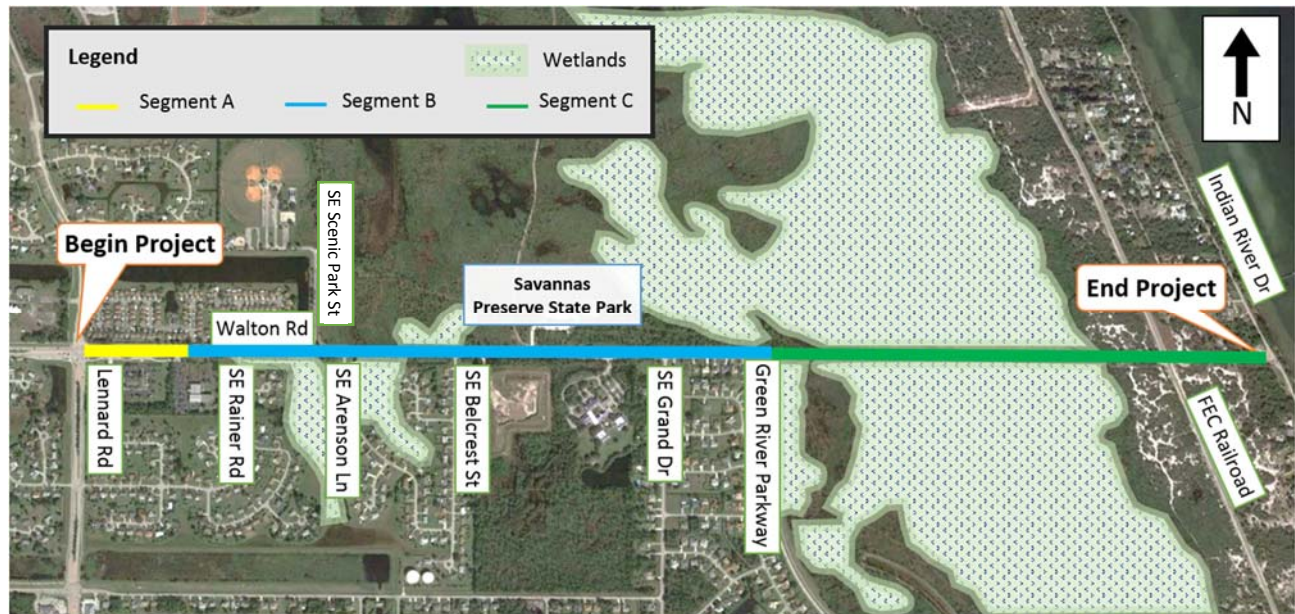


Figure 1.2 Project Segment Map

1.2 Study Purpose and Need

The purpose of this study is to evaluate the feasibility of adding multimodal improvements along the Walton Road corridor between Lennard Road and Indian River Drive to improve multimodal connectivity, pedestrian and bicyclist safety.

There are no existing bike lanes or paved shoulders on the two-lane portion of Walton Road between Lennard Road and Indian River Drive. Several multimodal trails and pathways end at Walton Road due to the lack of multimodal facilities. Vehicles and multimodal users must share the roadway travel lanes or roadside within the two-lane rural section.

An existing twelve foot wide off-road shared use path begins west of the study corridor at US-1 and meanders along the south side of Walton Road stopping at the driveway access to Highpoint Community Church between Lennard Road and SE Rainer Road. **Figure 1.3** shows the end of the path within the study corridor on the east side of the Highpoint Community Church driveway. A need exists to connect this shared use path with the paved trail at the southeast corner of Walton Road and SE Green River Parkway. This connection would provide a cohesive, safe facility for the East Coast Greenway.



Figure 1.3 End of Shared Use Path



According to the East Coast Greenway website, the section of the trail on Walton Road from Lennard Road to SE Green River Parkway is described as “on-road routing” until it joins the Green River Parkway Trail. **Figure 1.4** shows the Green River Parkway Trail termini at Walton Road. A screenshot from the website showing the East Coast Greenway trail through the study corridor is included in **Appendix D**.



Figure 1.4 End of Green River Parkway Trail

Within the study corridor an existing six-foot wide sidewalk, shown in **Figure 1.5**, is located on the north side of Walton Road from Lennard Road to SE Scenic Park Street leading north to Sandhill Crane Park which is owned by the City of Port St. Lucie. There is a need to continue the sidewalk east to the Savannas Preserve State Park entrance and also provide a safe pedestrian connection to the existing paved Green River Parkway Trail.



Figure 1.5 Sidewalk on North

Walton Road crosses the Savannas Preserve State Park kayakTrail, designated for non-motorized recreational water craft. There is a kayak launch located south of the study area off of Riverview Drive, west of the FEC railroad. The kayak trail has a gap at Walton Road due to the lack of an over-the-road kayak portage or an under-the-road kayak culvert crossing. This multimodal feasibility study evaluates kayak alternatives in **Section 3.7** in order to improve connectivity of the kayak launch across Walton Road.



2.0 Existing Conditions Analysis

2.1 Physical

Assessing existing conditions along the corridor included data collection and analysis, office and field reviews and documenting deficiencies. Plans were requested and received from St. Lucie County Engineering Division for the Walton Road Widening (County Project No. 05-51) showing the typical section, sidewalk details and improvements east of Lennard Road. A field review was conducted on Thursday, March 24, 2016 to document existing conditions, identify deficiencies and verify information from the office review.

The existing ROW width varies along the Walton Road from 50 feet to 150 feet. Between Lennard Road and SE Scenic Park Street the existing ROW width is 150 feet and narrows to 100 feet just east of SE Belcrest Street. Adjacent to the parcels owned by St. Lucie County School District and the Savannahs Preserve State Park the existing ROW width is 50 feet and widens to 65 feet adjacent to Port St. Lucie Hospital, Inc. The existing ROW width is 80 feet west of SE Grand Drive to the east of SE Green River Parkway and narrows to 50 feet through the Savannahs Preserve State Park. The existing ROW width is 100 feet from the FEC railroad crossing to Indian River Drive. The variation of ROW width is illustrated on the next page in **Figure 2.1**.

An existing raised median on Walton Road is present only within the four-lane section east of Lennard Road. The existing off-road shared use path on the south side is in good condition. Six foot wide concrete sidewalk exists along the north side between the beginning of the project at Lennard Road to SE Scenic Park Street and was found to be in good condition.

In the two-lane section, the travel lanes were measured and found to be 11 feet wide for a total paved roadway width of 22 feet. The pavement condition for the two-lane section (Segment B & C) was found to be in good condition based on a full depth resurfacing of the existing roadway completed as a maintenance project by St. Lucie County in 2015.

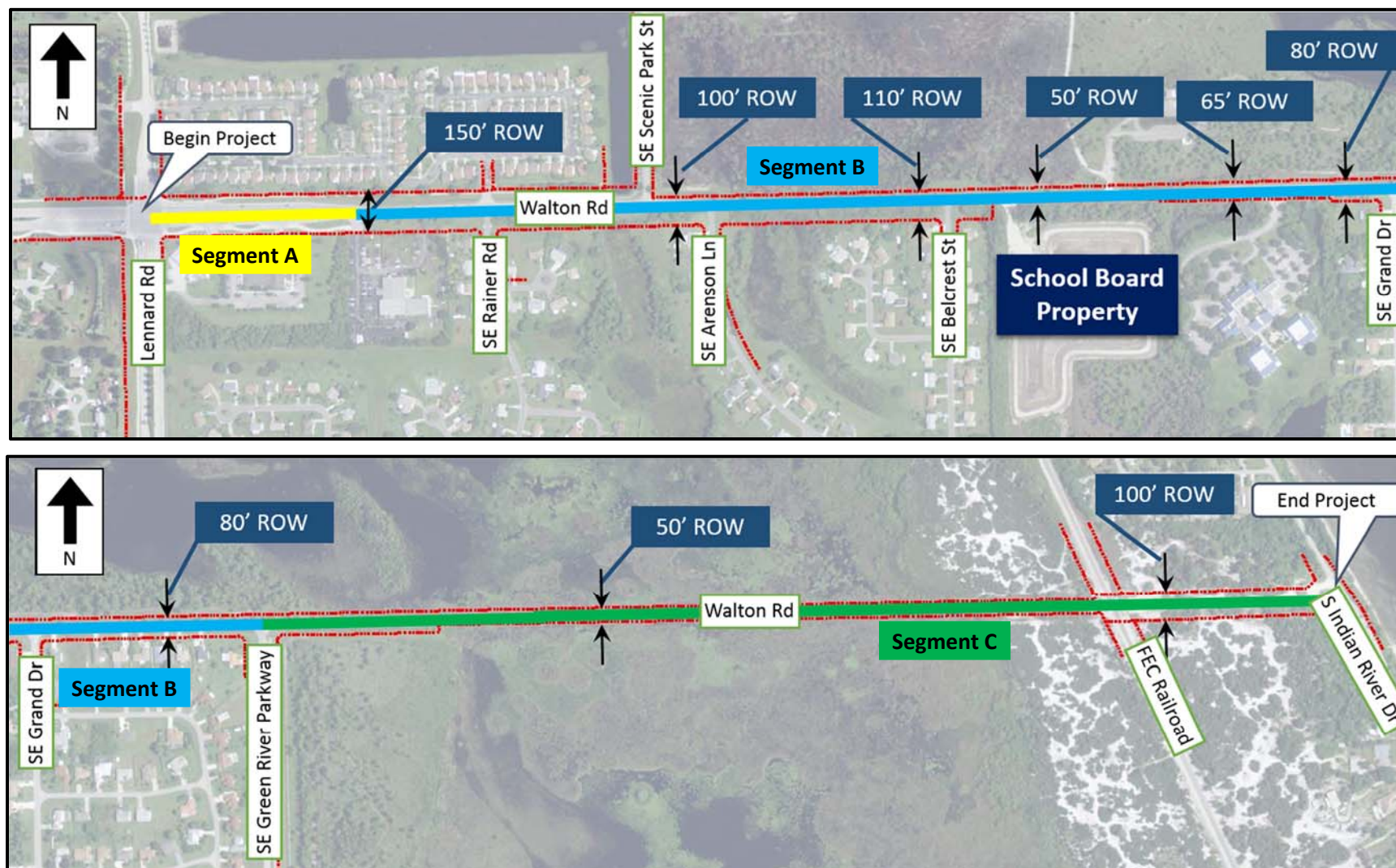


Figure 2.1 Existing Right Of Way



Segment C of Walton Road includes existing guardrail on the north and south side from SE Green River Parkway to the FEC Railroad crossing. The guardrail is damaged in some locations and measured to be approximately nine feet from the edge of pavement. A photo of damaged guard rail can be seen in **Figure 2.2**. The section of damaged guardrail appeared to be marked for maintenance. At some locations the existing guardrail has settled and is located beyond nine feet from the edge of pavement and in standing water. The study area experienced heavy rain prior to the field review.



Figure 2.2 Damaged Guardrail

Information was provided by St. Lucie County Public Works Department (SLCPWD) showing the approximate location of two 48" x 60' RCP and two 72" x 60' CPM culverts east of Green River Parkway. The approximate culvert locations can be seen in the existing conditions map found in **Appendix D** based on a hand sketch provided from St. Lucie County. Additional information provided by SLCPWD verified that a permit was issued by the United States Army Corps of Engineers for the cleaning and restoration of the existing pipes and the work was completed in 1999. These culverts under Walton Road east of SE Green River Parkway were not visually located and could not be verified during the field review. The culverts should be evaluated due to age and environmental conditions.



Figure 2.3 Intersection Lighting

Street lighting in Segment A was located along the north and south side east of Lennard Road and terminated where the roadway transitions from four lanes to two lanes, approximately 800 feet east of the intersection. Intersection lighting is located at the following intersection locations along the study corridor: the northeast corner of SE Scenic Park Street, the southwest corner of SE Grand Drive, and the southwest corner of SE Green River Parkway. A photo of intersection lighting on a single pole can be seen in **Figure 2.3**. Existing overhead utilities are present along the south side of Walton Road and appeared to be within the 20-foot utility easement located adjacent to the existing ROW line shown on the widening plans provided from St. Lucie County. The existing overhead utility lines located on the south side stop east of SE Green River Parkway and continues underground to just west of the FEC Railroad crossing and then continues overhead to Indian River Drive. **Appendix D** provides a detailed map of existing conditions.

No transit stops are currently located within the study corridor, nor do any transit routes pass through the corridor. An exhibit showing nearby transit stops and routes can be found in **Appendix E**.



2.2 Operation

Evaluation of the average vehicle speed was completed based on speed data collected at three locations along the corridor on Thursday March 17, 2016. The posted speed on the study corridor is 45 mph and a posted speed limit sign can be seen in **Figure 2.4**. The results from the data collected east of Lennard Road, as well as east and west of SE Green River Parkway indicate the 85th percentile speed is 43 MPH. The posted speed for Walton Road is 45 MPH. The collected speed data can be found in **Appendix A**.

Field observations confirmed that roadway operating conditions along the corridor and the stop controlled intersections are satisfactory. All stop controlled intersections within the study corridor were observed to operate at an acceptable level of service for vehicles. Several bicyclists were observed sharing the roadway with vehicles.



Figure 2.4 Speed Limit Sign

The current access control is limited to a raised median within the four-lane section east of Lennard Road as well as right and left turn lanes at SE Powderly Place/SE Rainer Road intersection, SE Scenic Park Street and the driveway access to Port St. Lucie Hospital west of SE Grand Drive.

2.3 Safety

A review of crash data received from TPO staff for the most recent 5-year period from 2011-2015 was performed to evaluate safety conditions along the corridor within the study limits.

Table 2.1 Crash Distribution by Year

Year	Number of Crashes
2011	3
2012	2
2013	2
2014	9
2015	12
Total Crashes	28

A total of 28 crashes occurred within the study limits from 2011 to 2015 and is represented in **Table 2.1**. A significant increase in crashes is apparent between year 2013 and 2014. The largest number of crashes was reported for year 2015 with twelve crashes, followed by 2014 with nine crashes. A more detailed crash analysis was completed for 2014 and 2015 due to the large increase of crashes and is presented later in this section.



The crash distribution by location was also analyzed and illustrated in **Figure 2.5**. The intersection with the most amount of crash incidents for the study corridor during the five year period was Lennard Road with nine crashes, followed by Indian River Drive with eight crashes. Seven out of the nine crashes that occurred at Lennard Road were “rear end” crashes, with one crash reported as “other” and one “bicycle” crash. The large number of “rear end” crashes at this intersection could be due to congestion at the intersection signal. Three “rear end”, three “run off” road, and two “other” crashes make up the eight collisions reported for the Indian River Drive intersection. At SE Green River Parkway four out of five of the collisions were “left turn” crashes and one was an “off road” crash. No “pedestrian” collisions were reported for the study corridor. The crash data can be found in **Appendix C**.

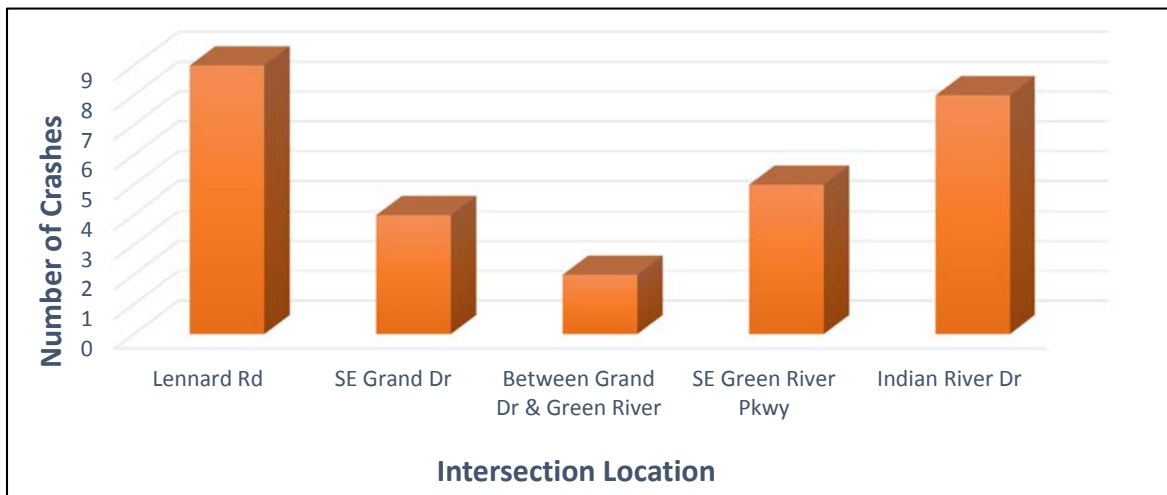


Figure 2.5 Five Year Crash Distribution by Intersection Location

Table 2.2 shows that the majority of crashes occurred during clear conditions. The study corridor does not have a pattern of crashes occurring in wet/rainy conditions.

Table 2.2 Crash Distribution by Weather Condition

Weather Condition	Number of Crashes
Clear	24
Cloudy	1
Rain	2
Fog, Smog, Smoke	1

The majority of crashes occurred in the daylight condition, as shown in **Table 2.3**. Only four crashes were reported in dark, unlit conditions and one dark crash did not report the lighting condition. Including the unknown lighting crash, the percentage of crashes that occurred in dark is 18%.



Table 2.3 Crash Distribution by Lighting Condition

Lighting Condition	Number of Crashes
Daylight	19
Dawn/Dusk	2
Dark - Lighted	2
Dark - Not Lighted	4
Dark - Unknown Lighting	1

Table 2.4 illustrates that Rear End collisions account for the largest percentage of collision type with 12 crashes and 43%. The next major collision type is Off-Road with 6 crashes and 21%. Left Turn crashes was the third most reported collision type with 14% of the crashes within the study corridor. There was one reported bicycle crash that occurred at Lennard Road.

Table 2.4 Crash Distribution by Collision Type

Collision Type	Number of Crashes
Rear End	12
Left Turn	4
Off-Road	6
Bicycle	1
Other	5

Further analysis was completed to evaluate the large increase of crashes from 2013 to 2014 and from 2014 to 2015. **Table 2.5** and **Table 2.6** illustrate the detailed analysis completed for the year 2014 by crash location and crash type.

Table 2.5 Location Distribution Year 2014

Intersection Location	Number of Crashes
Lennard Road	3
SE Grand Drive	1
Between Grand Drive & Green River	0
SE Green River Pkwy	2
Indian River Drive	3

Table 2.6 Crash Type for Year 2014

Collision Type	Number of Crashes
Rear End	3
Left Turn	2
Off Road	3
Bicycle	0
Other	1



All the crashes for 2014 were analyzed by location and crash type in order to determine if a pattern exists to explain the jump from two crashes in 2013 to nine crashes in 2014. Lennard Road and Indian River Drive were reported to have three crashes each. The most common crash type for 2014 was rear end crashes and 3 off road crashes. The three crashes that occurred at Lennard Road were two rear end crashes and one other crash. The three crashes that occurred at Indian River Drive consisted of one rear end crash and two off road crashes.

Further detailed crash analysis was also completed for year 2015 and can be seen in **Table 2.7** and **Table 2.8**.

Table 2.7 Location Distribution for Year 2015

Intersection Location	Number of Crashes
Lennard Road	5
SE Grand Drive	0
Between Grand Drive & Green River	2
SE Green River Pkwy	1
Indian River Drive	4

Table 2.8 Crash Type for Year 2015

Collision Type	Number of Crashes
Rear End	7
Left Turn	0
Off Road	2
Bicycle	0
Other	3

It can be seen in **Table 2.7** that for the year 2015 five crashes occurred at the intersection of Lennard Road. Further analysis revealed that all five of those crashes are rear end crashes. Out of the four crashes that occurred at Indian River Drive, two were rear end crashes and two were other crashes.

From conducting additional analysis for 2014 and 2015 it can be concluded that more crashes occurred on Walton Road at the intersections of Lennard Road and Indian River Drive. These rear end crashes could have occurred more frequently in 2014 and 2015 due to multiple reasons including driver error/distraction and/or congestion.

2.4 Traffic

Existing traffic volume data was collected on March 17, 2016 at three locations along the corridor. The average daily traffic (ADT) for the location east of Lennard Road is 9,997 vehicles per day. The location west of Green River Parkway has an ADT of 8,625 vehicles per day and east of SE Green River Parkway the ADT is 6,285. The daily traffic volumes from the count data appear to be consistent when compared to the annual average daily traffic (AADT) shown in the St. Lucie County TPO Traffic Counts and Level of Service Report Fall 2015. In this report, the AADT from Lennard Road to SE Green River Parkway is 9,600 and the ADT from SE Green River Parkway to Indian River Drive is



5,700. Based on the 2016 ADT, the roadway is operating at an acceptable level of service (LOS) C for a two-lane undivided urban minor arterial.

The 2040 future volumes for Walton Road are from the TCRPM 4 model used for the adopted 2040 Cost Feasible alternative analysis for the Go2040 LRTP update. These future volumes and the St. Lucie County TPO 2015 AADT are represented in **Table 2.9**.

Table 2.9 Traffic Volumes and LOS for Walton Road

Walton Road Section	2015 AADT	2040 Volumes	Future LOS
Lennard Road to Green River Pkwy	9,600	12,480	C
Green River Pkwy to Indian River Drive	5,700	9,600	C

A preliminary LOS analysis was completed for the expected future year volumes of 2040 using the Florida Department of Transportation Generalized Level of Service tables from the most recent (2013) Quality/Level of Service Handbook. For an urban undivided two lane roadway section with a speed greater than 40 mph, the LOS AADT volume threshold is 15,120. This volume accounts for the roadway being a non-state signaled roadway. The predicted future 2040 volume meets the threshold for a two-lane undivided roadway. Therefore, the need for capacity improvements is not expected.



2.5 Environmental Conditions

A review of existing environmental conditions for the study corridor was completed. According to the U.S. Fish and Wildlife Service National Wetlands Inventory database there are wetlands adjacent to the study corridor. The wetland map can be seen in **Figure 2.6**.

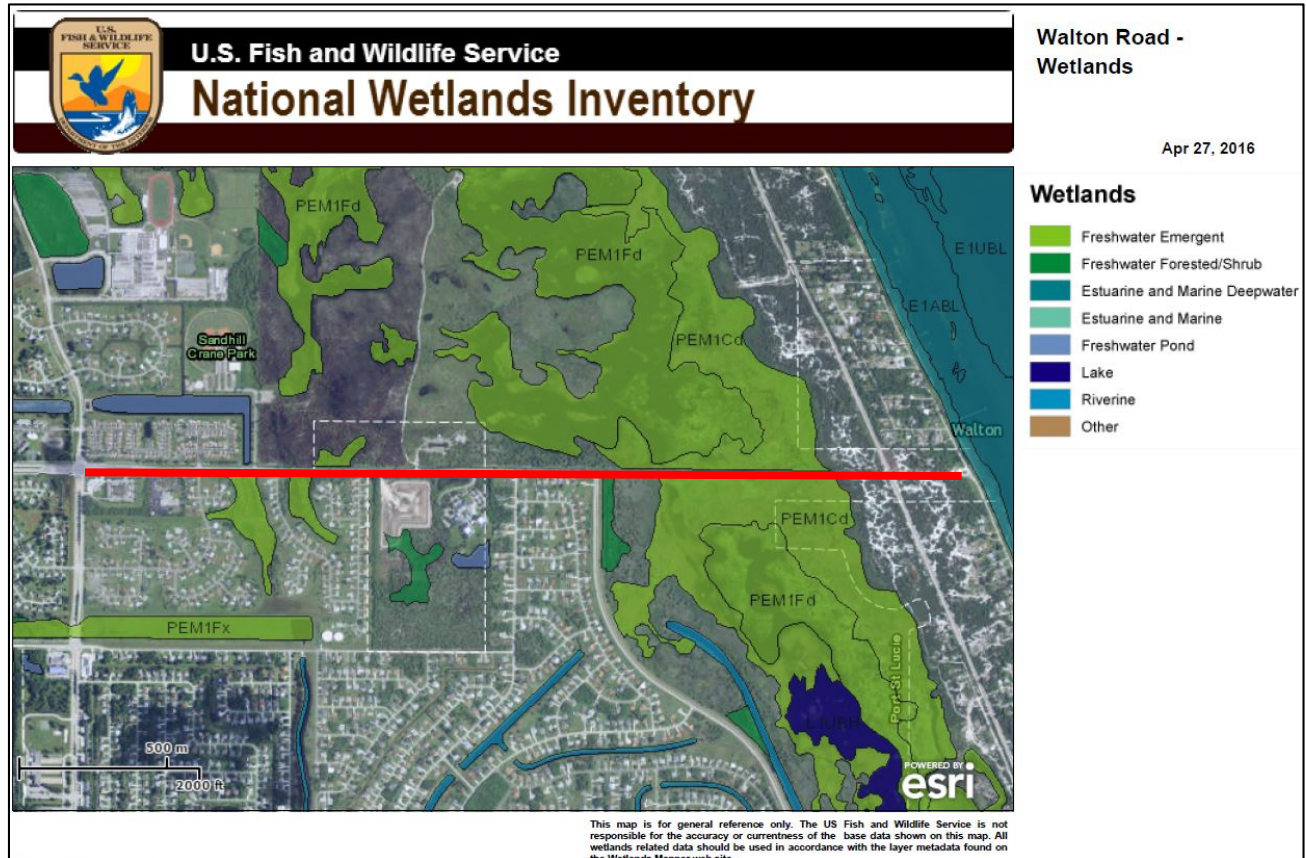


Figure 2.6 Wetland Map

Generally the area beyond the roadside shoulders are wet and contain pools of water. A photo of the wetlands observed between SE Arenson Lane and SE Grand Drive is shown in **Figure 2.7**.

A preliminary review of threatened and endangered species within the study corridor revealed a total of 26 species and 35 migratory birds using the Information for Planning and Conservation (IPaC) tool from the U.S. Fish & Wildlife Service website. Some notable endangered species that have a potential to be located throughout the study area include the Everglade Snail Kite, Florida Scrub Jay, Wood Stork, and the Eastern Indigo Snake. A copy of the full report can be found in **Appendix A**.



Figure 2.7 Roadside Wetland

Legend

- Study Corridor
- SHPO Sites
- SLC Parks & Preserves

Map Labels:

- Walton Scrub Preserve
- Savannas Preserve State Park
- Sandhill Crane Park
- Walton Community Center
- Indian River
- FEC Railroad Harbor Branch
- Walton
- SE Grand Dr
- SE Appamintor Ter
- SE Berkshire Blvd
- SE North Blackwell Dr
- SE Green River Dr
- SE Mariana Rd
- SE Tiffany Ave
- SE Avalon Rd
- SE Collette
- SE Aranson Ln
- SE Belcrest St
- SE Jaguar Ln
- Dunbrooke Cir
- SE Lancelot Rd
- SE 18th St
- Hogpen Slough Canal

Scale: 0, 1,000, 2,000, 4,000 Feet

Source: Esri HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Walton Road Multimodal Improvements Feasibility Study



2.6 Deficiencies

During the office and field review the study corridor was analyzed to determine multimodal deficiencies including missing bicycle and pedestrian facilities, lighting, paved shoulders and signage. The following deficiencies were noted:

- There are no paved shoulders on the two-lane section east of Lennard Road to Indian River Drive as shown in **Figure 2.9**.
- The only pedestrian crossings within the corridor are located at Lennard Road.
- There is no existing sidewalk on the north side of Walton Road east of SE Scenic Park Street and no sidewalk on the south side beyond the existing off-road shared use path ending west of SE Rainer Road.
- There is no street lighting along Walton Road on the two-lane section east of Lennard Road to Indian River Drive except at the SE Scenic Park Street and SE Green River Parkway intersections.



Figure 2.9 Walton Road Two-Lane Section



3.0 Alternatives Evaluation

Existing multimodal facilities consisting of on-street bike lanes, off road shared use path and sidewalk are located within Segment A; therefore, no alternatives are presented for Segment A in this study. Alternatives for adding multimodal improvements in Segment B and C were evaluated based on a planning level analysis with respect to available right of way, connectivity to existing bicycle and pedestrian facilities, environmental and social-cultural factors as well as feasibility of implementation. Increasing mobility and improving safety for both bicycles and pedestrians by enhancing or expanding existing facilities was part of the evaluation process. There are no existing multimodal facilities on Indian River Drive. Multimodal improvements to Indian River Drive would require a separate study.

As stated in **Section 2.4**, the existing 2016 traffic volumes on Walton Road show that the two-lane section is operating at an acceptable LOS and projected 2040 traffic volumes indicate widening of the roadway is not expected to be needed to meet future capacity requirements. Therefore, roadway capacity improvements were not evaluated for this study. All the alternatives presented in this feasibility study would require a design variance from St. Lucie County to reduce roadway lane widths to eleven feet. Alternatives presented in this section are summarized in **Table 3.1**.

Table 3.1 Summary of Alternatives

Segment	Alternatives
Segment A	Maintain existing multimodal features
Segment B	<ol style="list-style-type: none"> 1. Bike lanes, sidewalk, multiuse path 2. Curb and gutter – bike lanes, sidewalk, multiuse path
Segment C	<ol style="list-style-type: none"> 1. Add bike lanes & sidewalk 2. Roadway reconstruction with curb and gutter – add bike lanes & sidewalk 3. No roadway improvements – add raised shared use boardwalk 4. Bridge roadway – add sidewalk and paved shoulders

Segment B has two alternatives; Alternative B1 includes four-foot paved shoulder bike lanes, a sidewalk on the north side and a shared use path on the south side, Alternative B2 reconstructs the roadway with curb and gutter and includes four-foot paved shoulder bike lanes, a sidewalk on the north side and a shared use path on the south side of Walton Road.

Four alternatives are presented for Segment C. Alternative C1 includes adding fill for paved bike lanes and sidewalk north along Walton Road with a roadside swale south of Walton Road for drainage. This alternative would require additional right of way through the Savannas Preserve State Park depending on elevation changes and not including temporary construction easements. Alternative C2 recommends reconstructing the roadway, adding curb and gutter, a pond and paved shoulder bike lanes, with a sidewalk along the north side of Walton Road. The roadway would need to be elevated approximately four feet. This would provide enough hydraulic grade for runoff to be



routed to a proposed pond at the vacant school board parcel located to the east of Belcrest St. A drainage report and analysis would need to be completed during design that will support the permit requirements. In order not to require additional right of way, this alternative initially utilized Mechanically Stabilized Earth (MSE) wall to eliminate side slopes and additional right of way. Constructing MSE wall through Savannas Preserve State Park is not considered feasible since this concept limits wildlife crossings and does not confirm to the aesthetics of the adjacent land use. Therefore, Alternative C2 was re-evaluated with roadside slopes that encroach outside of the existing ROW into the Savannas Preserve State Park. Permitting and mitigation would be required with federal & state agencies. Some mitigation credits might be earned through the improvements presented in this alternative since stormwater runoff would be conveyed to a proposed pond for water quality in lieu of direct discharge to the park. Coordination with permitting agencies is required for consideration of this possibility. Alternative C3 is a lower cost alternative for Segment C that proposes no roadway improvements and a separate elevated shared use 10-foot boardwalk structure extending on the north side along Walton Road through Savannas Preserve State Park and continuing with a six-foot sidewalk west of the FEC railroad crossing to Indian River Drive. The elevated boardwalk may require additional ROW, depending on the design and placement of guardrail and the deflection distance to the boardwalk, within the 50-foot ROW section that traverses through the State Park. Depending on the guardrail replacement, additional ROW might not be needed.

A fourth alternative was added to Segment C due to comments from the June 1, 2016 TPO Board meeting. Alternative C4 is a bridge alternative that proposes building a new bridge on Walton Road east of Green River Parkway spanning approximately 3,000 feet over the Savannas Preserve State Park to west of the FEC crossing. The bridge design evaluated is concrete pre-stressed beams (Florida I Beams) with a concrete deck and supported in pile bents. The typical section of the bridge would include 11-foot travel lanes, 8-foot paved shoulders, type F barriers on both sides, a 6-foot sidewalk and pedestrian railing. Drainage and a pond would also need to be considered for this alternative in complying with runoff water quality standards. All four alternatives for Segment C would require pedestrian crossing improvements at the FEC railroad crossing.

A pond for water quality treatment will be needed if curb and gutter in Alternative B2, C2 and/or C4 is placed along Walton Road. A pond location option could be the vacant parcel located east of Belcrest Street which is owned by St. Lucie County School Board. Substantial financial savings is possible if the School Board is willing to donate ROW for the pond.

Furthermore, all alternatives in Segment C would require additional ROW and permitting with federal and state agencies during design for construction. In the past, Stanley Consultants has experienced a time frame of six to eight months for permit modifications or new permit applications. The cost of the permit is dependent on the type of permit required (modification or new) and the improvements being competed. If mitigation is required, it is recommended to use a mitigation bank. Moreover, it is recommended that pre-application meetings be held with South Florida Water Management District (SFWMD) and the US Army Corps (land owners) in order to ensure that the alternative will avoid or minimize impacts and discuss and possible mitigation credits for improving the area's hydrology if culverts are replaced.



3.1 Bike Lanes and Paved Shoulders

Adding on-street bike lanes (paved shoulders) to the two-lane section in Segments B and C was evaluated based on increasing safety within the corridor and increasing bicycle mobility to existing surrounding bike paths. A four foot bike lane is the minimum functional width for a roadway without curb and gutter and flush shoulders per Chapter 9 of the Florida Green Book. Paved shoulders, four feet or wider, may be marked as bicycle lanes and considered to be bicycle facilities.

Bicycle counts were taken during the AM and PM peak period on a weekday and also during the midday period on a weekend to evaluate existing bicycle usage along the corridor. The count data at the Lennard Road intersection indicated a low number of riders using the roadway but some bicyclists were observed riding on the existing off road shared use path. Data from the counts at the Green River Parkway intersection also showed a low number of riders overall with the largest number of bicyclists south of the intersection utilizing the shared use path. However, some bicyclists were observed riding east of Green River Parkway on Walton Road towards Indian River Drive reassessing the need of bike lanes for safety along this portion of roadway. The collected bicycle count data can be found in **Appendix A**.

There are two sections within the study corridor with existing ROW widths of 50 feet. A photo of the two-lane section with an existing 50 foot ROW width east of SE Green River Parkway is shown in **Figure 3.1**. One section in Segment B is located east of SE Belcrest Street spanning the current vacant school board parcel and the other section in Segment C is located from east of SE Green River Parkway to west of the FEC Railroad. Adding paved shoulder bike lanes in each direction is included for both Segment B alternatives and in Segment C for the roadway widening (Alternative C1), roadway reconstruction (Alternative C2), and bridge roadway (Alternative C4) alternatives.



Figure 3.1 Two Lane Section from Segment C

The cost for bike lane improvements was estimated using the FDOT Long Range Estimation System for milling and resurfacing a two-lane rural road with five-foot paved shoulders and will be included for the overall cost estimate for each alternative presented later in this section. A typical section diagram showing how bicycle lanes can be accommodated within the existing ROW width is also presented later in this section.



3.2 Sidewalks

Adding missing sidewalks and connecting residential areas to the Savannas Preserve State Park as well as increasing pedestrian access, safety and enhancing mobility was evaluated for the entire corridor.

Pedestrian counts were taken during the AM and PM peak period on a weekday and also during the midday period on a weekend to evaluate existing pedestrian usage along the corridor. The count data at the Lennard Road intersection showed no pedestrians using the sidewalk on the north side of Walton Road but some pedestrians were observed walking on the shared use path. During the field review one pedestrian was observed walking along the south side of Walton Road between SE Arenson Lane and SE Scenic Park Street as shown in **Figure 3.2**.



Figure 3.2 Pedestrian Walking Along Walton Road

Data from the count at the Green River Parkway intersection also revealed a low number of pedestrians overall and all observed pedestrians were using the existing paved trail on the east side of SE Green River Parkway south of Walton Road. The collected pedestrian count data can be found in **Appendix A**.

Adding a six-foot wide sidewalk on the north side of Walton Road in Segment B between SE Scenic Park Street and SE Green River Parkway is included for both alternatives. Adding six-foot wide sidewalk on the north side of Walton Road from SE Green River Parkway to Indian River Drive in Segment C is included for Alternatives C1 and C2. There is a possibility that portions of the proposed sidewalk will traverse existing wetland areas requiring fill, gravity walls and lateral offsets to minimize impacts to environmentally sensitive areas. It is recommended that the quality of delineated wetland areas be evaluated during the design and permitting phases to make a determination of potential impacts and costs. A six-foot sidewalk could be provided for the Walton Road Bridge Alternative C4 on the south side of Walton Road.

The estimated cost associated with only the sidewalk was based on projects listed in the latest St. Lucie TPO TIP and was estimated to be approximately \$390,800 per mile. Cost estimates for the sidewalk for each section are shown in **Table 3.2**. A typical section diagram showing how sidewalks can be accommodated within the existing ROW width is presented in **Section 3.5**.

Table 3.2 Sidewalk Estimated Cost per Study Section

Segment	Sidewalk Cost
Segment A	N/A
Segment B (Alternatives B1 and B2)	\$281,000
Segment C (Alternatives C1 and C2)	\$313,000
Segment C (Alternative C3)	\$98,000



3.3 Shared Use Path

Continuing the existing off-road shared use path on the south side of Walton Road in Segment B to the shared use path east of Green River Parkway was evaluated based on increasing both bicycle and pedestrian mobility for all users. Based on the Bicycle/Pedestrian Corridor Study Area of Interest Analysis completed by the St. Lucie TPO in November 2011, continuing the existing off-road path east of Lennard Road to the existing Green River Trail was included as part of the recommended preferred alternative. In addition to recommendations from previously completed studies, counts taken at both the Lennard Road and Green River Parkway intersections, documented that there is some current usage of the existing off road path and paved trail by both bicyclists and pedestrians. The collected bicycle and pedestrian count data can be found in **Appendix A**.

Continuing the meandering 12-foot wide off-road path, east of Lennard Drive, between the existing edge of pavement and 20-foot wide utility easement adjacent to the south ROW line is included in Segment B. Coordination with utility owners will be required. However, there would be wetland impacts within Segment B due to clearing and grubbing and fill material necessary to construct the road. To minimize wetland impacts, an elevated boardwalk style structure with a pedestrian railing at a minimum of 10 feet wide would have less impacts than an at-grade paved path. Moreover, in order to reduce wetland impacts in Segment C, Alternative 3C recommends adding a 10 foot wide elevated boardwalk style structure on the north side of Walton Road through Savannas Preserve State Park and not implementing any improvements to the roadway. There are no shared use path improvements presented in Alternative C1 and C4. The typical section of Alternative C2 was evaluated with a shared use path and no sidewalk in order to provide better level of service for pedestrians but would require even more ROW. Therefore, Alternative C2 does not provide a shared use path.

The segment east of SE Belcrest Street adjacent to the parcel owned by the St. Lucie County School District has an existing ROW width of 50 feet. Continuation of the 12' wide off road shared use path along the south side in addition to on-street bikes lanes and sidewalk on the north side is not feasible within the existing ROW. Based on coordination with St. Lucie Public Schools, the property owned by the school district could be donated for ROW to add off-road shared use paths or sidewalks.

The estimated cost associated with only the shared use path improvements is shown in **Table 3.3**. The estimated costs were based on \$400,000 per mile of path. For the elevated boardwalk in Segment C a cost estimate of \$1,200,000 per mile was used based on coordination with St. Lucie County Environmental Resources regarding the existing boardwalk in Savannas Preserve State Park. A typical section showing the shared use path improvements is presented in **Section 3.5**.

Table 3.3 Shared Use Path Estimated Cost per Study Section

Segment	Shared Use Path Cost
Segment A	N/A
Segment B (Alternatives 1B and 2B)	\$368,000
Segment C (Alternative 3C)	\$600,000



3.4 Pedestrian Crossings

Pedestrian crossings at the SE Belcrest Street and SE Green River Parkway intersections are recommended for better connectivity with residential areas along the south side of Walton Road to Sandhill Crane Park and Savannas Preserve State Park located on the north side of Walton Road. **Figure 3.3** shows an example of a proposed pedestrian crossing using Florida Green Book standards.

Cross walk markings with a minimum of a Pedestrian Warning Sign (W11-2) and diagonal downward pointing arrow (W16-7P) plaque together with a roadside flashing beacon assembly or rectangular rapid flashing beacon would enhance pedestrian safety by improving the crosswalk visibility. Additionally, a Pedestrian Warning Sign (W11-2) and supplemental ahead (W16-15P) plaque are also recommended in advance of all cross walk markings as an added safety benefit. It is recommended that these cross walk improvements be made at all cross street intersections with Walton Road and two north-south crossings, east of SE Belcrest Street and east of SE Green River Parkway. The location of these recommended improvements can be found in **Appendix F**.



Figure 3.3 Example of Pedestrian Crossing on Green River Parkway

3.5 Alternative Typical Sections

There are several alternatives presented in this study for the Walton Road corridor from Lennard Road to Indian River Drive. Due to the existing multimodal conditions, no multimodal improvements for Segment A, were recommended.

The typical section for Alternative B1, of Segment B, can be seen in **Figure 3.4**. In Alternative B1, bicycle lanes are proposed for both travel directions on four-foot paved shoulders with sufficient pavement markings and signs. The shared use path is extended from 800 feet east of Lennard Road on the south side of Walton Road to connect with the shared use path east of Green River Parkway providing off road connectivity for the East Coast Greenway. The sidewalk on the north side of Walton Road is extended from SE Scenic Park Street to Green River Parkway. The minimum ROW requirement for this typical section is expected to be 65 feet with 11-foot roadway widths, four-foot bike lanes, five to six-foot sidewalk, and 10 to 12-foot shared use path.

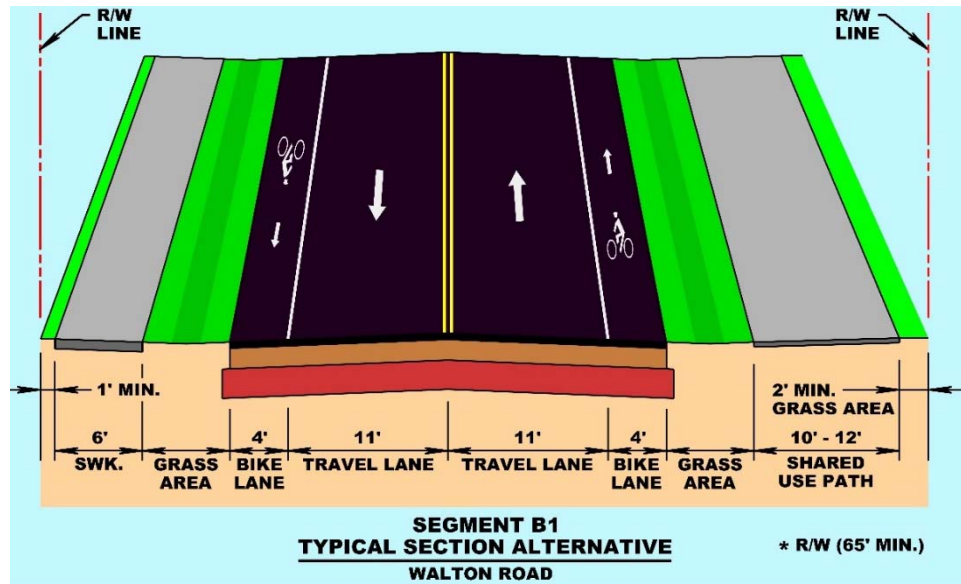


Figure 3.4 Alternative B 1 Typical Section

A second alternative for Segment B is Alternative B2, which provides the same multimodal improvements of Alternative B1 but includes the addition of curb and gutter along both sides of Walton Road. Currently, there is curb and gutter along the four lane section of Walton Road east of Lennard Road, and a matching curb and gutter typical section could also be constructed in Segment B.

The typical section for the Alternative C1 can be seen in **Figure 3.5**. Alternative C1 proposes bicycle lanes for both travel directions on four-foot paved shoulders with sufficient pavement markings and signs, sidewalk on the north side of Walton Road to extend to Indian River Drive on gravity wall with a pedestrian railing and separated from the bike lane with a two-foot shoulder and three-foot guardrail, and a swale and guardrail on the south side. Sidewalk could not be provided on the south side of Walton Road due to ROW restrictions.

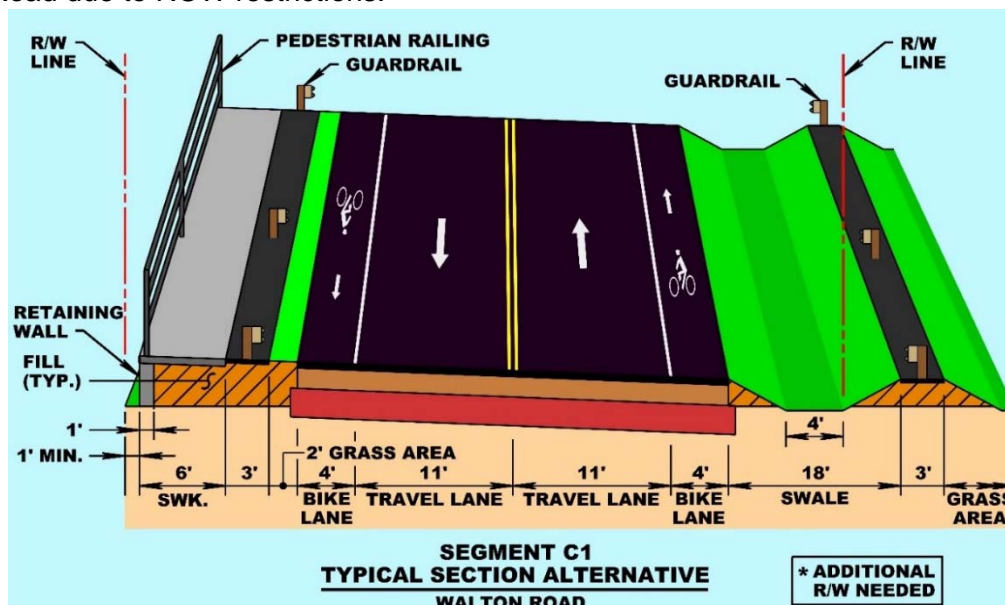


Figure 3.5 Alternative C1 Typical Section



In order to reduce impacts to surrounding wetlands and the State Park, the typical section recommends 11-foot roadway widths, four-foot bike lanes and five to six-foot sidewalk. Preliminary calculations indicate 0.60 acre feet of water retention is needed to meet water quality criteria. This can be accomplished within a roadside swale. Florida Greenbook requires the bottom width of a new swale to be four feet. A drainage analysis and report are recommended during the design phase to support the permitting requirements.

Due to the additional ROW needed to accommodate the swale in Alternative C1, another typical section for Segment C was evaluated which includes curb and gutter. Alternative C2 can be seen in **Figure 3.6**. Alternative C2 proposes roadway reconstruction and elevating the roadway by approximately four feet in order to route runoff to a proposed pond located west of Segment C at the St. Lucie School Board's vacant parcel.

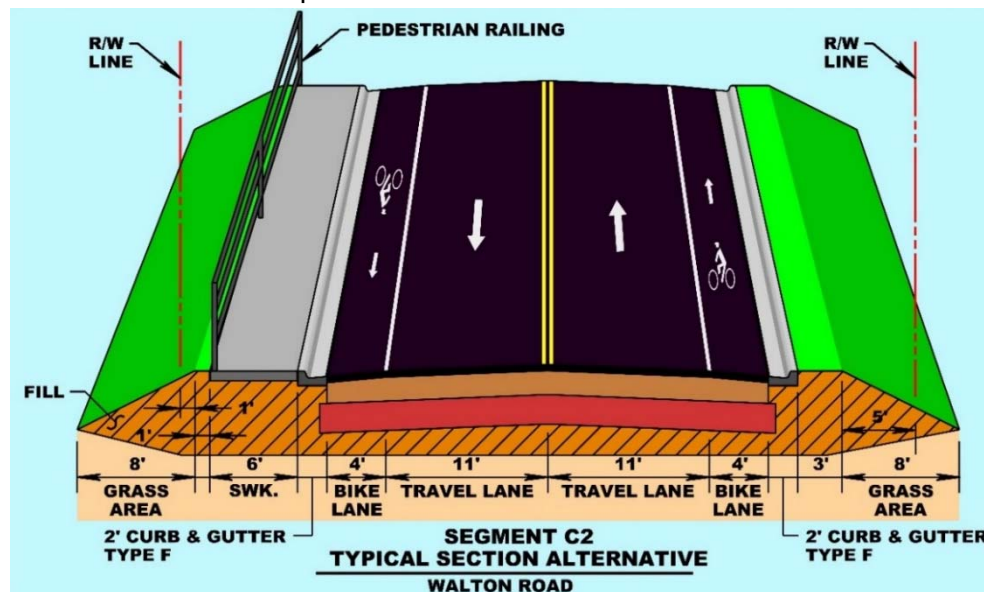


Figure 3.6 Alternative C2 Typical Section

In order to reduce ROW impacts, Alternative C2 was first evaluated with MSE wall and roadway barrier but this is not considered feasible because it does not promote wildlife crossings or recreational use. The alternative was then re-evaluated with roadside slopes that will encroach beyond the existing ROW.

For the typical section in Alternative C2, the sidewalk proposed for this alternative is located adjacent to the curb and gutter which improves pedestrian safety and pedestrian Level of Service (LOS) from the existing conditions.

The roadway typical section for Alternative C2 was further evaluated to see if pedestrian LOS could be further improved by providing multimodal facilities separated from the roadway travel ways. It was determined that by reducing the shoulder width to 2 ft on both sides, removing the 6-foot sidewalk and providing a 10-foot multi-use path with the required minimum of a 3-ft grass section, the typical section would be 4 ft wider then providing 4-ft paved bike lanes and 6ft sidewalk. Therefore, the separated multimodal facilities were remove from the alternative.



A third alternative was evaluated for Segment C that has no roadway improvements but provides an elevated shared use boardwalk structure. Alternative C3 can be seen in **Figure 3.7**. This alternative is a lower cost alternative and depending on the guardrail re-placement, additional ROW might not be needed.

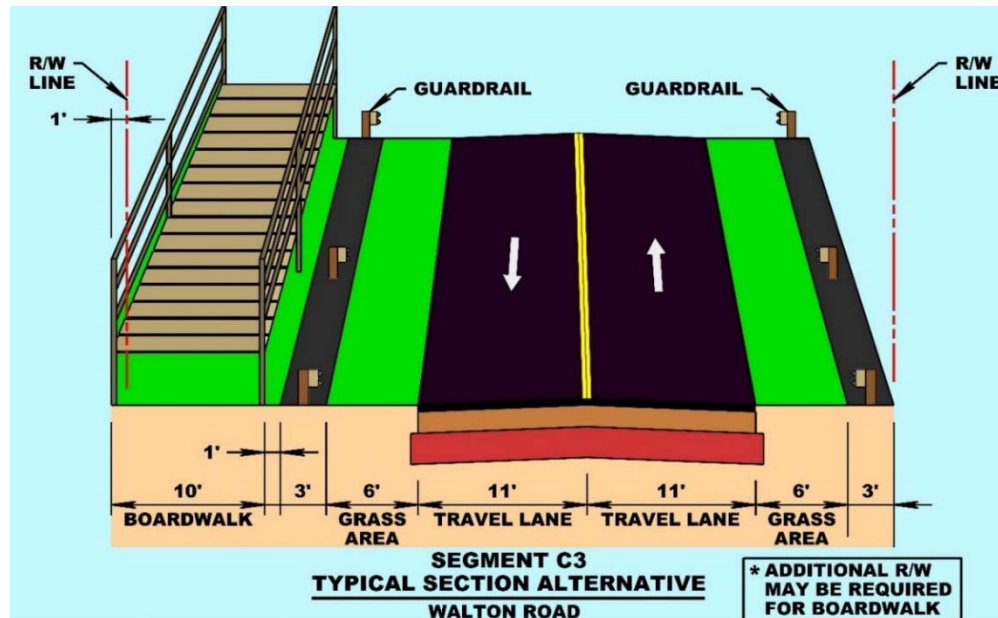


Figure 3.7 Recommended Alternative for Segment C Typical Section

A fourth alternative was added to Segment C due to comments from the June 1, 2016 TPO Board meeting. Alternative C4 is a bridge alternative that proposes building a new bridge on Walton Road east of Green River Parkway spanning approximately 3,000 feet over the Savannas Preserve State Park to west of the FEC crossing. The bridge design evaluated is a concrete pre-stressed beams (Florida I Beams) with a concrete deck and supported in pile bents. The fifty-foot typical section of the bridge would include 11-foot travel lanes, 8-foot paved shoulders, type F barriers on both sides, a 6-foot sidewalk and pedestrian railing. Protected bike lanes were considered but not included in the alternatives because the existing bike lanes on Walton Road are unprotected and the additional cost associated. A planning level cost estimate of the Bridge alternative is roughly \$44 million.

3.6 Total Alternative Costs

As stated in Section 3.1, the cost for adding bicycle lanes was estimated using the FDOT Long Range Estimation System for milling and resurfacing a two-lane rural road with five-foot paved shoulders. This estimated cost is provided by the FDOT per mile of roadway and is included in Appendix F. The estimated cost for milling and resurfacing the two-lane roadway as well as the addition for bicycle lanes for each study segment are provided in Table 3.4.

Table 3.4 Estimated Roadway and Bike Lane Cost

Segment	Milling and Resurfacing with Bike Lanes
Segment A	N/A
Segment B (Alternatives B1 and B2)	\$392,000
Segment C (Alternative C1)	\$341,000



Alternative C2 proposes adding bike lanes with a reconstruction of the current roadway with curb and gutter and elevating the roadway four feet. A preliminary planning level cost estimate of these improvements is provided in **Table 3.5** below.

Table 3.5 Alternative C2 Cost Estimate for Reconstruction

Description	Unit	Price	Approximate Cost
Embankment and Fill (CY)	18,245.00	\$ 20.90	\$ 381,320.50
Roadway with 5' paved shoulders (mile) - curb & gutter, inlets	0.8	\$ 4,200,000.00	\$ 3,360,000.00

The total of each roadway and multimodal improvement estimated cost per each alternative is provided in **Table 3.6**. Contingency, maintenance of traffic, preliminary engineering and design and construction engineering and inspection was approximated at 10% construction cost. The cost estimation for Segment C includes an estimated \$145,000 FEC railroad crossing improvements cost. If yearly maintenance for Alternative C3 is assumed at \$1 per square foot, the boardwalk alternative would incur a \$72,000 yearly maintenance cost. Assuming that the boardwalk is adequately maintained, the expected life cycle of the boardwalk is 16 years.

Mitigation, permitting and right of way costs are not factored into the total alternative cost estimate presented in **Table 3.6**.

Table 3.6 Total Alternative Cost Estimate

Segment	Alternative	Description	Approximate Cost
Segment A (Lennard to 800' E of Lennard)	Maintain existing facilities	Maintain existing multimodal features	N/A
Segment B (800' E of Lennard to Green River Parkway)	B1	Bike lanes, sidewalk, multiuse path	\$ 1,980,000
	B2	Curb and gutter – bike lanes, sidewalk, multiuse path	\$ 6,980,000
Segment C (Green River Parkway to Indian River Drive)	C1	Add bike lanes and sidewalk	\$ 3,100,000
	C2	Roadway reconstruction with curb and gutter- add bike lanes & sidewalk	\$ 6,500,000
	C3	No roadway improvements- add raised boardwalk	\$ 1,310,000
	C4	Bridge roadway – add sidewalk and paved shoulders	\$43,950,000

3.7 Other Multimodal Alternatives

Other multimodal alternatives were considered for this feasibility study due to the expressed intent of the St. Lucie TPO Board to improve connectivity of the kayak launch located south of the study area to the area of Savannas Preserve State Park north of Walton Road. Currently Walton Road divides the multimodal trail of Savannas Preserve State Park. Two options were evaluated and presented in the following sub sections.



3.7.1 Crossing Under Walton Road Option

Currently there are four culverts located under Walton Road in Segment C. It could be considered to replace one these culverts with an arch culvert large enough to accommodate multimodal users in the Savannas to gain access and connectivity within the park. The culvert would need to be placed on adequate foundations, roadway embankment will be needed for the roadway to pass over the culvert, and MSE wall will be needed to retain the embankment in minimal ROW conditions and have a five-foot minimum required vertical clearance between the lowest member and the design high water table elevation. Other considerations for the culvert include enough natural daylight passing through the 50 foot long section for safety and user encouragement. The design of the kayak crossing should be coordinated with St. Lucie County's Environmental Resources Department in order to provide an animal crossing. A rough estimate for this option, assuming roadway construction cost is absorbed in Segment C cost estimation, is approximately \$900,000. If Alternative C3 is moved forward, the cost of roadway reconstruction (base material and asphalt) would need to be included in the Kayak Crossing cost estimation. This would raise the cost estimation for alternative 3C to \$1,750,000.

3.7.2 Crossing Over Walton Road Option

Another option that could be considered in order to improve the connectivity of Savannas Preserve State Park for multimodal water users is a kayak/canoe portage where users would carry their non-motorized watercraft over Walton Road. Adequate ingress and egress structures or embankment would be needed for all users to be able to access the portage and a mid-block pedestrian crosswalk with a button control signal would need to be provided. A rough estimate for this option is approximately \$115,000.

3.8 Other Project Considerations

Discussion with the St. Lucie County Environmental Resources Department found that they are currently applying for multimodal improvements for Walton Road from Green River Parkway west to the entrance of Savannas Preserve State Park through a Sun Trail funding application. Coordination should be completed with St. Lucie County in order to efficiently allocate multimodal funding for the corridor without duplicated effort. A representative at St. Lucie County also mentioned a new trail project effort to re-route the east coast Greenway Trail through the Savannas Preserve State Park which would require DEP to provide easement for a boardwalk trail structure. A telephone record with St. Lucie County can be found in Appendix F.

Any alternative chosen to move forward into design and construction will require permitting. It is recommended that pre-application meetings be held with South Florida Water Management District and DEP to lessen challenges and expedite the permit process. In previous design projects completed by Stanley Consultants the permit process typically takes between six months to one year. The cost of the permit varies with amount of right of way impacted, the type of impact and if a new or modification permit is required. The estimated cost for permitting is approximately \$3,000 but varies per agency. If a permit has more than 0.5 acres of wetlands impacted mitigation will need to occur. Mitigation costs could not be accurately estimated for this study due to the amount of variables factored into the cost. Mitigation costs are provided from the Florida Department of Environmental Protections and vary on quality of wetlands, amount, type of impact, and if the impacts have to be mitigated at a rate greater than one to one.



If the existing culverts located on Walton Road through the Savannas Preserve State Park are determined to need replacement through the findings of a separate hydrology and hydraulic study, a preliminary cost estimation was completed in this study. The findings of the preliminary cost estimation are summarized in **Table 3.7**.

Table 3.7 Culvert Replacement Cost Estimate

Description	Unit	Total Cost
48" x 60' RCP pipe & Endwall concrete and steel	2	\$ 90,000
72" x 60' CMP & Endwall concrete and steel	2	\$ 141,000
Total (including contingency, preliminary engineering & CEI)		\$ 304,000



4.0 Conclusions and Recommendations

4.1 Conclusions

Based on data collected and information received during the office and field reviews, an analysis of the Walton Road corridor existing conditions showed there are deficiencies with bicycle, pedestrian and transit facilities as well as street lighting. For the purpose of this report the corridor was divided into three segments as seen in **Table 4.1**.

Table 4.1 Study Corridor Segment Description

Segment Name	Description
Segment A	Lennard Road to 800' east of Lennard Road
Segment B	800' east of Lennard Road to Green River Parkway
Segment C	Green River Parkway to Indian River Drive

Deficiencies found within the study corridor include: no bike lanes or paved shoulders in Segment B and C, sidewalk missing in Segment B and C, no pedestrian access to Savannahs Preserve State Park in Segment B, and a gap in the existing off-road shared use path on the south side of Walton Road to Green River Parkway for the East Coast Greenway. The existing roadway physical and operating conditions were documented. Walton Road has excess capacity based on existing and projected traffic volumes, and an 85th percentile speed of 43 MPH which is below the posted speed of 45 mph. The evaluation found that there is not sufficient ROW width at some locations for incorporating the proposed multimodal improvements. In addition, the property owned by the school board may be needed for stormwater management and temporary construction easements for Alternative C. All alternatives proposed for Segment C would require ROW acquisition, with Alternative 3C requiring the least amount or possibly none.

Field observations confirmed that the roadway operating conditions along the corridor and the stop controlled intersections are satisfactory. According to the field review, all intersections within the study corridor appeared to operate at an acceptable level of service for vehicles. Several bicyclist and pedestrians were observed sharing the roadway. A review of crash data received from TPO staff for the most recent 5-year period from 2011-2015, found a total of 28 crashes occurred within the study limits. No "pedestrian" collisions were reported, and one "bicycle" crash occurred within the study corridor at the intersection of Lennard Road. However, there is a need for multimodal improvements within the corridor to enhance mobility, connect existing shared use paths, and provide pedestrian access to Savannahs Preserve State Park.

Based on the evaluation of alternatives, adding on-street bike lanes, sidewalk on the north side and completing the missing link of off-road shared use path between Lennard Road and SE Green River Parkway are proposed for Segment B. Both on-street bike lanes and sidewalk on the north side are also possible based on the existing 50 to 100 feet ROW width between SE Green River Parkway and Indian River Drive within Segment C but ROW, permitting and stormwater drainage costs significantly increase the total cost of this alternative. These improvements would provide safety benefits to both bicyclists and pedestrians as well as potential connections to future trails.



4.2 Recommendations

There are two alternatives for Segment B and four alternatives for Segment C presented in this study for the Walton Road corridor from Lennard Road to Indian River Drive. A summary of these alternatives are summarized in **Table 4.2** below. The alternatives for Segment C include the \$145,000 FEC crossing, \$3,000 permit fee and the under Walton Road kayak option.

Table 4.2 Study Alternatives

Segment	Alternative	Total Cost
Segment A	Maintain existing multimodal features	None
Segment B	B1. Bike lanes, sidewalk, multiuse path	\$ 1,980,000
	B2. Curb and gutter – bike lanes, sidewalk, multiuse path	\$ 6,980,000
Segment C	C1. Add bike lanes & sidewalk	\$ 3,100,000
	Permitting	\$ 3,000
	Kayak Crossing	\$ 900,000
	Total Alternative C1 Cost	\$ 4,020,000
	C2. Roadway reconstruction with curb and gutter – add bike lanes & sidewalk	\$ 6,500,000
	Permitting	\$ 3,000
	Kayak Crossing	\$ 900,000
	Total Alternative C2 Cost	\$ 7,420,000
	C3. No roadway improvements – add raised Boardwalk*	\$ 1,310,000
	Permitting	\$ 3,000
	Kayak Crossing	\$ 1,750,000
	Total Alternative C3 Cost	\$ 3,040,000
	C4. Bridge roadway – add sidewalk and paved shoulders	\$ 43,950,000
	Permitting	\$ 3,000
	Kayak Crossing	\$ 1,750,000
	Total Alternative C4 Cost	\$ 44,900,000
*Does not include \$72,000 yearly maintenance cost		

The lower preliminary cost alternative for Segment B is alternative B1 (approximately \$1,980,000) which widens the roadway with four-foot bike lanes, sidewalk on the north side of Walton Road and a shared use path on the south. This alternative would require a swale and is much lower cost than alternative B2 (\$6,980,000) which includes roadway reconstruction with curb and gutter.



For Segment C, Alternative C3 with the kayak crossing over Walton Road (\$3,040,000) has the lowest cost since no roadway improvements are proposed. The alternative would require an approximate annual maintenance cost of \$72,000, and the boardwalk would need to be replaced approximately every sixteen years.

An exhibit of these proposed recommendations as well as cost estimates are provided in **Appendix F**. ROW costs are not included. Wetland impacts are anticipated for all alternates presented in Segment C, therefore permitting will be required. Wetland impacts and mitigation costs are not included in the cost estimates. It is recommended that pre-application meetings be held with South Florida Water Management District (SFWMD) and the US Army Corps (land owners) in order to ensure that the alternative will avoid and minimize impacts.



Appendix A

Existing Conditions Data Collection

- Traffic Counts
- Speed Data
- Pedestrian and Bicycle Counts
- FDOT Level Of Service Tables
- East Coast Greenway Map
- IPaC Trust Resources Report

LOCATION: Walton Rd east of Green River Pkwy						QC JOB #: 13751403				
SPECIFIC LOCATION: Walton Rd east of Green River Pkwy						DIRECTION: EB/WB				
CITY/STATE: Port Saint Lucie, FL						DATE: Mar 17 2016 - Mar 17 2016				
Start Time	Mon	Tue	Wed	Thu 17-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				15		15			15	
12:15 AM				12		12			12	
12:30 AM				6		6			6	
12:45 AM				3		3			3	
1:00 AM				6		6			6	
1:15 AM				4		4			4	
1:30 AM				4		4			4	
1:45 AM				0		0			0	
2:00 AM				3		3			3	
2:15 AM				0		0			0	
2:30 AM				4		4			4	
2:45 AM				3		3			3	
3:00 AM				0		0			0	
3:15 AM				2		2			2	
3:30 AM				3		3			3	
3:45 AM				1		1			1	
4:00 AM				5		5			5	
4:15 AM				1		1			1	
4:30 AM				3		3			3	
4:45 AM				10		10			10	
5:00 AM				11		11			11	
5:15 AM				15		15			15	
5:30 AM				13		13			13	
5:45 AM				21		21			21	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
Comments:										

LOCATION: Walton Rd east of Green River Pkwy						QC JOB #: 13751403				
SPECIFIC LOCATION: Walton Rd east of Green River Pkwy						DIRECTION: EB/WB				
CITY/STATE: Port Saint Lucie, FL						DATE: Mar 17 2016 - Mar 17 2016				
Start Time	Mon	Tue	Wed	Thu 17-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				27		27			27	
6:15 AM				30		30			30	
6:30 AM				37		37			37	
6:45 AM				56		56			56	
7:00 AM				60		60			60	
7:15 AM				69		69			69	
7:30 AM				100		100			100	
7:45 AM				91		91			91	
8:00 AM				84		84			84	
8:15 AM				92		92			92	
8:30 AM				96		96			96	
8:45 AM				99		99			99	
9:00 AM				64		64			64	
9:15 AM				81		81			81	
9:30 AM				88		88			88	
9:45 AM				86		86			86	
10:00 AM				72		72			72	
10:15 AM				87		87			87	
10:30 AM				87		87			87	
10:45 AM				101		101			101	
11:00 AM				61		61			61	
11:15 AM				87		87			87	
11:30 AM				87		87			87	
11:45 AM				104		104			104	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
Comments:										

LOCATION: Walton Rd east of Green River Pkwy						QC JOB #: 13751403				
SPECIFIC LOCATION: Walton Rd east of Green River Pkwy						DIRECTION: EB/WB				
CITY/STATE: Port Saint Lucie, FL						DATE: Mar 17 2016 - Mar 17 2016				
Start Time	Mon	Tue	Wed	Thu 17-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				107		107			107	
12:15 PM				103		103			103	
12:30 PM				124		124			124	
12:45 PM				102		102			102	
1:00 PM				95		95			95	
1:15 PM				115		115			115	
1:30 PM				96		96			96	
1:45 PM				105		105			105	
2:00 PM				110		110			110	
2:15 PM				101		101			101	
2:30 PM				105		105			105	
2:45 PM				123		123			123	
3:00 PM				134		134			134	
3:15 PM				117		117			117	
3:30 PM				144		144			144	
3:45 PM				127		127			127	
4:00 PM				150		150			150	
4:15 PM				150		150			150	
4:30 PM				151		151			151	
4:45 PM				143		143			143	
5:00 PM				136		136			136	
5:15 PM				158		158			158	
5:30 PM				150		150			150	
5:45 PM				123		123			123	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
Comments:										

LOCATION: Walton Rd east of Green River Pkwy						QC JOB #: 13751403				
SPECIFIC LOCATION: Walton Rd east of Green River Pkwy						DIRECTION: EB/WB				
CITY/STATE: Port Saint Lucie, FL						DATE: Mar 17 2016 - Mar 17 2016				
Start Time	Mon	Tue	Wed	Thu 17-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				108		108			108	
6:15 PM				124		124			124	
6:30 PM				84		84			84	
6:45 PM				91		91			91	
7:00 PM				69		69			69	
7:15 PM				83		83			83	
7:30 PM				73		73			73	
7:45 PM				64		64			64	
8:00 PM				77		77			77	
8:15 PM				61		61			61	
8:30 PM				53		53			53	
8:45 PM				52		52			52	
9:00 PM				36		36			36	
9:15 PM				54		54			54	
9:30 PM				58		58			58	
9:45 PM				40		40			40	
10:00 PM				28		28			28	
10:15 PM				46		46			46	
10:30 PM				32		32			32	
10:45 PM				21		21			21	
11:00 PM				31		31			31	
11:15 PM				10		10			10	
11:30 PM				16		16			16	
11:45 PM				14		14			14	
Day Total	6285					6285			6285	
% Weekday Average	100.0%									
% Week Average	100.0%					100.0%				
AM Peak Volume	11:45 AM 104					11:45 AM 104			11:45 AM 104	
PM Peak Volume	5:15 PM 158					5:15 PM 158			5:15 PM 158	
Comments:										


QC JOB #: 13751403
DIRECTION: EB/WB
DATE: Mar 17 2016

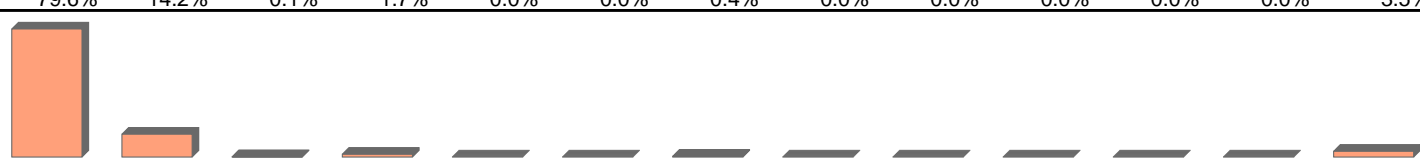
Report generated on 3/25/2016 10:05 AM SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>)

QC JOB #: 13751403
DIRECTION: EB/WB
DATE: Mar 17 2016

Report generated on 3/25/2016 10:05 AM SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>)

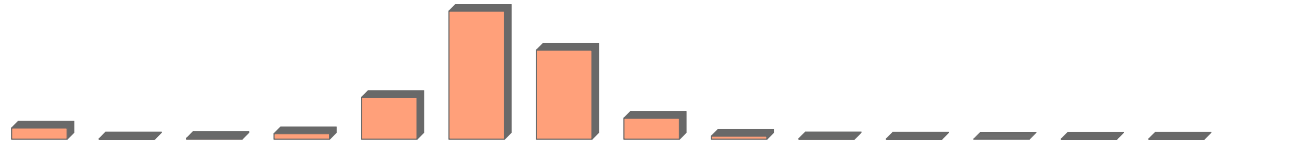
LOCATION: Walton Rd east of Green River Pkwy														QC JOB #: 13751403	
SPECIFIC LOCATION: Walton Rd east of Green River Pkwy														DIRECTION: EB/WB	
CITY/STATE: Port Saint Lucie, FL														DATE: Mar 17 2016	
Start Time	Motor-cycles	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Not Classified	Total
12:00 PM	1	83	14	1	0	0	0	1	0	0	0	0	0	7	107
12:15 PM	0	86	11	0	4	0	0	2	0	0	0	0	0	0	103
12:30 PM	2	103	11	1	2	0	0	0	0	0	0	0	0	5	124
12:45 PM	1	78	20	0	1	0	0	0	0	0	0	0	0	2	102
1:00 PM	0	73	11	0	3	0	0	0	0	0	0	0	0	8	95
1:15 PM	0	91	16	0	5	0	0	1	0	0	0	0	0	2	115
1:30 PM	0	80	8	0	5	0	0	0	0	0	0	0	0	3	96
1:45 PM	0	81	13	0	3	0	0	2	0	0	0	0	0	6	105
2:00 PM	1	78	19	0	5	0	0	0	0	0	0	0	0	7	110
2:15 PM	1	82	12	0	1	0	0	0	0	0	0	0	0	5	101
2:30 PM	0	80	20	0	2	0	0	0	0	0	0	0	0	3	105
2:45 PM	2	97	17	0	0	0	0	0	0	0	0	0	0	7	123
3:00 PM	3	105	18	0	4	0	0	0	0	0	0	0	0	4	134
3:15 PM	1	97	14	0	1	0	0	0	0	0	0	0	0	4	117
3:30 PM	1	117	13	2	4	0	0	1	0	0	0	0	0	6	144
3:45 PM	2	103	19	0	1	0	0	1	0	0	0	0	0	1	127
4:00 PM	0	116	22	0	4	0	0	1	0	0	0	0	0	7	150
4:15 PM	0	119	22	0	4	0	0	1	0	0	0	0	0	4	150
4:30 PM	0	106	33	0	4	0	0	2	0	0	0	0	0	6	151
4:45 PM	0	111	26	0	1	0	0	0	0	0	0	0	0	5	143
5:00 PM	0	106	23	1	2	0	0	0	0	0	0	0	0	4	136
5:15 PM	1	122	29	0	3	0	0	0	0	0	0	0	0	3	158
5:30 PM	2	125	16	0	0	0	0	1	0	0	0	0	0	6	150
5:45 PM	0	108	11	0	2	0	0	0	0	0	0	0	0	2	123
Day Total															
Percent															
AM Peak															
Volume															
PM Peak															
Volume															
Comments:															

LOCATION: Walton Rd east of Green River Pkwy SPECIFIC LOCATION: Walton Rd east of Green River Pkwy CITY/STATE: Port Saint Lucie, FL														QC JOB #: 13751403 DIRECTION: EB/WB DATE: Mar 17 2016	
Start Time	Motor-cycles	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Not Classified	Total
6:00 PM	0	85	13	0	2	0	0	1	0	0	0	0	0	7	108
6:15 PM	0	107	16	0	0	0	0	1	0	0	0	0	0	0	124
6:30 PM	0	63	17	0	0	0	0	1	0	0	0	0	0	3	84
6:45 PM	0	74	13	0	1	0	0	0	0	0	0	0	0	3	91
7:00 PM	0	61	4	0	1	0	0	0	0	0	0	0	0	3	69
7:15 PM	1	69	10	0	0	0	0	0	0	0	0	0	0	3	83
7:30 PM	1	56	11	0	0	0	0	0	0	0	0	0	0	5	73
7:45 PM	1	55	6	0	0	0	0	0	0	0	0	0	0	2	64
8:00 PM	0	55	18	0	0	0	0	0	0	0	0	0	0	4	77
8:15 PM	0	49	9	0	1	0	0	0	0	0	0	0	0	2	61
8:30 PM	0	45	8	0	0	0	0	0	0	0	0	0	0	0	53
8:45 PM	1	48	2	0	0	0	0	0	0	0	0	0	0	1	52
9:00 PM	0	33	2	0	0	0	0	0	0	0	0	0	0	1	36
9:15 PM	0	44	8	0	0	0	0	0	0	0	0	0	0	2	54
9:30 PM	0	48	8	0	0	0	0	0	0	0	0	0	0	2	58
9:45 PM	0	37	1	0	0	0	0	1	0	0	0	0	0	1	40
10:00 PM	0	20	4	0	0	0	0	0	0	0	0	0	0	4	28
10:15 PM	0	39	5	0	0	0	0	0	0	0	0	0	0	2	46
10:30 PM	0	28	4	0	0	0	0	0	0	0	0	0	0	0	32
10:45 PM	0	21	0	0	0	0	0	0	0	0	0	0	0	0	21
11:00 PM	0	27	1	0	0	0	0	0	0	0	0	0	0	3	31
11:15 PM	0	7	2	0	0	0	0	0	0	0	0	0	0	1	10
11:30 PM	0	16	0	0	0	0	0	0	0	0	0	0	0	0	16
11:45 PM	0	12	1	0	0	0	0	0	0	0	0	0	0	1	14
Day Total	31	5001	890	7	106	0	0	27	0	0	0	0	0	223	6285
Percent	0.5%	79.6%	14.2%	0.1%	1.7%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	3.5%	
ADT 6285															
AM Peak	9:00 AM	8:45 AM	7:45 AM	8:30 AM	6:45 AM	10:30 AM								8:15 AM	11:45 AM
Volume	2	84	22	1	4	3								9	104
PM Peak	3:00 PM	5:30 PM	4:30 PM	3:30 PM	1:15 PM	12:15 PM								1:00 PM	5:15 PM
Volume	3	125	33	2	5	2								8	158
Comments:															

LOCATION: Walton Rd east of Green River Pkwy SPECIFIC LOCATION: Walton Rd east of Green River Pkwy CITY/STATE: Port Saint Lucie, FL													QC JOB #: 13751403 DIRECTION: EB/WB DATE: Mar 17 2016 - Mar 17 2016		
Start Time	Motor-cycles	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Not Classified	Total
Grand Total	31	5001	890	7	106	0	0	27	0	0	0	0	0	223	6285
Percent	0.5%	79.6%	14.2%	0.1%	1.7%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	3.5%	
ADT 6285															
Comments:															



LOCATION: Walton Rd east of Green River Pkwy															QC JOB #: 13751403		
SPECIFIC LOCATION: Walton Rd east of Green River Pkwy															DIRECTION: EB/WB		
CITY/STATE: Port Saint Lucie, FL															DATE: Mar 17 2016		
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
12:00 AM	0	0	0	1	6	10	13	5	1	0	0	0	0	0	36	36-45	23
1:00 AM	0	0	0	1	3	6	3	1	0	0	0	0	0	0	14	32-41	9
2:00 AM	0	0	0	1	3	1	1	3	1	0	0	0	0	0	10	26-35	4
3:00 AM	0	0	0	0	0	3	1	1	1	0	0	0	0	0	6	36-45	4
4:00 AM	0	0	0	0	3	5	4	6	0	1	0	0	0	0	19	42-51	9
5:00 AM	1	0	0	1	8	15	23	8	4	0	0	0	0	0	60	36-45	38
6:00 AM	1	0	0	4	21	51	54	16	3	0	0	0	0	0	150	36-45	105
7:00 AM	7	1	6	11	82	134	67	11	0	1	0	0	0	0	320	31-40	216
8:00 AM	21	1	1	5	46	152	110	34	1	0	0	0	0	0	371	36-45	262
9:00 AM	8	2	0	6	48	140	92	19	2	0	1	0	0	1	319	36-45	231
10:00 AM	17	1	1	2	54	166	80	23	2	0	1	0	0	0	347	36-45	246
11:00 AM	13	1	1	2	54	162	82	21	2	1	0	0	0	0	339	36-45	243
12:00 PM	16	0	1	8	62	201	121	22	3	0	1	0	0	1	436	36-45	322
1:00 PM	19	0	0	4	43	162	149	29	5	0	0	0	0	0	411	36-45	311
2:00 PM	24	0	2	8	62	192	125	24	2	0	0	0	0	0	439	36-45	317
3:00 PM	19	1	1	6	76	248	133	31	4	2	0	0	1	0	522	36-45	381
4:00 PM	21	0	3	29	71	235	185	46	4	0	0	0	0	0	594	36-45	420
5:00 PM	16	0	2	1	64	263	184	31	5	1	0	0	0	0	567	36-45	446
6:00 PM	13	0	0	3	39	167	146	32	7	0	0	0	0	0	407	36-45	313
7:00 PM	13	0	0	5	35	122	87	24	3	0	0	0	0	0	289	36-45	208
8:00 PM	7	0	0	10	32	99	75	15	4	1	0	0	0	0	243	36-45	174
9:00 PM	6	0	0	4	33	73	59	9	4	0	0	0	0	0	188	36-45	132
10:00 PM	6	0	0	3	12	41	47	14	2	2	0	0	0	0	127	36-45	88
11:00 PM	5	0	0	0	13	22	16	12	3	0	0	0	0	0	71	36-45	38
Day Total	233	7	18	115	870	2670	1857	437	63	9	3	0	1	2	6285	36-45	4526
Percent	3.7%	0.1%	0.3%	1.8%	13.8%	42.5%	29.5%	7.0%	1.0%	0.1%	0.0%	0.0%	0.0%	0.0%			
ADT 6285																	
AM Peak Volume	8:00 AM 21	9:00 AM 2	7:00 AM 6	7:00 AM 11	7:00 AM 82	10:00 AM 166	8:00 AM 110	8:00 AM 34	5:00 AM 4	4:00 AM 1	9:00 AM 1	9:00 AM 1		8:00 AM 371			
PM Peak Volume	2:00 PM 24	3:00 PM 1	4:00 PM 3	4:00 PM 29	3:00 PM 76	5:00 PM 263	4:00 PM 185	4:00 PM 46	6:00 PM 7	3:00 PM 2	12:00 PM 1	3:00 PM 1		12:00 PM 1	4:00 PM 594		
Comments:																	

LOCATION: Walton Rd east of Green River Pkwy															QC JOB #: 13751403		
SPECIFIC LOCATION: Walton Rd east of Green River Pkwy															DIRECTION: EB/WB		
CITY/STATE: Port Saint Lucie, FL															DATE: Mar 17 2016 - Mar 17 2016		
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
Grand Total	233	7	18	115	870	2670	1857	437	63	9	3	0	1	2	6285	36-45	4526
Percent	3.7%	0.1%	0.3%	1.8%	13.8%	42.5%	29.5%	7.0%	1.0%	0.1%	0.0%	0.0%	0.0%	0.0%			
Cumulative Percent	3.7%	3.8%	4.1%	5.9%	19.8%	62.3%	91.8%	98.8%	99.8%	99.9%	100.0%	100.0%	100.0%	100.0%			
ADT 6285															85th Percentile 43 MPH		
															Mean Speed(Average) 37 MPH		
Comments:															Median 38 MPH		
															Mode: 38 MPH		

Report generated on 3/23/2016 7:58 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>)

LOCATION: Walton Rd west of Green River Pkwy						QC JOB #: 13751402				
SPECIFIC LOCATION: Walton Rd west of Green River Pkwy						DIRECTION: EB/WB				
CITY/STATE: Port Saint Lucie, FL						DATE: Mar 17 2016 - Mar 17 2016				
Start Time	Mon	Tue	Wed	Thu 17-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				17		17			17	
12:15 AM				19		19			19	
12:30 AM				5		5			5	
12:45 AM				7		7			7	
1:00 AM				8		8			8	
1:15 AM				5		5			5	
1:30 AM				4		4			4	
1:45 AM				2		2			2	
2:00 AM				4		4			4	
2:15 AM				3		3			3	
2:30 AM				7		7			7	
2:45 AM				5		5			5	
3:00 AM				1		1			1	
3:15 AM				5		5			5	
3:30 AM				3		3			3	
3:45 AM				2		2			2	
4:00 AM				7		7			7	
4:15 AM				1		1			1	
4:30 AM				11		11			11	
4:45 AM				14		14			14	
5:00 AM				11		11			11	
5:15 AM				21		21			21	
5:30 AM				15		15			15	
5:45 AM				33		33			33	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
Comments:										

LOCATION: Walton Rd west of Green River Pkwy						QC JOB #: 13751402				
SPECIFIC LOCATION: Walton Rd west of Green River Pkwy						DIRECTION: EB/WB				
CITY/STATE: Port Saint Lucie, FL						DATE: Mar 17 2016 - Mar 17 2016				
Start Time	Mon	Tue	Wed	Thu 17-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				37		37			37	
6:15 AM				45		45			45	
6:30 AM				52		52			52	
6:45 AM				88		88			88	
7:00 AM				77		77			77	
7:15 AM				101		101			101	
7:30 AM				135		135			135	
7:45 AM				143		143			143	
8:00 AM				130		130			130	
8:15 AM				132		132			132	
8:30 AM				133		133			133	
8:45 AM				139		139			139	
9:00 AM				108		108			108	
9:15 AM				115		115			115	
9:30 AM				105		105			105	
9:45 AM				129		129			129	
10:00 AM				104		104			104	
10:15 AM				116		116			116	
10:30 AM				110		110			110	
10:45 AM				132		132			132	
11:00 AM				100		100			100	
11:15 AM				120		120			120	
11:30 AM				111		111			111	
11:45 AM				128		128			128	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
Comments:										

LOCATION: Walton Rd west of Green River Pkwy						QC JOB #: 13751402				
SPECIFIC LOCATION: Walton Rd west of Green River Pkwy						DIRECTION: EB/WB				
CITY/STATE: Port Saint Lucie, FL						DATE: Mar 17 2016 - Mar 17 2016				
Start Time	Mon	Tue	Wed	Thu 17-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				162		162			162	
12:15 PM				144		144			144	
12:30 PM				135		135			135	
12:45 PM				145		145			145	
1:00 PM				131		131			131	
1:15 PM				138		138			138	
1:30 PM				126		126			126	
1:45 PM				143		143			143	
2:00 PM				141		141			141	
2:15 PM				150		150			150	
2:30 PM				146		146			146	
2:45 PM				164		164			164	
3:00 PM				178		178			178	
3:15 PM				150		150			150	
3:30 PM				195		195			195	
3:45 PM				174		174			174	
4:00 PM				184		184			184	
4:15 PM				213		213			213	
4:30 PM				180		180			180	
4:45 PM				204		204			204	
5:00 PM				201		201			201	
5:15 PM				219		219			219	
5:30 PM				219		219			219	
5:45 PM				180		180			180	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
Comments:										

LOCATION: Walton Rd west of Green River Pkwy						QC JOB #: 13751402				
SPECIFIC LOCATION: Walton Rd west of Green River Pkwy						DIRECTION: EB/WB				
CITY/STATE: Port Saint Lucie, FL						DATE: Mar 17 2016 - Mar 17 2016				
Start Time	Mon	Tue	Wed	Thu 17-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				165		165			165	
6:15 PM				162		162			162	
6:30 PM				123		123			123	
6:45 PM				127		127			127	
7:00 PM				81		81			81	
7:15 PM				101		101			101	
7:30 PM				100		100			100	
7:45 PM				104		104			104	
8:00 PM				96		96			96	
8:15 PM				78		78			78	
8:30 PM				73		73			73	
8:45 PM				67		67			67	
9:00 PM				55		55			55	
9:15 PM				67		67			67	
9:30 PM				82		82			82	
9:45 PM				55		55			55	
10:00 PM				43		43			43	
10:15 PM				54		54			54	
10:30 PM				45		45			45	
10:45 PM				26		26			26	
11:00 PM				38		38			38	
11:15 PM				19		19			19	
11:30 PM				21		21			21	
11:45 PM				21		21			21	
Day Total				8625		8625			8625	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:45 AM		7:45 AM			7:45 AM	
Volume				143		143			143	
PM Peak				5:15 PM		5:15 PM			5:15 PM	
Volume				219		219			219	
Comments:										

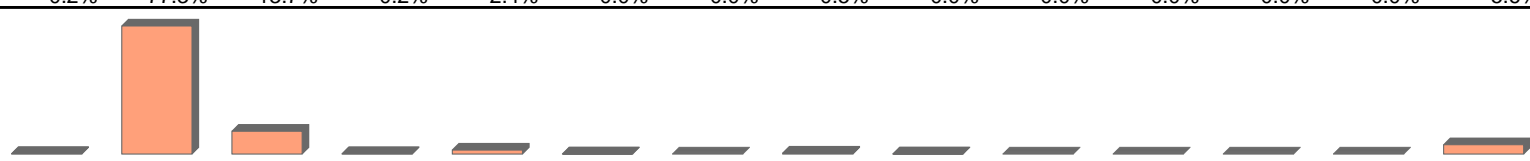
QC JOB #: 13751402
DIRECTION: EB/WB
DATE: Mar 17 2016

Report generated on 3/25/2016 10:05 AM SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>)

LOCATION: Walton Rd west of Green River Pkwy SPECIFIC LOCATION: Walton Rd west of Green River Pkwy CITY/STATE: Port Saint Lucie, FL														QC JOB #: 13751402 DIRECTION: EB/WB DATE: Mar 17 2016	
Start Time	Motor-cycles	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Not Classified	Total
6:00 AM	0	29	5	0	1	0	0	0	0	0	0	0	0	2	37
6:15 AM	0	32	6	0	4	0	0	1	0	0	0	0	0	2	45
6:30 AM	0	38	9	0	1	0	0	0	0	0	0	0	0	4	52
6:45 AM	0	66	10	1	4	0	0	0	0	0	0	0	0	7	88
7:00 AM	1	57	14	0	3	0	0	0	0	0	0	0	0	2	77
7:15 AM	0	83	12	0	1	0	0	0	0	0	0	0	0	5	101
7:30 AM	0	103	19	1	6	0	0	2	0	0	0	0	0	4	135
7:45 AM	1	106	17	0	5	0	0	0	0	0	0	0	0	14	143
8:00 AM	0	99	12	0	6	0	0	1	1	0	0	0	0	11	130
8:15 AM	1	103	16	0	2	0	0	0	0	0	0	0	0	10	132
8:30 AM	0	110	10	0	5	0	0	0	0	0	0	0	0	8	133
8:45 AM	0	105	14	0	1	0	0	1	0	0	0	0	0	18	139
9:00 AM	1	80	13	0	0	0	0	2	0	0	0	0	0	12	108
9:15 AM	1	94	15	2	2	0	0	0	0	0	0	0	0	1	115
9:30 AM	0	87	9	0	2	0	0	0	0	0	0	0	0	7	105
9:45 AM	1	97	18	0	0	1	0	0	0	0	0	0	0	12	129
10:00 AM	0	80	7	0	2	0	0	1	0	0	0	0	0	14	104
10:15 AM	1	92	7	0	3	0	0	2	0	0	0	0	0	11	116
10:30 AM	0	80	11	0	4	0	0	2	0	0	0	0	0	13	110
10:45 AM	0	107	20	0	1	0	0	0	0	0	0	0	0	4	132
11:00 AM	0	77	15	0	1	0	0	0	0	0	0	0	0	7	100
11:15 AM	0	92	17	0	6	0	0	1	0	0	0	0	0	4	120
11:30 AM	0	88	14	0	5	0	0	0	0	0	0	0	0	4	111
11:45 AM	0	96	18	1	2	0	0	0	0	0	0	0	0	11	128
Day Total															
Percent															
AM Peak															
Volume															
PM Peak															
Volume															
Comments:															

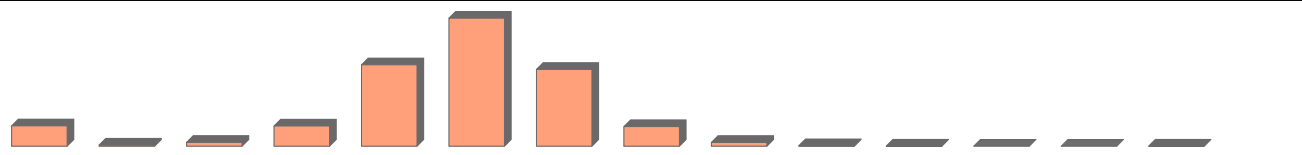
LOCATION: Walton Rd west of Green River Pkwy SPECIFIC LOCATION: Walton Rd west of Green River Pkwy CITY/STATE: Port Saint Lucie, FL														QC JOB #: 13751402 DIRECTION: EB/WB DATE: Mar 17 2016	
Start Time	Motor-cycles	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Not Classified	Total
12:00 PM	0	122	22	1	1	0	0	2	0	0	0	0	0	14	162
12:15 PM	0	120	11	0	7	0	0	3	0	0	0	0	0	3	144
12:30 PM	1	104	20	0	3	0	0	1	0	0	0	0	0	6	135
12:45 PM	0	111	24	0	2	0	0	3	0	0	0	0	0	5	145
1:00 PM	0	96	21	0	6	0	0	1	0	0	0	0	0	7	131
1:15 PM	0	99	25	0	8	0	0	0	0	0	0	0	0	6	138
1:30 PM	0	86	25	0	6	1	0	1	0	0	0	0	0	7	126
1:45 PM	0	110	19	2	6	0	0	2	0	0	0	0	0	4	143
2:00 PM	1	104	21	0	6	0	0	2	0	0	0	0	0	7	141
2:15 PM	1	114	20	0	5	0	0	0	0	0	0	0	0	10	150
2:30 PM	0	107	23	0	9	0	0	1	0	0	0	0	0	6	146
2:45 PM	1	123	27	1	3	0	0	0	0	0	0	0	0	9	164
3:00 PM	2	135	30	0	3	0	0	0	0	0	0	0	0	8	178
3:15 PM	1	111	27	0	3	0	0	1	0	0	0	0	0	7	150
3:30 PM	0	149	31	1	4	0	0	1	0	0	0	0	0	9	195
3:45 PM	0	126	37	0	2	0	0	1	0	0	0	0	0	8	174
4:00 PM	0	138	22	1	7	0	0	4	0	0	0	0	0	12	184
4:15 PM	1	167	27	1	6	0	0	2	0	0	0	0	0	9	213
4:30 PM	0	129	36	0	7	0	0	0	1	0	0	0	0	7	180
4:45 PM	0	161	28	0	7	0	0	1	0	0	0	0	0	7	204
5:00 PM	0	155	33	2	2	0	0	1	0	0	0	0	0	8	201
5:15 PM	0	162	33	1	9	0	0	0	0	0	0	0	0	14	219
5:30 PM	0	170	32	1	1	0	0	1	0	0	0	0	0	14	219
5:45 PM	0	152	22	0	2	0	0	0	0	0	0	0	0	4	180
Day Total															
Percent															
AM Peak															
Volume															
PM Peak															
Volume															
Comments:															

LOCATION: Walton Rd west of Green River Pkwy SPECIFIC LOCATION: Walton Rd west of Green River Pkwy CITY/STATE: Port Saint Lucie, FL														QC JOB #: 13751402 DIRECTION: EB/WB DATE: Mar 17 2016	
Start Time	Motor-cycles	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Not Classified	Total
6:00 PM	1	127	24	1	4	0	0	0	0	0	0	0	0	8	165
6:15 PM	0	120	30	0	1	0	0	2	0	0	0	0	0	9	162
6:30 PM	0	97	20	0	2	0	0	1	0	0	0	0	0	3	123
6:45 PM	0	105	17	0	1	0	0	0	0	0	0	0	0	4	127
7:00 PM	1	70	6	0	1	0	0	0	0	0	0	0	0	3	81
7:15 PM	0	83	15	0	0	0	0	0	0	0	0	0	0	3	101
7:30 PM	0	76	17	0	2	0	0	0	0	0	0	0	0	5	100
7:45 PM	1	87	6	0	2	0	0	0	0	0	0	0	0	8	104
8:00 PM	1	75	17	0	1	0	0	0	0	0	0	0	0	2	96
8:15 PM	0	61	8	0	3	0	0	0	0	0	0	0	0	6	78
8:30 PM	0	62	9	0	0	0	0	0	0	0	0	0	0	2	73
8:45 PM	0	58	6	0	0	0	0	0	0	0	0	0	0	3	67
9:00 PM	0	48	4	1	0	0	0	0	0	0	0	0	0	2	55
9:15 PM	0	52	12	0	0	0	0	0	0	0	0	0	0	3	67
9:30 PM	0	67	10	0	1	0	0	0	0	0	0	0	0	4	82
9:45 PM	1	47	4	0	0	0	0	1	0	0	0	0	0	2	55
10:00 PM	0	31	7	0	0	0	0	0	0	0	0	0	0	5	43
10:15 PM	1	48	4	0	0	0	0	0	0	0	0	0	0	1	54
10:30 PM	0	28	10	0	0	0	0	0	0	0	0	0	0	7	45
10:45 PM	0	26	0	0	0	0	0	0	0	0	0	0	0	0	26
11:00 PM	0	33	2	0	0	0	0	0	0	0	0	0	0	3	38
11:15 PM	0	14	3	0	0	0	0	0	0	0	0	0	0	2	19
11:30 PM	0	21	0	0	0	0	0	0	0	0	0	0	0	0	21
11:45 PM	0	20	0	0	0	0	0	0	0	0	0	0	0	1	21
Day Total	21	6666	1184	18	204	2	0	47	2	0	0	0	0	481	8625
Percent	0.2%	77.3%	13.7%	0.2%	2.4%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	5.6%	
ADT 8625															
AM Peak	7:00 AM	8:30 AM	10:45 AM	9:15 AM	7:30 AM	9:45 AM		7:30 AM	8:00 AM					8:45 AM	7:45 AM
Volume	1	110	20	2	6	1		2	1					18	143
PM Peak	3:00 PM	5:30 PM	3:45 PM	1:45 PM	2:30 PM	1:30 PM		4:00 PM	4:30 PM					12:00 PM	5:15 PM
Volume	2	170	37	2	9	1		4	1					14	219
Comments:															

LOCATION: Walton Rd west of Green River Pkwy SPECIFIC LOCATION: Walton Rd west of Green River Pkwy CITY/STATE: Port Saint Lucie, FL												QC JOB #: 13751402 DIRECTION: EB/WB DATE: Mar 17 2016 - Mar 17 2016			
Start Time	Motor-cycles	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Not Classified	Total
Grand Total	21	6666	1184	18	204	2	0	47	2	0	0	0	0	481	8625
Percent	0.2%	77.3%	13.7%	0.2%	2.4%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	5.6%	
ADT 8625															
Comments:															



LOCATION: Walton Rd west of Green River Pkwy SPECIFIC LOCATION: Walton Rd west of Green River Pkwy CITY/STATE: Port Saint Lucie, FL															QC JOB #: 13751402 DIRECTION: EB/WB DATE: Mar 17 2016		
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
12:00 AM	3	0	0	4	10	16	10	4	1	0	0	0	0	0	48	32-41	26
1:00 AM	1	0	0	3	7	2	5	1	0	0	0	0	0	0	19	26-35	10
2:00 AM	2	0	0	0	4	6	3	4	0	0	0	0	0	0	19	35-44	9
3:00 AM	0	0	0	0	3	4	2	2	0	0	0	0	0	0	11	31-40	7
4:00 AM	1	0	0	1	6	10	11	3	1	0	0	0	0	0	33	36-45	21
5:00 AM	10	0	2	5	16	24	17	3	2	1	0	0	0	0	80	36-45	41
6:00 AM	17	1	4	19	55	68	36	18	4	0	0	0	0	0	222	31-40	122
7:00 AM	26	0	5	36	137	180	61	7	3	0	0	0	0	1	456	31-40	317
8:00 AM	49	2	6	48	138	177	83	27	3	1	0	0	0	0	534	31-40	314
9:00 AM	33	3	9	36	117	164	80	15	0	0	0	0	0	0	457	31-40	281
10:00 AM	42	1	3	27	112	180	83	10	4	0	0	0	0	0	462	31-40	292
11:00 AM	28	2	4	27	119	171	88	17	1	1	1	0	0	0	459	31-40	290
12:00 PM	28	1	1	37	172	210	113	16	7	0	1	0	0	0	586	31-40	382
1:00 PM	24	2	1	25	101	178	140	47	18	2	0	0	0	0	538	36-45	318
2:00 PM	32	4	15	30	130	215	141	28	4	1	0	0	0	1	601	36-45	356
3:00 PM	33	3	7	30	160	228	170	52	14	0	0	0	0	0	697	36-45	398
4:00 PM	35	0	6	48	148	286	203	44	10	1	0	0	0	0	781	36-45	489
5:00 PM	41	1	12	39	179	308	185	47	6	1	0	0	0	0	819	36-45	493
6:00 PM	24	0	4	20	140	226	124	35	3	1	0	0	0	0	577	31-40	366
7:00 PM	20	0	2	16	70	153	102	20	2	1	0	0	0	0	386	36-45	254
8:00 PM	13	0	4	16	63	126	64	25	2	1	0	0	0	0	314	36-45	190
9:00 PM	11	2	2	12	50	98	62	18	3	1	0	0	0	0	259	36-45	159
10:00 PM	14	2	3	8	26	52	47	15	1	0	0	0	0	0	168	36-45	99
11:00 PM	6	3	2	3	11	23	32	17	2	0	0	0	0	0	99	36-45	55
Day Total	493	27	92	490	1974	3105	1862	475	91	12	2	0	0	2	8625	31-40	5079
Percent	5.7%	0.3%	1.1%	5.7%	22.9%	36.0%	21.6%	5.5%	1.1%	0.1%	0.0%	0.0%	0.0%	0.0%			
ADT 8625																	
AM Peak Volume	8:00 AM 49	9:00 AM 3	9:00 AM 9	8:00 AM 48	8:00 AM 138	7:00 AM 180	11:00 AM 88	8:00 AM 27	6:00 AM 4	5:00 AM 1	11:00 AM 1			7:00 AM 1	8:00 AM 534		
PM Peak Volume	5:00 PM 41	2:00 PM 4	2:00 PM 15	4:00 PM 48	5:00 PM 179	5:00 PM 308	4:00 PM 203	3:00 PM 52	1:00 PM 18	1:00 PM 2	12:00 PM 1			2:00 PM 1	5:00 PM 819		
Comments:																	

LOCATION: Walton Rd west of Green River Pkwy															QC JOB #: 13751402		
SPECIFIC LOCATION: Walton Rd west of Green River Pkwy															DIRECTION: EB/WB		
CITY/STATE: Port Saint Lucie, FL															DATE: Mar 17 2016 - Mar 17 2016		
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
Grand Total	493	27	92	490	1974	3105	1862	475	91	12	2	0	0	2	8625	31-40	5079
Percent	5.7%	0.3%	1.1%	5.7%	22.9%	36.0%	21.6%	5.5%	1.1%	0.1%	0.0%	0.0%	0.0%	0.0%			
Cumulative Percent	5.7%	6.0%	7.1%	12.8%	35.7%	71.7%	93.3%	98.8%	99.8%	100.0%	100.0%	100.0%	100.0%	100.0%			
ADT 8625															85th Percentile 43 MPH Mean Speed(Average) 35 MPH		
Comments:																	
																Median 36 MPH	Mode: 38 MPH



LOCATION: Walton Rd east of Lennard Rd						QC JOB #: 13751401				
SPECIFIC LOCATION: Walton Rd east of Lennard Rd						DIRECTION: EB/WB				
CITY/STATE: Port Saint Lucie, FL						DATE: Mar 17 2016 - Mar 17 2016				
Start Time	Mon	Tue	Wed	Thu 17-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				18		18			18	
12:15 AM				21		21			21	
12:30 AM				10		10			10	
12:45 AM				8		8			8	
1:00 AM				10		10			10	
1:15 AM				6		6			6	
1:30 AM				9		9			9	
1:45 AM				3		3			3	
2:00 AM				4		4			4	
2:15 AM				7		7			7	
2:30 AM				12		12			12	
2:45 AM				3		3			3	
3:00 AM				6		6			6	
3:15 AM				4		4			4	
3:30 AM				3		3			3	
3:45 AM				5		5			5	
4:00 AM				5		5			5	
4:15 AM				11		11			11	
4:30 AM				15		15			15	
4:45 AM				15		15			15	
5:00 AM				18		18			18	
5:15 AM				20		20			20	
5:30 AM				30		30			30	
5:45 AM				33		33			33	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
Comments:										

LOCATION: Walton Rd east of Lennard Rd						QC JOB #: 13751401				
SPECIFIC LOCATION: Walton Rd east of Lennard Rd						DIRECTION: EB/WB				
CITY/STATE: Port Saint Lucie, FL						DATE: Mar 17 2016 - Mar 17 2016				
Start Time	Mon	Tue	Wed	Thu 17-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				50		50			50	
6:15 AM				52		52			52	
6:30 AM				97		97			97	
6:45 AM				102		102			102	
7:00 AM				125		125			125	
7:15 AM				132		132			132	
7:30 AM				165		165			165	
7:45 AM				166		166			166	
8:00 AM				166		166			166	
8:15 AM				175		175			175	
8:30 AM				169		169			169	
8:45 AM				140		140			140	
9:00 AM				138		138			138	
9:15 AM				131		131			131	
9:30 AM				134		134			134	
9:45 AM				143		143			143	
10:00 AM				131		131			131	
10:15 AM				145		145			145	
10:30 AM				120		120			120	
10:45 AM				153		153			153	
11:00 AM				114		114			114	
11:15 AM				126		126			126	
11:30 AM				163		163			163	
11:45 AM				139		139			139	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
Comments:										

LOCATION: Walton Rd east of Lennard Rd						QC JOB #: 13751401				
SPECIFIC LOCATION: Walton Rd east of Lennard Rd						DIRECTION: EB/WB				
CITY/STATE: Port Saint Lucie, FL						DATE: Mar 17 2016 - Mar 17 2016				
Start Time	Mon	Tue	Wed	Thu 17-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				183		183			183	
12:15 PM				184		184			184	
12:30 PM				164		164			164	
12:45 PM				160		160			160	
1:00 PM				156		156			156	
1:15 PM				145		145			145	
1:30 PM				138		138			138	
1:45 PM				176		176			176	
2:00 PM				126		126			126	
2:15 PM				163		163			163	
2:30 PM				196		196			196	
2:45 PM				211		211			211	
3:00 PM				182		182			182	
3:15 PM				196		196			196	
3:30 PM				223		223			223	
3:45 PM				183		183			183	
4:00 PM				192		192			192	
4:15 PM				222		222			222	
4:30 PM				210		210			210	
4:45 PM				201		201			201	
5:00 PM				214		214			214	
5:15 PM				228		228			228	
5:30 PM				218		218			218	
5:45 PM				195		195			195	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
Comments:										


LOCATION: Walton Rd east of Lennard Rd						QC JOB #: 13751401				
SPECIFIC LOCATION: Walton Rd east of Lennard Rd						DIRECTION: EB/WB				
CITY/STATE: Port Saint Lucie, FL						DATE: Mar 17 2016 - Mar 17 2016				
Start Time	Mon	Tue	Wed	Thu 17-Mar-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				177		177			177	
6:15 PM				188		188			188	
6:30 PM				139		139			139	
6:45 PM				138		138			138	
7:00 PM				104		104			104	
7:15 PM				127		127			127	
7:30 PM				119		119			119	
7:45 PM				123		123			123	
8:00 PM				126		126			126	
8:15 PM				93		93			93	
8:30 PM				89		89			89	
8:45 PM				97		97			97	
9:00 PM				69		69			69	
9:15 PM				82		82			82	
9:30 PM				79		79			79	
9:45 PM				63		63			63	
10:00 PM				47		47			47	
10:15 PM				69		69			69	
10:30 PM				57		57			57	
10:45 PM				32		32			32	
11:00 PM				44		44			44	
11:15 PM				35		35			35	
11:30 PM				25		25			25	
11:45 PM				21		21			21	
Day Total	10061					10061			10061	
% Weekday Average	100.0%									
% Week Average	100.0%					100.0%				
AM Peak	8:15 AM					8:15 AM			8:15 AM	
Volume	175					175			175	
PM Peak	5:15 PM					5:15 PM			5:15 PM	
Volume	228					228			228	
Comments:										

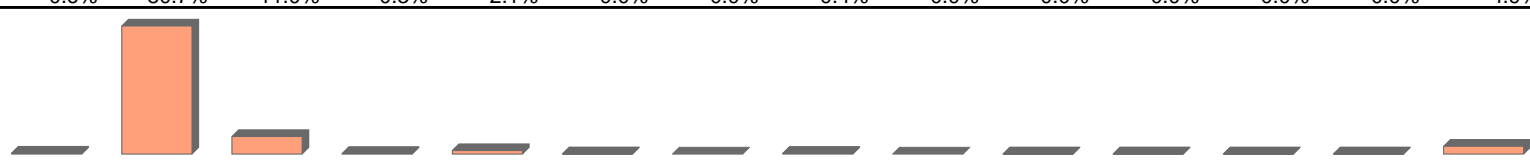
QC JOB #: 13751401
DIRECTION: EB/WB
DATE: Mar 17 2016

Report generated on 3/25/2016 10:05 AM SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>)

LOCATION: Walton Rd east of Lennard Rd SPECIFIC LOCATION: Walton Rd east of Lennard Rd CITY/STATE: Port Saint Lucie, FL														QC JOB #: 13751401 DIRECTION: EB/WB DATE: Mar 17 2016	
Start Time	Motor-cycles	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Not Classified	Total
6:00 AM	0	40	8	0	2	0	0	0	0	0	0	0	0	0	50
6:15 AM	0	38	12	0	2	0	0	0	0	0	0	0	0	0	52
6:30 AM	0	77	17	1	2	0	0	0	0	0	0	0	0	0	97
6:45 AM	1	75	15	4	4	0	0	0	0	0	0	0	1	2	102
7:00 AM	0	97	16	0	5	1	0	1	0	0	0	0	0	5	125
7:15 AM	1	104	20	0	3	0	0	0	0	0	0	0	0	4	132
7:30 AM	0	134	22	1	4	0	0	2	0	0	0	0	0	2	165
7:45 AM	1	119	31	0	5	0	0	0	0	0	0	0	0	10	166
8:00 AM	0	139	15	1	1	0	0	1	0	0	1	0	0	8	166
8:15 AM	0	139	24	0	4	0	0	1	0	0	0	0	0	7	175
8:30 AM	0	138	21	0	2	0	0	0	0	0	0	0	0	8	169
8:45 AM	0	112	20	0	1	0	0	1	0	0	0	0	0	6	140
9:00 AM	1	111	14	0	2	0	0	3	0	0	0	0	0	7	138
9:15 AM	0	107	18	1	4	0	0	0	0	0	0	0	0	1	131
9:30 AM	2	111	17	0	1	0	0	0	0	0	0	0	0	3	134
9:45 AM	0	118	15	0	4	0	0	1	0	0	0	0	0	5	143
10:00 AM	0	106	14	0	1	0	0	2	0	0	0	0	0	8	131
10:15 AM	2	120	13	1	7	0	0	0	0	0	0	0	0	2	145
10:30 AM	0	92	17	0	3	0	0	2	0	0	0	0	0	6	120
10:45 AM	0	125	11	0	3	0	0	0	0	0	0	0	0	13	152
11:00 AM	0	78	22	0	6	0	0	0	0	0	0	0	0	6	112
11:15 AM	2	86	12	0	9	0	0	1	0	0	0	0	0	13	123
11:30 AM	1	135	14	1	1	0	0	1	0	0	0	0	0	9	162
11:45 AM	1	119	5	0	1	0	0	1	0	0	0	0	0	7	134
Day Total															
Percent															
AM Peak															
Volume															
PM Peak															
Volume															
Comments:															

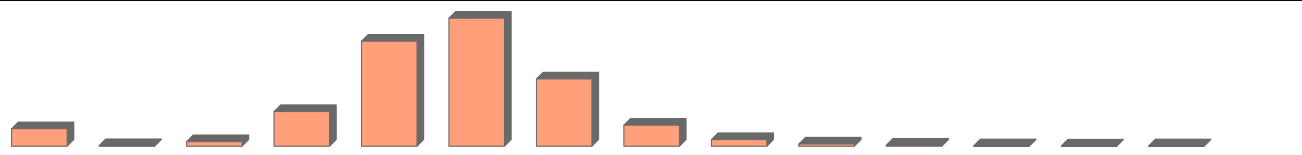
LOCATION: Walton Rd east of Lennard Rd SPECIFIC LOCATION: Walton Rd east of Lennard Rd CITY/STATE: Port Saint Lucie, FL														QC JOB #: 13751401 DIRECTION: EB/WB DATE: Mar 17 2016	
Start Time	Motor-cycles	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Not Classified	Total
12:00 PM	3	131	16	0	4	0	0	1	0	0	0	0	0	19	174
12:15 PM	0	102	42	3	27	1	0	0	0	0	0	0	0	7	182
12:30 PM	0	123	25	0	6	0	0	1	0	0	0	0	0	9	164
12:45 PM	0	122	24	0	2	0	0	0	0	0	0	0	0	12	160
1:00 PM	1	127	19	0	4	0	0	0	0	0	1	0	0	4	156
1:15 PM	0	103	23	1	4	0	0	0	0	0	0	0	0	12	143
1:30 PM	1	105	15	0	6	0	0	0	0	0	0	0	0	9	136
1:45 PM	0	148	12	2	7	0	0	0	0	0	0	0	0	8	177
2:00 PM	3	99	10	1	4	0	0	0	0	0	0	0	0	6	123
2:15 PM	3	128	15	3	5	0	0	1	0	0	0	0	0	7	162
2:30 PM	0	154	23	1	2	0	0	2	0	0	0	0	0	13	195
2:45 PM	2	172	17	1	4	0	0	1	0	0	0	0	0	13	210
3:00 PM	2	145	13	1	6	0	0	1	0	0	0	0	0	13	181
3:15 PM	1	168	13	1	2	0	0	0	0	0	0	0	0	10	195
3:30 PM	3	182	18	0	1	0	0	0	0	0	0	0	0	16	220
3:45 PM	2	149	13	1	5	0	0	0	0	0	0	0	0	13	183
4:00 PM	1	161	13	0	3	0	0	1	0	0	0	1	0	10	190
4:15 PM	3	178	27	1	3	0	0	1	0	0	0	0	0	9	222
4:30 PM	1	155	28	0	2	0	0	0	0	1	0	0	0	22	209
4:45 PM	1	180	11	1	3	0	0	1	0	0	0	0	0	4	201
5:00 PM	2	169	23	0	4	0	0	0	0	0	0	0	0	10	208
5:15 PM	0	182	17	0	1	0	0	0	0	0	0	0	0	14	214
5:30 PM	2	188	18	0	0	0	0	0	0	0	0	0	0	10	218
5:45 PM	1	169	17	0	0	0	0	0	0	0	0	0	0	10	197
Day Total															
Percent															
AM Peak															
Volume															
PM Peak															
Volume															
Comments:															

LOCATION: Walton Rd east of Lennard Rd SPECIFIC LOCATION: Walton Rd east of Lennard Rd CITY/STATE: Port Saint Lucie, FL														QC JOB #: 13751401 DIRECTION: EB/WB DATE: Mar 17 2016	
Start Time	Motor-cycles	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Not Classified	Total
6:00 PM	3	148	12	0	1	0	0	0	0	0	0	0	0	13	177
6:15 PM	0	164	18	0	2	0	0	2	0	0	0	0	0	2	188
6:30 PM	0	109	18	0	2	0	0	0	0	0	0	0	0	8	137
6:45 PM	0	118	9	1	2	0	0	1	0	0	0	0	0	7	138
7:00 PM	0	80	12	0	4	0	0	1	0	0	0	0	0	7	104
7:15 PM	1	97	15	0	2	0	0	1	0	0	0	0	0	10	126
7:30 PM	1	97	14	0	2	0	0	0	0	0	0	0	0	5	119
7:45 PM	0	113	8	0	0	0	0	0	0	0	0	0	0	2	123
8:00 PM	0	93	21	0	5	0	0	0	0	0	0	0	0	7	126
8:15 PM	0	72	9	0	0	0	0	0	0	0	0	0	0	8	89
8:30 PM	0	76	11	0	1	0	0	0	0	0	0	0	0	1	89
8:45 PM	0	87	3	0	0	0	0	0	0	0	0	0	0	7	97
9:00 PM	2	62	4	0	0	0	0	0	0	0	0	0	0	1	69
9:15 PM	2	74	5	0	0	0	0	0	0	0	0	0	0	1	82
9:30 PM	2	70	6	0	0	0	0	0	0	0	0	0	0	1	79
9:45 PM	0	53	6	0	2	0	0	0	0	0	0	0	0	3	64
10:00 PM	1	40	3	0	0	0	0	0	0	0	0	0	0	3	47
10:15 PM	0	53	12	0	1	0	0	0	0	0	0	0	0	3	69
10:30 PM	0	48	6	0	1	0	0	0	0	0	0	0	0	2	57
10:45 PM	0	26	4	0	2	0	0	0	0	0	0	0	0	0	32
11:00 PM	0	38	4	0	0	0	0	0	0	0	0	0	0	2	44
11:15 PM	0	29	6	0	0	0	0	0	0	0	0	0	0	0	35
11:30 PM	0	22	3	0	0	0	0	0	0	0	0	0	0	0	25
11:45 PM	0	18	3	0	0	0	0	0	0	0	0	0	0	0	21
Day Total	56	8071	1100	28	213	2	0	35	0	1	2	1	1	487	9997
Percent	0.6%	80.7%	11.0%	0.3%	2.1%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	4.9%	
ADT 9997															
AM Peak	9:30 AM	8:00 AM	7:45 AM	6:45 AM	11:15 AM	7:00 AM		9:00 AM			8:00 AM		6:45 AM	10:45 AM	8:15 AM
Volume	2	139	31	4	9	1		3			1		1	13	175
PM Peak	12:00 PM	5:30 PM	12:15 PM	12:15 PM	12:15 PM	12:15 PM		2:30 PM		4:30 PM	1:00 PM	4:00 PM		4:30 PM	4:15 PM
Volume	3	188	42	3	27	1		2		1	1	1		22	222
Comments:															

LOCATION: Walton Rd east of Lennard Rd SPECIFIC LOCATION: Walton Rd east of Lennard Rd CITY/STATE: Port Saint Lucie, FL												QC JOB #: 13751401 DIRECTION: EB/WB DATE: Mar 17 2016 - Mar 17 2016			
Start Time	Motor-cycles	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Not Classified	Total
Grand Total	56	8071	1100	28	213	2	0	35	0	1	2	1	1	487	9997
Percent	0.6%	80.7%	11.0%	0.3%	2.1%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	4.9%	
ADT 9997															
Comments:															



LOCATION: Walton Rd east of Lennard Rd															QC JOB #: 13751401		
SPECIFIC LOCATION: Walton Rd east of Lennard Rd															DIRECTION: EB/WB		
CITY/STATE: Port Saint Lucie, FL															DATE: Mar 17 2016		
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
12:00 AM	0	0	0	3	15	23	12	3	1	0	0	0	0	0	57	31-40	38
1:00 AM	1	0	0	0	4	17	5	1	0	0	0	0	0	0	28	36-45	22
2:00 AM	0	0	0	2	5	7	8	4	0	0	0	0	0	0	26	36-45	15
3:00 AM	0	0	1	1	2	9	2	3	0	0	0	0	0	0	18	31-40	11
4:00 AM	1	0	0	1	8	14	15	5	2	0	0	0	0	0	46	36-45	29
5:00 AM	0	0	2	3	17	32	29	17	1	0	0	0	0	0	101	36-45	60
6:00 AM	2	0	8	17	63	114	72	22	3	0	0	0	0	0	301	36-45	185
7:00 AM	20	1	2	32	142	226	138	22	5	0	0	0	0	0	588	31-40	368
8:00 AM	29	0	10	36	130	284	124	29	7	1	0	0	0	0	650	31-40	413
9:00 AM	16	2	3	46	167	201	95	13	3	0	0	0	0	0	546	31-40	368
10:00 AM	28	1	5	52	144	191	84	28	9	3	1	1	0	2	549	31-40	335
11:00 AM	31	0	3	91	145	99	69	45	28	13	8	5	2	3	542	31-40	244
12:00 PM	40	1	6	54	147	182	115	73	42	13	10	3	1	4	691	31-40	328
1:00 PM	31	0	8	41	150	226	130	27	0	1	1	0	0	0	615	31-40	376
2:00 PM	32	1	6	56	209	247	116	19	9	1	0	0	0	0	696	31-40	455
3:00 PM	49	1	12	90	262	253	99	18	0	0	0	0	0	0	784	31-40	515
4:00 PM	45	2	10	67	255	283	135	23	4	1	0	0	0	0	825	31-40	538
5:00 PM	37	1	9	103	292	259	111	34	7	2	0	0	0	0	855	31-40	550
6:00 PM	27	2	7	59	183	208	96	40	15	3	2	0	0	0	642	31-40	391
7:00 PM	24	0	8	21	119	159	86	34	13	7	2	0	0	0	473	31-40	278
8:00 PM	24	0	9	42	103	121	77	26	2	1	0	0	0	0	405	31-40	223
9:00 PM	4	2	6	64	93	64	43	13	3	1	0	0	0	0	293	31-40	157
10:00 PM	8	0	1	8	30	55	51	31	12	7	2	0	0	0	205	36-45	105
11:00 PM	2	0	1	6	31	37	27	14	4	2	1	0	0	0	125	31-40	68
Day Total	451	14	117	895	2716	3311	1739	544	170	56	27	9	3	9	10061	31-40	6027
Percent	4.5%	0.1%	1.2%	8.9%	27.0%	32.9%	17.3%	5.4%	1.7%	0.6%	0.3%	0.1%	0.0%	0.1%			
ADT 10061																	
AM Peak Volume	11:00 AM	9:00 AM	8:00 AM	11:00 AM	9:00 AM	8:00 AM	7:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	8:00 AM		
	31	2	10	91	167	284	138	45	28	13	8	5	2	3	650		
PM Peak Volume	3:00 PM	4:00 PM	3:00 PM	5:00 PM	5:00 PM	4:00 PM	4:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	5:00 PM		
	49	2	12	103	292	283	135	73	42	13	10	3	1	4	855		
Comments:																	

LOCATION: Walton Rd east of Lennard Rd															QC JOB #: 13751401		
SPECIFIC LOCATION: Walton Rd east of Lennard Rd															DIRECTION: EB/WB		
CITY/STATE: Port Saint Lucie, FL															DATE: Mar 17 2016 - Mar 17 2016		
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
Grand Total	451	14	117	895	2716	3311	1739	544	170	56	27	9	3	9	10061	31-40	6027
Percent	4.5%	0.1%	1.2%	8.9%	27.0%	32.9%	17.3%	5.4%	1.7%	0.6%	0.3%	0.1%	0.0%	0.1%			
Cumulative Percent	4.5%	4.6%	5.8%	14.7%	41.7%	74.6%	91.9%	97.3%	99.0%	99.5%	99.8%	99.9%	99.9%	100.0%			
ADT 10061															85th Percentile 43 MPH		
															Mean Speed(Average) 36 MPH		
Comments:															Median 36 MPH		
															Mode: 38 MPH		



State of Florida Department of Transportation
PEDESTRIAN AND BICYCLE VOLUME SHEET

Form 750-020-09
 TRAFFIC ENGINEERING
 10/15

Location ID: Watson Rd & Green River Dr
 City: Port St Lucie
 County: St Lucie County
 Type of Control: Stop Sign
 Remarks:

Analyst/Observer: L. Ferreira
 Agency or Company: Stanley Consultants
 Date Performed: 3/24/10
 Time Period From: PM Peak To: _____

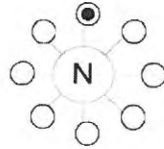
E of
Green
River
Parkway

W of
Green
River
Parkway

South

PEDS	4:00	4:15	4:30	4:45
BIKES	0	0	0	0
PEDS	4:45	5:00	5:15	5:30
BIKES	0	0	0	0

Distance _____ ft.
 Raised median:
☐ Yes ☐ No



PEDS	4:00	4:15	4:30	4:45
BIKES	0	0	0	0
PEDS	5:00	5:15	5:30	5:45
BIKES	0	0	0	0

Distance _____ ft.
 Raised median:
☐ Yes ☐ No

Distance _____ ft.
 Raised median:
☐ Yes ☐ No

PEDS	4:00	4:15	4:30	4:45
BIKES	0	0	0	0
PEDS	5:00	5:15	5:30	5:45
BIKES	0	0	0	0

Distance _____ ft.
 Raised median:
☐ Yes ☐ No

PEDS				
BIKES				
PEDS				
BIKES				

State of Florida Department of Transportation
PEDESTRIAN AND BICYCLE VOLUME SHEET

Form 750-020-09
 TRAFFIC ENGINEERING
 10/15

Location ID:	Walton Rd & Green River Dr	Analyst/Observer:	L. Ferreira
City:	Port St. Lucie	Agency or Company:	Stanley Consultants
County:	St. Lucie County	Date Performed:	3/24/16
Type of Control:	Stop sign	Time Period From:	AM Peak To:
Remarks:			

E of
Green
River
Parkway

W of
Green
River
Parkway

South

	7:30	7:45	8:00	8:15
PEDS				2
BIKES	0	0	0	1
	0	0	0	1



Distance _____ ft.
 Raised median:
☐ Yes ☐ No

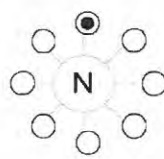


	7:30	7:45	8:00	8:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

	8:30	8:45	9:00	9:15
PEDS				
BIKES				
	3	0	0	0



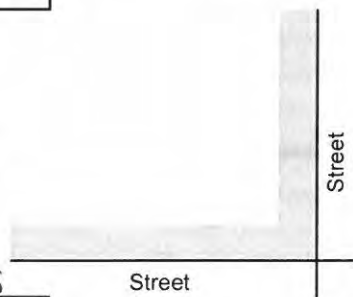
Distance _____ ft.
 Raised median:
☐ Yes ☐ No



	8:30	8:45	9:00	9:15
PEDS				
BIKES				
	4	0	0	0



Distance _____ ft.
 Raised median:
☐ Yes ☐ No



	7:30	7:45	8:00	8:15
PEDS	1			2
BIKES	1	0	0	1
	0	0	0	1



	8:30	8:45	9:00	9:15
PEDS	1		2	
BIKES	1	4	11	0
	1	0	2	0



Distance _____ ft.
 Raised median:
☐ Yes ☐ No



PEDS				
BIKES				

PEDS				
BIKES				

State of Florida Department of Transportation
PEDESTRIAN AND BICYCLE VOLUME SHEET

Form 750-020-09
 TRAFFIC ENGINEERING
 10/15

Location ID: _____ Analyst/Observer: JD
 City: Port St. Lucie Agency or Company: Stanley
 County: St. Lucie Date Performed: 3-24-16
 Type of Control: Signal Time Period From: 7:30 AM To: 8:30 AM
 Remarks: Multi-use path on south side & Sidewalk on north continue east

	7:30	7:45	8:00	8:15
PEDS				
BIKES	0	0	0	0

Distance _____ ft.
 Raised median: ☐ Yes ☒ No

	7:30	7:45	8:00	8:15
PEDS				
BIKES	0	0	0	0

Distance _____ ft.
 Raised median: ☐ Yes ☒ No

	7:30	7:45	8:00	8:15
PEDS		11		
BIKES	0	2	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	7:30	7:45	8:00	8:15
PEDS				
BIKES	0	2	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	7:30	7:45	8:00	8:15
PEDS				
BIKES	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	7:30	7:45	8:00	8:15
PEDS				
BIKES	0	0	0	0

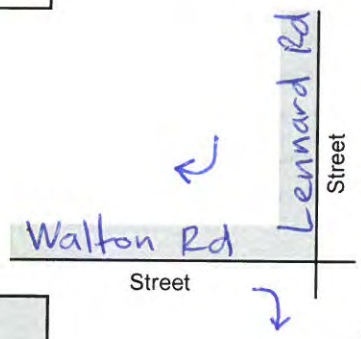
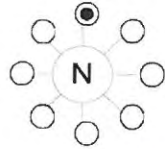
Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	7:30	7:45	8:00	8:15
PEDS				
BIKES	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	7:30	7:45	8:00	8:15
PEDS				
BIKES	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No



State of Florida Department of Transportation
PEDESTRIAN AND BICYCLE VOLUME SHEET

Form 750-020-09
 TRAFFIC ENGINEERING
 10/15

Location ID: _____ Analyst/Observer: JD
 City: Port St. Lucie Agency or Company: Stanley
 County: St. Lucie Date Performed: 3-24-16
 Type of Control: Signal Time Period From: 8:30 AM To: 9:30 AM
 Remarks: Multiuse path on south side and Sidewalk on north continue east

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☐ Yes ☒ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS	1			
BIKES	1	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				
BIKES	0	0	0	0
	0	0	0	0

Distance _____ ft.
 Raised median: ☒ Yes ☐ No

	8:30	8:45	9:00	9:15
PEDS				

State of Florida Department of Transportation
PEDESTRIAN AND BICYCLE VOLUME SHEET

Form 750-020-09
TRAFFIC ENGINEERING
10/15

Location ID:	Analyst/Observer: <u>JD</u>
City: <u>Port. St. Lucie</u>	Agency or Company: <u>Stanley</u>
County: <u>St. Lucie</u>	Date Performed: <u>3-24-16</u>
Type of Control: <u>Signal</u>	Time Period From: <u>3:30 PM</u> To: <u>4:30 PM</u>
Remarks: <u>Multilane Path (south) Sidewalk (north) continue east</u>	

3:30	3:45	4:00	4:15
PEDS			
BIKES	0	0	0
	0	0	0

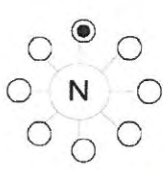
Distance _____ ft.

Raised median:
☐ Yes ☒ No

3:30	3:45	4:00	4:15
PEDS			
BIKES	0	0	0
	0	0	0

Distance _____ ft.

Raised median:
☒ Yes ☐ No



Distance _____ ft.

Raised median:
☒ Yes ☐ No

3:30	3:45	4:00	4:15
PEDS			
BIKES	0	0	0
	0	0	0

Distance _____ ft.

Raised median:
☒ Yes ☐ No

3:30	3:45	4:00	4:15
PEDS			
BIKES	0	0	0
	0	0	0

3:30	3:45	4:00	4:15
PEDS			
BIKES	0	0	0
	0	0	0

Distance _____ ft.

Raised median:
☒ Yes ☐ No

3:30	3:45	4:00	4:15
PEDS			
BIKES	0	0	0
	0	0	0

3:30	3:45	4:00	4:15
PEDS			
BIKES	0	0	0
	0	0	0

Distance _____ ft.

Raised median:
☒ Yes ☐ No

3:30	3:45	4:00	4:15
PEDS			
BIKES	0	0	0
	0	0	0

Walton Rd Street

Lennard Rd Street

State of Florida Department of Transportation
PEDESTRIAN AND BICYCLE VOLUME SHEET

Form 750-020-09
 TRAFFIC ENGINEERING
 10/15

Location ID: _____ Analyst/Observer: JD
 City: Port St. Lucie Agency or Company: Stanley
 County: St. Lucie Date Performed: 3-24-16
 Type of Control: Signal Time Period From: 4:30 PM To: 5:30 PM
 Remarks: Multiuse path (south) sidewalk (north) continue east

	4:30	4:45	5:00	5:15		4:30	4:45	5:00	5:15
PEDS					Distance _____ ft.	PEDS			
BIKES	0	0	0	0		BIKES	0	0	0
					Raised median:				
					<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
PEDS					Distance _____ ft.	PEDS			
BIKES	0	0	0	0		BIKES	0	0	0
					Raised median:				
					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
PEDS					Distance _____ ft.	PEDS	1		
BIKES	0	0	0	0		BIKES	1	0	0
					Raised median:				
					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
PEDS					Distance _____ ft.	PEDS			
BIKES	0	0	0	0		BIKES	0	0	0
					Raised median:				
					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				

Walton Rd Street

Lennard Rd Street

State of Florida Department of Transportation
PEDESTRIAN AND BICYCLE VOLUME SHEET

Form 750-020-09
TRAFFIC ENGINEERING
10/15

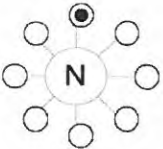
Location ID:		Analyst/Observer:	J. DeFronzo
City:	Port St. Lucie	Agency or Company:	Stanley
County:	St. Lucie Co.	Date Performed:	4-9-16
Type of Control:	Signal	Time Period From:	12:00 PM To: 1:00 PM
Remarks:			

12:00	12:15	12:30	12:45
PEDS	1		
BIKES	1	0	0
	0	0	0

➔

12:00	12:15	12:30	12:45
PEDS			11
BIKES	0	0	2
	0	0	0

Distance ft.
 Raised median:
☐ Yes ☒ No



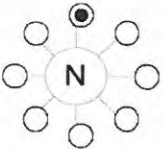
Distance ft.
 Raised median:
☐ Yes ☒ No

PEDS			11	
BIKES	0	0	2	0
	0	0	0	0

➔

PEDS	1	1		
BIKES	0	1	1	0
	0	0	0	0

Distance ft.
 Raised median:
☒ Yes ☐ No



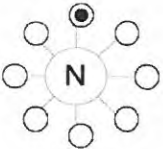
Distance ft.
 Raised median:
☒ Yes ☐ No

PEDS	11			
BIKES	0	2	0	0
	0	0	0	0

➔

PEDS			1	11
BIKES	0	0	1	2
	0	0	0	0

Distance ft.
 Raised median:
☒ Yes ☐ No

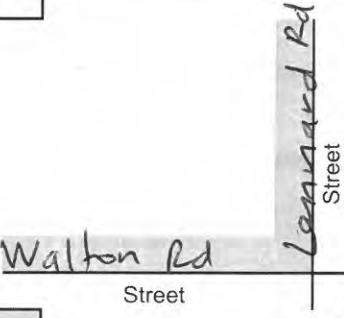


Distance ft.
 Raised median:
☒ Yes ☐ No

PEDS				
BIKES	0	0	0	0
	0	11		1
	0	2	0	1

➔

PEDS	11			
BIKES	0	2	0	0
	0		1	
	0	0	1	0



Walton Rd Street

Leonard Rd Street

State of Florida Department of Transportation
PEDESTRIAN AND BICYCLE VOLUME SHEET

Form 750-020-09
TRAFFIC ENGINEERING
10/15

Location ID:		Analyst/Observer:	J. DeFronzo	
City:	Port St. Lucie	Agency or Company:	Stanley	
County:	St. Lucie	Date Performed:	4-9-16	
Type of Control:	Signal	Time Period From:	1:00 PM	To: 2:00 PM
Remarks:				

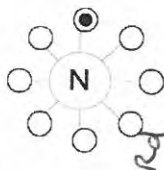
		1:00	1:15	1:30	1:45
BIKES	PEDS				
		0	0	0	0
BIKES	PEDS				
		0	0	0	0

➔

		1:00	1:15	1:30	1:45
BIKES	PEDS		1		11
		0	1	0	2
BIKES	PEDS				
		0	0	0	0

Distance ft.

Raised median:
☐ Yes ☒ No



Distance ft.

Raised median:
☐ Yes ☒ No

BIKES	PEDS				
		0	0	0	0
BIKES	PEDS				
		0	0	0	0

➔

BIKES	PEDS				
		0	0	2	1
BIKES	PEDS				
		0	0	0	0

Distance ft.

Raised median:
☒ Yes ☐ No

Distance ft.

Raised median:
☒ Yes ☐ No

BIKES	PEDS				
		0	0	0	0
BIKES	PEDS				
		0	0	0	0

➔

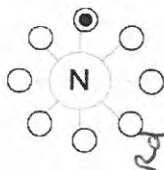
BIKES	PEDS				
		0	0	0	0
BIKES	PEDS				
		0	0	0	0

Distance ft.

Raised median:
☒ Yes ☐ No

Distance ft.

Raised median:
☒ Yes ☐ No



Walton Rd
Street

Lennard Rd
Street

**Generalized Annual Average Daily Volumes for Florida's
Urbanized Areas**

TABLE 1

12/18/12

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS						FREEWAYS					
Class I (40 mph or higher posted speed limit)						Core Urbanized					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	16,800	17,700	**	4	47,400	64,000	77,900	84,600	
4	Divided	*	37,900	39,800	**	6	69,900	95,200	116,600	130,600	
6	Divided	*	58,400	59,900	**	8	92,500	126,400	154,300	176,600	
8	Divided	*	78,800	80,100	**	10	115,100	159,700	194,500	222,700	
						12	162,400	216,700	256,600	268,900	
Class II (35 mph or slower posted speed limit)						Urbanized					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	7,300	14,800	15,600	4	45,800	61,500	74,400	79,900	
4	Divided	*	14,500	32,400	33,800	6	68,100	93,000	111,800	123,300	
6	Divided	*	23,300	50,000	50,900	8	91,500	123,500	148,700	166,800	
8	Divided	*	32,000	67,300	68,100	10	114,800	156,000	187,100	210,300	
Non-State Signalized Roadway Adjustments						Freeway Adjustments					
(Alter corresponding state volumes by the indicated percent.)						Auxiliary Lanes					
Non-State Signalized Roadways						Present in Both Directions					
						+ 20,000					
Non-State Signalized Roadways						Ramp Metering					
						+ 5%					
Median & Turn Lane Adjustments						UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		Lanes	Median	B	C	D	E
2	Divided	Yes	No	+5%		2	Undivided	8,600	17,000	24,200	33,300
2	Undivided	No	No	-20%		4	Divided	36,700	51,800	65,600	72,600
Multi	Undivided	Yes	No	-5%		6	Divided	55,000	77,700	98,300	108,800
Multi	Undivided	No	No	-25%							
—	—	—	Yes	+ 5%							
One-Way Facility Adjustment						Uninterrupted Flow Highway Adjustments					
Multiply the corresponding two-directional volumes in this table by 0.6						Lanes	Median	Exclusive left lanes	Adjustment factors		
						2	Divided	Yes	+5%		
						Multi	Undivided	Yes	-5%		
						Multi	Undivided	No	-25%		
BICYCLE MODE ²						¹ Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.					
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Paved Shoulder/Bicycle Lane Coverage											
		B	C	D	E	² Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.					
0-49%		*	2,900	7,600	19,700						
50-84%		2,100	6,700	19,700	>19,700						
85-100%		9,300	19,700	>19,700	**	³ Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.					
PEDESTRIAN MODE ²											
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Sidewalk Coverage		B	C	D	E	* Cannot be achieved using table input value defaults.					
0-49%		*	*	2,800	9,500						
50-84%		*	1,600	8,700	15,800						
85-100%		3,800	10,700	17,400	>19,700	** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.					
BUS MODE (Scheduled Fixed Route) ³											
(Buses in peak hour in peak direction)											
Sidewalk Coverage		B	C	D	E	Source: Florida Department of Transportation Systems Planning Office www.dot.state.fl.us/planning/systems/sm/los/default.shtm					
0-84%		> 5	≥ 4	≥ 3	≥ 2						
85-100%		> 4	> 3	> 2	> 1						



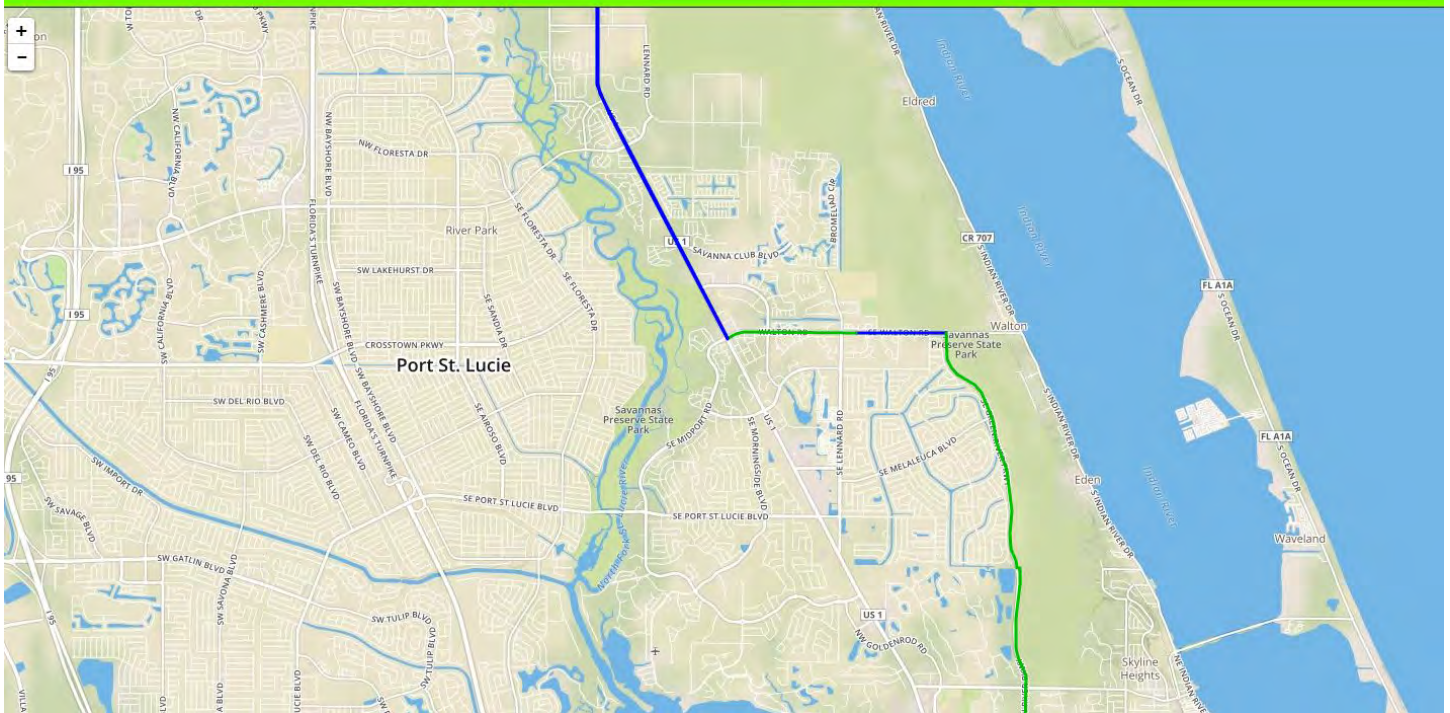
East Coast Greenway®

ECG Trip Planner

Zoom to a city or state along the East Coast Greenway to browse the route.
To create a custom cue sheet or GPX file, select "routing". Then select start and finish points along the route to create a custom ECG cue sheet or GPX file.

ECG Route

Welcome



Walton Road

IPaC Trust Resources Report

Generated May 02, 2016 12:20 PM MDT, IPaC v3.0.2

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.

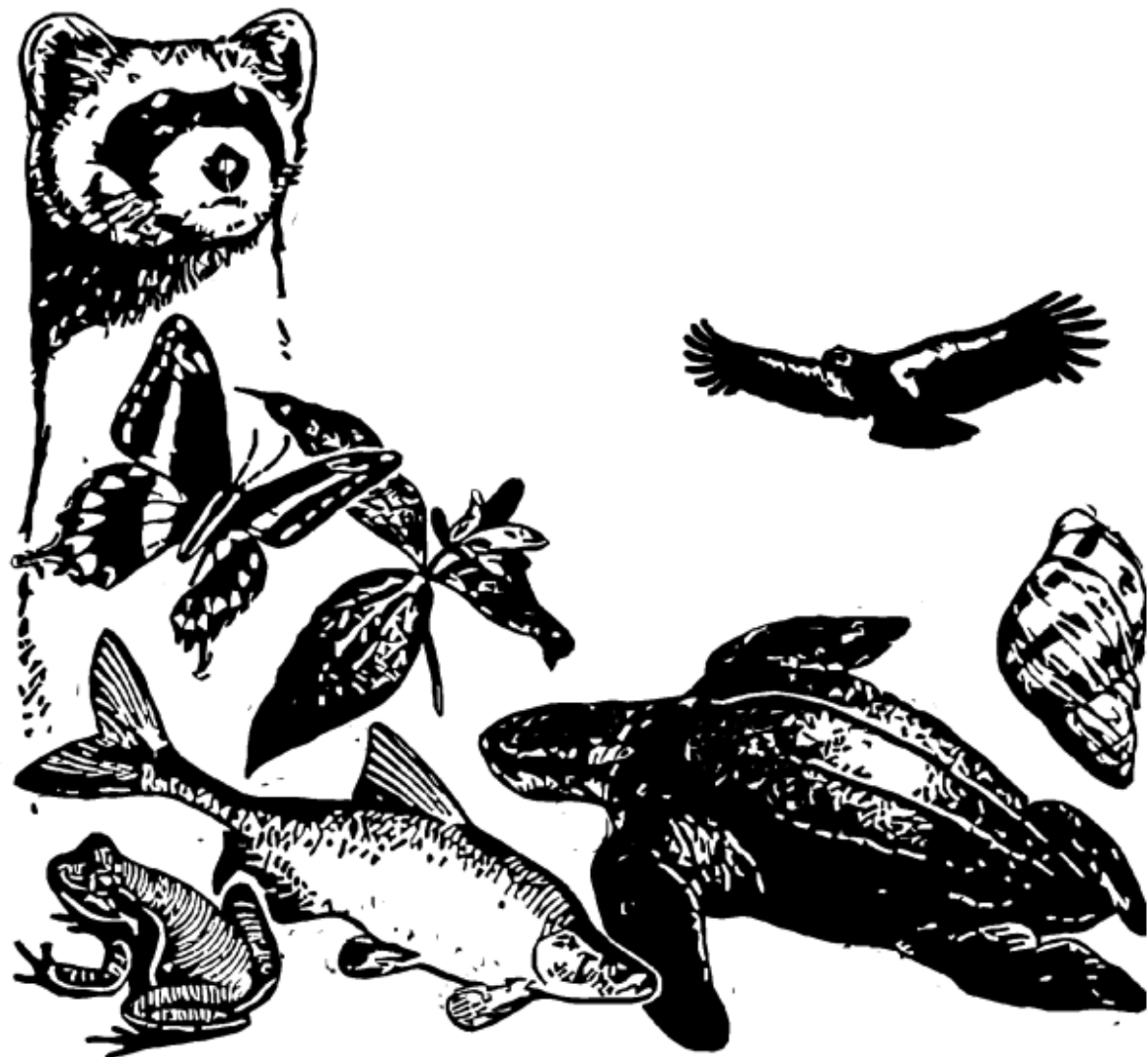


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U.S. Fish & Wildlife Service

IPaC Trust Resources Report



NAME

Walton Road

LOCATION

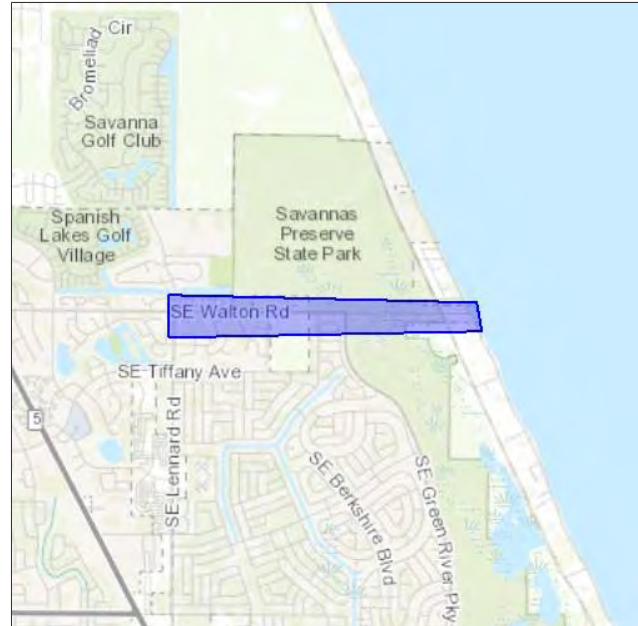
St. Lucie County, Florida

DESCRIPTION

Multimodal Improvements

IPAC LINK

<https://ecos.fws.gov/ipac/project/DQV5L-V2H5B-GCVFZ-UEJFV-CPV5EQ>



U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

South Florida Ecological Services Field Office

1339 20th Street

Vero Beach, FL 32960-3559

(772) 562-3909

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the [Endangered Species Program](#) of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

[Section 7](#) of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Birds

Audubon's Crested Caracara *Polyborus plancus audubonii* Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06Q

Everglade Snail Kite *Rostrhamus sociabilis plumbeus* Endangered

CRITICAL HABITAT

There is final critical habitat designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B00F

Florida Scrub-jay *Aphelocoma coerulescens* Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B082

Ivory-billed Woodpecker *Campephilus principalis* Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B03Q

Kirtland's Warbler *Setophaga kirtlandii* (= *Dendroica kirtlandii*) Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B03I

Piping Plover *Charadrius melodus* Threatened

CRITICAL HABITAT

There is final critical habitat designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B079

Red Knot *Calidris canutus rufa* Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0DM

Red-cockaded Woodpecker *Picoides borealis* Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B04E

Whooping Crane *Grus americana*

Experimental Population, Non-Essential

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B003

Wood Stork *Mycteria americana*

Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06O

Fishes

Smalltooth Sawfish *Pristis pectinata*

Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=E0A9

Flowering Plants

Fragrant Prickly-apple *Cereus eriophorus* var. *fragens*

Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q1U6

Johnson's Seagrass *Halophila johnsonii*

Threatened

CRITICAL HABITAT

There is final critical habitat designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q3AL

Lakela's Mint *Dicerandra immaculata*

Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q1VF

Tiny Polygala *Polygala smallii*

Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q2GW

Insects

Miami Blue Butterfly *Cyclargus* (=Hemiargus) *thomasi bethunebakeri*

Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=I02Q

Mammals

Florida Panther *Puma (=Felis) concolor coryi* Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A008

Puma (=mountain Lion) *Puma (=Felis) concolor* (all subsp. except *coryi*) Similarity of Appearance (Threatened)

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A0G0

Southeastern Beach Mouse *Peromyscus polionotus niveiventris* Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A0C9

West Indian Manatee *Trichechus manatus* Endangered

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A007

Reptiles

American Alligator *Alligator mississippiensis*

Similarity of Appearance (Threatened)

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=C000

Eastern Indigo Snake *Drymarchon corais couperi*

Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=C026

Green Sea Turtle *Chelonia mydas*

Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=C00S

Hawksbill Sea Turtle *Eretmochelys imbricata*

Endangered

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=C00E

Leatherback Sea Turtle *Dermochelys coriacea*

Endangered

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=C00F

Critical Habitats

This location overlaps all or part of the critical habitat for the following species:

West Indian Manatee *Trichechus manatus*

Final designated critical habitat

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A007#crithab

Migratory Birds

Birds are protected by the [Migratory Bird Treaty Act](#) and the [Bald and Golden Eagle Protection Act](#).

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.^[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
<http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Conservation measures for birds
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Year-round bird occurrence data
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/akn-histogram-tools.php>

The following species of migratory birds could potentially be affected by activities in this location:

American Kestrel <i>Falco sparverius paulus</i> Year-round	Bird of conservation concern
American Oystercatcher <i>Haematopus palliatus</i> Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0G8	Bird of conservation concern
American Bittern <i>Botaurus lentiginosus</i> Season: Wintering http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F3	Bird of conservation concern
Bachman's Sparrow <i>Aimophila aestivalis</i> Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B07E	Bird of conservation concern

Bald Eagle *Haliaeetus leucocephalus*

Year-round

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008

Bird of conservation concern

Black Rail *Laterallus jamaicensis*

Season: Breeding

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B09A

Bird of conservation concern

Black Skimmer *Rynchops niger*

Year-round

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0EO

Bird of conservation concern

Brown Booby *Sula leucogaster*

Season: Wintering

Bird of conservation concern

Brown-headed Nuthatch *Sitta pusilla*

Year-round

Bird of conservation concern

Chuck-will's-widow *Caprimulgus carolinensis*

Year-round

Bird of conservation concern

Common Ground-dove *Columbina passerina exigua*

Year-round

Bird of conservation concern

Gull-billed Tern *Gelochelidon nilotica*

Season: Breeding

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0JV

Bird of conservation concern

Least Bittern *Ixobrychus exilis*

Year-round

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B092

Least Tern *Sterna antillarum*

Season: Breeding

Bird of conservation concern

Lesser Yellowlegs *Tringa flavipes*

Season: Wintering

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0MD

Bird of conservation concern

Limpkin *Aramus guarauna*

Year-round

Bird of conservation concern

Loggerhead Shrike *Lanius ludovicianus*

Year-round

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FY

Bird of conservation concern

Marbled Godwit *Limosa fedoa*

Season: Wintering

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0JL

Bird of conservation concern

Painted Bunting *Passerina ciris*

Season: Wintering

Bird of conservation concern

Peregrine Falcon *Falco peregrinus*

Season: Wintering

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Bird of conservation concern

Prairie Warbler *Dendroica discolor*

Year-round

Bird of conservation concern

Red Knot *Calidris canutus rufa*

Season: Wintering

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0DM

Bird of conservation concern

Red-headed Woodpecker *Melanerpes erythrocephalus*

Year-round

Bird of conservation concern

Reddish Egret *Egretta rufescens*

Year-round

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06U

Bird of conservation concern

Roseate Spoonbill *Platalea ajaja*

Year-round

Bird of conservation concern

Saltmarsh Sparrow *Ammodramus caudacutus*

Season: Wintering

Bird of conservation concern

Short-billed Dowitcher *Limnodromus griseus*

Season: Wintering

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0JK

Bird of conservation concern

Short-eared Owl *Asio flammeus*

Season: Wintering

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Bird of conservation concern

Smooth-billed Ani *Crotophaga ani*

Year-round

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0DS

Bird of conservation concern

Swainson's Warbler *Limnithlypis swainsonii*

Season: Migrating

Bird of conservation concern

Swallow-tailed Kite *Elanoides forficatus*

Season: Breeding

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0GB

Bird of conservation concern

Whimbrel *Numenius phaeopus*

Season: Wintering

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0JN

Bird of conservation concern

Wilson's Plover *Charadrius wilsonia*

Year-round

Bird of conservation concern

Worm Eating Warbler *Helminthos vermivorum*

Season: Migrating

Bird of conservation concern

Yellow Rail *Coturnicops noveboracensis*

Bird of conservation concern

Season: Wintering

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0JG

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

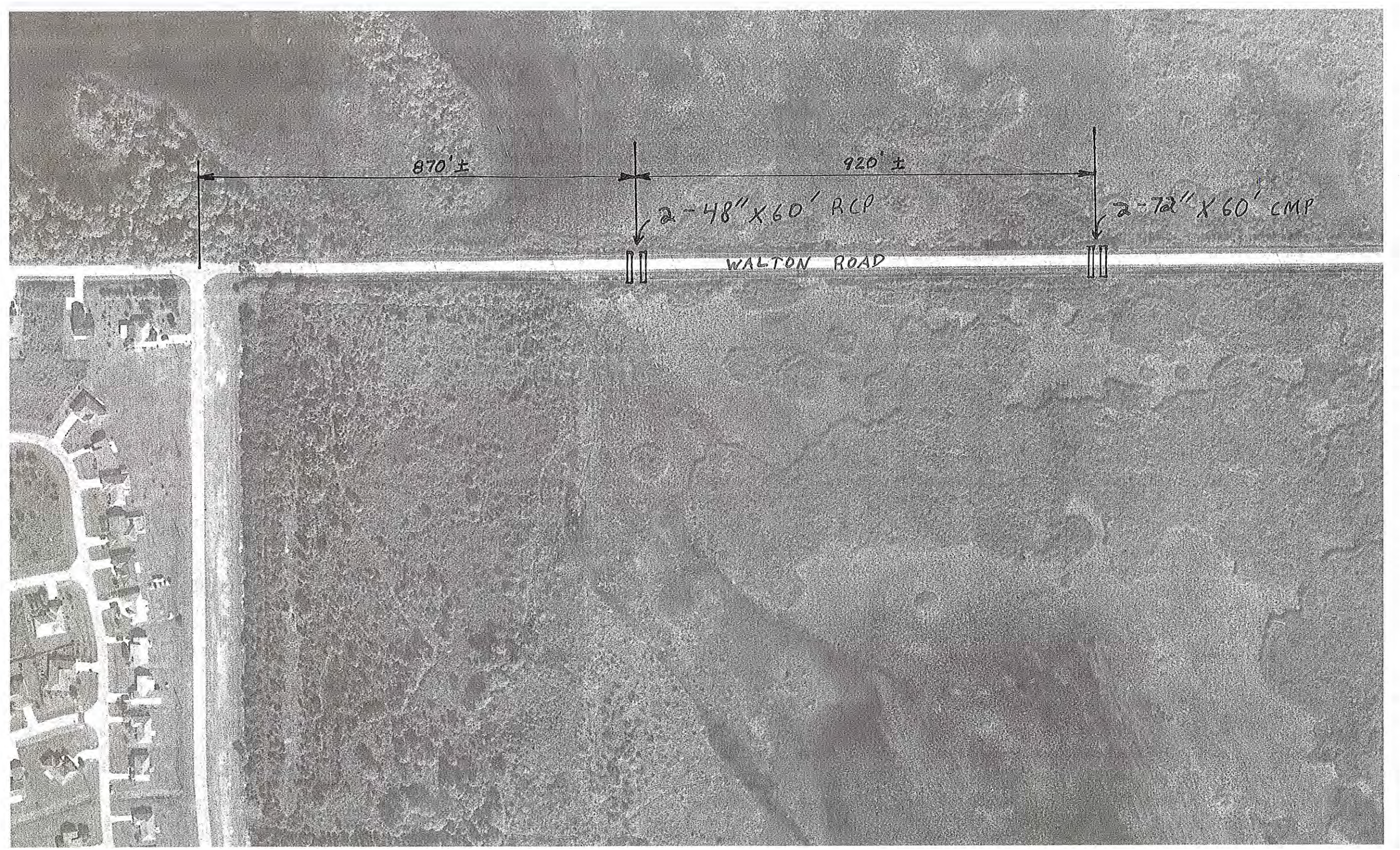
DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Wetland data is unavailable at this time.



870' ±

920' ±

2-48" X 60' RCP

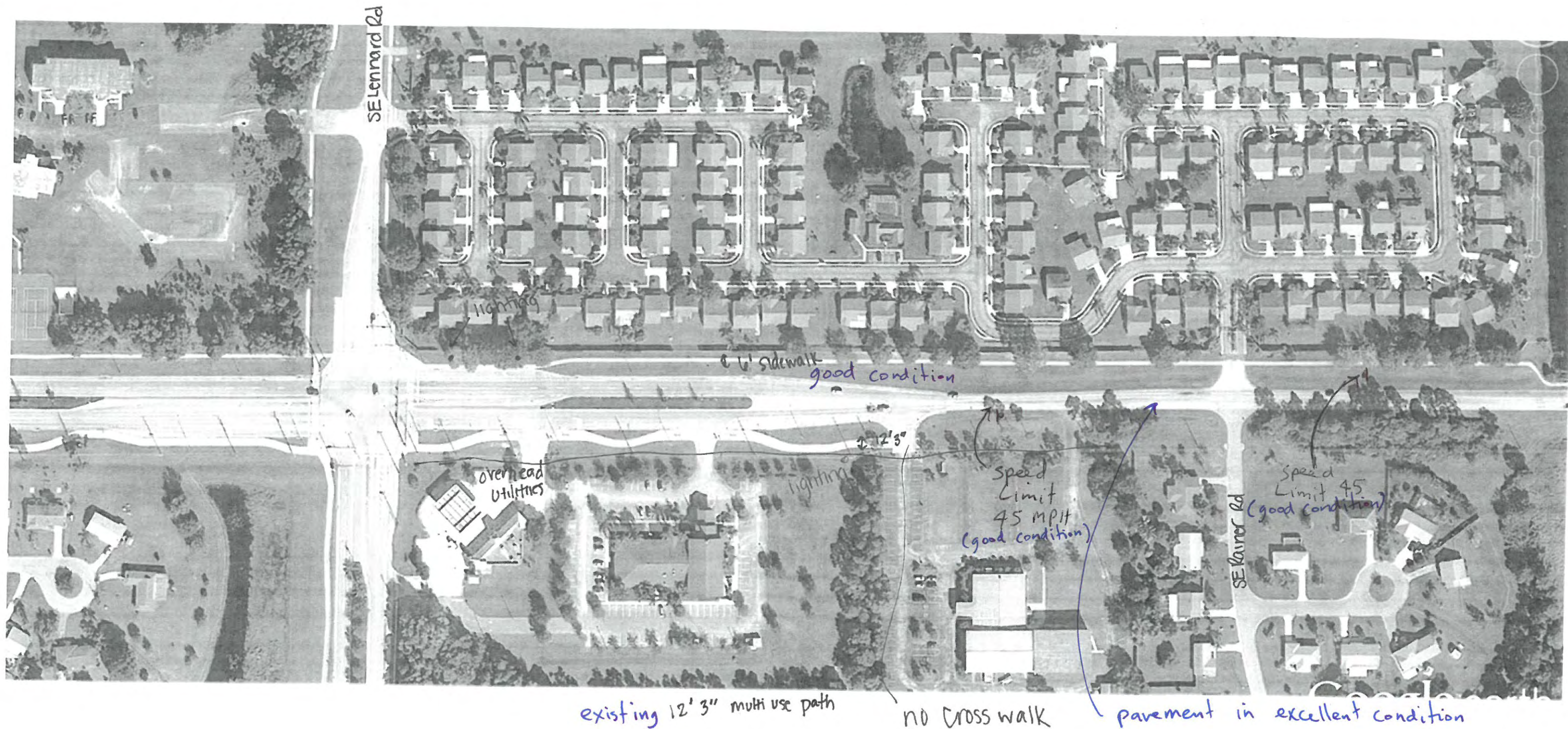
2-72" X 60' CMP

WALTON ROAD



Appendix B

Field Review Notes



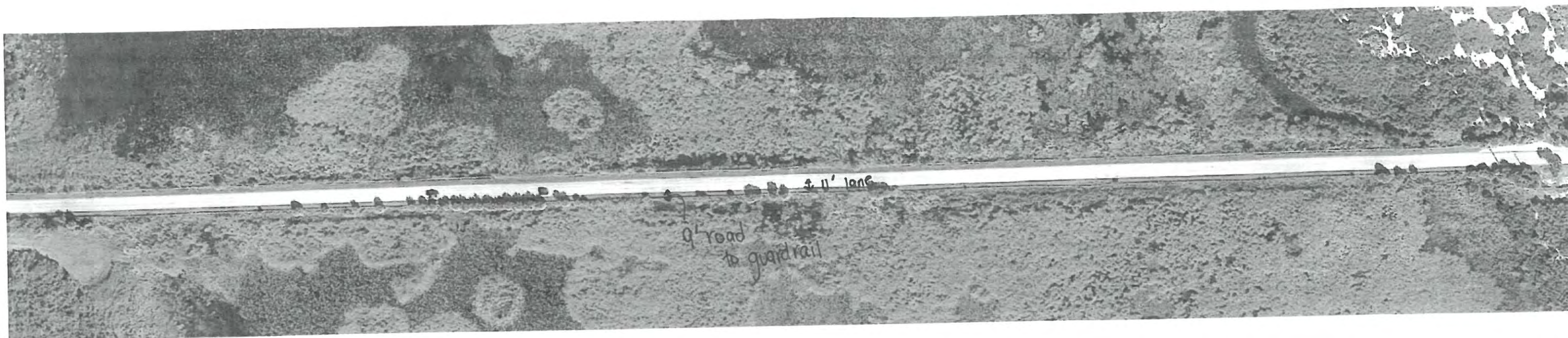
Field Review 3/24/16



sidewalk paved shared use path

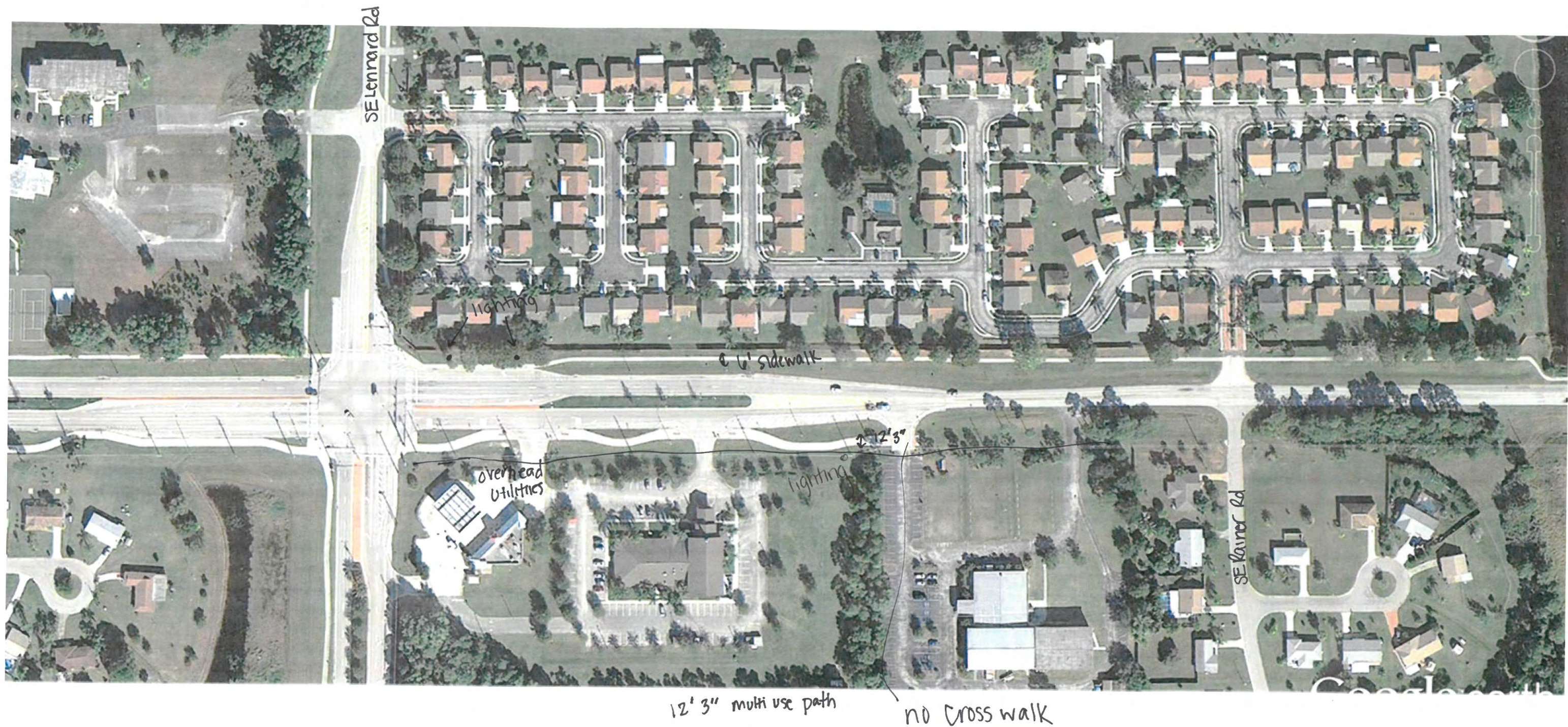
Overhead Utility stops

2 Field Review 3/24/16



- did not locate any culverts





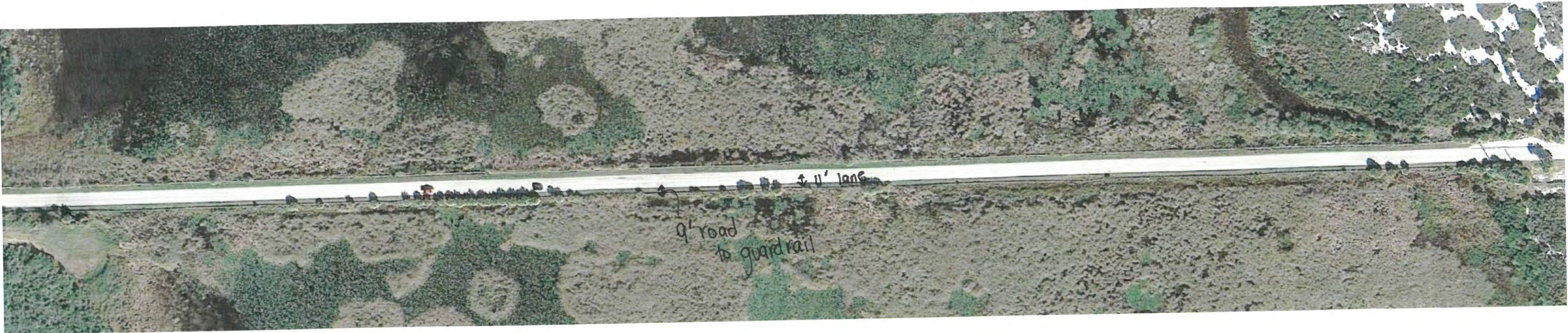


turn lanes into hospital roadway lighting, only hospital lighting

Wet

guardrail





- did not locate any culverts





Appendix C

Crash Data

FID	HSMV_Repor	Agency_Re	Reporting_	Form_Type	Crash_Date	Crash_Tim	City	County	Crash_Stre	Intersecti	Offset_Dis	Offset_Dir	Crash_Type	Vehicles	Non_Moto	Fatalities	Injuries
0	82,948,380	1507155	St Lucie Co	Long	6/22/2015 0:00	5:21 PM	Unincorporated	St Lucie	WALTON ROAD	SR-707/SOUTH INDIAN RIVER I	300	West	Rear End	2	0	0	1
1	83,936,269	1305570	St Lucie Co	Short	5/24/2013 0:00	7:50 PM	Unincorporated	St Lucie	SE WALTON RD		0		Rear End	2	0	0	0
4	84,420,232	2.02E+08	Port St Luci	Long	10/14/2015 0:00	6:38 AM	Port St Lucie	St Lucie	SE WALTON RD		0	West	Other	1	0	0	1
5	84,420,271	2.02E+08	Port St Luci	Long	10/16/2015 0:00	7:29 PM	Port St Lucie	St Lucie	SE WALTON RD	S INDIAN RIVER DR	5,280	West	Other	1	0	0	0
7	84,418,043	2.02E+08	Port St Luci	Short	4/7/2015 0:00	2:35 PM	Port St Lucie	St Lucie	SE WALTON RD	SE LENNARD RD	500	East	Rear End	2	0	0	0
9	84,414,187	2.01E+08	Port St Luci	Short	4/21/2014 0:00	11:34 AM	Port St Lucie	St Lucie	SE WALTON RD	SE LENNARD RD	0	East	Rear End	2	0	0	0
11	84,418,016	2.02E+08	Port St Luci	Short	4/3/2015 0:00	2:45 PM	Port St Lucie	St Lucie	SE WALTON RD	SE LENNARD RD	0		Rear End	2	0	0	0
13	84,421,034	2.02E+08	Port St Luci	Short	12/17/2015 0:00	4:13 PM	Port St Lucie	St Lucie	SE WALTON RD	SE LENNARD RD	0		Rear End	2	0	0	0
16	84,418,668	2.02E+08	Port St Luci	Long	6/1/2015 0:00	7:29 AM	Port St Lucie	St Lucie	SE WALTON RD	SE LENNARD RD	75	West	Rear End	2	0	0	3
17	84,416,934	2.02E+08	Port St Luci	Short	1/4/2015 0:00	3:12 PM	Port St Lucie	St Lucie	SE WALTON RD	S INDIAN RIVER DR	200	West	Rear End	2	0	0	0
21	84,414,678	2.01E+08	Port St Luci	Long	6/4/2014 0:00	1:59 PM	Port St Lucie	St Lucie	SE WALTON RD	S INDIAN RIVER DR	20	West	Rear End	3	0	0	0
23	84,418,740	2.02E+08	Port St Luci	Short	6/6/2015 0:00	2:40 PM	Port St Lucie	St Lucie	SE WALTON RD	SE LENNARD RD	50	East	Rear End	2	0	0	0
24	84,416,608	2.01E+08	Port St Luci	Long	12/9/2014 0:00	8:37 AM	Port St Lucie	St Lucie	SE WALTON RD	SE LENNARD RD	10	East	Rear End	2	0	0	0
29	84,417,953	2.02E+08	Port St Luci	Long	3/25/2015 0:00	5:02 PM	Port St Lucie	St Lucie	SE WALTON RD	S INDIAN RIVER DR	300	West	Other	2	0	0	0
32	84,416,660	2.01E+08	Port St Luci	Short	12/13/2014 0:00	4:47 PM	Port St Lucie	St Lucie	SE WALTON RD	SE LENNARD RD	0	East	Other	2	0	0	0
34	84,416,270	2.01E+08	Port St Luci	Short	11/7/2014 0:00	4:36 PM	Port St Lucie	St Lucie	SE WALTON RD	SE GREEN RIVER PKWY	0		Left Turn	2	0	0	0
38	84,413,940	2.01E+08	Port St Luci	Long	3/27/2014 0:00	6:39 PM	Port St Lucie	St Lucie	SE WALTON RD	SE GREEN RIVER PARKWAY	0		Left Turn	2	0	0	0
40	84,417,668	2.02E+08	Port St Luci	Long	2/5/2015 0:00	9:04 AM	Port St Lucie	St Lucie	SE WALTON RD		0		Off Road	1	0	0	0
41	84,419,131	2.02E+08	Port St Luci	Long	7/11/2015 0:00	10:44 PM	Port St Lucie	St Lucie	SE WALTON RD	SE GREEN RIVER PKWY	0		Off Road	1	0	0	0
42	83,542,522	3.12E+08	Port St Luci	Long	11/15/2012 0:00	10:51 PM	Port St Lucie	St Lucie	WALTON RD SE	S INDIAN RIVER DR	0	West	Off Road	1	0	0	0
43	84,416,202	2.01E+08	Port St Luci	Long	11/4/2014 0:00	8:06 PM	Port St Lucie	St Lucie	SE WALTON RD	S INDIAN RIVER DR	300	West	Off Road	1	0	0	0
44	84,414,871	2.01E+08	Port St Luci	Long	6/24/2014 0:00	7:41 AM	Port St Lucie	St Lucie	SE WALTON RD	S INDIAN RIVER DR	2,500	West	Off Road	1	0	0	1
46	84,413,419	2.01E+08	Port St Luci	Long	2/2/2014 0:00	8:18 PM	Port St Lucie	St Lucie	SE WALTON RD	SE GRAND DR	0		Off Road	1	0	0	2
47	76,206,109	3.11E+08	St Lucie Co	Long	1/26/2011 0:00	7:14 AM	Port St Lucie	St Lucie	WALTON ROAD	LENNARD ROAD	100	West	Bicycle	1	1	0	1
48	83,970,128	2.01E+08	St Lucie Co	Long	4/5/2013 0:00	5:02 PM	Port St Lucie	St Lucie	SE WALTON ROAD	SE GRAND DRIVE	500	West	Rear End	2	0	0	0
50	76,145,079	3.11E+08	St Lucie Co	Long	12/5/2011 0:00	6:55 PM	Port St Lucie	St Lucie	SE WALTON ROAD	SE GRAND DRIVE	0		Other	2	0	0	1
51	76,209,285	3.12E+08	St Lucie Co	Long	3/18/2012 0:00	4:20 PM	Port St Lucie	St Lucie	SE WALTON RD	SE GREEN RIVER PKWY	0		Left Turn	2	0	0	1
52	76,209,613	3.11E+08	St Lucie Co	Long	1/29/2011 0:00	10:10 PM	Port St Lucie	St Lucie	SOUTHEAST WALT	SOUTHEAST GREEN RIVER PAR	0		Left Turn	2	0	0	2

HSMV_Repor	Alcohol_Re	Distractio	Drug_Relat	Estimated_	Weather_Co	Light_Cond	Street_Nur	Crash_Ty_1	Crash_Ty_2	Crash_Sev	Within_Cit	Manner_of	First_Harm	First_HE_L	First_HE_R	First_HE_V	Type_of_In	Road_Sys_	Type_of_Sl	Road_Surf_
82,948,380	N	N	N	2,000.00	Clear	Daylight		Rear End	E	Injury	Y	Front to Re	Motor Veh	On Roadw	Non-Juncti	N	Not at Inte	Local	Unpaved	Dry
83,936,269	N	N	N	2,000.00	Clear	Dusk	2550	Rear End	N	Property D	N	Front to Re	Motor Veh	On Roadw	Intersectio	N	T-Intersect	Private Ro	Curb	Dry
84,420,232	N	N	N	2,500.00	Fog, Smog, Smoke	Dawn	2700 BLOC	Single Vehi	W	Injury	Y	Other	Motor Veh	Off Roadw	Non-Juncti	N	Not at Inte	Local	Paved	Dry
84,420,271	N	Y	N	800	Clear	Dark - Not Lighte		Single Vehi	W	Property D	Y	Other	Motor Veh	Off Roadw	Non-Juncti	N	Not at Inte	Local	Unpaved	Dry
84,418,043	N	N	N	3,500.00	Clear	Daylight		Rear End	E	Property D	Y	Front to Re	Motor Veh	On Roadw	Non-Juncti	N	Not at Inte	County	Curb	Dry
84,414,187	N	Y	N	6,000.00	Clear	Daylight		Rear End	E	Property D	Y	Front to Re	Motor Veh	On Roadw	Non-Juncti	N	Four-Way I	Local	Curb	Dry
84,418,016	N	Y	N	1,250.00	Clear	Daylight		Rear End	W	Property D	Y	Front to Re	Motor Veh	On Roadw	Non-Juncti	N	Four-Way I	Local	Curb	Dry
84,421,034	N	Y	N	600	Clear	Daylight		Rear End	E	Property D	Y	Front to Re	Motor Veh	On Roadw	Non-Juncti	N	Four-Way I	Local	Paved	Dry
84,418,668	N	Y	N	4,000.00	Clear	Daylight		Rear End	E	Injury	Y	Front to Re	Motor Veh	On Roadw	Non-Juncti	N	Not at Inte	Local	Curb	Dry
84,416,934	N	N	N	1,500.00	Clear	Daylight		Rear End	W	Property D	Y	Front to Re	Motor Veh	On Roadw	Non-Juncti	N	Not at Inte	County	Unpaved	Dry
84,414,678	N	N	N	4,000.00	Clear	Daylight		Rear End	E	Property D	Y	Front to Re	Motor Veh	On Roadw	Intersectio	N	T-Intersect	Local	Unpaved	Dry
84,418,740	N	N	N	600	Clear	Daylight		Rear End	W	Property D	Y	Front to Re	Motor Veh	On Roadw	Intersectio	N	Four-Way I	Local	Curb	Dry
84,416,608	N	N	N	2,500.00	Clear	Daylight		Rear End	W	Property D	Y	Front to Re	Motor Veh	On Roadw	Intersectio	N	Not at Inte	Local	Curb	Dry
84,417,953	N	N	N	3,500.00	Clear	Daylight		Other	E	Property D	Y	Angle	Motor Veh	On Roadw	Non-Juncti	N	Not at Inte	Local	Unpaved	Dry
84,416,660	N	N	N	2,000.00	Clear	Daylight		Other	E	Property D	Y	Angle	Motor Veh	On Roadw	Intersectio	N	Four-Way I	County	Curb	Dry
84,416,270	N	Y	N	1,500.00	Clear	Daylight		Left Enterir	N	Property D	Y	Angle	Motor Veh	On Roadw	Intersectio	N	T-Intersect	Local	Unpaved	Dry
84,413,940	N	N	N	10,000.00	Cloudy	Daylight		Left Enterir	W	Property D	Y	Angle	Motor Veh	On Roadw	Intersectio	N	T-Intersect	Local	Unpaved	Dry
84,417,668	N	N	N	5,000.00	Rain	Daylight	2702	Off Road	W	Property D	Y	Other	Ditch	Shoulder	Non-Juncti	N	Not at Inte	Local	Unpaved	Wet
84,419,131	N	Y	N	1,000.00	Clear	Dark - Not Lighte		Off Road	W	Property D	Y	Other	Ditch	Shoulder	Intersectio	N	T-Intersect	Local	Unpaved	Dry
83,542,522	Y	Y	N	1,000.00	Clear	Dark - Not Lighte		Off Road	E	Property D	Y	Other	Guardrail F	Off Roadw	Non-Juncti	N	Not at Inte	Local	Unpaved	Dry
84,416,202	Y	N	N	5,000.00	Clear	Dark - Unknown I		Off Road	E	Property D	Y	Other	Tree (stanc	Off Roadw	Non-Juncti	N	Not at Inte	Local	Unpaved	Dry
84,414,871	N	N	N	10,000.00	Clear	Daylight		Off Road	W	Injury	Y	Other	Tree (stanc	Shoulder	Non-Juncti	N	Not at Inte	Local	Unpaved	Dry
84,413,419	Y	N	N	10,100.00	Rain	Dark - Not Lighte		Off Road	W	Injury	Y	Other	Traffic Sign	Off Roadw	Non-Juncti	N	Not at Inte	Local	Unpaved	Wet
76,206,109	N	N	N	50	Clear	Daylight		Bicycle	N	Injury	Y	Sideswipe, Pedalcycle	On Roadw	Non-Juncti	N	Not at Inte	Local	Curb	Dry	
83,970,128	N	N	N	5,000.00	Clear	Daylight		Rear End	W	Property D	Y	Front to Re	Motor Veh	On Roadw	Non-Juncti	N	Not at Inte	Local	Unpaved	Dry
76,145,079	N	N	N	500	Clear	Dark - Lighted		Other	W	Injury	Y	Other	Motor Veh	On Roadw	Non-Juncti	N	T-Intersect	Local	Unpaved	Dry
76,209,285	N	N	N	2,000.00	Clear	Daylight		Left Rear	N	Injury	Y	Angle	Motor Veh	On Roadw	Intersectio	Y	Four-Way I	Local	Unpaved	Dry
76,209,613	Y	N	N	30,000.00	Clear	Dark - Lighted		Left Leavin	N	Injury	Y	Angle	Motor Veh	On Roadw	Intersectio	N	T-Intersect	Local	Unpaved	Dry

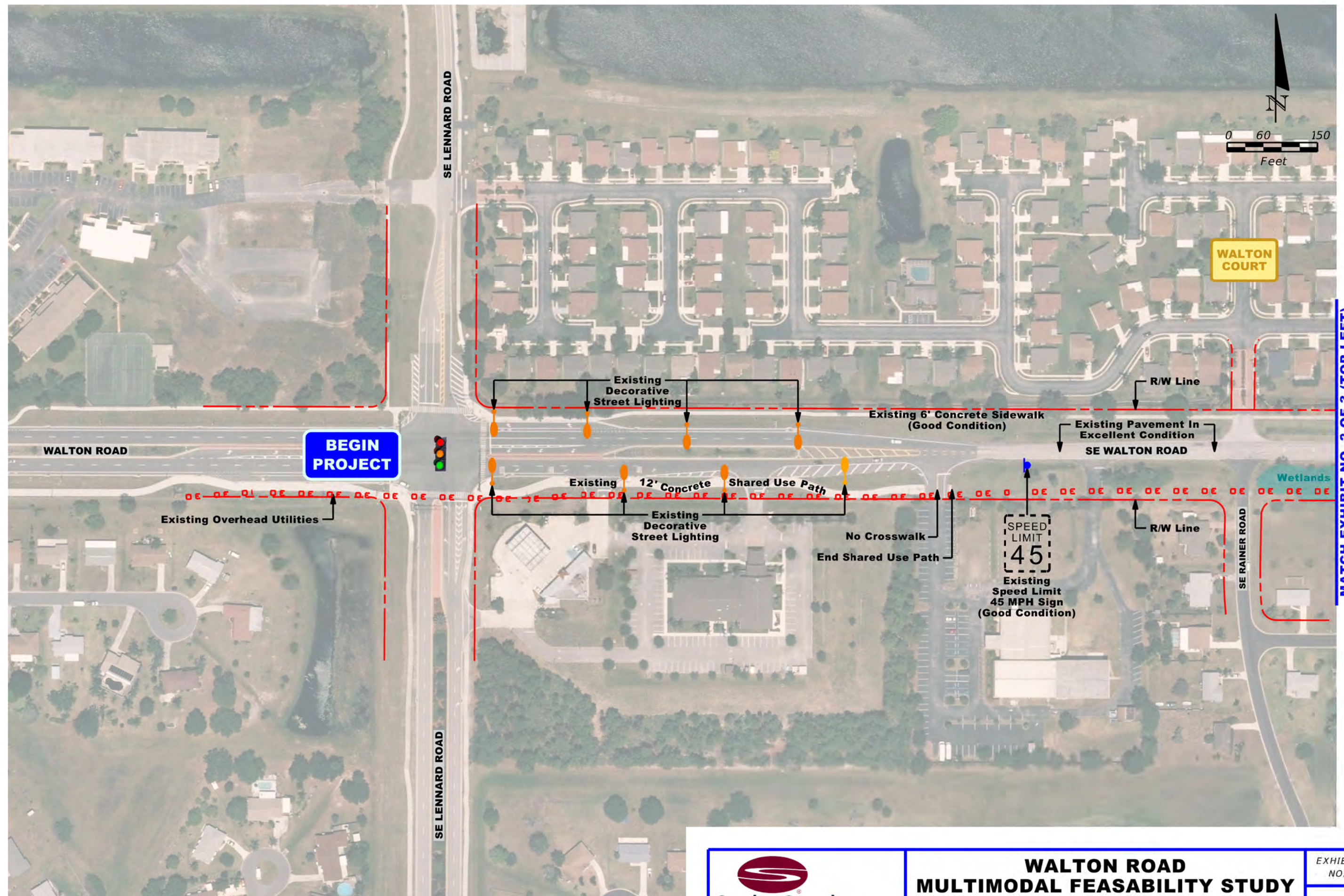
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82,948,380	None		None			N	N						0	0	0	0	0	0	0	0	1
83,936,269	None		None			N	N						0	0	0	0	0	0	0	0	0
84,420,232	None	None	None			N	N						0	1	0	0	0	0	0	0	1
84,420,271	None		None			N	N						0	0	0	0	0	0	0	0	0
84,418,043	Work Zone		None			N	Y	Intermitter Activity Are	Y		N		0	0	2	0	0	0	0	0	0
84,414,187	None		None			N	N						0	0	1	0	0	0	0	0	0
84,418,016	None		None			N	N						0	0	3	0	0	0	0	0	0
84,421,034	None		None			N	N						0	0	0	0	0	0	0	0	0
84,418,668	None		None			N	N						0	0	2	0	0	0	0	0	3
84,416,934	None		Animal(s) ii Glare			N	N						0	0	2	0	0	0	0	0	0
84,414,678	None		None			N	N						0	0	1	0	0	0	0	0	0
84,418,740	None		None			N	N						0	0	1	0	0	0	0	0	0
84,416,608	None		None			N	N						0	0	0	0	0	0	0	0	0
84,417,953	None		None			N	N						0	1	0	0	0	0	0	0	0
84,416,660	None		None			N	N						0	0	0	0	0	0	0	0	0
84,416,270	None		None			N	N						0	0	0	0	0	0	0	0	0
84,413,940	None		None			N	N						0	0	0	0	0	0	0	0	0
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83,542,522	None		None			N	N						0	0	0	0	0	0	0	0	0
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76,206,109	None		None			N	N						0	0	0	1	0	0	0	0	1
83,970,128	None		None			N	N						0	0	0	0	0	0	0	0	0
76,145,079	None		None			N	N						0	1	0	0	0	0	0	0	1
76,209,285	None		None			N	N						0	0	0	0	0	0	1	0	1
76,209,613	None		None			N	N						0	0	3	0	0	0	0	0	1

HSMV_Repor	Transpor_1	Transpor_2	Citations	Property_L	Vehicle_Dr	S4_Mappe	S4_Decima	S4_Decim_	S4_Albers_	S4_Albers1	S4_Mappir	S4_Mappi_	S4_Map_P	S4_Map_P	Original_M	Original_1	Report_Im	S4_Map_Aut
82,948,380	0	0	0	0	2,000.00	Y	-80.2549	27.29866	#####	#####	Automatica	#####	Y	N	St Lucie Co	None	http://s4.g	UF
83,936,269	0	0	0	0	2,000.00	Y	-80.2711	27.29879	#####	#####	Automatica	#####	Y		St Lucie Co	None	http://s4.g	UF
84,420,232	0	0	0	500	2,000.00	Y	-80.268	27.29876	#####	#####	Automatica	#####	Y		Port St Luci	None	http://s4.g	UF
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84,421,034	0	0	1	0	600	Y	-80.2846	27.29881	#####	#####	Automatica	#####	Y		Port St Luci	None	http://s4.g	UF
84,418,668	0	0	1	0	4,000.00	Y	-80.2849	27.29881	#####	#####	Automatica	#####	Y		Port St Luci	None	http://s4.g	UF
84,416,934	0	0	0	0	1,500.00	Y	-80.2546	27.29866	#####	#####	Automatica	#####	Y	N	Port St Luci	None	http://s4.g	UF
84,414,678	0	0	0	0	4,000.00	Y	-80.254	27.29866	#####	#####	None	#####	Y	Y	Port St Luci	None	http://s4.g	UF
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84,417,953	0	0	0	0	3,500.00	Y	-80.2549	27.29866	#####	#####	Automatica	#####	Y	N	Port St Luci	None	http://s4.g	UF
84,416,660	0	0	0	0	2,000.00	Y	-80.2846	27.29881	#####	#####	Automatica	#####	Y		Port St Luci	None	http://s4.g	UF
84,416,270	0	0	1	0	1,500.00	Y	-80.2669	27.29875	#####	#####	Automatica	#####	Y	N	Port St Luci	None	http://s4.g	UF
84,413,940	0	0	1	0	10,000.00	Y	-80.2669	27.29875	#####	#####	None	#####	Y	Y	Port St Luci	None	http://s4.g	UF
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84,419,131	0	0	2	0	1,000.00	Y	-80.2669	27.29875	#####	#####	Automatica	#####	Y	N	Port St Luci	None	http://s4.g	UF
83,542,522	0	0	1	0	1,000.00	Y	-80.254	27.29867	#####	#####	None	#####	Y	Y	Port St Luci	None	http://s4.g	UF
84,416,202	1	0	0	0	5,000.00	Y	-80.2549	27.29866	#####	#####	Automatica	#####	Y	N	Port St Luci	None	http://s4.g	UF
84,414,871	0	0	0	0	10,000.00	Y	-80.254	27.29867	#####	#####	Automatica	#####	Y		Port St Luci	None	http://s4.g	UF
84,413,419	0	0	2	100	10,000.00	Y	-80.2696	27.29878	#####	#####	Automatica	#####	Y	N	Port St Luci	None	http://s4.g	UF
76,206,109	0	0	0	0	50	Y	-80.2849	27.29889	#####	#####	Original Ma	#####	Y		St Lucie Co	Projected_	http://s4.g	
83,970,128	0	0	1	0	5,000.00	Y	-80.2711	27.29879	#####	#####	Automatica	#####	Y		St Lucie Co	None	http://s4.g	UF
76,145,079	0	0	1	0	500	Y	-80.2696	27.29878	#####	#####	None	#####	Y	Y	St Lucie Co	None	http://s4.g	UF
76,209,285	0	0	1	0	2,000.00	Y	-80.2669	27.29875	#####	#####	None	#####	Y	Y	St Lucie Co	None	http://s4.g	UF
76,209,613	0	0	0	0	30,000.00	Y	-80.2669	27.29876	#####	#####	Original Ma	#####	Y		St Lucie Co	Projected_	http://s4.g	

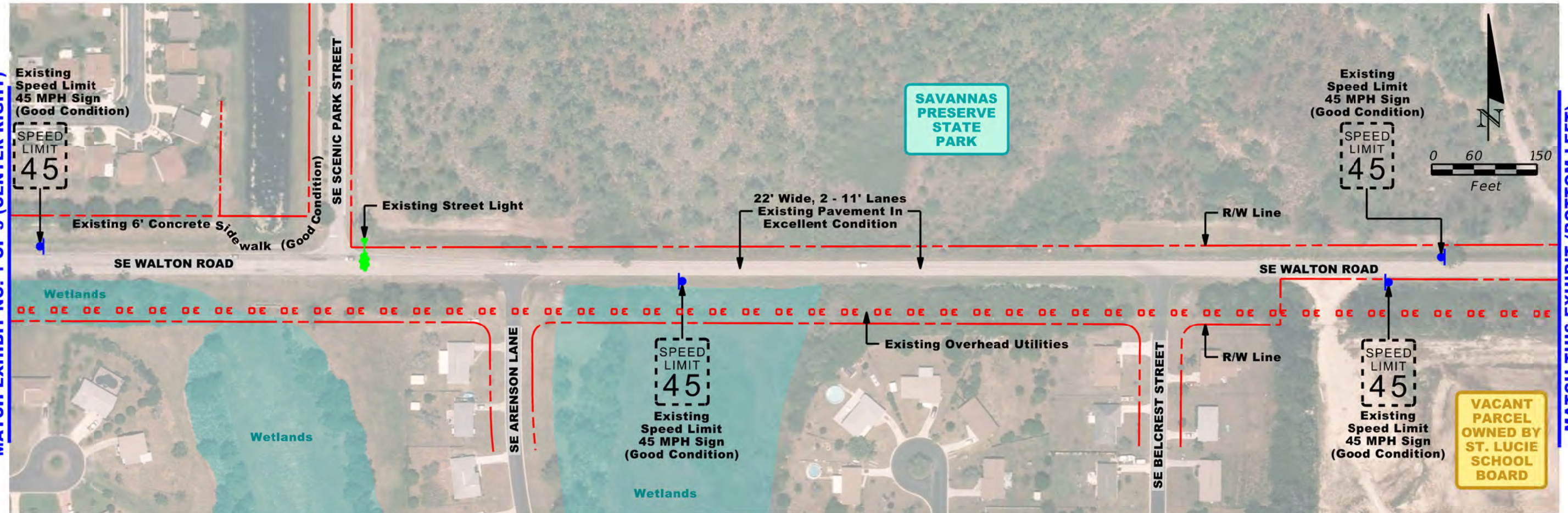


Appendix D

Existing Conditions Exhibits

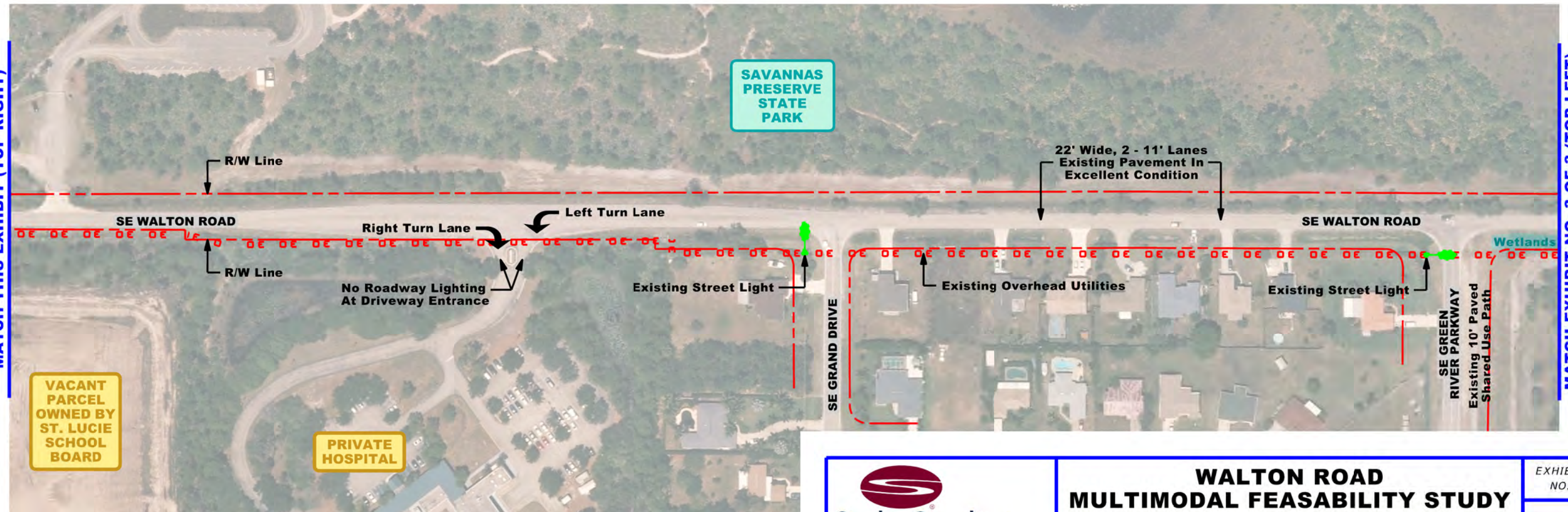


MATCH EXHIBIT NO. 1 OF 3 (CENTER RIGHT)



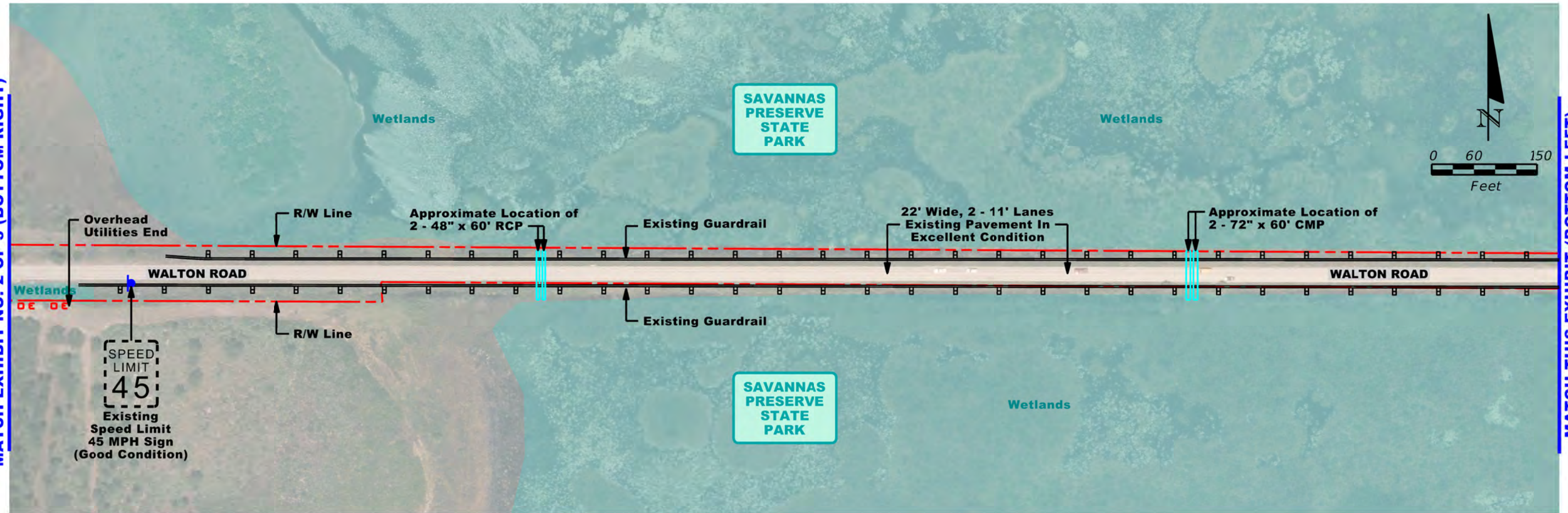
MATCH THIS EXHIBIT (BOTTOM LEFT)

MATCH THIS EXHIBIT (TOP RIGHT)



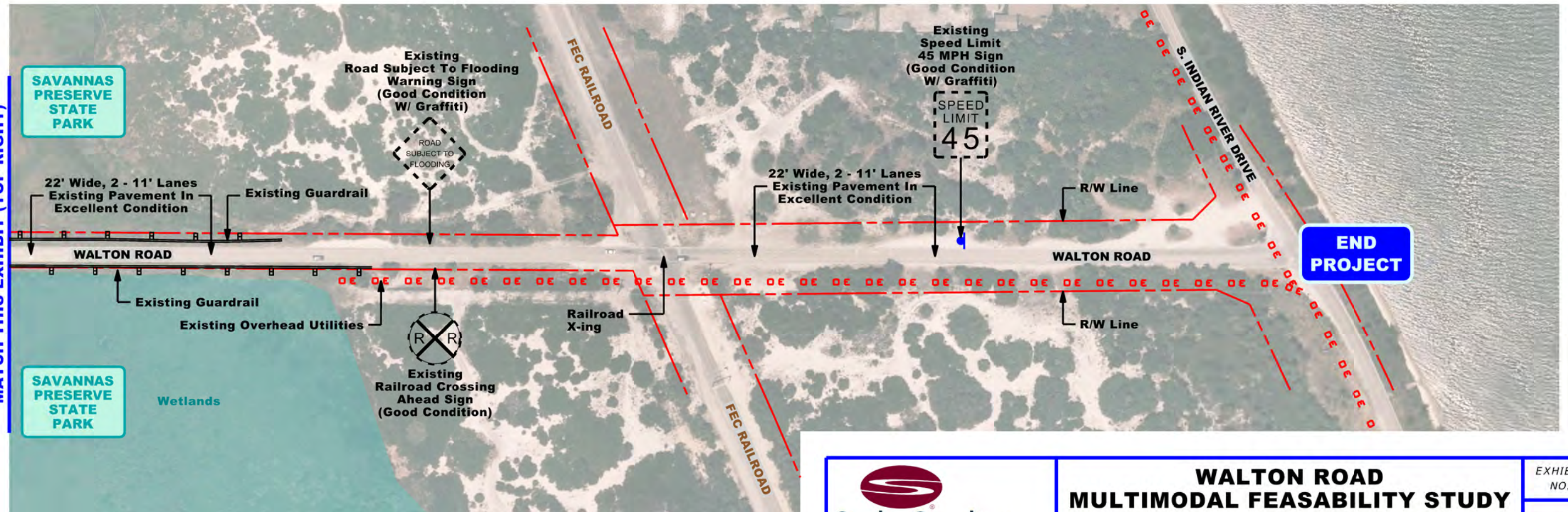
MATCH EXHIBIT NO. 3 OF 3 (TOP LEFT)

MATCH EXHIBIT NO. 2 OF 3 (BOTTOM RIGHT)



MATCH THIS EXHIBIT (BOTTOM LEFT)

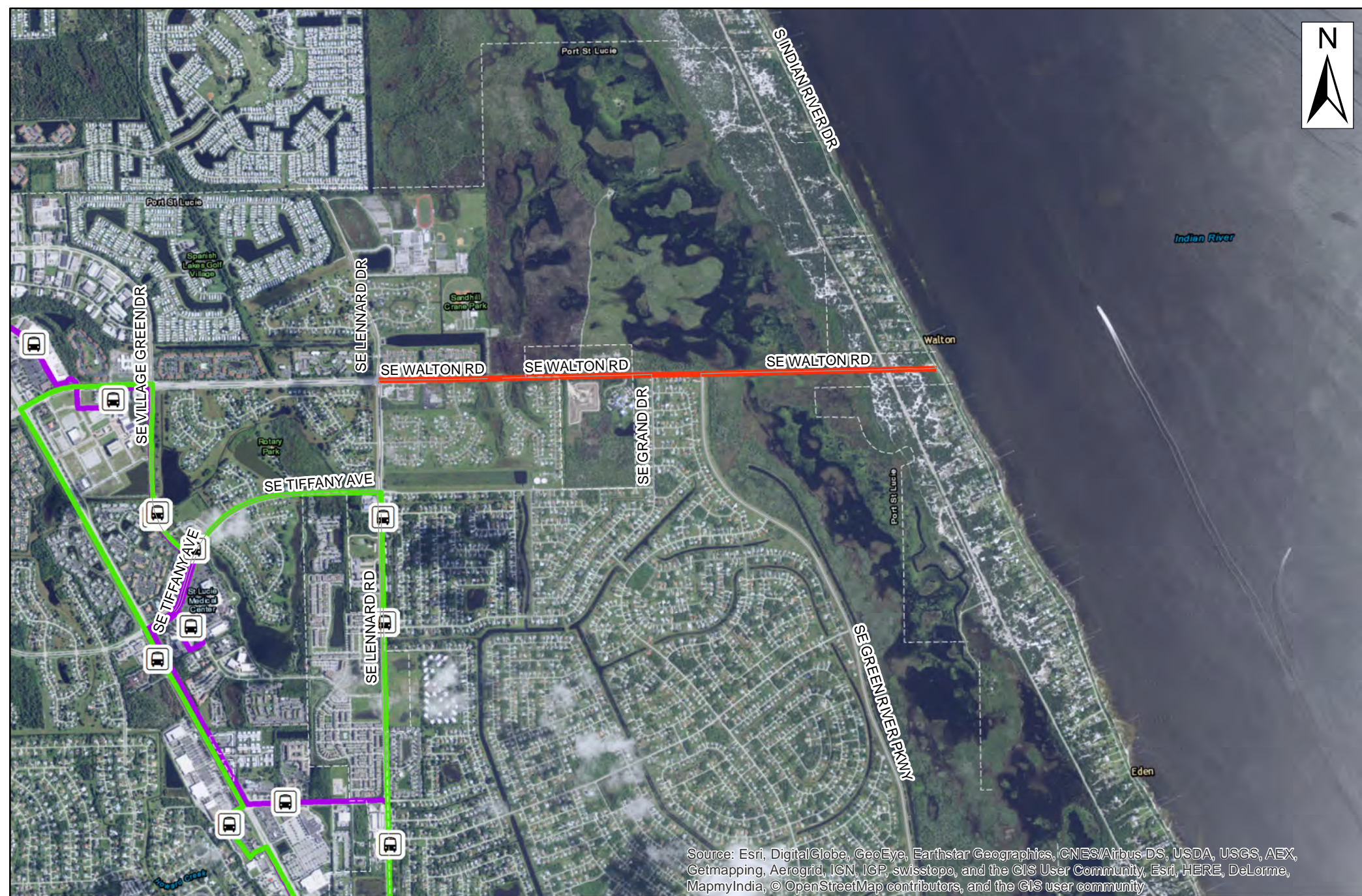
MATCH THIS EXHIBIT (TOP RIGHT)





Appendix E

Transit Exhibits



0 2,000 4,000 8,000 Feet

Legend

- Walton Rd Study Area
- Transit Facilities

Transit Routes

- PSL Trolley
- TCC Route 1

Transit Location Map

Walton Road
Multimodal Improvements Feasibility Study
Port St. Lucie, FL
April 2016



Appendix F

Proposed Alternatives Exhibits

TELEPHONE CALL REPORT

Date: May 19, 2016 **Time:** 3:00 pm **Project No.:** 24972

To: Charles Barrowclough **Representing:** St. Lucie County Environmental Resources

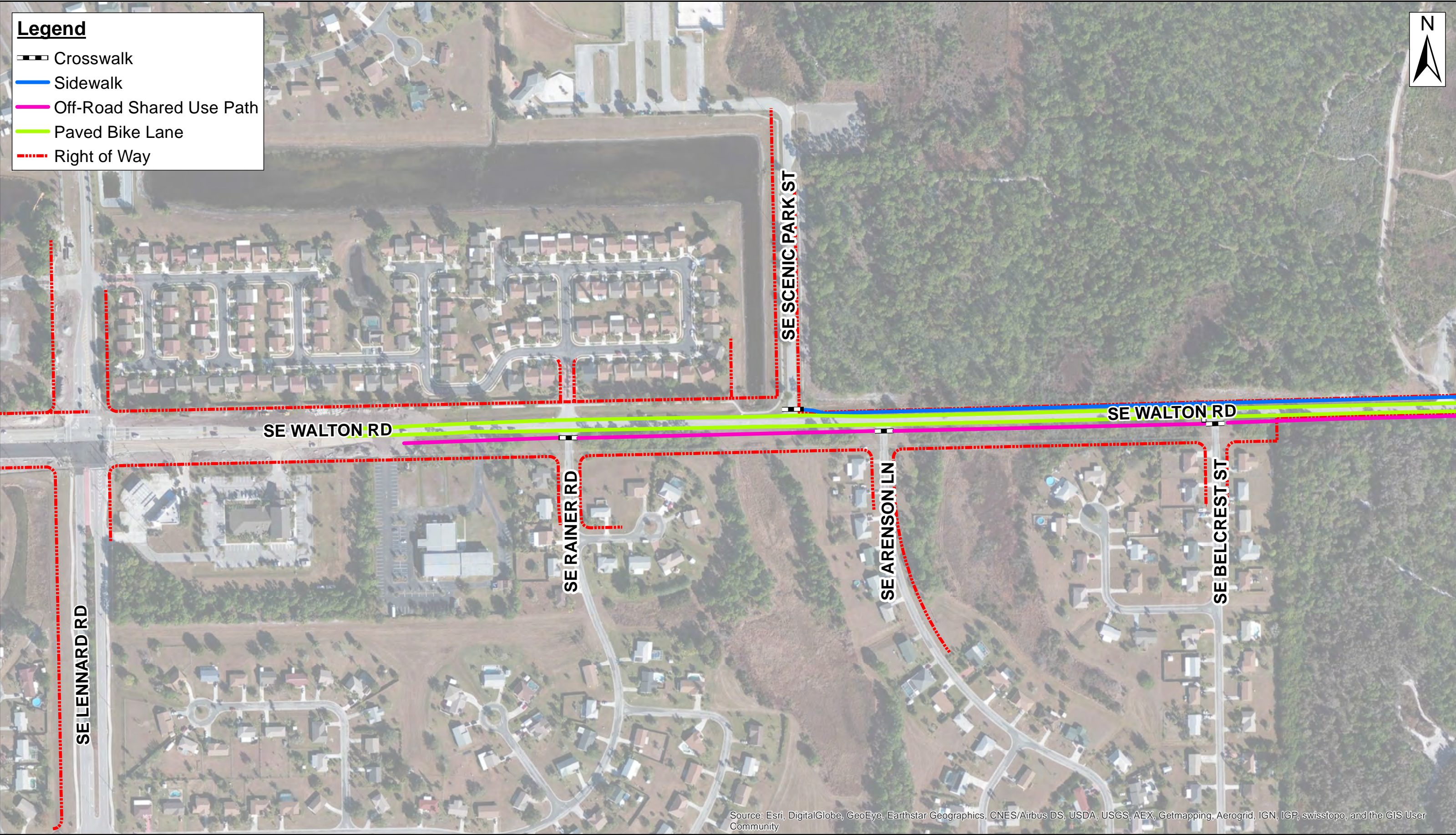
Location: St. Lucie County **Phone No.:** 772-475-5346

From: Linda Ferreira **Representing:** Stanley Consultants

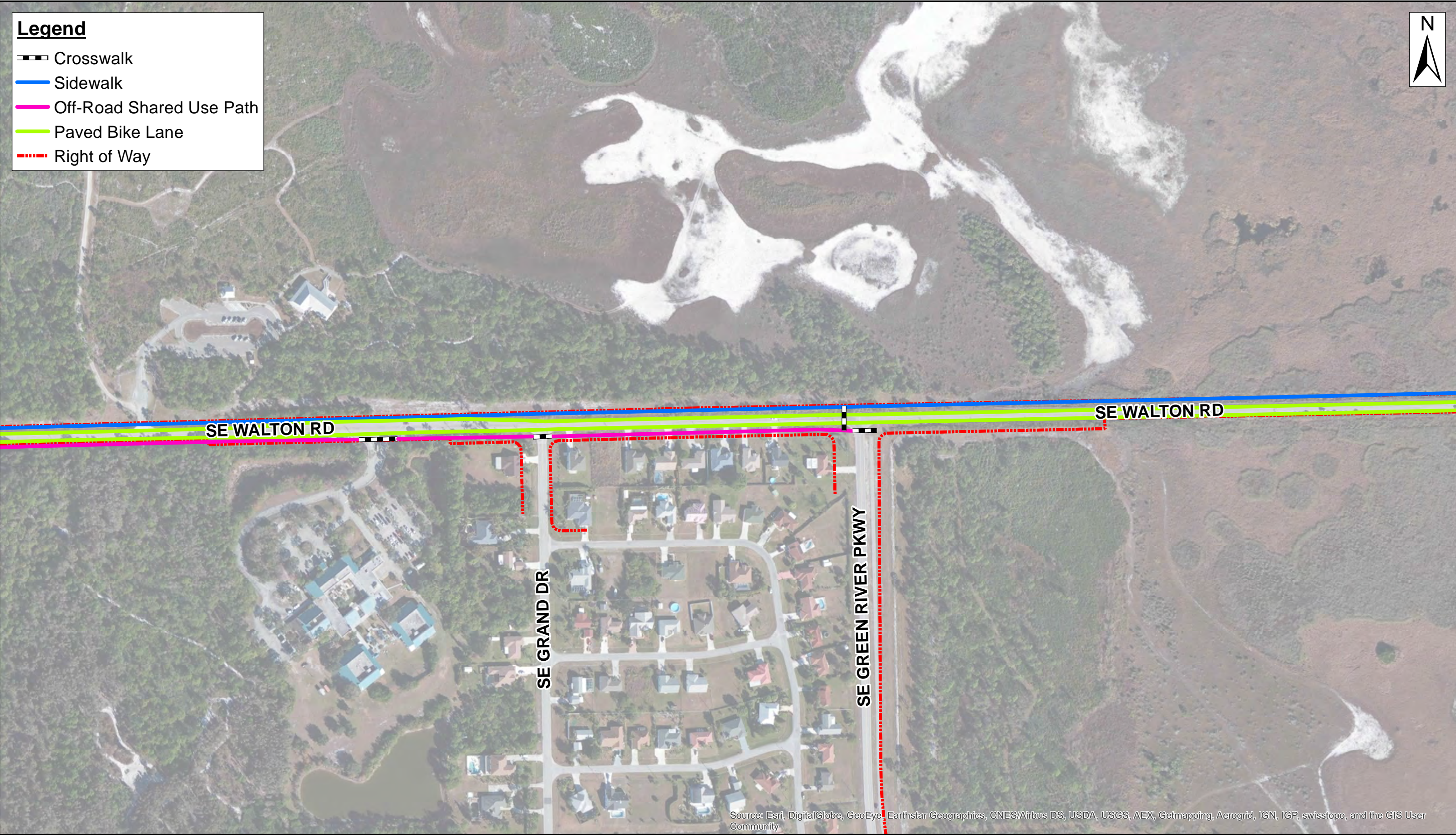
Location: West Palm Beach, FL **Phone No.:** 561-584-8744

Subject: Multimodal Improvements on Walton Road through Savannas State Park

Ms. Linda Ferreira called Mr. Charles Barrowclough on Thursday May 19, 2016 to discuss possible multimodal improvements for Walton Road from Lennard Road to Indian River Drive. Mr. Barrowclough explained that he is also trying to get funding for multimodal improvements on Walton Road from Green River Parkway to the entrance of Savannas Preserve State Park. When asked about the feasibility of Walton Road being raised on MSE wall, Mr. Barrowclough said that the County is trying to restore historical water flows and not restricting wetlands with structures. He suggested that a bridge would be more feasible from a hydrologic perspective. He also discussed another trail that is proposed inside the park and the possibility of DEP providing easement for the trail over the wetlands. He said the approximate cost for this boardwalk structure was about \$1,000,000 per mile.



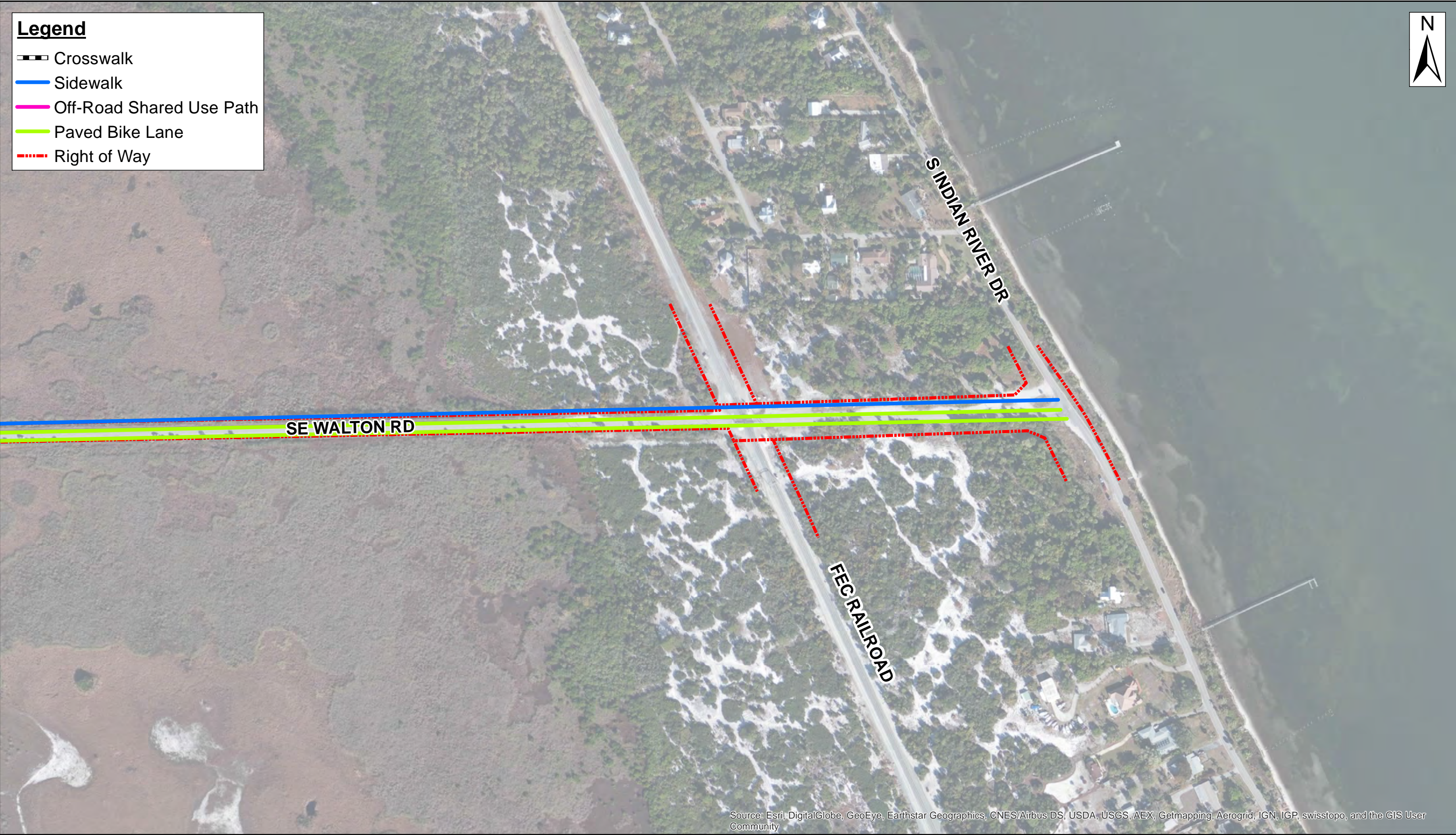
Recommended Multimodal Improvements



Recommended Multimodal Improvements

Legend

- Crosswalk
- Sidewalk
- Off-Road Shared Use Path
- Paved Bike Lane
- Right of Way

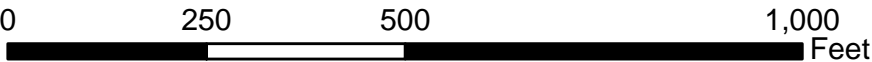


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Recommended Multimodal Improvements

Walton Road
Multimodal Improvements Feasibility Study
Port St. Lucie, FL



May 2016



Appendix G

Cost Estimate Estimation

FDOT Long Range Estimation System - Production

Project Details Composite Report

By Version

Project: NUU2LN-U-01-BB

Letting Date: 01/2055

Description: New Construction 2 Lane Undivided Urban Arterial with 4' Bike Lanes

District: 09

County: 99 DISTRICT/STATE WIDE

Project Manager: Cost Model

Version 1-P Project Grand Total:

\$4,266,105.41

Description:

Pay Items	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
0101 1	MOBILIZATION	10.00		-\$99,989.98	\$383,282.31
0102 1	MAINTENANCE OF TRAFFIC	7.00		-\$99,989.98	\$250,745.44
0104 10 3	SEDIMENT BARRIER	10,560.00	LF	\$1.01	\$10,665.60
0104 11	FLOATING TURBIDITY BARRIER	250.00	LF	\$8.22	\$2,055.00
0104 12	STAKED TURBIDITY BARRIER- NYLON REINFORCED PVC	250.00	LF	\$5.03	\$1,257.50
0104 15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$1,879.93	\$1,879.93
0104 18	INLET PROTECTION SYSTEM	53.00	EA	\$80.47	\$4,264.91
0107 1	LITTER REMOVAL	1.20	AC	\$24.50	\$29.40
0107 2	MOWING	1.20	AC	\$38.09	\$45.71
0110 1 1	CLEARING & GRUBBING	14.12	AC	\$11,687.51	\$165,027.64
0120 1	REGULAR EXCAVATION	19,360.00	CY	\$5.49	\$106,286.40
0120 6	EMBANKMENT	86,920.53	CY	\$8.47	\$736,216.89
0160 4	TYPE B STABILIZATION	21,800.53	SY	\$3.57	\$77,827.89
0285709	OPTIONAL BASE, BASE GROUP 09	18,773.33	SY	\$15.50	\$290,986.62
0334 1 23	SUPERPAVE ASPH CONC, TRAFFIC C, PG76-22, PMA	2,065.07	TN	\$91.49	\$188,933.25
0337 7 40	ASPHALT CONCRETE FRICTION COURSE,TRAFFIC B, FC-9.5, PG 76-22, PMA	1,501.87	TN	\$99.21	\$149,000.52
0400 2 2	CONCRETE CLASS II, ENDWALLS	36.00	CY	\$1,322.03	\$47,593.08
0425 1351	INLETS, CURB, TYPE P-5, <10'	36.00	EA	\$3,723.68	\$134,052.48
0425 1451	INLETS, CURB, TYPE J-5, <10'	10.00	EA	\$5,732.63	\$57,326.30
0425 1521	INLETS, DT BOT, TYPE C,<10'	5.00	EA	\$2,393.30	\$11,966.50
0425 1541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$2,729.68	\$2,729.68
0425 2 41	MANHOLES, P-7, <10'	5.00	EA	\$3,248.41	\$16,242.05
0425 2 71	MANHOLES, J-7, <10'	1.00	EA	\$5,576.14	\$5,576.14
0430175112	PIPE CULVERT,OPTIONAL MATERIAL,ROUND, 12"S/CD	2,328.00	LF	\$94.56	\$220,135.68
0430175130	PIPE CULVERT, OPT MATERIAL, ROUND, 30"S/CD	208.00	LF	\$77.17	\$16,051.36
0430175142	PIPE CULVERT, OPT MATERIAL, ROUND, 42"S/CD	5,056.00	LF	\$118.30	\$598,124.80
0430175154	PIPE CULVERT, OPT MATERIAL, ROUND, 54"S/CD	200.00	LF	\$166.58	\$33,316.00
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	10,560.00	LF	\$16.19	\$170,966.40
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	5,866.67	SY	\$29.39	\$172,421.43
0550 10220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,180.00	LF	\$11.35	\$13,393.00
0550 60234	FENCE GATE, TYPE B, SLIDING/CANTILEVER, 18.1-20.0' OPENING	1.00	EA	\$2,671.64	\$2,671.64
0570 1 1	PERFORMANCE TURF	23,467.00	SY	\$.70	\$16,426.90
0570 1 2	PERFORMANCE TURF, SOD	18,197.33	SY	\$2.29	\$41,671.89
0630 2 11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	5,280.00	LF	\$5.41	\$28,564.80
0630 2 12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	689.00	LF	\$14.77	\$10,176.53

FDOT Long Range Estimation System - Production

Project Details Composite Report

By Version

Project: NUU2LN-U-01-BB

Letting Date: 01/2055

Description: New Construction 2 Lane Undivided Urban Arterial with 4' Bike Lanes

District: 09

County: 99 DISTRICT/STATE WIDE

Project Manager: Cost Model

Version 1-P Project Grand Total:

\$4,266,105.41

Description:

Pay Items	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
0635 2 11	PULL & SPLICE BOX, F&I, 13" x 24" COVER SIZE	21.00	EA	\$494.73	\$10,389.33
0700 1 11	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	20.00	AS	\$264.54	\$5,290.80
0700 1 12	SINGLE POST SIGN, F&I GROUND MOUNT, 12-20 SF	2.00	AS	\$264.54	\$529.08
0700 2 14	MULTI- POST SIGN, F&I GROUND MOUNT, 31-50 SF	2.00	AS	\$3,230.31	\$6,460.62
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	135.00	EA	\$3.13	\$422.55
0710 11111	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	4.00	NM	\$849.86	\$3,399.44
0710 11131	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SKIP, 6", 10-30 OR 3-9 SKIP	2.00	GM	\$347.12	\$694.24
0711 15111	THERMOPLASTIC, STANDARD-OPEN GRADED ASPHALT SURFACES WHITE, SOLID, 6"	2.00	NM	\$3,713.11	\$7,426.22
0711 15131	THERMOPLASTIC, STANDARD-OPEN GRADED ASPHALT SURFACES, WHITE, SKIP, 6",10-30 SKIP OR 3-9 LANE DROP	1.00	GM	\$1,016.46	\$1,016.46
0715 1 13	LIGHTING CONDUCTORS, F&I, INSULATED, NO 4 TO NO 2	17,907.00	LF	\$2.02	\$36,172.14
0715500 1	POLE CABLE DISTRIBUTION SYSTEM, CONVENTIONAL	21.00	EA	\$477.23	\$10,021.83
0715511140	LIGHT POLE COMPLETE- SPECIAL DESIGN, F&I, SINGLE ARM SHOULDER MOUNT, ALUMINUM, 40'	21.00	EA	\$7,922.43	\$166,371.03
0999 25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1.00	LS	\$50,000.00	\$50,000.00
	Project Unknowns	.00	%	-\$99,989.98	\$.00

Version 1-P Grand Total

\$4,266,105.41

FDOT Long Range Estimation System - Production

Project Details Composite Report

By Version

Project: RSU2LN-R-11-BB

Letting Date: 01/2055

Description: Milling and Resurfacing 2 Lane Rural Road with 5' Paved Shoulders

District: 09

County: 99 DISTRICT/STATE WIDE

Project Manager: Cost Model

Version 1-P Project Grand Total:

\$426,052.54

Description:

Pay Items	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
0101 1	MOBILIZATION	10.00		-\$99,989.98	\$36,887.67
0102 1	MAINTENANCE OF TRAFFIC	10.00		-\$99,989.98	\$33,534.24
0104 11	FLOATING TURBIDITY BARRIER	100.00	LF	\$8.22	\$822.00
0104 12	STAKED TURBIDITY BARRIER- NYLON REINFORCED PVC	100.00	LF	\$5.03	\$503.00
0107 1	LITTER REMOVAL	1.20	AC	\$24.50	\$29.40
0107 2	MOWING	1.20	AC	\$38.09	\$45.71
0327 70 1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	5,866.67	SY	\$1.93	\$11,322.67
0327 70 15	MILLING EXIST ASPH PAVT, 2 3/4" AVG DEPTH	14,080.00	SY	\$1.73	\$24,358.40
0334 1 23	SUPERPAVE ASPH CONC, TRAFFIC C, PG76-22, PMA	1,871.47	TN	\$91.49	\$171,220.79
0337 7 22	ASPHALT CONCRETE FRICTION COURSE, INC BIT, FC-5, PG 76-22, PMA	594.18	TN	\$125.98	\$74,854.80
0430 94 1	DESILTING PIPE, 0 - 24"	800.00	LF	\$3.87	\$3,096.00
0430 94 2	DESILTING PIPE, 25 - 36"	168.00	LF	\$5.47	\$918.96
0546 72 51	RUMBLE STRIPS, GROUND-IN, 16" MIN. WIDTH	2.00	PM	\$1,124.79	\$2,249.58
0570 1 2	PERFORMANCE TURF, SOD	5,866.67	SY	\$2.29	\$13,434.67
0700 1 11	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	10.00	AS	\$264.54	\$2,645.40
0700 1 12	SINGLE POST SIGN, F&I GROUND MOUNT, 12-20 SF	14.00	AS	\$264.54	\$3,703.56
0700 1 50	SINGLE POST SIGN, RELOCATE	2.00	AS	\$18.38	\$36.76
0700 1 60	SINGLE POST SIGN, REMOVE	12.00	AS	\$18.38	\$220.56
0700 2 14	MULTI- POST SIGN, F&I GROUND MOUNT, 31-50 SF	2.00	AS	\$3,230.31	\$6,460.62
0700 2 60	MULTI- POST SIGN, F&I GROUND MOUNT, REMOVE	2.00	AS	\$3,230.31	\$6,460.62
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	135.00	EA	\$3.13	\$422.55
0710 11111	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	4.00	NM	\$849.86	\$3,399.44
0710 11131	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SKIP, 6", 10-30 OR 3-9 SKIP	2.00	GM	\$347.12	\$694.24
0711 15111	THERMOPLASTIC, STANDARD-OPEN GRADED ASPHALT SURFACES WHITE, SOLID, 6"	2.00	NM	\$3,713.11	\$7,426.22
0711 15131	THERMOPLASTIC, STANDARD-OPEN GRADED ASPHALT SURFACES, WHITE, SKIP, 6",10-30 SKIP OR 3-9 LANE DROP	1.00	GM	\$1,016.46	\$1,016.46
0999 25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1.00	LS	\$20,288.22	\$20,288.22
	Project Unknowns	.00	%	-\$99,989.98	\$.00

Version 1-P Grand Total

\$426,052.54

FDOT Long Range Estimation System - Production

Project Details Composite Report

By Version

Project: SHRUSE-O-01-BB

Letting Date: 01/2055

Description: Two Directional, 12' Shared Use Path

District: 09

County: 99 DISTRICT/STATE WIDE

Project Manager: Cost Model

Version 1-P Project Grand Total:

\$231,278.63

Description:

<u>Pay Items</u>	<u>Description</u>	<u>Total Quantity</u>	<u>Unit</u>	<u>Weighted Avg. Unit Price</u>	<u>Total Amount</u>
0101 1	MOBILIZATION	10.00		-\$99,989.98	\$20,024.12
0102 1	MAINTENANCE OF TRAFFIC	6.00		-\$99,989.98	\$11,334.41
0110 1 1	CLEARING & GRUBBING	3.90	AC	\$9,505.22	\$37,070.36
0160 4	TYPE B STABILIZATION	9,386.67	SY	\$3.08	\$28,910.94
0285701	OPTIONAL BASE, BASE GROUP 01	7,040.00	SY	\$6.81	\$47,942.40
0334 1 11	SUPERPAVE ASPHALTIC CONC, TRAFFIC A	528.00	TN	\$132.99	\$70,218.72
0570 1 2	PERFORMANCE TURF, SOD	2,347.00	SY	\$2.03	\$4,764.41
0999 25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1.00	LS	\$11,013.27	\$11,013.27
	Project Unknowns	.00	%	-\$99,989.98	\$.00

Version 1-P Grand Total

\$231,278.63

FDOT Long Range Estimation System - Production

Project Details Composite Report

By Version

Project: SIDEWK-O-03-BB

Letting Date: 01/2055

Description: Sidewalk construction; 5' one side, 4 inch depth

District: 09

County: 99 DISTRICT/STATE WIDE

Project Manager: Cost Model

Version 1-P Project Grand Total:

\$110,391.99

Description:

<u>Pay Items</u>	<u>Description</u>	<u>Total Quantity</u>	<u>Unit</u>	<u>Weighted Avg. Unit Price</u>	<u>Total Amount</u>
0101 1	MOBILIZATION	10.00		-\$99,989.98	\$9,557.75
0102 1	MAINTENANCE OF TRAFFIC	2.00		-\$99,989.98	\$1,874.07
0110 1 1	CLEARING & GRUBBING	1.25	AC	\$9,505.22	\$11,881.53
0120 1	REGULAR EXCAVATION	322.66	CY	\$4.63	\$1,493.92
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	2,933.33	SY	\$26.81	\$78,642.58
0570 1 1	PERFORMANCE TURF	3,121.07	SY	\$.54	\$1,685.38
0999 25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1.00	LS	\$5,256.76	\$5,256.76
	Project Unknowns	.00	%	-\$99,989.98	\$.00

Version 1-P Grand Total

\$110,391.99

FDOT Long Range Estimation System - Production

Project Details Composite Report

By Version

Project: MIDXWK-O-05-BB

Letting Date: 01/2055

Description: Mid-Block Crossing

District: 09

County: 99 DISTRICT/STATE WIDE

Project Manager: Cost Model

Version 1-P Project Grand Total:

\$99,148.12

Description:

<u>Pay Items</u>	<u>Description</u>	<u>Total Quantity</u>	<u>Unit</u>	<u>Weighted Avg. Unit Price</u>	<u>Total Amount</u>
0711 17	THERMOPLASTIC, REMOVE EXISTING THERMOPLASTIC PAVEMENT MARKINGS	69.00	SF	\$1.85	\$127.65
0999 25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1.00	LS	\$4,721.34	\$4,721.34
	Project Unknowns	.00	%	-\$99,989.98	\$.00

Version 1-P Grand Total

\$99,148.12

FDOT Long Range Estimation System - Production

Project Details Composite Report

By Version

Project: MIDXWK-O-05-BB

Letting Date: 01/2055

Description: Mid-Block Crossing

District: 09

County: 99 DISTRICT/STATE WIDE

Project Manager: Cost Model

Version 1-P Project Grand Total:

\$99,148.12

Description:

Pay Items	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
0101 1	MOBILIZATION	10.00		-\$99,989.98	\$8,584.25
0102 1	MAINTENANCE OF TRAFFIC	10.00		-\$99,989.98	\$7,803.87
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	10.00	SY	\$26.81	\$268.10
0527 1	DETECTABLE WARNING ON EXISTING WALKING SURFACE, RETROFIT	2.00	EA	\$395.99	\$791.98
0555 1 1	DIRECTIONAL BORE, LESS THAN 6"	505.00	LF	\$14.10	\$7,120.50
0630 1 12	CONDUIT, FURNISH & INSTALL, UNDERGROUND	27.00	LF	\$4.14	\$111.78
0630 1 13	CONDUIT, FURNISH & INSTALL, SAWCUT & PLACE UNDER EXISTING PAVEMENT	18.00	LF	\$15.20	\$273.60
0632 7 1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	1.00	PI	\$3,479.49	\$3,479.49
0632 8212	CABLE, INTERCONNECT, 1-25 PAIRS, F&I, UNDERGROUND	436.00	LF	\$2.61	\$1,137.96
0635 1 11	PULL & JUNCTION BOX, F&I, PULL BOX	4.00	EA	\$366.78	\$1,467.12
0635 1 15	PULL & JUNCTION BOXES, F&I, FIBER OPTICS	1.00	EA	\$979.00	\$979.00
0639 1 23	ELECTRICAL POWER SERVICE, UNDERGROUND	1.00	AS	\$2,275.82	\$2,275.82
0639 2 1	ELECTRICAL SERVICE WIRE	252.00	LF	\$1.92	\$483.84
0646 1 11	ALUMINUM SIGNALS POLE, PEDESTAL	1.00	EA	\$821.48	\$821.48
0649 31203	MAST ARM, F&I, WIND SPEED-130, SINGLE ARM, W/O LUMINAIRE-60	1.00	EA	\$25,313.96	\$25,313.96
0650 51311	TRAFFIC SIGNAL, F&I, 3 SECTION, 1 WAY, STANDARD	4.00	AS	\$836.50	\$3,346.00
0653191	PEDESTRIAN SIGNAL, F&I, LED - COUNT DOWN, 1 DIRECTION	2.00	AS	\$574.61	\$1,149.22
0665 11	PEDESTRIAN DETECTOR, F&I, POLE OR CONTROLLER CABINET MOUNTED DETECTOR STATION & SIGN	2.00	EA	\$162.04	\$324.08
0670 5130	TRAFFIC CONTROLLER ASSEMBLY, F&I, SPECIAL	1.00	AS	\$21,726.07	\$21,726.07
0670 5410	TRAFFIC CONTROLLER ASSEMBLY, MODIFY, NEMA	1.00	AS	\$687.39	\$687.39
0685120	SYSTEM AUXILIARIES, F&I, TELEMETRY TRANSCEIVER	1.00	EA	\$2,215.56	\$2,215.56
0685128	SYSTEM AUXILIARIES, FURNISH & INSTALL, INTERFACE PANEL	1.00	EA	\$1,396.30	\$1,396.30
0700 20 11	SINGLE POST SIGN, F&I, LESS THAN 12 SF	4.00	AS	\$253.46	\$1,013.84
0700 48 18	SIGN PANELS, F & I, 15 OR <	2.00	EA	\$355.09	\$710.18
0706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	10.00	EA	\$3.26	\$32.60
0711 11111	THERMOPLASTIC, STANDARD, WHITE, SOLID, 6"	.04	NM	\$3,814.56	\$152.58
0711 11123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12"	200.00	LF	\$1.82	\$364.00
0711 11125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24"	72.00	LF	\$3.73	\$268.56

Segment B 1

Improvement Description	Unit	Price	Total Cost
Roadway with paved shoulders (mile)	0.92	\$ 426,052.54	\$ 391,968.34
Sidewalk (mile)	0.72	\$ 390,742.71	\$ 281,334.75
Shared Use path (mile)	0.92	\$ 600,000.00	\$ 552,000.00
Wooden Boardwalk With Railing, 42" (mi)	0.15	\$1,000,000.00	\$ 150,000.00
Sub-total			\$ 1,375,303.09
Contingency	10%		\$ 137,530.31
Maintainance of traffic	10%		\$ 137,530.31
Sub-total			\$ 1,650,363.71
Preliminary Engineering	10%		\$ 165,036.37
Construction Engineering & Inspection	10%		\$ 165,036.37
Total Cost			\$ 1,980,436.45

Segment B 2

Improvement Description	Unit	Price	Total Cost
Roadway with paved shoulders (mile)			
Curb and gutter - Type F	0.92	\$ 4,200,000.00	\$ 3,864,000.00
Sidewalk (mile)	0.72	\$ 390,800.00	\$ 281,376.00
Shared Use path (mile)	0.92	\$ 600,000.00	\$ 552,000.00
Wooden Boardwalk With Railing, 42" (mi)	0.15	\$1,000,000.00	\$ 150,000.00
Sub-total			\$ 4,847,376.00
Contingency	10%		\$ 484,737.60
Maintainance of traffic	10%		\$ 484,737.60
Sub-total			\$ 5,816,851.20
Preliminary Engineering	10%		\$ 581,685.12
Construction Engineering & Inspection	10%		\$ 581,685.12
Total Cost			\$ 6,980,221.44

Segment C 1 - Roadway Widening

Improvement Description	Unit	Price	Total Cost
Roadway with paved shoulders (mile)	0.8	\$ 426,052.54	\$ 340,842.03
Embankment and Fill (CY)	1104.5	\$ 9.00	\$ 9,940.50
Swale (CY)	980	\$ 7.00	\$ 6,860.00
Sidewalk (mile)	0.8	\$ 390,742.71	\$ 312,594.17
Gravity Wall (CY)	500	\$ 730.00	\$ 365,000.00
Pedestrian railing (LF)	3000	\$ 80.00	\$ 240,000.00
Guardrail (both sides) (LF)	6000	\$ 20.00	\$ 120,000.00
Misc. Pavement (tonnage)	187	\$ 100.00	\$ 18,700.00
FEC Pedestrian Crossing	1	\$ 145,000.00	\$ 145,000.00
Sub-total			\$ 1,558,936.70
Contingency	10%		\$ 155,893.67
Maintainance of traffic	10%		\$ 15,589.37
Sub-total			\$ 1,730,419.74
Preliminary Engineering	10%		\$ 1,211,293.82
Construction Engineering & Inspection	10%		\$ 173,041.97
Total Cost			\$ 3,114,755.53

Segment C 2- Roadway Reconstruction

\$3	Unit	Price	Total Cost
Embankment and Fill (CY)	18,245.00	\$ 20.90	\$ 381,320.50
Roadway with 5' paved shoulders (mile) - curb & gutter, inlets	0.8	\$ 4,200,000.00	\$ 3,360,000.00
Pond (1/2 ac - excavation and fence)	1	\$ 75,000.00	\$ 75,000.00
Sidewalk	0.8	\$ 390,800.00	\$ 312,640.00
Pedestrian handrail	3000	\$ 80.00	\$ 240,000.00
FEC Pedestrian Crossing	1	\$ 145,000.00	145000
Sub-total			\$ 4,513,960.50
Contingency	10%		\$ 451,396.05
Maintainance of traffic	10%		\$ 451,396.05
Sub-total			\$ 5,416,752.60
Preliminary Engineering	10%		\$ 541,675.26
Construction Engineering & Inspection	10%		\$ 541,675.26
Total Cost			\$ 6,500,103.12

Segment C 3 - Shared Use Path Bridge

Description	Unit	Price	Total Cost
Shared Use Boardwalk Bridge (mile)	0.6	\$ 1,200,000.00	\$ 720,000.00
reset guardrail on northside (LF)	3168	\$ 10.00	\$ 31,680.00
Sidewalk (mile)	0.25	\$ 390,800.00	\$ 97,700.00
FEC Pedestrian Crossing	1	\$ 145,000.00	\$ 145,000.00
Sub-total			\$ 994,380.00
Contingency	10%		\$ 99,438.00
Sub-total			\$ 1,093,818.00
Preliminary Engineering	10%		\$ 109,381.80
Construction Engineering & Inspection	10%		\$ 109,381.80
Total			\$ 1,312,581.60

Segment C 4 - Bridge Roadway

Description	Unit	Price	Total Cost
Bridge (sf) (for 0.6 miles of length and 50 ft wide)	158400	\$ 140.00	\$ 22,176,000.00
Approach Slabs for Bridge (sf)	50000	\$ 200.00	\$ 10,000,000.00
Embankment and Fill (CY)	8000	\$ 25.00	\$ 200,000.00
Inlets, pipes for drainage	1	\$ 600,000.00	\$ 600,000.00
Pond	1	\$ 75,000.00	\$ 75,000.00
Sidewalk (mile)	0.25	\$ 390,800.00	\$ 97,700.00
FEC Pedestrian Crossing	1	\$ 145,000.00	\$ 145,000.00
Sub-total			\$ 33,293,700.00
Contingency		10%	\$ 3,329,370.00
Sub-total			\$ 36,623,070.00
Preliminary Engineering		10%	\$ 3,662,307.00
Construction Engineering & Inspection		10%	\$ 3,662,307.00
Total			\$ 43,947,684.00

Replace Four Culverts

Description	Unit	Length	Price
48" x 60' RCP pipe (LF)	2	120	\$ 185.00
48" x 60' - endwall concrete (CY)	4	56	\$ 1,080.00
48" x 60' - endwall steel (lbs)	4	3320	\$ 2.00
72" x 60' CMP (LF)	2	120	\$ 425.00
72" x 60' CMP - endwall concrete	4	72	\$ 1,080.00
72" x 60' CMP - endwall steel	4	6080	\$ 2.00
Sub-total			
Contingency			10%
Sub-total			
Preliminary Engineering			10%
Construction Engineering & Inspection			10%
Total			

Water Crossing Under Walton Road

Item Description	Units	Price	Total Price
Arch Culvert	1	\$ 100,000.00	\$ 100,000.00
Embankment Fill (cy)	8,000	\$ 25.00	\$ 200,000.00
MSE wall (SF)	1800	\$ 70.00	\$ 126,000.00
Bridge Concrete Barrier Wall (SF)	2000	\$ 225.00	\$ 405,000.00
10 % contingency			\$ 83,100.00
Total Alternative Cost			\$ 914,100.00

*Assume roadway profile raised 8 feet with a 3% grade

Water Crossing Over Walton Road

Item Description	Units	Price	Total Price
Watercraft Dock/Launch (construction and engineering)	2	\$7,500.00	\$15,000.00
Midblock Pedestrian Signal	1	\$99,148.12	\$99,148.12
Total Alternative Cost			\$114,148.12

Water Crossing Under Walton Road

Item Description	Units	Price	Total Price
Arch Culvert	1	\$ 100,000.00	\$ 100,000.00
Embankment Fill (cy)	8,000	\$ 25.00	\$ 200,000.00
Reconstruct Roadway - Sub-base, Base, Asphalt (SY)	0.6	\$ 1,200,000.00	\$ 720,000.00
MSE wall (SF)	1800	\$ 80.00	\$ 144,000.00
Bridge Concrete Barrier Wall (SF)	2000	\$ 225.00	\$ 405,000.00
10 % contingency			\$ 156,900.00
Total Alternative Cost			\$ 1,725,900.00

DBHYDRO | reports

DBKEY	STATION	AGENCY	COUNTY	TYPE	UNITS	STAT	FQ	RECORDER	START	END	LAT	LONG	SECTION	TOWN	RANGE	ALTERNATE	ID
I2000	SAV1-SW	WMD	STL	STG	ft NGVD29	INST	BK	CR10	1997	2012	271810	801625	31	36	41	SAV1+	

Period of Record Statistical Summary by Year Month For DBKEY IZ000

For Period 19970221 to 20121009

DBKEY	Station	Data Type	Year	Month	Sample Size	Minimum	Mean	Maximum	Median	Std. Dev.
I2000	SAV1-SW	STG	1997	05	31	15.254	15.313	15.364	15.314	.03
I2000	SAV1-SW	STG	1997	06	154	15.344	16.015	16.504	15.979	.36
I2000	SAV1-SW	STG	1997	07	117	16.184	16.421	16.644	16.394	.13
I2000	SAV1-SW	STG	1997	08	117	16.164	16.591	16.864	16.644	.20
I2000	SAV1-SW	STG	1997	09	143	16.404	16.563	16.714	16.584	.09
I2000	SAV1-SW	STG	1997	10	142	16.064	16.426	16.664	16.504	.17
I2000	SAV1-SW	STG	1997	11	129	16.064	16.420	16.544	16.464	.14
I2000	SAV1-SW	STG	1997	12	119	16.414	16.595	16.824	16.604	.12
I2000	SAV1-SW	STG	1998	01	222	16.459	16.669	16.805	16.664	.06
I2000	SAV1-SW	STG	1998	02	1926	16.393	16.713	16.944	16.704	.07
I2000	SAV1-SW	STG	1998	03	2976	16.524	16.641	16.824	16.634	.07
I2000	SAV1-SW	STG	1998	04	2880	15.954	16.228	16.544	16.214	.15
I2000	SAV1-SW	STG	1998	05	2976	15.564	15.942	16.274	15.954	.24
I2000	SAV1-SW	STG	1998	06	2880	15.004	15.428	15.694	15.484	.20
I2000	SAV1-SW	STG	1998	07	2976	14.754	15.405	15.864	15.564	.40
I2000	SAV1-SW	STG	1998	08	2976	15.464	16.248	16.714	16.384	.39
I2000	SAV1-SW	STG	1998	09	2880	16.354	16.592	16.874	16.514	.16
I2000	SAV1-SW	STG	1998	10	2976	15.884	16.272	16.634	16.274	.22
I2000	SAV1-SW	STG	1998	11	2880	15.814	16.481	16.814	16.544	.27
I2000	SAV1-SW	STG	1998	12	2976	15.994	16.200	16.464	16.164	.14
I2000	SAV1-SW	STG	1999	01	2971	15.784	15.973	16.144	15.974	.10
I2000	SAV1-SW	STG	1999	02	2687	15.404	15.687	15.904	15.714	.15
I2000	SAV1-SW	STG	1999	03	2975	14.744	15.079	15.414	15.114	.24
I2000	SAV1-SW	STG	1999	04	2880	14.684	14.714	14.744	14.714	.02
I2000	SAV1-SW	STG	1999	05	2976	14.674	14.731	14.854	14.734	.05
I2000	SAV1-SW	STG	1999	06	2880	14.724	15.263	16.111	15.143	.41
I2000	SAV1-SW	STG	1999	07	2976	15.498	15.916	16.216	15.947	.23
I2000	SAV1-SW	STG	1999	08	2976	15.234	15.683	16.314	15.474	.38
I2000	SAV1-SW	STG	1999	09	2880	15.974	16.234	16.594	16.124	.20
I2000	SAV1-SW	STG	1999	10	2976	16.464	16.702	17.214	16.704	.12
I2000	SAV1-SW	STG	1999	11	2880	16.234	16.463	16.714	16.444	.14
I2000	SAV1-SW	STG	1999	12	2976	15.884	16.040	16.234	16.034	.08
I2000	SAV1-SW	STG	2000	01	2976	15.474	15.664	15.884	15.644	.11
I2000	SAV1-SW	STG	2000	02	2784	15.404	15.604	15.734	15.634	.09
I2000	SAV1-SW	STG	2000	03	2976	15.074	15.359	15.624	15.324	.19
I2000	SAV1-SW	STG	2000	04	2880	15.244	15.467	15.664	15.464	.12
I2000	SAV1-SW	STG	2000	05	2975	14.754	14.919	15.344	14.794	.19
I2000	SAV1-SW	STG	2000	06	2880	14.764	14.857	15.124	14.784	.12
I2000	SAV1-SW	STG	2000	07	2976	14.924	15.520	16.224	15.334	.43
I2000	SAV1-SW	STG	2000	08	2976	15.944	16.127	16.324	16.124	.10
I2000	SAV1-SW	STG	2000	09	2879	15.644	15.907	16.092	15.909	.12
I2000	SAV1-SW	STG	2000	10	2976	15.804	16.477	16.830	16.485	.25
I2000	SAV1-SW	STG	2000	11	2879	15.744	15.962	16.270	15.924	.15
I2000	SAV1-SW	STG	2000	12	2976	15.324	15.517	15.744	15.544	.12
I2000	SAV1-SW	STG	2001	01	2975	14.954	15.139	15.334	15.134	.10
I2000	SAV1-SW	STG	2001	02	2687	14.754	14.842	15.054	14.784	.10
I2000	SAV1-SW	STG	2001	03	2975	14.704	14.750	14.994	14.734	.06
I2000	SAV1-SW	STG	2001	04	2880	14.734	14.777	14.974	14.764	.05
I2000	SAV1-SW	STG	2001	05	2975	14.659	14.695	14.734	14.697	.02
I2000	SAV1-SW	STG	2001	06	2881	14.642	14.745	15.214	14.664	.16
I2000	SAV1-SW	STG	2001	07	2976	14.784	15.617	16.414	15.714	.56
I2000	SAV1-SW	STG	2001	08	2976	16.224	16.567	16.914	16.574	.14
I2000	SAV1-SW	STG	2001	09	2879	16.384	16.682	16.934	16.714	.13
I2000	SAV1-SW	STG	2001	10	2976	16.574	16.691	16.864	16.684	.07
I2000	SAV1-SW	STG	2001	11	2880	16.614	16.693	16.914	16.684	.05
I2000	SAV1-SW	STG	2001	12	2976	16.284	16.474	16.634	16.474	.11
I2000	SAV1-SW	STG	2002	01	2975	16.054	16.224	16.334	16.234	.07
I2000	SAV1-SW	STG	2002	02	2688	15.914	16.171	16.344	16.244	.13
I2000	SAV1-SW	STG	2002	03	2976	15.704	16.033	16.264	16.074	.16
I2000	SAV1-SW	STG	2002	04	2880	15.474	15.800	16.084	15.784	.18
I2000	SAV1-SW	STG	2002	05	2976	14.785	15.251	15.674	15.244	.22
I2000	SAV1-SW	STG	2002	06	2880	14.726	14.766	14.909	14.744	.05
I2000	SAV1-SW	STG	2002	07	2976	14.784	15.567	15.894	15.674	.28
I2000	SAV1-SW	STG	2002	08	2976	15.354	15.563	15.724	15.594	.11
I2000	SAV1-SW	STG	2002	09	2880	15.384	15.636	15.784	15.674	.12
I2000	SAV1-SW	STG	2002	10	2976	14.764	14.963	15.384	14.894	.21
I2000	SAV1-SW	STG	2002	11	2880	14.694	14.732	14.764	14.734	.02
I2000	SAV1-SW	STG	2002	12	2954	14.684	14.782	14.958	14.774	.07
I2000	SAV1-SW	STG	2003	01	2976	14.754	14.957	15.224	14.954	.16
I2000	SAV1-SW	STG	2003	02	2688	14.714	14.734	14.764	14.734	.01
I2000	SAV1-SW	STG	2003	03	2976	14.684	14.857	15.124	14.714	.17
I2000	SAV1-SW	STG	2003	04	2880	14.744	14.821	15.044	14.794	.08
I2000	SAV1-SW	STG	2003	05	2976	14.734	14.763	14.794	14.764	.02
I2000	SAV1-SW	STG	2003	06	2880	14.724	14.897	15.124	14.884	.14
I2000	SAV1-SW	STG	2003	07	2090	14.764	14.795	14.914	14.784	.04
I2000	SAV1-SW	STG	2003	10	1378	15.214	15.359	15.474	15.364	.08
I2000	SAV1-SW	STG	2003	11	2880	15.164	15.677	15.884	15.724	.19
I2000	SAV1-SW	STG	2003	12	2976	15.444	15.588	15.684	15.584	.06
I2000	SAV1-SW	STG	2004	01	2976	15.274	15.402	15.554	15.394	.06
I2000	SAV1-SW	STG	2004	02	2784	15.324	15.518	15.624	15.534	.08
I2000	SAV1-SW	STG	2004	03	2976	15.004	15.339	15.614	15.344	.16
I2000	SAV1-SW	STG	2004	04	2880	14.734	14.839	15.084	14.754	.12
I2000	SAV1-SW	STG	2004	05	2976	14.680	14.705	14.734	14.704	.02
I2000	SAV1-SW	STG	2004	06	2880	14.682	14.698	14.708	14.699	.01
I2000	SAV1-SW	STG	2004	07	2976	14.664	14.687	14.704	14.684	.01
I2000	SAV1-SW	STG	2004	08	2976	14.657	14.924	15.208	14.938	.17
I2000	SAV1-SW	STG	2004	09	2880	14.834	16.376	17.124	16.524	.56
I2000	SAV1-SW	STG	2004	10	2976	16.214	16.487	16.724	16.484	.13

IZ000	SAV1-SW	STG	2004	11	2880	15.674	15.917	16.224	15.893	.15
IZ000	SAV1-SW	STG	2004	12	2976	15.374	15.479	15.674	15.454	.08
IZ000	SAV1-SW	STG	2005	01	2976	15.164	15.388	15.544	15.394	.11
IZ000	SAV1-SW	STG	2005	02	2688	14.940	15.173	15.667	15.162	.16
IZ000	SAV1-SW	STG	2005	03	2976	15.368	16.101	16.669	16.109	.40
IZ000	SAV1-SW	STG	2005	04	2879	15.854	16.161	16.525	16.170	.18
IZ000	SAV1-SW	STG	2005	05	2976	15.624	15.939	16.134	15.934	.14
IZ000	SAV1-SW	STG	2005	06	2880	16.084	16.725	17.004	16.744	.13
IZ000	SAV1-SW	STG	2005	07	2976	16.124	16.531	16.844	16.594	.20
IZ000	SAV1-SW	STG	2005	08	2976	15.684	15.941	16.164	15.924	.15
IZ000	SAV1-SW	STG	2005	09	2880	15.684	15.895	16.044	15.914	.09
IZ000	SAV1-SW	STG	2005	10	2976	15.914	16.293	17.284	16.154	.32
IZ000	SAV1-SW	STG	2005	11	2880	16.484	16.671	16.944	16.674	.10
IZ000	SAV1-SW	STG	2005	12	2976	16.474	16.619	16.764	16.624	.07
IZ000	SAV1-SW	STG	2006	01	2976	15.924	16.203	16.474	16.194	.16
IZ000	SAV1-SW	STG	2006	02	2688	15.874	16.244	16.434	16.254	.15
IZ000	SAV1-SW	STG	2006	03	2976	15.394	15.770	16.124	15.764	.21
IZ000	SAV1-SW	STG	2006	04	2880	14.774	15.170	15.394	15.184	.14
IZ000	SAV1-SW	STG	2006	05	2976	14.694	14.734	14.774	14.734	.02
IZ000	SAV1-SW	STG	2006	06	2880	14.654	14.678	14.704	14.674	.01
IZ000	SAV1-SW	STG	2006	07	2976	14.634	14.690	14.884	14.654	.07
IZ000	SAV1-SW	STG	2006	08	2976	14.704	14.739	14.844	14.734	.03
IZ000	SAV1-SW	STG	2006	09	2880	14.755	14.885	15.174	14.814	.14
IZ000	SAV1-SW	STG	2006	10	2976	14.708	14.732	14.759	14.731	.01
IZ000	SAV1-SW	STG	2006	11	2880	14.687	14.702	14.715	14.703	.01
IZ000	SAV1-SW	STG	2006	12	2976	14.685	15.127	15.800	14.807	.46
IZ000	SAV1-SW	STG	2007	01	2976	15.424	15.590	15.773	15.564	.11
IZ000	SAV1-SW	STG	2007	02	2688	14.918	15.200	15.425	15.232	.15
IZ000	SAV1-SW	STG	2007	03	2976	14.736	14.801	14.926	14.796	.04
IZ000	SAV1-SW	STG	2007	04	2879	14.604	14.684	14.736	14.686	.03
IZ000	SAV1-SW	STG	2007	05	2976	14.534	14.550	14.612	14.545	.02
IZ000	SAV1-SW	STG	2007	06	2880	14.539	14.772	15.245	14.736	.12
IZ000	SAV1-SW	STG	2007	07	526	15.161	15.201	15.244	15.198	.02
IZ000	SAV1-SW	STG	2007	08	1171	15.739	15.814	15.959	15.814	.04
IZ000	SAV1-SW	STG	2007	09	2879	15.764	16.299	16.964	16.019	.44
IZ000	SAV1-SW	STG	2007	10	2976	16.454	16.654	17.084	16.664	.12
IZ000	SAV1-SW	STG	2007	11	2880	16.474	16.597	16.834	16.574	.10
IZ000	SAV1-SW	STG	2007	12	2976	16.294	16.582	17.003	16.637	.16
IZ000	SAV1-SW	STG	2008	01	2976	16.502	16.573	16.647	16.571	.03
IZ000	SAV1-SW	STG	2008	02	2784	16.323	16.444	16.574	16.445	.06
IZ000	SAV1-SW	STG	2008	03	3078	16.241	16.496	16.604	16.525	.10
IZ000	SAV1-SW	STG	2008	04	3047	15.918	16.323	16.588	16.364	.21
IZ000	SAV1-SW	STG	2008	05	3084	15.226	15.509	15.918	15.432	.20
IZ000	SAV1-SW	STG	2008	06	3192	14.759	15.049	15.574	15.023	.24
IZ000	SAV1-SW	STG	2008	07	3245	15.574	15.889	16.274	15.904	.14
IZ000	SAV1-SW	STG	2008	08	3323	16.124	16.544	17.314	16.674	.29
IZ000	SAV1-SW	STG	2008	09	3103	16.394	16.588	16.784	16.594	.11
IZ000	SAV1-SW	STG	2008	10	3167	16.464	16.581	16.684	16.584	.06
IZ000	SAV1-SW	STG	2008	11	3004	16.284	16.545	16.804	16.574	.15
IZ000	SAV1-SW	STG	2008	12	3070	15.894	16.131	16.354	16.144	.13
IZ000	SAV1-SW	STG	2009	01	3069	15.394	15.635	15.894	15.644	.14
IZ000	SAV1-SW	STG	2009	02	2793	14.764	15.115	15.394	15.144	.20
IZ000	SAV1-SW	STG	2009	03	3160	14.704	14.738	14.774	14.744	.02
IZ000	SAV1-SW	STG	2009	04	3034	14.654	14.683	14.714	14.684	.02
IZ000	SAV1-SW	STG	2009	05	3177	14.604	14.621	14.654	14.614	.02
IZ000	SAV1-SW	STG	2009	06	3055	14.564	14.587	14.604	14.594	.01
IZ000	SAV1-SW	STG	2009	07	3139	14.544	14.557	14.574	14.554	.01
IZ000	SAV1-SW	STG	2009	08	3144	14.524	14.535	14.544	14.534	.01
IZ000	SAV1-SW	STG	2009	09	3041	14.504	14.515	14.524	14.514	.01
IZ000	SAV1-SW	STG	2009	10	3080	14.494	14.501	14.514	14.504	.00
IZ000	SAV1-SW	STG	2009	11	2977	14.484	14.494	14.494	14.494	.00
IZ000	SAV1-SW	STG	2009	12	3129	14.484	14.503	14.514	14.504	.01
IZ000	SAV1-SW	STG	2010	01	3065	14.494	14.505	14.514	14.504	.00
IZ000	SAV1-SW	STG	2010	02	2825	14.494	14.503	14.504	14.504	.00
IZ000	SAV1-SW	STG	2010	03	3260	14.494	14.921	15.314	15.094	.32
IZ000	SAV1-SW	STG	2010	04	3123	14.794	15.074	15.314	15.084	.15
IZ000	SAV1-SW	STG	2010	05	3146	14.554	14.750	15.234	14.604	.23
IZ000	SAV1-SW	STG	2010	06	3164	14.554	14.855	15.254	14.775	.24
IZ000	SAV1-SW	STG	2010	07	3141	14.590	14.631	14.650	14.640	.01
IZ000	SAV1-SW	STG	2010	08	3232	14.630	14.717	14.810	14.720	.04
IZ000	SAV1-SW	STG	2010	09	3135	14.650	14.700	14.810	14.690	.04
IZ000	SAV1-SW	STG	2010	10	3136	14.620	14.660	14.770	14.650	.03
IZ000	SAV1-SW	STG	2010	11	2977	14.580	14.598	14.630	14.590	.01
IZ000	SAV1-SW	STG	2010	12	3261	14.500	14.528	14.590	14.510	.04
IZ000	SAV1-SW	STG	2011	01	3068	14.480	14.494	14.500	14.490	.00
IZ000	SAV1-SW	STG	2011	02	2805	14.480	14.490	14.500	14.490	.00
IZ000	SAV1-SW	STG	2011	03	3134	14.480	14.500	14.590	14.490	.03
IZ000	SAV1-SW	STG	2011	04	3022	14.570	14.638	14.730	14.660	.05
IZ000	SAV1-SW	STG	2011	05	3079	14.500	14.556	14.660	14.550	.05
IZ000	SAV1-SW	STG	2011	06	2915	14.490	14.532	14.740	14.500	.07
IZ000	SAV1-SW	STG	2011	07	3116	14.600	14.640	14.750	14.640	.02
IZ000	SAV1-SW	STG	2011	08	3213	14.574	14.629	14.760	14.622	.04
IZ000	SAV1-SW	STG	2011	09	3191	14.550	14.894	15.178	14.965	.23
IZ000	SAV1-SW	STG	2011	10	3327	14.963	16.178	16.785	16.472	.62
IZ000	SAV1-SW	STG	2011	11	2988	16.407	16.550	16.735	16.543	.07
IZ000	SAV1-SW	STG	2011	12	3178	16.244	16.553	16.965	16.567	.18
IZ000	SAV1-SW	STG	2012	01	4848	15.930	16.174	16.492	16.100	.14
IZ000	SAV1-SW	STG	2012	02	2843	15.530	15.785	15.940	15.820	.12
IZ000	SAV1-SW	STG	2012	03	3044	15.040	15.376	15.550	15.420	.14
IZ000	SAV1-SW	STG	2012	04	2959	14.580	14.702	15.060	14.650	.13
IZ000	SAV1-SW	STG	2012	05	3032	14.550	14.560	14.590	14.560	.01
IZ000	SAV1-SW	STG	2012	06	2940	14.550	14.551	14.560	14.550	.00
IZ000	SAV1-SW	STG	2012	07	3037	14.520	14.531	14.560	14.520	.01
IZ000	SAV1-SW	STG	2012	08	3146	14.520	14.982	16.890	14.520	.80
IZ000	SAV1-SW	STG	2012	09	2971	16.550	16.691	16.870	16.700	.07
IZ000	SAV1-SW	STG	2012	10	785	16.610	16.652	16.680	16.660	.02

Provisional data are excluded this statistic report.

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Quick Estimate of Pipe Size for closed system based on headloss due to friction and structure losses. There is no accounting for flows and time of concentration for the system, so this estimate is likely very conservative.										
Item	Pipe Size (in)	% of pipe length for each size	Pipe length per pipe size (ft)	Maximum pipe length for maintenance (ft)	Quantity	Hydraulic Radius (ft)	Pipe Headloss, assuming full flow, velocity of 2.5 ft/s and n= 0.012	Structure Headloss, assuming velocity of 2.5 fps	Check	
Length of Pipe Run (trunkline) (ft)					5000					
Drainage Structure Spacing (ft)					500					
Amount of Sump structures (for each side)					10			0.485		
1 18" pipe run	18	5.0%	250.00	300		0.375	0.374			
2 24" pipe run	24	0.0%	0.00	400		0.500	0.000			
3 30" pipe run	30	5.0%	250.00	400		0.625	0.189			
4 36" pipe run	36	10.0%	500.00	400		0.750	0.297			
5 42" pipe run	42	25.0%	1250.00	500		0.875	0.605			
6 48" pipe run	48	20.0%	1000.00	500		1.000	0.405			
7 54" pipe run	54	10.0%	500.00	500		1.125	0.173			
8 60" pipe run	60	25.0%	1250.00	500		1.250	0.377			
9 66" pipe run	66	0.0%	0.00	500		1.375	0.000			
10 72" pipe run	72	0.0%	0.00	500		1.500	0.000			
	CHECK	100.0%	5000							
Amount of on-grade structures					11			0.534		
Total amount of structures to pond (90 bend)					1			0.078		
Total end treatment structure at pond					1			0.097		
Sub-Total Headloss (ft)							2.420	1.190		
Total Headloss Calculated (ft)									3.61	
Total Elevation Head Available, from inlet elevation to water surface elevation at outfall.									3.75	
Is the total headloss calculated less than available hydraulic gradient?									OK, good	

Note: the total Elevation Head available is measured from tailwater condition to top of inlet.

1. The tailwater condition is assumed to be at existing ground since SHGWT is estimated to be at existing ground.
2. The pavement structure is assumed to be 1.25" thick and includes base, SP and FC material.

	SF	Acre
project area	150000	3.4435262
amount of impervious	126000	2.892562

	Ac*ft	CY
1" x project area	0.286960514	463
2.5" x amount of impervious	0.60261708	972

		ft3
Take Larger amount	0.601617	26,206.44

length of swale	3000
Volume of channel	27,360.00

Swale Dimensions

h	0.8 total height including 1.3' freeboard = 2.1'
t	18.8
b	4



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