

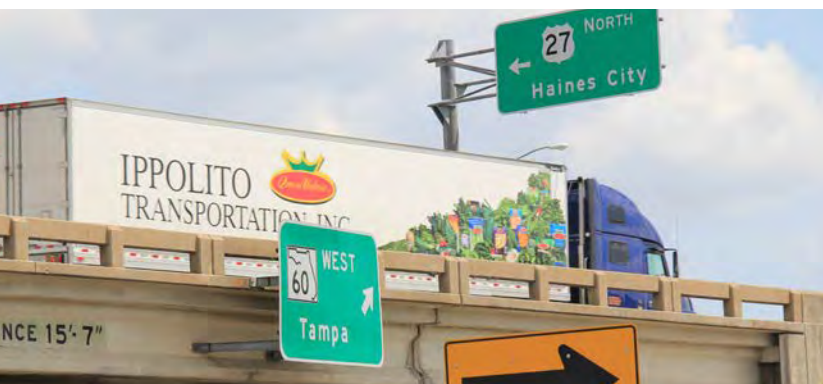


# from the Highlands County Line to North of SR 60 Polk County

Financial Project Number: 419243-1-22-01

*PD&E Study*

# Preliminary Engineering Report



Prepared for



March 2017

# PROFESSIONAL ENGINEERING CERTIFICATION

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## PRELIMINARY ENGINEERING REPORT

Florida Department of Transportation

**ETDM Number:** 3869  
**Financial Management Number:** 419243 1 22 01  
**Federal-Aid Project Number:** N/A

This preliminary engineering report contains detailed engineering information that fulfills the purpose and need for project US 27 PD&E Study from the Highlands County Line to north of SR 60.

3 / 24 / 2017

Date

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Seal below





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# ***EXECUTIVE SUMMARY***

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The Florida Department of Transportation (FDOT) District One is conducting a Project Development and Environment (PD&E) study to evaluate options for widening U.S. Highway (US) 27 in Polk County. The study begins at the Polk-Highlands County Line [mile post (MP) 0.00] and ends 0.22 miles north of State Road (SR) 60 (MP 18.816) for a total length of 19.036 miles. SR 60 is at MP 18.816. At SR 60, the roadway ID changes and the MP resets to 0.000. The objective of the PD&E study is to evaluate widening the existing four-lane divided facility to a six-lane divided facility including the development of interchange configurations at US 27 and SR 60 to accommodate the proposed widening. This study documents the need for capacity improvements within the US 27 corridor and determines the optimal and feasible improvements necessary to satisfy the deficiencies.

This study meets all requirements of the Federal Highway Administration (FHWA) *National Environmental Policy Act of 1969* (NEPA) regulations.

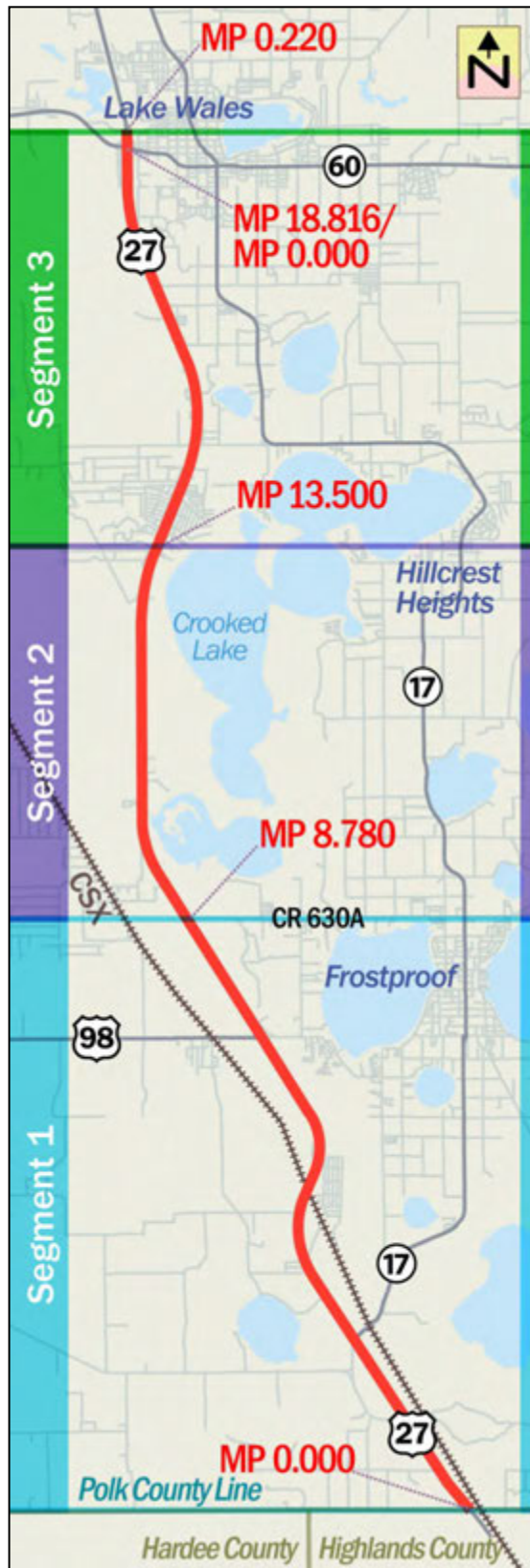
The PD&E Study evaluates the need for capacity improvements and provides documented environmental and engineering analyses to assist FDOT and FHWA in reaching a decision on the location and conceptual design for improvements to US 27. Additional products of the PD&E study include preliminary engineering conceptual plans, environmental studies, a public outreach program, and other information that can be directly used in the final design of the project. Upon completion, this PD&E study will comply with the requirements of NEPA and other federal and state laws to qualify the proposed project for federal-aid funding.

Based on existing land use patterns, location of intersecting cross streets, likely permitting impacts, and future construction package considerations, the project was divided into three segments as listed below and shown on **Figure ES-1**:

- Segment 1: From County Line Road (MP 0.000) to north of County Road (CR) 630A (MP 8.780)
- Segment 2: From north of CR 630A (MP 8.780) to south of Presidents Drive (MP 13.500)
- Segment 3: From south of Presidents Drive (MP 13.500) to MP 0.220 north of SR 60 (MP 18.816). This segment includes the interchange of US 27 with SR 60.



**FIGURE ES-1  
PROJECT SEGMENTS MAP**



## ES.1 EXISTING CONDITIONS

US 27 is part of the state’s Strategic Intermodal System (SIS). The SIS is a statewide network of high-priority transportation facilities, including the state’s largest and most significant commercial airports, spaceport, deep water seaports, freight rail terminals, passenger rail and intercity bus terminals, rail corridors, waterways, and highways. These facilities are the workhorses of Florida’s transportation system, carrying more than 68 percent of all truck traffic and 54 percent of total traffic on the State Highway System. US 27 also serves as an important evacuation route connecting other major arterials in southern Polk County. Widening US 27 will increase capacity and efficiency, leading to improved evacuation and emergency response times.

The functional classification of US 27 changes several times within the project limits as shown in **Table ES-1**.

**TABLE ES-1  
FUNCTIONAL CLASSIFICATION OF US 27**

<b>Limits</b>	<b>Length</b>	<b>Functional Classification</b>
From Highlands County Line (MP 0.000) to Frostproof Urban Area (MP 4.784)	4.784 miles	Rural Principal Arterial Other
From Frostproof Urban Area (MP 4.784) to CR 630A (MP 8.623)	3.839 miles	Urban Principal Arterial Other
From CR 630A (MP 8.623) to Lake Wales Urban Area (MP 16.212)	7.589 miles	Rural Principal Arterial Other
Lake Wales Urban Area (MP 16.212) to Central Avenue (MP 0.220)*	2.824 miles	Urban Principal Arterial Other

\* SR 60 is at MP 18.816. At SR 60, the roadway ID changes and the MP resets to 0.000.

The existing right-of-way (ROW) width within the US 27 PD&E study limits varies from 200 to 230 feet. The existing typical section for US 27 consists of four 12-foot travel lanes (two in each direction) divided by a 40-foot median. The median shoulders range from 8 to 10 feet and the outside shoulders are 10 feet (5 feet paved). Stormwater runoff is collected in roadside swales.

The posted speed along US 27 through the project limits decreases from south to north as shown in **Table ES-2**.

**TABLE ES-2  
EXISTING POSTED SPEEDS FOR US 27**

<b>Limits</b>	<b>Posted Speed</b>
MP 0.000 to MP 16.212	65 miles per hour (mph)
MP 16.212 to MP 18.057	60 mph
MP 18.057 to MP 18.567	55 mph
MP 18.567 to North of Central Avenue (MP 0.220)	50 mph



## ***ES.2 NEED FOR PROJECT***

The primary purpose of this critical centrally located Strategic Intermodal Systems (SIS) project is to: increase capacity due to projected level of service deficiencies; to complete a statewide interconnected multimodal divided roadway transportation system that supports local, regional, and statewide goals related to economic diversification and development; enhance interregional connectivity between Florida's economic regions; provide for safe and efficient operations between transportation modes; and, to ensure Florida's Transportation Systems can meet national defense, emergency response and evacuation needs while providing adequate capacity for the efficient movement of freight, goods and services for all users of the transportation system and one that is consistent with the Florida's Legislative intent for the creation of a multimodal SIS facility that accommodates all modes and users safely; provides support for local land use decisions; enhances transportation alternatives for the region's population; provides transportation choices for education and employment growth in the central Florida area (specifically transportation elements of the Central Florida Regional Planning Council (CFRPC or 2060 Plan); and, augments the existing emergency hurricane evacuation route for central and south Florida. **Appendix ES-1** describes the entire purpose and need with supporting exhibits.

### ***ES.2.1 CAPACITY/TRANSPORTATION DEMAND***

A Level of Service table for all significant cross street locations (No Build) is included in Exhibit A of **Appendix ES-1** and the SIS Bottleneck Study. As shown in Exhibit A of **Appendix ES-1**, 6 intersections operate at LOS E/F in 2020, 33 intersections in 2030, and 55 intersections by the year 2040. Also included (see Exhibit A1 of **Appendix ES-1**) are the most recent model runs from the update of the Polk TPO's 2040 LRTP depicting highway capacity deficiencies (V/C ratios) for US 27 in Polk County. As reflected in the graphics, US 27 is projected to be at capacity or exceed capacity by 2040. The attachment also includes the link volumes for the build and no-build scenarios from the US 27 project traffic report (PTR). The V/C ratios project a capacity deficiency within the corridor by 2040, and the corridor is further impacted operationally by the high percentage of heavy trucks and higher crash rates. US 27 is a SIS identified four-lane bottleneck from Polk County line to SR 60. With a six-lane demand at either end of the project, US 27 capacity for these segments will be diminished as time progresses. See Bottleneck Study (attached) in support of the restated "Purpose and Need Statement."

### ***ES.2.2 SAFETY***

One segment and 5 major intersections are all experiencing crash rates higher than the state wide average for similar facilities (see Exhibit B of **Appendix ES-1** - crash analysis for project). Delay associated with higher crash rates subsequently contribute to reduced capacity at these locations. Improvements were determined based on the crash data review (2007-2011, see Exhibit B of **Appendix ES-1**), and the Road Safety Audit (RSA) conducted along the corridor was subsequently documented in the PTR. The Roadway Safety Audit (RSA) was conducted during March 2013, which included representatives from FDOT, Polk County School Board, Polk County Sheriff's Office, Lake Wales Police Department, and AECOM. The RSA team

identified existing safety and access issues and discussed possible solutions. The audit determined that US 27 had higher crash rates in the Study Area compared to similar facilities in the state. To accommodate the high percentage of heavy trucks in the study corridor, roadway geometric improvements strategies such as truck loons and widening of turning radii were proposed.

### ***ES.2.3 REGIONALLY SIGNIFICANT ROADWAY***

US 27 and SR 60 are SIS crossroads in central Florida, and Florida's SIS Highways are the backbone of the highway transportation network, which consists of nearly 4,400 miles of roadways (see SIS Freight and Congested Corridors Exhibit of **Appendix ES-1**). This mileage represents only 3% of the total state roadway mileage, but is responsible for 54% of all traffic and 70% of all truck traffic on the State Highway System. These significant corridors connect all of Florida's economic regions including economic markets beyond Florida. Within the State, they facilitate the movement of passengers and goods between the major airports, seaports, rail facilities, and notable intermodal hubs. The integrated logistics center (ILC) in Winter Haven is one of those hubs and US 27 provides the vital transportation link necessary to ensure the efficient movement of goods and services.

### ***ES.2.4 NATIONAL DEFENSE***

US 27 is the only principal arterial that serves the Avon Park Air Force Range (APAFR), which is the primary air-to-ground training facility in Florida and an alternate range for Moody Air Force Base, Georgia. APAFR is also an important range for military air-to-ground operations originating from nearby Patrick AFB and MacDill AFB, which routinely host numerous squadron/unit level deployments from Active and Reserve USAF, USN, USMC and U.S. Army units, to include Army National Guard and Air National Guard, from across the country to practice air-to ground operations. Training requirements include low level flights, night vision training, and the firing/release of many different types of ordnance and weaponry across the full spectrum of Air Force, Navy, Marine Corps and Army assets, all of which can be readily employed on the APAFR and they require unimpeded access to US 27 to ensure successful training deployments.

### ***ES.2.5 EMERGENCY/EVACUATION***

Due to projected capacity deficiencies along this segment of US 27, the southern segment improvements are needed to address the lack of an FDOT continuous six-lane north/south Strategic Intermodal System corridor that serves south central Florida and provides that critical economic link, hurricane emergency/evacuation route, and further provides unrestricted traffic movement for vital military training access to the Avon Park Range facility. Additionally, this is the only segment of US 27 in Polk County that is not currently six lanes. The traffic data and analysis demonstrates the improvements are needed by 2020-2040 in the Polk TPO Plan (see attached Polk TPO population projections), and the 2040 SIS Plan (see attached SIS documents). To maintain the integrity of the Strategic Intermodal System and comply with

stated goals, objectives and policies the projected improvement needs are supported by the Polk TPO, local governments, business leaders, and FDOT. They are included by reference in the Florida Transportation Plan (FTP) and specifically identified in the 2040 Strategic Intermodal System (SIS) Plans.

### ***ES.2.6 INTERMODAL CONNECTIVITY***

This segment of US 27 represents a critical link in the overall transportation system serving Florida from south to north. The I-75 Vision Study is now beginning to document the need for additional capacity for I-75, a parallel north-south SIS corridor, as it is projected to be over capacity in the same timeframe as we propose to upgrade US 27 (next 25 year period). It is likely that north-south parallel traffic will divert to US 27 if I-75 experiences heavy congestion/delay in the future. Additionally, the Port of Palm Beach Intermodal Logistics Center (ILC, formerly called “inland port”) has received final land use amendments and has begun to move forward once again. The Port of Palm Beach ILC is located south of this project along US 27 on land owned by Florida Crystals and will further enhance the need for US 27 to accommodate a full range of traffic in the future as it moves forward. Additionally, the total estimated economic impact for the integrated logistics center (ILC) in Polk County/Winter Haven is estimated at \$10.6 billion with a projected employment base of 6,500 to 11,000 jobs within 10 years. The employment projection is an estimate of the annual number of full-time jobs that will be generated after 10 years of operation. The most affected sectors are Rail and Truck Transportation (\$6.7 billion), Manufacturing (\$1.8 billion) and Services (\$1.4 billion). It is projected that the total development impact within the ILC will be: 3.0 million square feet of warehouse, 1.5 million square feet of industrial sites/plants, and 0.5 million square feet of office space. All figures are expressed in billions of 2005 dollars. These impacts will need adequate transportation facilities to support the projected growth. It is critical that adequate highway infrastructure exist or be provided for to ensure the safe and efficient flow of freight to and from an ILC facility.

### ***ES.2.7 ECONOMIC COMPETITIVENESS***

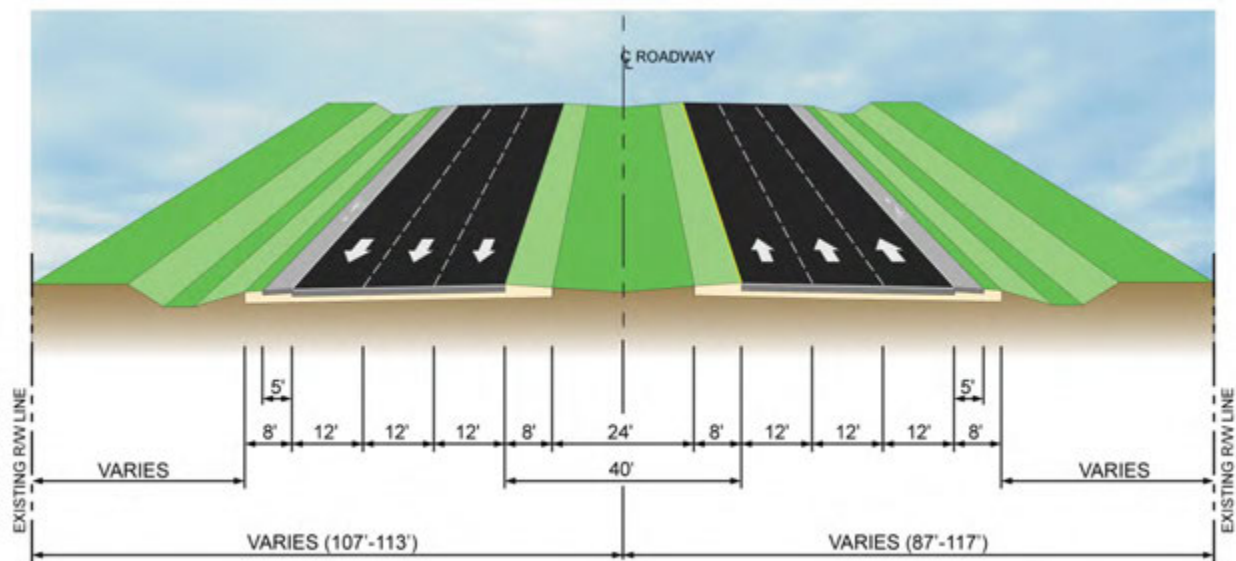
The FTP/SIS supports Florida’s Global Economic Competitiveness, is consistent with Florida’s Growth Management Laws, and is consistent with local land use policies, as well. The integrated logistics center (ILC) in Winter Haven is a primary hub that will be served by the US 27 improvements and it is a critical investment that supports the growing economic region in terms of freight movement, greater freight accessibility, and will enhance Rural Areas of Critical Economic Concern (RACEC) in south central Florida that utilize the corridor. For example, the mining industry, fruit industry, cattle industry, sugar industry, logging industry, sod industry and goods and services via the trucking industry, to name a few, all utilize this corridor to move their products, and/or goods and services.

### ES.3 RECOMMENDED BUILD ALTERNATIVE

The Recommended Build Alternative to widen US 27 from four to six lanes consists of a combination of three typical sections – a rural typical section, a rural typical section with sidewalk, and a suburban typical section. The concept for the Recommended Alternative is located in **Appendix A**. The approved Typical Section Package is in **Appendix B**.

The six-lane proposed rural typical section (**Figure ES-2**) consists of six 12-foot lanes, a 40-foot median, 8-foot inside shoulders, 8-foot outside shoulders (5-foot paved), and enough border width to accommodate open roadside ditches. The proposed design speed for this typical section is 70 mph, which is compatible with SIS design speed criteria for rural areas. The roadway improvements would not require any additional ROW. In some locations, the variable ROW width would result in a border width that would fall below the Plans Preparation Manual (PPM) requirements. A Design Variation for Border Width has been approved as shown in **Appendix F**.

FIGURE ES-2  
SIX-LANE RURAL TYPICAL SECTION



The proposed six-lane rural typical section (**Figure ES-3**) with sidewalk is the same as the rural typical section described above with the addition of 5-foot sidewalks in both directions. This typical section would be utilized in locations of the project that are within or adjacent to urban areas that require both a high design speed and pedestrian facilities.

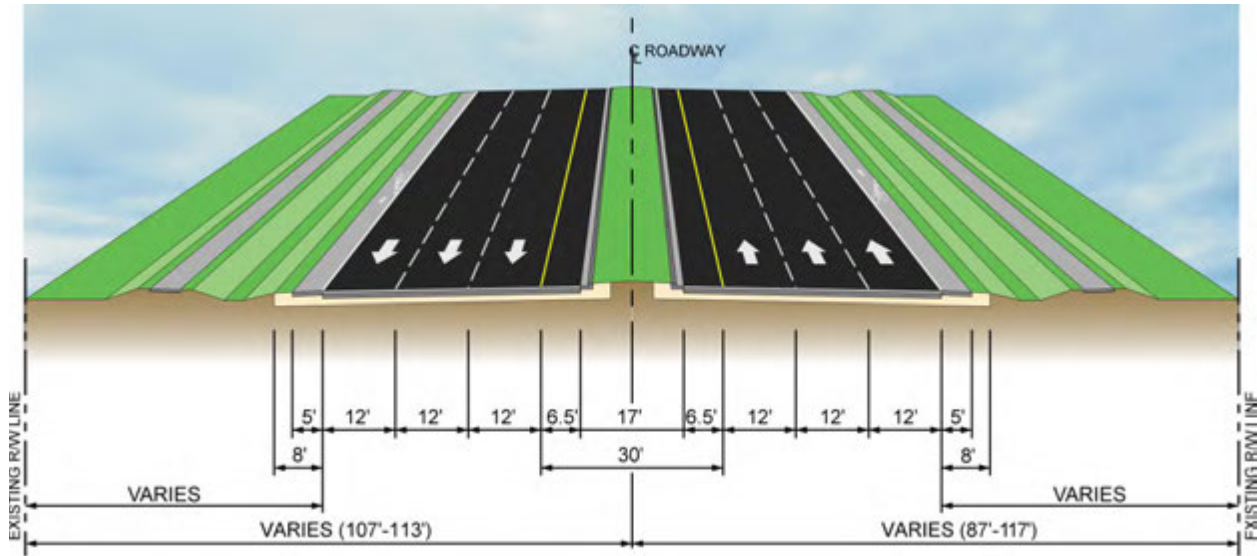
**FIGURE ES-3  
SIX-LANE RURAL TYPICAL SECTION WITH SIDEWALK**



In the portions of the project where the rural typical sections are implemented, various widening schemes can be utilized to widen the existing roadway to six-lanes such as widening to the outside, or a combination of both inside and outside widening. For this study, it was determined to assume the most conservative method – widening to the outside – to determine the need for design variations and develop a stormwater management layout. During the design phase, the preferred widening scheme will be determined based on its ability to accommodate all necessary design elements.

The suburban typical section (**Figure ES-4**) consists of six, 12-foot lanes, a 30-foot median, 6.5-foot inside shoulders, 8-foot outside shoulders (5-foot paved), and enough border width to accommodate open roadside ditches. The proposed design speed for this typical section is 50 mph, which is compatible with SIS design speed criteria for urban areas. The roadway improvements would not require any additional ROW. In some locations, the variable ROW width would result in a border width that would fall below PPM requirements. A Design Variation for Border Width has been approved.

**FIGURE ES-4  
SIX-LANE SUBURBAN TYPICAL SECTION**



In Segment 1, from County Line Road to north of CR 630A, the Recommended Alternative consists of widening the existing four-lane rural section to provide a six-lane section as shown in **Table ES-3**.

**TABLE ES-3  
SEGMENT 1 RECOMMENDED TYPICAL SECTIONS**

Limits	Recommended Typical Section
MP 0.000 to MP 5.180	Rural
MP 5.180 to MP 8.780	Rural with Sidewalk

In Segment 2, from north of CR 630A to south of Presidents Drive, the Recommended Alternative consists of widening the existing four-lane rural section to provide a six-lane section as shown in **Table ES-4**.

**TABLE ES-4  
SEGMENT 2 RECOMMENDED TYPICAL SECTIONS**

Limits	Recommended Typical Section
MP 8.780 to MP 9.636	Rural with Sidewalk
MP 9.636 to MP 13.500	Rural

In Segment 3, from south of Presidents Drive to north of SR 60, the Recommended Alternative consists of widening the existing four-lane rural section to provide a six-lane section as shown in **Table ES-5**.

**TABLE ES-5  
SEGMENT 3 RECOMMENDED TYPICAL SECTIONS**

<b>Limits</b>	<b>Recommended Typical Section</b>
MP 13.500 to MP 15.166	Rural
MP 15.166 to MP 18.057	Rural with Sidewalk
MP 18.057 to End of Project	Suburban

***ES.3.1 US 27 AND SR 60 INTERCHANGE***

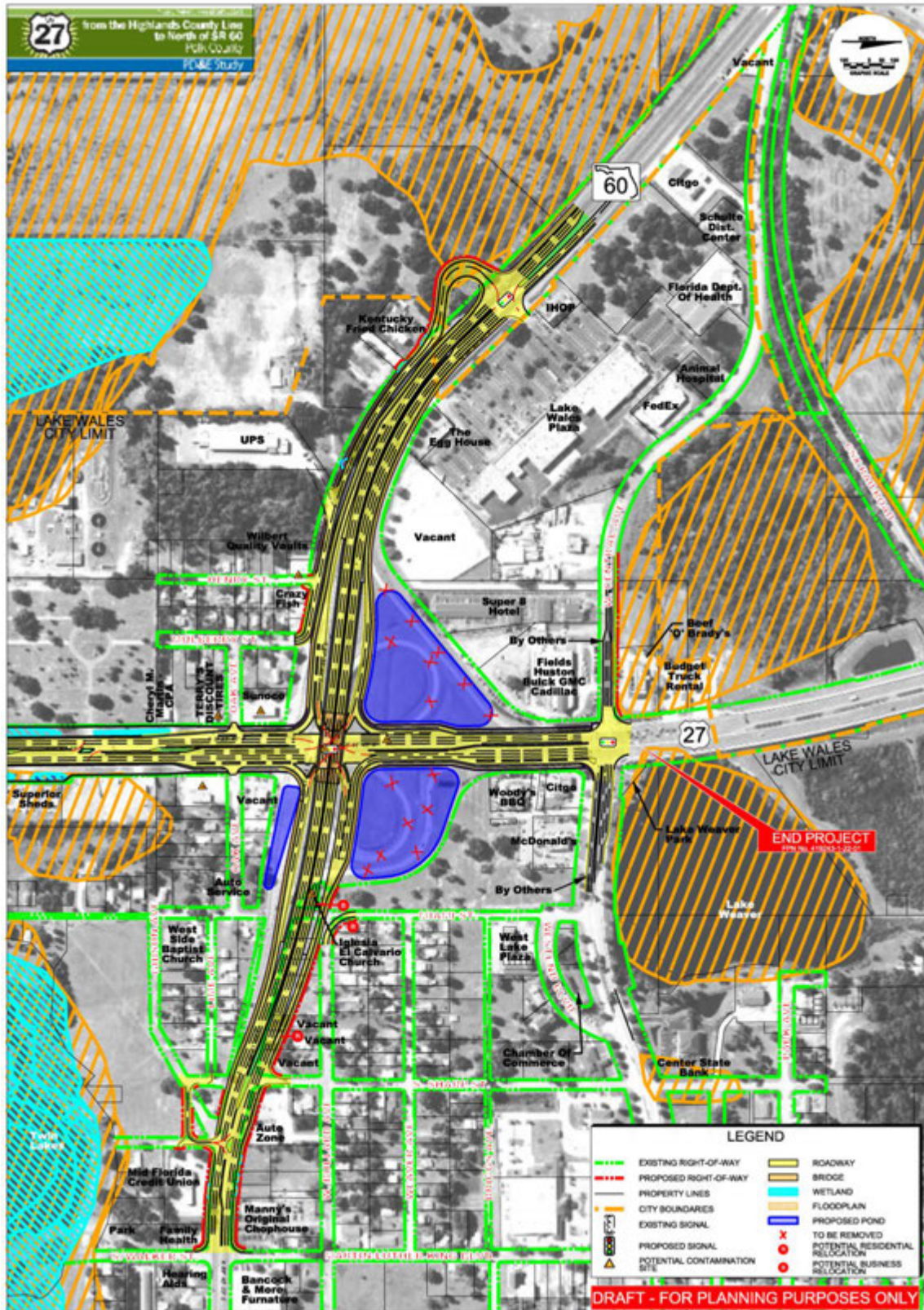
For the interchange at US 27 and SR 60 within Segment 3, three alternatives were developed and presented at the Public Information Workshop:

- Alternative 3A – Operational Improvement – modifications to the existing interchange
- Alternative 3B – Single Point Urban Interchange (SPUI)
- Alternative 3C – Tight Diamond Interchange

After conducting a public workshop and an exhaustive access management analysis a refined SPUI alternative was developed as shown in **Figure ES-5**. A two lane, two-way frontage road was added to the southwest quadrant of the interchange so that all access management issues could be appropriately addressed. The improved SR 60 would be an urban typical section consisting of six 11-foot lanes, a 22-foot median, 7-foot buffered bicycle lanes (in each direction), and 5-foot sidewalks.



**FIGURE ES-5  
RECOMMENDED ALTERNATIVE - SINGLE POINT URBAN INTERCHANGE (SIX LANES)**



## ES.4 PROJECT PLANNING CONSISTENCY

Table ES-6 shows the planned implementation schedule by construction segment.

**TABLE ES-6  
FUNDING SUMMARY**

<b>Segment 1: Highlands County Line to CR 630A (FPID 419243-2)</b>					
<b>Currently Adopted CFP - LRTP</b>	<b>COMMENTS</b>				
Yes	This project is included within the Cost Feasible Plan (CFP) of the Polk TPO's Momentum 2040 Long Range Transportation Plan (LRTP) as adopted December 10, 2015 and amended June 9, 2016 and the 2040 LRTP TIP adopted June 9, 2016. This segment is included in the 2040 CFP Tier III for years 2031- 2040.				
<b>PHASE</b>	<b>Currently Approved TIP</b>	<b>Currently Approved STIP</b>	<b>TIP/STIP \$</b>	<b>TIP/STIP FY</b>	<b>COMMENTS</b>
PE (Final Design)	Y	Y	\$6.703M/ \$6.734M	<2017/<2017	State funded, design underway. Adopted Work Program (State Funds), <2016 STIP.
R/W	Y	Y	\$4.014M/ \$3.897M	>2021/>2020	Adopted Work Program (Federal Funds), 2nd Five-Year SIS Plan, >2019 STIP. Anticipated funding in FY 2021.
Construction	N	N	\$50.787M	2031-2035	2040 SIS CFP (State and Federal Funds), LRTP CFP Tier III FY 2031-2035
<b>Segment 2: CR 630A to Presidents Drive (FPID 419243-3)</b>					
<b>Currently Adopted CFP- LRTP</b>	<b>COMMENTS</b>				
Yes	This project is included within the Cost Feasible Plan (CFP) of the Polk TPO's Momentum 2040 Long Range Transportation Plan (LRTP) as adopted December 10, 2015 and amended June 9, 2016 and the 2040 LRTP TIP adopted June 9, 2016. This segment is included in the 2040 CFP Tier II for years 2019- 2030.				
<b>PHASE</b>	<b>Currently Approved TIP</b>	<b>Currently Approved STIP</b>	<b>TIP/STIP \$</b>	<b>TIP/STIP FY</b>	<b>COMMENTS</b>
PE (Final Design)	Y	Y	\$4.843M/ \$4.869M	<2017/<2017	State funded, design underway. Adopted Work Program (State Funds), <2016 STIP.
R/W	Y	Y	\$2.229M/ \$2.604M	2021/>2020	Adopted Work Program (Federal Funds), 2nd Five-Year SIS Plan, >2019 STIP. Anticipated funding in FY 2021.
Construction	N	N	\$34.943M	2026-2030	2040 SIS CFP (State and Federal Funds), LRTP CFP Tier II FY 2026-2030.

**TABLE ES-6  
FUNDING SUMMARY  
(CONTINUED)**

<b>Segment 3: Presidents Drive to SR 60 (FPID 419243-4)</b>					
<b>Currently Adopted CFP - LRTP</b>	<b>COMMENTS</b>				
Yes	This project is included within the Cost Feasible Plan (CFP) of the Polk TPO's Momentum 2040 Long Range Transportation Plan (LRTP) as adopted December 10, 2015 and amended June 9, 2016 and the 2040 LRTP TIP adopted June 9, 2016. This segment is included in the 2040 CFP Tier II for years 2019- 2030.				
<b>PHASE</b>	<b>Currently Approved TIP</b>	<b>Currently Approved STIP</b>	<b>TIP/STIP \$</b>	<b>TIP/STIP FY</b>	<b>COMMENTS</b>
PE (Final Design)	Y	Y	\$6.664M/ \$7.179M	<2017/<2017	State funded, design underway. Adopted Work Program (State Funds), <2016 STIP.
R/W	Y	Y	\$5.221M/ \$4.638M	2018 & 2019/2018 & 2019	Adopted Work Program (State Funds).
Construction	Y	Y	\$49.505M/ \$48.767M	2020/2020	Adopted Work Program (State Funds).

## ***ES.5 PROJECT COST ESTIMATE***

Construction costs were estimated for the preferred alternative using the FDOT Long Range Estimate (LRE) program for the year 2016. The most recent LRE is provided in **Appendix C**.

## ***ES.6 ENVIRONMENTAL CONSIDERATIONS***

The potential impacts on the natural environment, cultural resources, social environment, and other environmental considerations are summarized below.

### ***ES.6.1 NATURAL ENVIRONMENT***

#### ***Floodplains***

The project may impact 26.7 acre-feet of floodplain. The impacts to the floodplain can be compensated in most cases within the existing ROW with the exception of Segment 2, where additional ROW would be required for a compensation site. During the design phase of the project, every step will be taken to further minimize impacts to floodplains. The floodplain encroachments associated with this project are classified as minimal and no change in the flood risk is anticipated as a result of this project.

## ***Wetlands***

The Recommended Alternative would result in direct impacts to 13.5 acres of wetlands and other surface waters. An additional 12.56 acres of wetlands and other surface waters are considered to have permanent secondary impacts based on SWFWMD criteria. Based on the considerations that have been outlined in the *Wetland Evaluation Report (WER)* (dated October 2015 prepared under separate cover), it has been determined that there is no practical alternative to the proposed construction in wetlands and that the proposed action includes all practical measures to mitigate harm to wetlands.

Final determination of jurisdictional wetland areas and mitigation requirements will occur between FDOT and the regulatory agencies during the final design phase of this project. Wetlands impacts that result from construction of this project will be mitigated pursuant to 373.4137 Florida Statute (F.S.) to satisfy all mitigation requirements of Part IV, Chapter 373 and 33 United States Code (U.S.C.) 1344.

## ***Wildlife and Habitat***

In February 2014, FDOT prepared and submitted to the U.S. Fish and Wildlife Service (FWS) an Endangered Species Biological Assessment (ESBA) to address potential effects of the project on state- and federally-listed species. In November 2014, FDOT submitted an ESBA Addendum to the FWS that provided additional information on the project. Findings contained in the ESBA Addendum include the loss of 12.4 acres of occupied Florida scrub-jay habitat, the loss of 39.7 acres of occupied sand skink/bluetail mole skink habitat, and the potential loss of several federally-listed plants.

In December 2014, the FHWA determined the project may affect and is likely to adversely affect the Florida scrub jay, sand skink, blue-tailed mole skink, scrub buckwheat, papery whitlow-wort, pygmy fringe-tree, short-leaved rosemary, sandlace, and scrub plum. The FHWA requested the FWS initiate formal consultation for the US 27 project's adverse effects to these species pursuant to section 7 of the Endangered Species Act of 1973, as amended.

In May 2015, the FWS issued a Biological Opinion (BO) for the US 27 project. Terms and Conditions of the BO include the requirement that FDOT purchase at least 12.4 acres of scrub jay habitat or 12.4 scrub jay credits from a conservation bank and 79.34 acres of sand skink habitat or 79.34 sand skink credits from a conservation bank. The ESBA Addendum also includes the commitment to relocate populations of listed plants within the project area prior to construction.

## ***ES.6.2 CULTURAL ENVIRONMENT***

### ***Historical and Archaeological***

A Cultural Resource Assessment Survey (CRAS) was performed in 2013 and approved by the State Historic Preservation Officer (SHPO) and the Federal Highway Administration (FHWA) in 2014. The CRAS identified and recorded 38 historic resources (50 years of age or older) within

the project area. These resources include five resource groups (8PO07639-7641 and 8PO07726-7727), 31 buildings (8PO07608-7634, 8PO07728-7731), one linear resource (8PO07654), and one cemetery (8PO07635). Since the submittal of the CRAS, design changes have occurred and additional field work was required. The resulting technical memorandum addendum identified 27 additional historic resources (8PO01126, 8PO01128, 8PO01262-1265, 8PO01408, 8PO01411, 8PO01474-1475, 8PO01488, 8PO08011-8022, 8PO08024, and 8PO08027-8029). All of the newly identified resources are structures. In total, 65 historic resources have been identified and recorded within the project area. Overall, the resource groups, buildings, and linear resource (US 27) that comprise a majority of the total represent commonly occurring types of architecture and engineering for the locale, and none is associated with significant historic events or persons. As a result, it is the opinion of ACI's architectural historian that none of these 64 historic resources are eligible for listing in the NRHP. The Lake Wales Cemetery (8PO07635), however, is considered eligible for listing in the NRHP at the local level under Criteria A and B in the areas of early settlement and community planning & development, as well as through its association with the early founders of Lake Wales (Criteria Consideration D).

In summary, proposed improvements to approximately 18 miles (mi) of US 27 will include about 0.4 mi of highway adjacent to the NRHP-eligible Lake Wales Cemetery (8PO7635); however, no additional right-of-way (ROW) will be required. The improvements to US 27 will not alter the qualities of the cemetery that make it eligible for listing in the NRHP, nor will the change from a 4-lane to a 6-lane highway significantly diminish the setting. Therefore, the proposed undertaking appears to have no adverse effect on the Lake Wales Cemetery.

### ***ES.6.3 SOCIAL ENVIRONMENT***

#### ***Social***

In February 1994, the President of the United States issued Executive Order 12898 (Environmental Justice) requiring federal agencies to analyze and address, as appropriate, disproportionately high adverse human health and environmental effects of federal actions on ethnic and cultural minority populations and low-income populations, when such analysis is required by the National Environmental Policy Act (NEPA) of 1969.

An evaluation of environmental, public health, and interrelated social and economic effects of the proposed projects on minority and/or low-income populations has been completed. A detailed discussion of the population, housing and income information for the State of Florida, Polk County and the project study area is provided in Section 5 of the CSRP. Area population characteristics were identified through analysis of 2013 ACS Data.

Census data indicates the presence of minority and low-income populations in the area of the project. The information in **Table ES-7** is summarized from Tables 5-2 and 5-3 in the CSRP, which identify the total population distribution along the project corridor.



**TABLE ES-7  
MINORITY AND LOW-INCOME POPULATION CENSUS DATA**

	<b>Hispanic</b>	<b>Non-White</b>	<b>Low-Income (% Below Poverty Level)</b>
<b>Project Census Tract Ranges</b>	2.3%-30.8%	1.7%-85.3%	4.65-41.9%
<b>Polk County-Wide Average</b>	18.2%	21.1%	18.2%

The Recommended Build Alternative will occur mainly within the existing US 27 and SR 60 ROW. However, additional ROW will be needed for wetland mitigation for Segment 1, wetland and floodplain mitigation for Segment 2, and for the Refined SPUI Alternative (within the limits of Segment 3). The Recommended Build Alternative (including the 6-lane Refined SPUI) was selected based on its attainment of SIS requirements and reduced community impacts. Other interchange concepts either failed to meet SIS requirements or resulted in additional community impacts (i.e., relocations or direct parcel impacts). The Refined SPUI Alternative reduces the total number of both relocations and parcel impacts that would occur in the area of the interchange. The Recommended Build Alternative also better enhances safety and access to SR 60 and US 27 from adjacent neighborhoods.

The new ROW needed for Segment 3 will predominantly impact vacant commercial parcels and several active commercial parcels. However, the relocation of two residential parcels and one vacant building (former church) are necessary for the Recommended Build Alternative. Although these impacts will occur within areas which contain higher percentages of low-income and Hispanic/non-white populations, the Recommended Build Alternative will have a minimal impact on the periphery of these populations.

The Recommended Build Alternative is not anticipated to adversely impact elderly persons; handicapped individuals; non-drivers; transit-dependent individuals; or minorities. This project is expected to enhance the quality of life by improving mobility, accessibility and connectivity along the US 27 corridor. The project will not bisect any communities or isolate any portions thereof. It is anticipated that the project improvements will have no significant impact on community cohesion. This project has been developed to comply with Executive Order 12898, Environmental Justice, issued February 11, 1994 and has been developed without regard to race, color, national origin, age, sex, religion, disability, or family status. Therefore, the level of effects is expected to be not significant.

**ES.6.4 OTHER EFFECTS**

**Noise**

For the Recommended Alternative, which includes the Single Point Urban Interchange (SPUI) configuration at the US 27/SR 60 interchange, noise levels are predicted at 450 receptor points representing 506 residences (includes designated camping and RV sites), four residential common use areas (community pools and a pavilion), three motels (swimming pools at Sun Ray

Motel, Lake Wales Inn and Royale Inn), one office (exterior use), the Lake Wales Cemetery, three churches (Sun Ray United Methodist interior, West Side Baptist interior/exterior including a barbecue area and playground and Connections Community Church interior), two community recreational areas (soccer field at Sun Ray Community Center and Walker Family Park), Bok Academy (school interior), the Elks Lodge (exterior use) and a medical facility (Lake Wales Family Health Center interior).

Exterior noise levels are predicted to approach or exceed the Noise Abatement Criteria (NAC) for 2040 Recommended Alternative conditions at 140 residences (includes designated camping and RV sites), the community pool and pavilion at Camp Inn RV Resort, a community pool at Camp'n Aire Camping Resort, gravesite areas in the Lake Wales Cemetery, Elks Lodge outdoor seating, the motel pool at Lake Wales Inn and the West Side Baptist Church barbecue area. Compared to existing conditions, traffic noise levels for 2040 Recommended Alternative conditions are predicted to increase 9.2 dB(A), or less. Therefore, traffic noise levels are not predicted to substantially increase (increase by 15 dB(A) or greater) at any noise sensitive site as a direct result of the transportation improvement project.

Abatement is evaluated for all noise sensitive sites identified as impacted by the Recommended Alternative. Traffic management and alignment modifications are determined to not be viable abatement measures. Consideration of buffer zones during planning of future development is identified as a viable abatement measure that can be implemented by local officials responsible for land use planning.

Noise barriers could potentially provide at least the minimum required noise reduction for a cost below the reasonable limit of \$42,000 per benefited receptor at five residential areas. From south to north, the first residential area includes Camp Inn RV Resort, the second residential area includes Shady Nook RV Park, Camp'n Aire Camping Resort and Lake Wales Campground, the third residential area includes Lakeside Garden Mobile Home Park, the fourth area includes the residences along Wales Street and the fifth area includes residences along Lime Avenue. The potentially feasible and cost reasonable noise barriers are predicted to benefit 82 impacted residences at locations distributed between Camp Inn RV Resort (four impacted residences potentially benefited), Shady Nook RV Park/Camp'n Aire Camping Resort/Lake Wales Campground (39 impacted residences potentially benefited), Lakeside Garden Mobile Home Park (eight impacted residences potentially benefited), the residential community along Wales Street (24 impacted residences potentially benefited) and the residential community along Lime Avenue (seven impacted residences potentially benefited). The impacted common use areas at the Camp Inn RV Resort (community swimming pool and pavilion) and West Side Baptist Church barbecue area would also potentially benefit from a noise barrier provided for residences. In addition to impacted residences, up to 55 residences with predicted noise levels that do not approach the NAC may potentially be provided an incidental benefit. FDOT is committed to construction of noise barriers at these locations contingent on: 1) abatement being found feasible and cost reasonable in the design phase, 2) community support, and 3) resolution of any safety and engineering issues.



Noise barriers are not feasible and cost reasonable at 58 impacted residences primarily because the impact is at an isolated residence, the impacted residences are in an area where the density of residential development is low or gaps in a noise barrier to accommodate driveways/roads accessing US 27 limit the amount of noise reduction to less than 5 dB(A). Noise barriers are not cost reasonable at impacted non-residential sites (community pool at Camp'n Aire Camping Resort, Lake Wales Cemetery, outdoor seating at the Elks Lodge, motel pool at Lake Wales Inn) because the noise reduction design goal could not be achieved or the noise sensitive site would not generate the person-hours of use on an average day required to meet the cost reasonable limit.

### ***Contamination***

A *Contamination Screening Report* (dated October 2015, prepared under separate cover) was prepared for the project. Based on research and site reviews, five sites along the project corridor have a HIGH potential and 23 sites have a MEDIUM potential for contaminating the US 27 right-of-way. These sites and any newly-identified sites will be evaluated further during the future project design phase(s), including Level II testing as necessary. Future project design plans will contain marked contamination polygons and general notes as applicable. The FDOT will oversee any remediation activities necessary.

### **Potential HIGH Sites**

- Site No. 11 – Sunoco/J Glenn Wright #145/South 27 Amoco - 19300 (formerly 302) US 27
- Site No. 12 – Iglesia Le Calvario (former gas station) - 403 W. Bullard Avenue
- Site No. 13 – Terry's Discount Tire - 19254 (formerly 304, Becton's Tire Service) US 27
- Site No. 16 – Dorman's Auto Sales - 18631/18643 (formerly 841) US 27
- Site No. 59 – Orange Box Café (former gas station) - 7315 US 27

### **Potential MEDIUM Sites**

- Site No. 5 – Former Pole Barn - located within the US 27 median at SR 60
- Site No. 10 – Quality Vaults - 801 Henry St. (formerly 601 SR 60/Bartow Road)
- Site No. 14 – Abandoned Gas Station (former Shell-Mapco#8438) - 19253 (formerly 301 and 305) US 27
- Site No. 17 – Chuck Wagon Property (former gas station) - 18630 (formerly 900) US 27
- Site No. 23 – Citgo Quik Mart / Lake Wales Citgo - 16311 (formerly 3131) US 27
- Site No. 25 – C & J Equipment (former Joey Food Mart gas station) - 16200 (formerly 3230) US 27
- Site No. 29 – Story Grove Service - 16030 (formerly 3358) US 27
- Site No. 36 – Former Smith & Sons (a.k.a. Glen Smith & Sons) - 3899 US 27

- Site No. 37 – Abandoned Gas Station (former JJ/RF, Texaco gas station) - 15375 (formerly 3987) US 27
- Site No. 46 – Kangaroo/Valero Gas Station - 14581 (formerly 4719) US 27
- Site No. 47 – On Time Quality Printers/J&A Auto Sales (former Star Auto Repair) - 14440 US 27
- Site No. 48 – Payne’s Trailers - 14410 US 27
- Site No. 51 – Former Auto Boutique - 14105 US 27
- Site No. 52 – The Performance Shop (TPS) - 14095 US 27
- Site No. 55 – Crops - west side of US 27
- Site No. 61 – Direct Transport Tanker Spill - 7030 US 27
- Site No. 62 – Townstar #46/BP - 7030 US 27
- Site No. 63 – Former 27 Truck Stop - 100 S. US 27
- Site No. 64 – Former Sunoco/BP Sun Ray - 5321 US 27
- Site No. 65 – Marathon - 5320 US 27
- Site No. 66 – Railroad Tracks at US 27 bridge over CSX tracks
- Site No. 67 – Polk Edgar (former gas station) - 2400 US 27
- Site No. 72 – Groves and Former Groves – (eight locations) east and west sides of the US 27 project corridor.

### ***Air Quality***

The highest predicted CO concentrations are 6.5 ppm for a 1-hour averaging time and 3.9 ppm for an 8-hour averaging time. All predicted CO concentrations for the No-Build and Build conditions in the opening year and design year are below the National Ambient Air Quality Standards (NAAQS) of 35 ppm for a 1-hour averaging time and the NAAQS of 9 ppm for an 8-hour averaging time. The predicted 1-hour and 8-hour concentrations include a background CO level of 3.3 ppm and 2.0 ppm, respectively.

The project is in an area that has been designated as attainment for all of the NAAQS established by the Clean Air Act and subsequent amendments. Therefore, demonstration of conformity with a State Implementation Plan (SIP) is not required for this project.

This document does not incorporate an analysis of the GHG emissions or climate change effects of each of the alternatives because the potential change in GHG emissions is very small in the context of the affected environment. Because of the insignificance of the GHG impacts, those local impacts will not be meaningful to a decision on the environmentally preferable alternative or to a choice among alternatives. For these reasons, no alternatives-level GHG analysis has been performed for this project.

# *Section 1.0*

## *SUMMARY*

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### *1.1 SUMMARY*

The FDOT District One is conducting a PD&E study to evaluate options for widening US 27 in Polk County. The study begins at the Polk-Highlands County Line (MP 0.00) and ends approximately 0.22 miles north of SR 60 (MP 18.816) for a total length of 19.036 miles. SR 60 is at MP 18.816. At SR 60, the roadway ID changes and the MP resets to 0.000. The project limits and the general Study Area of the PD&E study are graphically shown on **Figure 1-1**. The objective of the PD&E study is to evaluate widening the existing four-lane divided facility to a six-lane divided facility including the development of interchange configurations at US 27 and SR 60 to accommodate the proposed widening. This study documents the need for capacity improvements within the US 27 corridor and determines the optimal and feasible improvements necessary to satisfy the deficiencies.

This study meets all requirements of the FHWA NEPA regulations.

The PD&E study evaluates the need for capacity improvements and provides documented environmental and engineering analyses to assist FDOT in reaching a decision on the location and conceptual design for improvements to US 27. Additional products of the PD&E study include preliminary engineering conceptual plans, environmental studies, a public outreach program, and other information that can be directly used in the final design of the project. Upon completion, this PD&E study will comply with the requirements of NEPA and other federal and state laws to qualify the proposed project for federal-aid funding.

### *1.2 COMMITMENTS*

The Department is committed to the following measures to minimize impacts to the human and natural environment:

- 1) Construction of the US 27 project will not commence until: a) the FDOT provides the Service with a receipt (in the form of a letter or email) from one or more Service approved conservation banks stating that at least 12.4 ac (5.1 ha) of scrub jay habitat or 12.4 scrub jay credits and 79.34 ac (32.1 ha) of sand skink habitat or 79.34 sand skink credits (2:1 acres to credits ratio) have been acquired by the FDOT; and b) the FDOT and FHWA receive an email or letter from the Service indicating that we have received the receipt from the approved conservation bank(s).
- 2) Vegetation removal and land clearing activities may not occur within occupied scrub-jay habitat on the project site during the scrub-jay nesting season (March 1 to June 30).

- 3) Upon locating a dead, injured, or sick threatened or endangered species, initial notification must be made to the nearest Service Law Enforcement Office: U.S. Fish and Wildlife Service; 9549 Koger Boulevard, Suite 111; St. Petersburg, Florida 33702; 727-570-5398. Secondary notification should be made to the Florida Fish and Wildlife Conservation Commission (FWC): South Region; 3900 Drane Field Road; Lakeland, Florida 33811-1299; 1-800-282-8002 and care should be taken in handling sick or injured specimens to ensure effective treatment and care or in the handling of dead specimens to preserve biological material in the best possible state for later analysis as to the cause of death. In conjunction with the care of sick or injured skinks, or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.
- 4) The FDOT will coordinate with the FWS, Florida Department of Agriculture and Consumer Services (FDACS), Bok Tower Gardens (BTG), and other appropriate entities during the future project design phase(s) to avoid and minimize impacts to listed plant species to the extent feasible. The FDOT will coordinate with the Rare Plant Conservation Program staff at BTG who will assist in the conservation efforts of these plants using three main techniques: taking cuttings of plants which are then used to clone additional individuals, collecting ripe seeds, and relocating entire plants. Plants will be relocated to the National Collection growing beds at BTG.
- 5) The FWS' most current version of the *Standard Protection Measures for the Eastern Indigo Snake* will be adhered to during construction of the project.
- 6) To avoid potential adverse impacts to migratory bird species with active nests observed during field reviews, the FDOT will commit to resurvey the project area for bald eagle, osprey, and Southeastern American kestrel nests during design and permitting. If active nests are observed, the FDOT will coordinate with FWC and FWS (as necessary) to secure proper permits concerning these species.
- 7) Noise barriers could potentially provide at least the minimum required noise reduction for a cost below the reasonable limit of \$42,000 per benefited receptor at five residential areas. The potentially feasible and cost reasonable noise barriers are predicted to benefit 82 impacted residences at locations distributed between Camp Inn RV Resort (four impacted residences potentially benefited), Shady Nook RV Park/Camp'n Aire Camping Resort/Lake Wales Campground (39 impacted residences potentially benefited), Lakeside Garden Mobile Home Park (eight impacted residences potentially benefited), the residential community along Wales Street (24 impacted residences potentially benefited), and the residential community along Lime Avenue (seven impacted residences potentially benefited). The impacted common use areas at the Camp Inn RV Resort (community swimming pool and pavilion) and West Side Baptist Church barbecue area would also potentially benefit from a noise barrier

provided for impacted residences. The FDOT is committed to further consideration of noise barriers during the project design phase(s) for these locations contingent upon the following:

- Detailed noise analyses during the final design process support the need, feasibility and reasonableness of providing abatement;
  - Cost analysis indicates that the cost of the noise barrier(s) will not exceed the cost reasonable criterion;
  - Community input supporting types, heights, and locations of the noise barrier(s) is provided to the District Office;
  - Safety and engineering aspects as related to the roadway user and the adjacent property owner(s) have been reviewed and any conflicts or issues resolved.
- 8) A land use review will be conducted during the Design phase to identify noise sensitive sites that may have received a building permit subsequent to the noise study but prior to the date of public knowledge (i.e. the date that the environmental document has been approved by OEM). If the review identifies noise sensitive sites that have been permitted prior to the date of public knowledge, then those sensitive sites will be evaluated for traffic noise and abatement considerations.
- 9) The FDOT will further evaluate High and Medium contamination sites during the project Design phase(s). For contamination sites identified, estimated areas of contamination will be marked on the project plans and, prior to construction, any necessary cleanup plans will be developed. If remediation activities are required, these will be overseen by the FDOT.
- 10) It has been determined that Important Farmlands as defined by 7 CFR 658 are located in the project vicinity, however they will not be impacted by the project. If additional ROW is needed during the future project design phase(s), project involvement with Important Farmlands will be reevaluated and coordination will occur with the NRCS as appropriate.

See **Appendix D** for the Project Commitments Record.

### ***1.3 RECOMMENDATIONS***

During a Board Meeting held June 9, 2016, the Polk Transportation Planning Organization (TPO) determined that the proposed action is consistent with Polk County's Adopted 2040 Transportation Improvement Plan (TIP) (**Appendix B of the Categorical Exclusion**

**document**). It is recommended that improvements to US 27 and SR 60 consists of widening from a four-lane divided facility to a six-lane divided facility within the Study Area.

## ***1.4 DESCRIPTION OF PROPOSED ACTION***

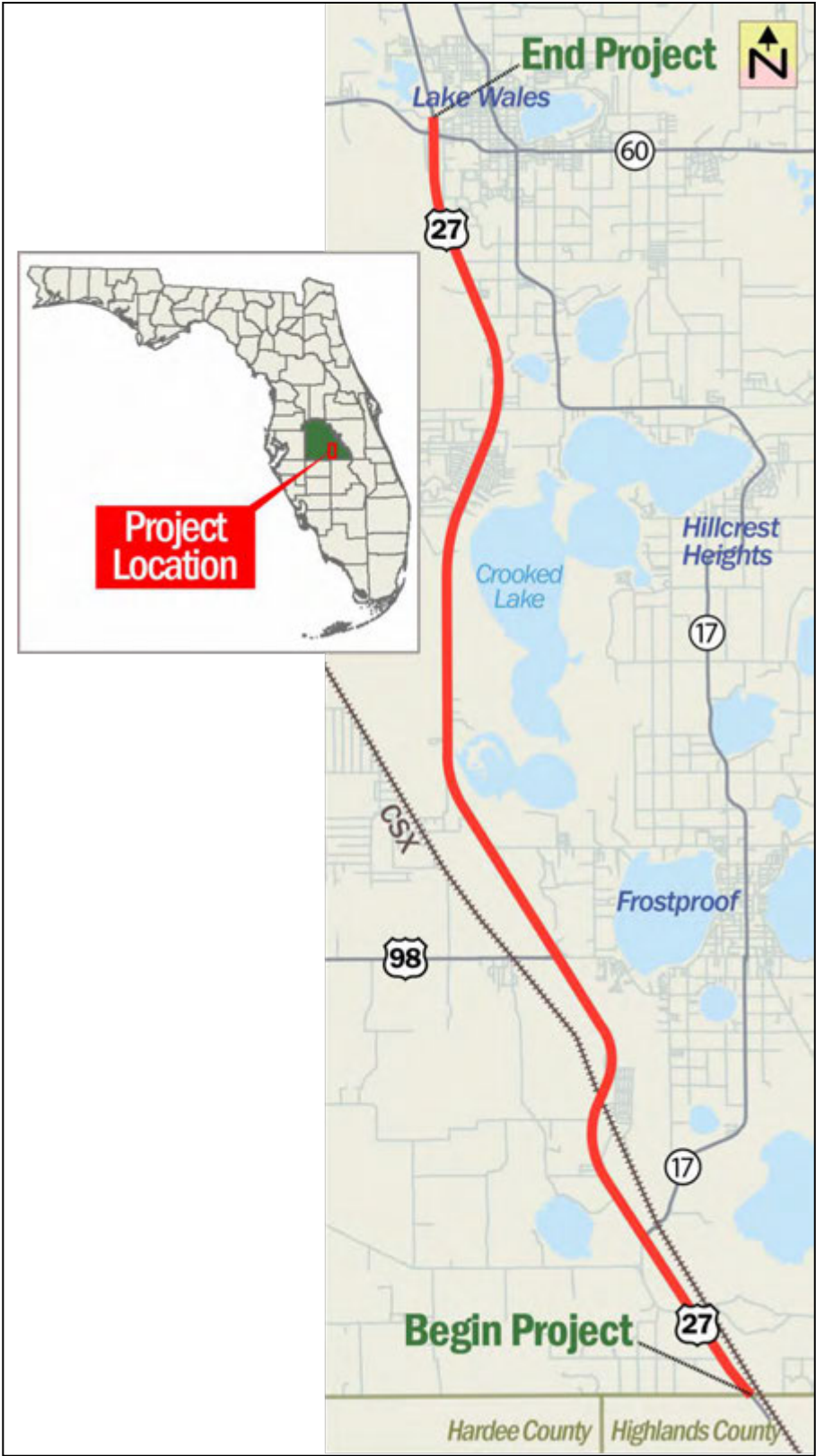
The proposed improvements to both US 27 and SR 60 will be implemented as follows:

Within Segments 1 and 2, the Recommended Build Alternative is a six-lane rural roadway providing six 12-foot lanes, a 40-foot median, 8-foot inside shoulders, and 8-foot outside shoulders (5 feet paved). Bicyclists will be accommodated on the 5-foot paved shoulder. The rural typical sections will be modified to include 5-foot sidewalks in both directions within the Frostproof Urban Area and the respective one-mile urban boundary. Additional ROW will be needed for wetland mitigation for Segment 1 and wetland and floodplain mitigation for Segment 2.

Within Segment 3, north of MP 18.057, the Recommended Build Alternative will be a six-lane suburban roadway providing six 12-foot lanes, a 30-foot median, 6.5-foot inside shoulders, and 8-foot outside shoulders (5 feet paved). Bicyclists will be accommodated on the 5-foot paved shoulder. The rural typical sections will be modified to include 5-foot sidewalks in both directions within the Lake Wales Urban Area and the respective one-mile urban boundary. Additional ROW will be needed within Segment 3 to accommodate the recommended Refined Single Point Urban Interchange Alternative (SPUI), discussed below.

The Recommended Build Alternative for the interchange of US 27 and SR 60 is a SPUI. This alternative replaces the existing partial cloverleaf interchange with a four-ramp configuration connecting the freeway to the surface road. This improvement provides additional turn lanes at the ramp terminals intersecting at a single signalized juncture. A two-lane, two-way frontage road was added to the SW quadrant of the interchange so that all access management issues could be properly addressed. The proposed urban typical section for SR 60 will provide six 11-foot lanes, a 22-foot median, 7-foot buffered bicycle lanes, and 5-foot sidewalks. The infield areas at the SR 60 interchange will be utilized for stormwater management. This alternative requires approximately 2.68 acres of additional ROW and will impact 26 parcels, including two residential and one business relocations.

**FIGURE 1-1  
PROJECT LOCATION MAP**





# *Section 2.0*

## *EXISTING CONDITIONS*

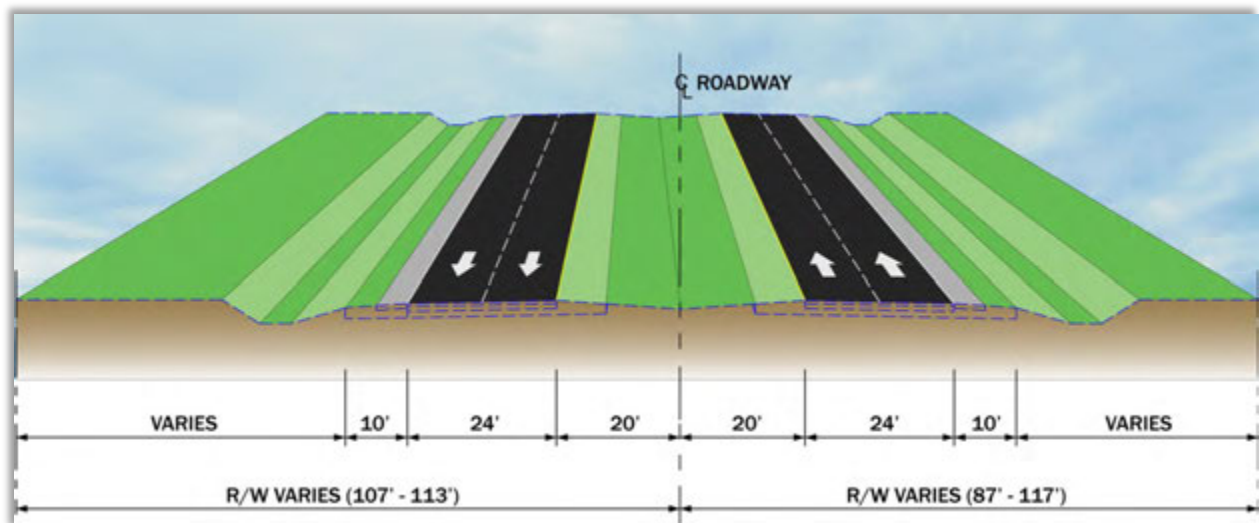
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Existing roadway conditions described in this report were derived from a review of the US 27 as-built plans, FDOT Straight Line Diagrams (SLD) of Road Inventory, and field reviews.

### **2.1 TYPICAL SECTION**

Within the project limits, US 27 is a four-lane divided roadway with an open drainage system. The existing typical section consists of four 12-foot travel lanes (two in each direction) divided by a 40-foot median. The median shoulders range from 8 to 10 feet and the outside shoulders are 10 feet (5 feet paved), see **Figure 2-1**.

**FIGURE 2-1  
EXISTING TYPICAL SECTION**



Sources: FDOT US 27 As-Built, SLDs

Portions of the existing paved roadway shoulders are marked as bicycle lanes. Dedicated pedestrian facilities (sidewalks) have minimal coverage and are not continuous.

### **2.2 EXISTING ROADWAY RIGHT-OF-WAY**

The existing US 27 ROW width ranges throughout the length of the project from a minimum of 200 feet to a maximum of 230 feet.

## 2.3 ROADWAY CLASSIFICATION

US 27 is a SIS facility for the length of the Study Area. According to FDOT's Straight Line Diagrams, the functional classification of US 27 is shown in **Table 2-1**. In addition, this facility is a designated hurricane evacuation route.

**TABLE 2-1  
FUNCTIONAL CLASSIFICATION OF US 27**

LIMITS	LENGTH	FUNCTIONAL CLASSIFICATION
From Highlands County Line (MP 0.000) to Frostproof Urban Area (MP 4.784)	4.784 miles	Rural Principal Arterial Other
From Frostproof Urban Area (MP 4.784) to County Road 630A (CR 630A) (MP 8.623)	3.839 miles	Urban Principal Arterial Other
From CR 630A (MP 8.623) to Lake Wales Urban Area (MP 16.212)	7.589 miles	Rural Principal Arterial Other
Lake Wales Urban Area (MP 16.212) to Central Avenue (MP 0.220)*	2.824 miles	Urban Principal Arterial Other

\* SR 60 is at MP 18.816. At SR 60, the roadway ID changes and the MP resets to 0.000.  
Source: FDOTs SLDs

## 2.4 HORIZONTAL ALIGNMENT

There are seven horizontal curves located within the project limits. The original As-Built plans, as well as more recent resurfacing plans, were utilized to provide the information in **Table 2-2**.

**TABLE 2-2  
EXISTING HORIZONTAL GEOMETRY FOR US 27**

PI STATION	DEGREE OF CURVE	RADIUS (FEET)	LENGTH (FEET)	PPM MIN. LENGTH (FEET)	ORIGINAL SE	REQUIRED SE (PPM)	COMMENTS
212+13.38	1° 00' 20.22"	5,697.58	1,262.08	1,050	0.021	0.037	SE Corrected by FPID 425242-1
422+86.28	1° 00' 20.22"	5,697.58	1,254.99	1,050	0.039	0.037	Meets Criteria
484+86.53	1° 19' 24.51"	4,329.18	4,296.14	1,050	0.054	0.054	Meets Criteria
714+91.40	1° 00' 20.22"	5,697.58	3,152.29	1,050	0.039	0.037	Meets Criteria
887+85.40	0° 30' 05"	11,427.16	4,437.56	1,050	0.021	0.02	Meets Criteria
1012+09.62	0° 35' 00"	9,822.14	7,576.43	1,050	0.023	0.023	Meets Criteria
1149+27.46	0° 40' 00"	8,594.37	3,228.75	1,050	0.026	0.026	Meets Criteria

Notes: PPM = Plans Preparation Manual; SE = Super Elevation.  
Source: FDOTs As-Builts

## **2.5 VERTICAL ALIGNMENT**

There are 46 vertical curves and 14 vertical points of intersection (VPIs) located within the project limits. The As-Built plans were utilized to provide the information in **Appendix E**, which provides a summary of all of the vertical alignment elements. **Table 2-3** provides a summary of the vertical elements that do not meet current PPM and/or American Association of State Highway and Transportation Officials (AASHTO) criteria.

## **2.6 PEDESTRIAN ACCOMMODATIONS**

A 5-foot sidewalk exists along the northbound side of US 27 from Laurel Park Terrace to just south of Mulberry Street – a total distance of approximately 2,300 feet.

## **2.7 BICYCLE FACILITIES**

Existing paved shoulders are available to bicyclists throughout the project limits. The shoulders are designated bike lanes in the following locations:

- Highlands County Line to Avon Park Cut-Off Road
- South of Harvard Avenue to Charles Street
- US 98 to Limpkin Lane

## **2.8 LIGHTING**

Existing lighting is sporadic within the project limits. The majority of the lights are attached to utility poles along the west side of US 27 in the developed portions of the project.

Conventional roadway lighting existing in the following locations:

- Northbound and southbound US 27 approaching the signalized intersection with US 98
- Northbound and Southbound US 27 approaching the intersection with CR 630A
- Northbound and Southbound US 27 approaching the interchange with SR 60

**TABLE 2-3  
EXISTING DEFICIENT VERTICAL GEOMETRY FOR US 27**

<b>PI Location</b>	<b>Type</b>	<b>Grade 1</b>	<b>Grade 2</b>	<b>Algebraic Difference</b>	<b>Length (Feet)</b>	<b>PPM Min. L (Feet)</b>	<b>Calculate D K</b>	<b>PPM Min. K</b>	<b>AASHTO Min. K</b>	<b>Comment</b>
220+00 MP 0.350	SAG	0.2000%	0.8500%	0.65	300	400	462	181	181	Design Variation/ Fix Required
339+50 MP 2.614	CREST	0.008127	-0.0085	1.66	500	500	301	401	247	Design Variation/ Fix Required
424+00 MP 4.214	SAG	0.0038	0.032	2.82	500	400	177	181	181	Design Exception/ Fix Required
431+00 MP 4.347	CREST	0.032	0.00584	2.62	800	500	306	401	247	Design Variation/ Fix Required
454+77 MP 4.797	CREST	0.0254	-0.0254	5.08	1300	500	256	401	247	Design Variation/ Fix Required
463+71 MP 4.966	SAG	-0.0254	-0.0016	2.38	400	400	168	181	181	Design Exception/ Fix Required
1087+00 MP 16.770	N/A	0.001563	0.004592	0.30	N/A	N/A	N/A	N/A	N/A	Design Variation/ Fix Required
1139+00 MP 17.756	N/A	-0.00400	-0.00132	0.27	N/A	N/A	N/A	N/A	N/A	Design Variation/ Fix Required

## **2.9 INTERSECTION LAYOUT**

The project Study Area includes the US 27/SR 60 interchange and 23 intersections. The Study Area intersections are listed below:

1. US 27 and County Line Road (MP 0.000)
2. US 27 and South Avon Park Cut-Off Road (MP 1.103)
3. US 27 and North Avon Park Cut-Off Road (MP 2.585)
4. US 27 and Lake Streety Road (MP 3.285)
5. US 27 and Princeton Avenue (MP 3.682)
6. US 27 and Otto Polk Road (MP 4.380)
7. US 27 and George Street (MP 5.005)
8. US 27 and Charles Street (MP 5.142)
9. US 27 and Lily Creek Way (MP 6.455)
10. US 27 and US 98 (Fort Meade Road)/CR 630 (MP 6.851)
11. US 27 and CR 630A (MP 8.612)
12. US 27 and Camp Inn Resort (MP 10.162)
13. US 27 and Lakeside Gardens Drive (MP 13.482)
14. US 27 and Presidents Drive (MP 13.638)
15. US 27 and Central Drive (MP 13.834)
16. US 27 and Jackson Street (MP 14.126)
17. US 27 and 1st Avenue North (MP 14.200)
18. US 27 and College Boulevard (MP 14.260)
19. US 27 and CR 640 (Alturas Babson Cut-Off Road) (MP 14.886)
20. US 27 and Harbor Drive (MP 15.526)
21. US 27 and CR 17B (Hunt Brothers Road) (MP 16.989)
22. US 27 and SR 60 Interchange (MP 18.816)
23. US 27 and Central Avenue (MP 0.220)

## **2.10 TRAFFIC SIGNALS**

Four of the 23 intersections within the Study Area are signalized:

1. US 27 and North Avon Park Cut-Off Road (MP 2.585)
2. US 27 and US 98 (Fort Meade Road)/CR 630 (MP 6.851)
3. US 27 and CR 640 (Alturas Babson Cut-Off Road) (MP 14.886)
4. US 27 and Central Avenue (MP 0.220)

## **2.11 EXISTING DESIGN AND POSTED SPEEDS**

Within the corridor limits, US 27 has the design and posted speeds depicted in **Table 2-4**.

**TABLE 2-4  
EXISTING DESIGN AND POSTED SPEEDS FOR US 27**

<b>Limits</b>	<b>Original Design Speed</b>	<b>Posted Speed</b>
MP 0.000 to MP 16.212	70 mph	65 mph
MP 16.212 to MP 18.057	70 mph	60 mph
MP 18.057 to MP 18.567	70 mph	55 mph
MP 18.567 to North of Central Avenue (MP 0.220)	70 mph	50 mph

## **2.12 RAILROAD CROSSING**

There is one crossing of the CSX railroad corridor within the project limits located at MP 4.771. This is not an at-grade crossing as US 27 goes over this railroad corridor on bridges.

## **2.13 STRUCTURAL AND OPERATIONAL CONDITIONS OF PAVEMENT**

According to the Pavement Condition Survey for Polk County, US 27 within the PD&E study corridor has been resurfaced between 2008 and 2013. The pavement within the study corridor has average ratings for cracking and ride that range from 7.0 to 10.0 and 7.7 to 8.0, respectively. Based on these average ratings, the existing pavement is in good condition and is not considered deficient.

## **2.14 DRAINAGE SYSTEMS INVENTORY**

### **2.14.1 FLOODPLAINS/FLOODWAYS**

The limits of this project are covered by Federal Emergency Management Agency (FEMA) Panels 12105C0565G, 12105C0730F, 12105C0740F, 12105C0935F, 12105C0945F, and 12105C0950F. The effective date of these maps is December 20, 2000, except for 12105C0565G, which has an effective date of November 19, 2003. There are no floodways within the limits of the project.

There are 31 cross drain and four bridge floodplain encroachments along the project limits. In addition, there is one cattle crossing at Crooked Lake with a flow line below the 100-year floodplain elevation. According to the FEMA floodplain maps the roadway traverses 4.8 miles of floodplain, of which 3.4 miles is in the Crooked Lake floodplain.

### **2.14.2 EXISTING DRAINAGE CONDITIONS**

The roadside swales along the existing roadway collect runoff and provide some degree of treatment prior to discharge into the natural drainage system surrounding the ROW. The area is dominated by a series of lakes (Lake Livingston, Lake Streety, Lake Clinch, Crooked Lake, Blue Lake, Tractor Lake, and Lake Altamaha), the Peace Creek basin, and drainage ditches that flow to those water bodies. In Segments 1 and 2, surface water generally flows from west to east, toward wetland areas surrounding Lake Livingston, Lake Clinch, and Crooked Lake. In Segment 3, surface water flow is both to the east and to the west, depending upon surface topography, but drainage in this segment is mainly controlled by the Peace Creek Canal, located west of the ROW. There are 31 existing cross drains within the project limits. These cross drains are listed in **Table 2-5**.

There are four primary Water Body Identification Numbers (WBIDS) within the project limits: 1730F, which includes the Lake Streety Canal outfall to Lake Livingston; 1706A, which drains to Lake Clinch; 1663A, which is the direct drainage area to Crooked Lake; and 1613, which is part of the Peace Creek Drainage Canal watershed. The Peace Creek Drainage Canal basin, WBID 1613, is an Impaired Water Body (IWB).

## **2.15 TRAFFIC DATA**

This section provides a brief summary of the detailed information contained in the *Project Traffic Report* (PTR) and *PTR Addendum* (dated February 2016, prepared under separate cover). A more thorough discussion of the development of the existing and future year daily and peak hour traffic volumes, as well as the existing and future year peak hour traffic operations analyses that were conducted for this study is provided in the *PTR and PTR Addendum*.



**TABLE 2-5  
EXISTING CROSS DRAINS**

Name	Station	Location	Length	Dimension	Qty.	Shape	Type	Outfall
CD-1	208+60.40	N. of County Line Rd	145.43	36"	2	Circular	RCP	wetland S of Lake Livingston
CD-2	226+00.00	S. of Bell Rd @ US 27	169.11	18"	1	Circular	RCP	wetland S of Lake Livingston
CD-3	241+01.73	N. of Bell Rd @ US 27	170.95	18"	1	Circular	RCP	wetland S of Lake Livingston
CD-4	251+66.10	S. of Kelton Hill Ln	194.12	36"	2	Circular	RCP	wetland S of Lake Livingston
CD-5	276+14.36	N. of Avon Park Cut-Off Rd S	170.94	8' X 3'	1	Rectangular	CBC	wetland S of Lake Livingston
CD-6	292+65.24	N. of Avon Park Cut-Off Rd	170.91	8' X 4'	1	Rectangular	CBC	wetland S of Lake Livingston
CD-7	300+70.88	Cell tower @ US 27	215.22	18"	2	Circular	RCP	wetland S of Lake Livingston
CD-8	356+63.28	N. of Scenic Hwy @ US 27	173.72	18"	2	Circular	RCP	Lake Streety Canal
CD-9	448+98.00	N. of Overpass Rd/ S of CSX	207.12	15"	1	Circular	RCP	roadside swale, SB US 27
CD-10	505+16.20	S. of Maddog Rd	160.69	8' X 3'	1	Rectangular	CBC	ditch S of Maddog Rd
CD-11	538+18.37	S. of Lily Greek Rd	161.96	10' X 3'	1	Rectangular	CBC	SW Pond @ Lily Lake
CD-12	571+19.43	N. of SR 630 W	179.31	36"	2	Circular	RCP	Drainage swale
CD-13	586+22.43	N. of SR 630 W	176.48	8' X 4'	1	Rectangular	CBC	Drainage swale
CD-14	607+57.03	N. of SR 630 W	153.97	8' X 4'	2	Rectangular	CBC	Drainage swale
CD-15	626+29.24	S. of SR 630A	148.10	7' X 3'	1	Rectangular	CBC	wetland E of US 27
CD-16	669+24.11	S. of Lindberg Dr	139.69	8' X 3'	1	Rectangular	CBC	Crooked Lake S ditch
CD-17	692+19.71	S. of Lake Caloosa Landing	149.88	10' X 4'	1	Rectangular	CBC	Crooked Lake S ditch
CD-18	708+49.15	S. of Limpkin Rd	133.48	5' X 4'	1	Rectangular	CBC	Crooked Lake S ditch
CD-19	737+13.41	@ Camp Inn RV Resort	149.58	8' X 4'	1	Rectangular	CBC	Crooked Lake S.
CD-20	826+06	N. of McCoy Drainage Canal	148.11	10' X 6'	1	Rectangular	CBC	Crooked Lake N.
CD-21	910+93	S. of Presidents Dr	150.26	10' X 8'	1	Rectangular	CBC	Crooked Lake N
CD-22	979+86	S. of SR 640	158.21	36"	2	Circular	RCP	wetland E of US 27
CD-23	1007+42.32	N. of SR 640	152.01	24"	2	Circular	RCP	wetland W of US 27
CD-24	1019+28.65	S. of Harbor Dr	151.64	36"	1	Circular	RCP	wetland W of US 27
CD-25	1041+20.16	N. of Harbor Dr	148.77	36"	1	Circular	RCP	wetland W of US 27
CD-26	1067+00	N. of Meyers Rd	149.57	36"	1	Circular	RCP	wetland W of US 27
CD-27	1084+00	S. of Candle Rd	150.89	24"	1	Circular	RCP	wetland W of US 27
CD-28	1140+91	N. of S Miami St	150.40	24"	1	Circular	RCP	roadside swale, SB US 27
CD-29	1154+88.39	S. of Lakeside Dr	139.85	24"	1	Circular	RCP	swale to Peace Creek Canal
CD-30	1165+16.88	N. of Laurel Park Ter	141.91	48"	1	Circular	RCP	Lake Altamaha
CD-31	1190+90	Mulberry St	162.89	24"	1	Circular	RCP	roadside swale, SB US 27

### 2.15.1 EXISTING YEAR TRAFFIC VOLUMES

A traffic count program was conducted in June 2012, which included 72-hour classification counts that were conducted at the following locations:

- US 27 – North of SR 17 (Scenic Highway)/North Avon Park Cut-Off Road
- US 27 – North of CR 640 (Alturas Babson Cut-Off Road)

In addition to these locations, 24-hour classification counts were conducted on all of the SR 60 ramps, North Avon Park Cut-Off Road, and US 98 (Fort Meade Road)/CR 630 east and west of US 27. The traffic counts were then manually adjusted and balanced with the adjacent street traffic volume. Twenty-four (24)-hour bi-directional counts were conducted along US 27 between each of the study intersections except for those locations where classification counts were conducted. Twenty-four (24)-hour bi-directional counts were also conducted on all of the side streets just east and west of US 27. For all of the study intersections, peak hour turning movement counts were conducted simultaneously with the volume and classification counts. Existing Year (2012) Annual Average Daily Traffic (AADT) volumes for US 27 are illustrated in **Figure 2-2**.

### 2.15.2 EXISTING YEAR LEVELS OF SERVICE

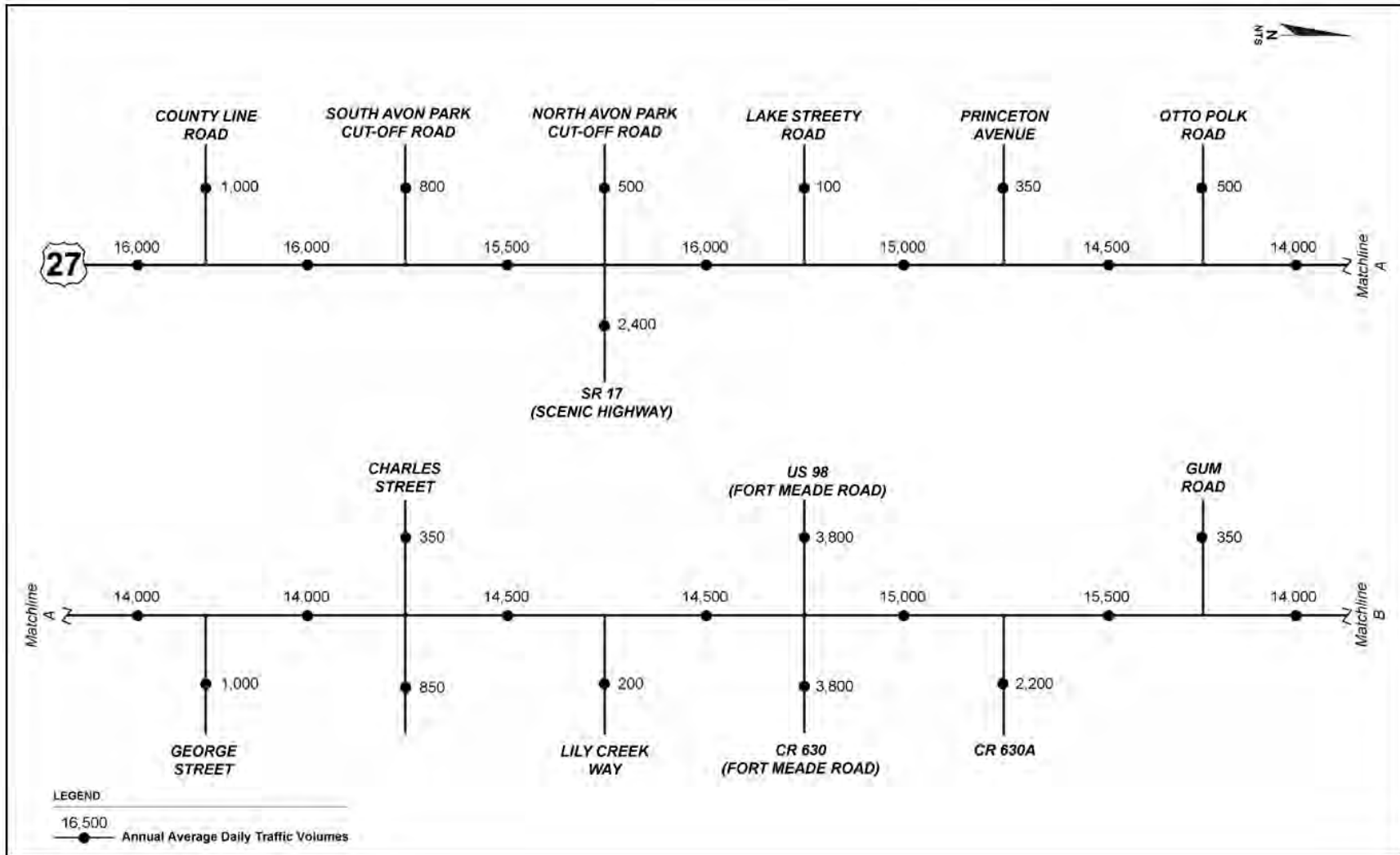
The study corridor was subdivided into seven primary roadway segments. These segments are listed below in **Table 2-6** along with their associated peak hour LOS.

**TABLE 2-6  
EXISTING YEAR (2012) SEGMENT ANALYSIS RESULTS**

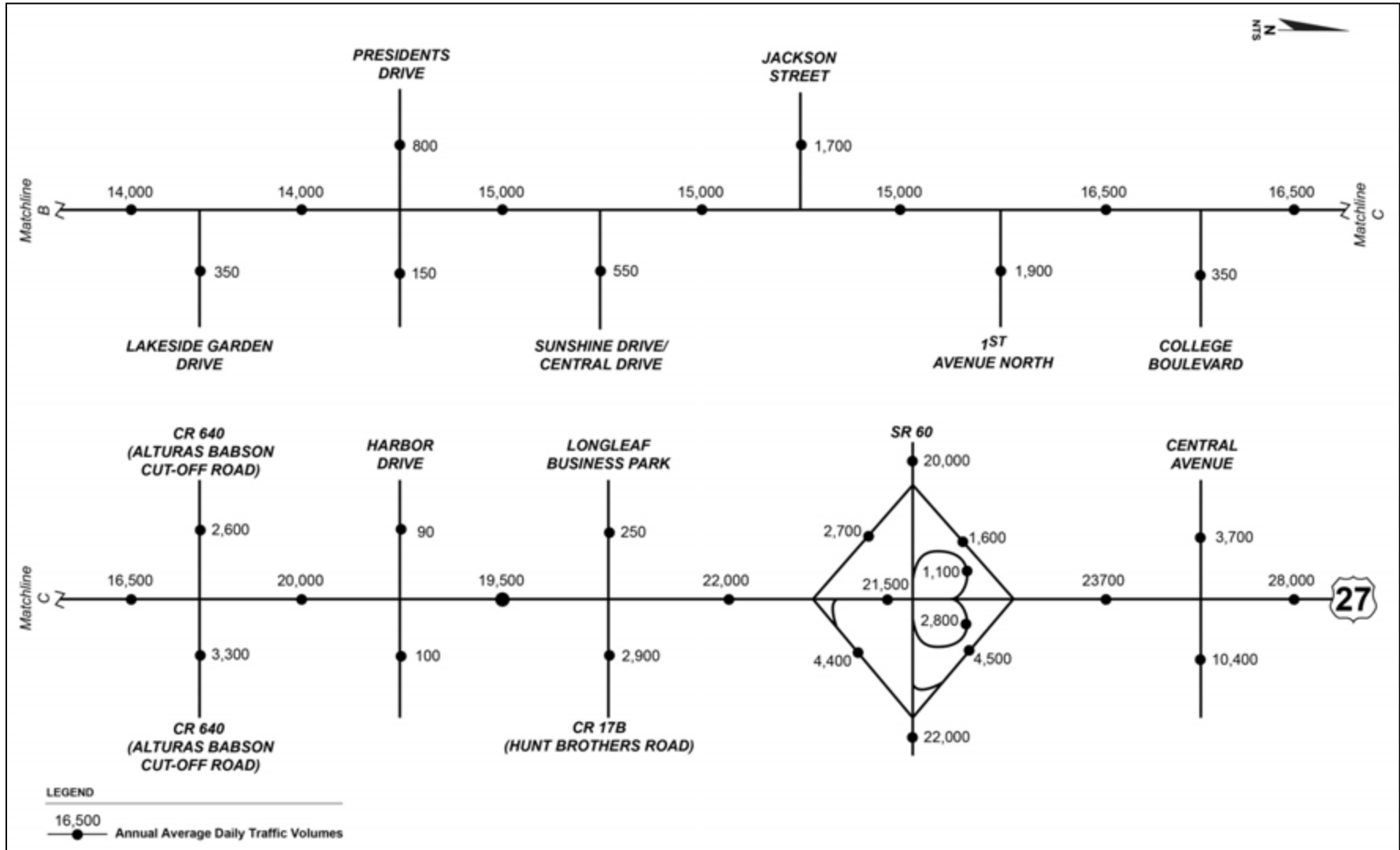
Segment	Lanes	Posted Speed	Area Type/ LOS Standard	AADT	V/C Ratio	LOS
US 27 from County Line Rd (MP 0.000) to SR 17 (Scenic Hwy) (MP 2.585)	4	65	Rural Developed LOS C	16,000	0.25	B
US 27 from SR 17 (Scenic Hwy) (MP 2.585) to US 98 (Fort Meade Rd) (MP 6.851)	4	65	Rural Developed LOS C	16,000	0.25	B
US 27 from US 98 (Fort Meade Rd) (MP 6.851) to CR 630A (MP 8.612)	4	65	Rural Developed LOS C	15,000	0.23	B
US 27 from CR 630A (MP 8.612) to Presidents Dr (MP 13.638)	4	65	Rural Developed LOS C	15,500	0.24	B
US 27 from Presidents Dr (MP 13.638) to CR 640 (Alturas Babson Cut-Off Rd) (MP 14.886)	4	65	Rural Developed LOS C	16,500	0.25	B
US 27 from CR 640 (Alturas Babson Cut-Off Rd) (MP 14.886) to CR 17B (Hunt Brothers Rd) (MP 16.989)	4	65	Rural Developed LOS C	20,000	0.31	B
US 27 from CR 17B (Hunt Brothers Rd) (MP 16.989) to Central Avenue (MP 0.221)	4	50	Transitioning/ Urban LOS D	23,700	0.40	B

Notes: AADT represents maximum AADT on the segment. v/c = volume to capacity.

**FIGURE 2-2  
EXISTING YEAR (2012) AADT**



**FIGURE 2-2 (CONTINUED)  
EXISTING YEAR (2012) AADT**



## **2.16 CRASH DATA AND SAFETY ANALYSIS**

Crash data were obtained from the FDOT Crash Analysis Reporting (C.A.R.) System for the 5-year period from 2007 to 2011. For the purpose of this crash analysis, the US 27 corridor has been divided into four segments based on the functional classification of the roadway. The corridor crash summary in terms of crash frequency by type, crash frequency by severity, and a comparison of the corridor crash rate with the statewide average for similar facilities is shown in **Table 2-7**.

For the 5-year period, there were 436 crashes reported with an average of 87.2 crashes per year. The highest number of crashes occurred for the segment from CR 640 to Central Avenue, which also includes the SR 60 interchange. This segment had 150 crashes reported for the 5-year period. Angle collisions, including left- and right-turn collisions were the most common crash type recorded for the corridor with 29.8 percent of total crashes followed by rear-end collisions with 22.7 percent of the total crashes. Out of 436 total crashes, 226 (or 51.8 percent) were crashes with injuries and 187 (or 42.9 percent) were crashes with property damage only. There were 23 (or 5.3 percent) fatality crashes recorded along the corridor.

## **2.17 UTILITIES**

The utility companies listed in **Table 2-8** were contacted by letter and phone to identify the location of their facilities within the US 27 Study Area. Plans sheets and a map of the Study Area were mailed to the utility companies with a request to identify the location, size, and type of their existing and proposed facilities. The existing utilities include overhead and buried electric distribution, overhead electric transmission, overhead and buried communications cables (coaxial, copper and fiber optic cables), potable water, reclaimed water, sanitary sewer, and natural gas mains.

## **2.18 SOILS AND GEOTECHNICAL DATA**

The National Resources Conservation Service (NRCS) Soil Survey of Polk County published by the U.S. Department of Agriculture (USDA) was reviewed for this project. The soil types are described in **Table 2-9**.

## **2.19 STRUCTURES**

Within the study limits, there are three crossing locations each with a pair of structures and three bridge culvert locations. **Table 2-10** describes these structures.

**TABLE 2-7  
US 27 CORRIDOR CRASH SUMMARY (2007-2011)**

SEGMENT <sup>1</sup>			FREQUENCY BY CRASH TYPE									FREQUENCY BY CRASH SEVERITY			CORRIDOR CRASH RATES	
Description	Functional Class	Length (Miles)		Total	Angle <sup>2</sup>	Rear End	Side swipe	Head-On	Over-turned	Pedestrian/Bicycle	All Other <sup>3</sup>	Fatality	Injury	Property Damage	Project Crash Rate (crashes/MVMT)	Statewide Average Rate <sup>4</sup> (crashes/MVMT)
From Highlands County Line to Railroad Crossing	Rural Principal-Arterial-Other	4.78	5-Year	82	11	16	3	3	13	1	35	7	43	32	0.516	0.571
			Average	16.4	2.2	3.2	0.6	0.6	2.6	0.1	7	1.4	8.6	6.4		
From Railroad Crossing to CR 630A	Urban Principal-Arterial-Other	3.84	5-Year	83	22	16	3	1	9	1	31	2	52	29	0.718	2.451
			Average	16.6	4.4	3.2	0.6	0.2	1.8	0.1	6.2	0.4	10.4	5.8		
From CR 630A to CR 640 (Alturas Babson Cut-Off Road)	Rural Principal-Arterial-Other	6.26	5-Year	121	41	35	6	2	5	4	28	10	58	53	<b>0.658</b>	0.571
			Average	24.2	8.2	7	1.2	0.4	1	0.5	5.6	2	11.6	10.6		
From CR 640 (Alturas Babson Cut-Off Road) to Central Avenue	Urban Principal-Arterial-Other	4.08	5-Year	150	56	32	12	9	7	2	32	4	73	73	0.960	2.451
			Average	30	11.2	6.4	2.4	1.8	1.4	0.2	6.4	0.8	14.6	14.6		
<b>US 27 Corridor Summary</b>		<b>18.96</b>	<b>5-Year</b>	<b>436</b>	<b>130</b>	<b>99</b>	<b>24</b>	<b>15</b>	<b>34</b>	<b>7</b>	<b>126</b>	<b>23</b>	<b>226</b>	<b>187</b>		
			<b>Average</b>	<b>87.2</b>	<b>26.0</b>	<b>19.8</b>	<b>4.8</b>	<b>3.0</b>	<b>6.8</b>	<b>1.4</b>	<b>25.2</b>	<b>4.6</b>	<b>45.2</b>	<b>37.4</b>		

Source: FDOT's C.A.R. System (2007-2011).

<sup>1</sup> Includes side street crashes at intersections.

<sup>2</sup> Includes left- and right-turn type crashes.

<sup>3</sup> Includes all other crash types not listed.

<sup>4</sup> Statewide average crash rate based on the 5-year data between 2006-2010.

MVMT = million vehicle miles traveled

**TABLE 2-8  
EXISTING UTILITY FACILITIES**

Utility Company	Facilities
<p>Central Florida Gas 3667 Sand Path Road Bonifay, FL 32425</p>	<p>Central Florida Gas owns a 4" plastic pipeline on the west side of the US 27 from 4000 US 27 north to CR 630 where it exits the ROW west on the south side of CR 630. They also own a 4" steel pipeline on the west side of US 27 from just south of CR 640 north to Hunt Brothers Rd. From Hunt Brothers Rd. the 8" steel pipeline continues north to Oak Ave. where it exits the ROW west as a 4" steel pipeline. They also have two roadway crossings: a 4" steel pipeline at Hunt Brothers Rd. and a 4" steel pipeline at Oak Ave.</p>
<p>CenturyLink 924 Memorial Drive Avon Park, FL 33825</p>	<p>CenturyLink owns fiber optic cable (FOC) on the east side of US 27 throughout the Study Area.</p>
<p>City of Lake Wales Utility Dept. 201 Central Avenue W Lake Wales, FL 33853</p>	<p>The City of Lake Wales owns 12" PVC or HDPE water main (WM) on the east side of US 27 from south of Candlelight Ln. north to Longleaf Blvd. where it crosses US 27 and exits the ROW west. The 12" WM continues north on the east side of US 27 from Candlelight Ln. with crossings at Dans Ter. and Candle Rd. exiting the ROW at Hunt Brothers Rd. The City also owns a 6" force main (FM) on the west side of US 27 from south of Alturas Babson Park Rd. to Hunt Brothers Rd. From Hunt Brothers Rd., the FM continues as north on the west side of US 27 as an 8" FM with numerous crossings to the east side of US 27 at side streets. In addition, the City of Lake Wales owns a 24" reclaimed water main on the eastside of US 27 from Owens Rd. north to approximately 2,000' south of SR 60 where it crosses US 27 to the west at the entrance to Garden Cemetery.</p>
<p>Comcast Cablevision 5205 Fruitville Road Sarasota, FL 34232</p>	<p>Comcast owns buried FOCs on the west side of US 27 from south of West County Line Rd. north to Avon Park Cut-Off Rd. where they cross US 27 exiting the ROW east. They also own overhead coaxial and FOC cables on Duke Energy poles on the west side of US 27 from Harvard Ave. north to Charles St. exiting the ROW on the north side of Charles St. where they cross US 27 on the south side of CR 630 and on the south side of Presidents Dr. From this point, the overhead continuing north on the west side of US 27 from Presidents Dr. to the north side of Pine Crest Rd. where they cross US 27 and exit the ROW east. In addition, they have buried crossing on the south side of Central Dr. and an overhead crossing on the north side of 1<sup>st</sup> Ave. N. They have buried coaxial cable on the west side of US 27 from a pedestal south of Harbor Ave. north to a pole at 18600 US 27 where they cross US 27 overhead (Lake Wales Inn) and continue north overhead on the west side of US 27 to Oak Ave. From Oak Ave., they continue north buried crossing SR 60 on the west side of US 27, then continue north overhead on the west side of US 27 to West Central Ave. In addition, they cross US 27 at the London Inn Motel at 18931 US 27.</p>
<p>Duke Energy Distribution 3300 Exchange Place Lake Mary, FL 34638</p>	<p>Duke Energy Distribution owns overhead 12.5kV and 7.2 kV electric located throughout the Study Area primarily on the west side of US 27 with multiple crossings and underbuilt on Duke transmission poles as listed below.</p>
<p>Duke Energy Transmission c/o UC Synergetic 20525 Amberfield Drive Suite 201 Land O' Lakes, FL 34638</p>	<p>Duke Energy Transmission owns 69kV overhead electric crossing US 27 on the north side of Alturas Babson Park Cut-Off Rd. (CR 640) where it continues north on the west side of US 27 to South Miami St. where it crosses US 27 existing the ROW to the east.</p>
<p>Florida Gas Transmission 2405 Lucien Way Suite 200 Maitland, FL 32751</p>	<p>The Florida Gas Transmission (FGT) owns a 6" high pressure gas main (GM) that enters the ROW of US 27 from the east approximately 1,200' north of Avon Park Cut-Off Rd. S. (station 273+55) where they cross US 27 to the west. From this point the 6" GM continues north on the west side of US 27</p>

**TABLE 2-8 (CONTINUED)  
EXISTING UTILITY FACILITIES**

Utility Company	Facilities
	north of US 98 (station 566+87). At this station, the 6" GM tees and continues north on the west side of US 27 as an 8" GM and crosses US 27 to the east and takes a 90 degree bend to the south and parallels the 6" GM for approximately 3,500' (station 532+62) and turns to the east. From the tee north of US 98 (station 566+87) the 8" GM continues on the west side of US 27 north to a point approximately 2,500' north of Gollany Ln. (station 785+29) where it leaves the ROW to the west. No relocation cost estimate was provided by the UAO.
Gulfstream Natural Gas System 1905 Intermodal Circle Suite 310 Palmetto, FL 34221	Gulfstream owns a 30" high pressure natural gas transmission pipeline that crosses US 27 at Bell Rd. The 30" pipeline is maintained within a 50' wide exclusive easement.
Level 3 Communications, Inc. 1025 Eldorado Boulevard Broomfield, CO 80021	Level 3 owns two 1.9" HDPE with FOC that enter the ROW of US 27 on north side of Alturas Babson Park Cut-Off Rd. (CR 640) and continue north on the west side of US 27 throughout Study Area. No relocation cost estimate was provided by the UAO.
MCI/Verizon Business 1909 US 301 N Building D Tampa, FL 33619	MCI/Verizon Business owns buried FOCs that cross US 27 on both the north and south sides of the CSX railroad ROW.
Park Water Company 25 1st Avenue N Lake Wales, FL 33859	Park Water Company owns a 6" or 12" (size varies) WM entering the ROW of US 27 on the south side of Presidents Dr. running north on the east side of US 27 where they cross to the west side at the north side of 1 <sup>st</sup> Ave. N. From this point, the WM continues north on the west side of US 27 to where they cross back to the east side of US 27 north of Harbor Ave. continuing north on US 27 to Long Leaf Blvd. There are multiple service crossings of US 27 within these limits.
Polk County Utilities Dept. 1011 Jim Keene Boulevard Winter Haven, FL 33880	Polk County Utilities owns various size water and sanitary FMs from station 390+50 to Station 565+00 (CR 630) located on both the east and west sides with multiple crossings of US 27.
TECO Peoples Gas 5901 Enterprise Parkway Fort Myers, FL 33905	TECO Peoples Gas owns a 4" steel pipeline running parallel to US 27 on the east side from County Line Rd. until exiting to the east on S. Scenic Hwy.
Frontier 1909 US Highway 301 N Tampa, FL 33619	Frontier owns buried copper and FOCs entering the project limits from the north side of Avon Park Cut-Off Rd. N. crossing US 27 at the north side of Avon Park Cut-Off Rd. N. From the north side of Avon Park Cut-Off Rd., the underground cables run parallel with US 27 on the west side to a buried crossing on the north side of Charles St. Frontier is aerial on the west side of US 27 between Harvard Ave. and Yale Ave. Frontier has both aerial and buried cables from CR 630 (Fort Meade Rd.) and continue north on east side until approximate station 580+00. With buried facilities at CR 630A on both east and west sides continuing north until east side facilities cross and join the west side facilities at station 735+40. Continuing north approximate station 787+00. Buried facilities begin again on the west side at Long Leaf Blvd. and continue north crossing at Hunt Brothers Rd., until crossing US 27 just south of SR 60. Facilities at W. Central Ave. both cross US 27 on the north and south sides of W. Central Ave. and continue north on the west side of US 27.



**TABLE 2-9  
SUMMARY OF USDA SOIL SURVEY**

USDA Map Symbol And Soil Name	Soil Classification			Seasonal High Water Table	
	Depth (In)	USCS	AASHTO	Depth (Feet)	Months
(3) Candler	0-6	SP, SP-SM	A-3	---	Jan-Dec
	6-63	SP, SP-SM	A-3		
	63-80	SP-SM	A-2-4, A-3		
(7) Pomona, non-hydric-Pomona, hydric	0-6	SP, SP-SM	A-2-4, A-3	0.5-1.5	June-Oct
	6-21	SP, SP-SM	A-2-4, A-3		
	21-26	SM, SP-SM	A-2-4, A-3		
	26-48	SP, SP-SM	A-2-4, A-3		
	48-73	SC, SP-SM, SM	A-2, A-4, A-6		
	73-80	SM, SP-SM	A-2-4, A-3	0.0-1.0	June-Oct
	0-6	SP, SP-SM	A-2-4, A-3		
	6-21	SP, SP-SM	A-2-4, A-3		
	21-26	SM, SP-SM	A-2-4, A-3		
	26-48	SP, SP-SM	A-2-4, A-3		
48-73	SC, SC-SM, SM	A-2, A-4, A-6			
73-80	SM, SP-SM	A-2-4, A-3			
(10) Malabar	0-5	SP, SP-SM	A-3	0.0-1.0	June-Nov
	5-22	SP, SP-SM	A-3		
	22-38	SP, SP-SM	A-2-4, A-3		
	38-48	SP, SP-SM	A-3		
	48-80	SC, SC-SM, SM	A-2, A-4, A-6		
(13) Samsula	0-31	PT	A-8	0	Jan-Dec
	31-80	SM, SP, SP-SM	A-2-4, A-3		
(14) Sparr	0-8	SM, SP-SM	A-2-4, A-3	1.5-3.5	July-Oct
	8-57	SM, SP-SM	A-2-4, A-3		
	57-80	SC, SC-SM, SM	A-2-4		
(15) Tarvares	0-8	SP, SP-SM	A-3	3.5->6.0	June-Dec
	8-80	SP, SP-SM	A-3		
(17) Myakka-Smyrna, non-hydric- Smyrna, hydric	0-7	SP, SP-SM	A-3	0.5-1.5	June-Oct
	7-25	SP, SP-SM	A-3		
	25-36	SM, SP-SM	A-2-4, A-3		
	36-80	SP, SP-SM	A-3		
	0-4	SP, SP-SM	A-2-4, A-3	0.5-1.5	June-Oct
	4-12	SP, SP-SM	A-2-4, A-3		
	12-25	SM, SP-SM	A-2-4, A-3		
	25-42	SP, SP-SM	A-3		
	42-48	SM, SP-SM	A-2-4, A-3		
	48-80	SM, SP-SM	A-2-4, A-3	0.0-1.0	June-Oct
	0-4	SP, SP-SM	A-2-4, A-3		
	4-12	SP, SP-SM	A-2-4, A-3		
	12-25	SM, SP-SM	A-2-4, A-3		
	25-42	SP, SP-SM	A-3		
	42-48	SM, SP-SM	A-2-4, A-3		
48-80	SM, SP-SM	A-2-4, A-3			

**TABLE 2-9 (CONTINUED)  
SUMMARY OF USDA SOIL SURVEY**

USDA Map Symbol And Soil Name	Soil Classification			Seasonal High Water Table	
	Depth (In)	USCS	AASHTO	Depth (Feet)	Months
(19) Floridana, depressional	0-8	SM, SP-SM	A-2-4, A-3	0	Jan-Dec
	8-15	SM, SP-SM	A-2-4, A-3		
	15-28	SP, SP-SM	A-3		
	28-80	SC, SC-SM	A-2-4, A-2-6		
(21) Immokalee, non-hydric- Immokalee, hydric	0-7	SP, SP-SM	A-3	0.5-1.5	June-Oct
	7-39	SP, SP-SM	A-3		
	39-58	SM, SP-SM	A-2-4, A-3		
	58-66	SP, SP-SM	A-3		
	66-80	SM, SP-SM	A-2-4, A-3	0.0-1.0	June-Oct
	0-7	SP, SP-SM	A-3		
	7-39	SP, SP-SM	A-3		
	39-58	SM, SP-SM	A-2-4, A-3		
(22) Pomello	58-66	SP, SP-SM	A-3	2.0-3.5	July-Nov
	66-80	SM, SP-SM	A-2-4, A-3		
	0-5	SP, SP-SM	A-3		
	5-48	SP, SP-SM	A-3		
(23) Ona, non- hydric- Ona, hydric	48-63	SM, SP-SM	A-2-4, A-3	0.5-1.5	June-Oct
	63-80	SP, SP-SM	A-3		
	0-10	SP, SP-SM	A-3		
	10-19	SM, SP-SM	A-2-4, A-3		
	19-50	SP, SP-SM	A-3	0.0-1.0	June-Oct
	50-80	SM, SP-SM	A-2-4, A-3		
	0-10	SP, SP-SM	A-3		
	10-19	SM, SP-SM	A-2-4, A-3		
(25) Placid, depressional- Myakka, depressional	19-50	SP, SP-SM	A-3	0	Jan-Dec
	50-80	SM, SP-SM	A-2-4, A-3		
	0-18	SM, SP, SP-SM	A-2-4, A-3		
	18-80	SM, SP, SP-SM	A-2-4, A-3		
	0-3	SP, SP-SM	A-3		
	3-25	SP, SP-SM	A-3		
(30) Pompano	25-35	SM, SP-SM	A-2-4, A-3	0	Jan-Dec
	35-80	SP, SP-SM	A-3		
(31) Adamsville	0-15	SP, SP-SM	A-3	0.0-0.5	June-Nov
	15-80	SP, SP-SM	A-3		
(35) Hontoon	0-6	SP-SM	A-2-4, A-3	2.0-3.5	June-Nov
	6-80	SP, SP-SM	A-2-4, A-3		
(36) Basinger, depressional	0-75	PT	A-8	0	Jan-Dec
	75-80	SM, SP, SP-SM	A-2-4, A-3		
	0-7	SP, SP-SM	A-2-4, A-3		
	7-35	SP, SP-SM	A-2-4, A-3		
(36) Basinger, depressional	35-45	SP, SP-SM	A-2-4, A-3	0	Jan-Feb, June-Dec
	45-80	SP, SP-SM	A-2-4, A-3		

**TABLE 2-9 (CONTINUED)  
SUMMARY OF USDA SOIL SURVEY**

USDA Map Symbol And Soil Name	Soil Classification			Seasonal High Water Table			
	Depth (In)	USCS	AASHTO	Depth (Feet)	Months		
(40) Wauchula, non-hydric - Wauchula, hydric	0-7	SP-SM	A-2-4, A-3	0.5-1.5	June-Oct		
	7-18	SP-SM	A-2-4, A-3				
	18-26	SM, SP-SM	A-2-4, A-3				
	26-33	SM, SP-SM	A-2-4, A-3				
	33-70	SC, SC-SM, SM	A-2-4, A-2-6, A-4, A-6				
	70-80	SC, SC-SM	A-2-4, A-2-6	0.0-1.0	June-Oct		
	0-7	SP-SM	A-2-4, A-3				
	7-18	SP-SM	A-2-4, A-3				
	18-26	SM, SP-SM	A-2-4, A-3				
	26-33	SM, SP-SM	A-2-4, A-3				
33-70	SC, SC-SM, SM	A-2-4, A-2-6, A-4, A-6	0.0-1.0	June-Oct			
70-80	SC, SC-SM	A-2-4, A-2-6					
(41) St. Johns, non-hydric - St. Johns, hydric	0-12	SP, SP-SM	A-3	0.5-1.5	Jan-Dec		
	12-22	SP, SP-SM	A-3				
	22-65	SM, SP-SM	A-2-4, A-3				
	65-80	SP, SP-SM	A-3	0.0-1.0	June-Oct		
	0-12	SP, SP-SM	A-3				
	12-22	SP, SP-SM	A-3				
	22-65	SM, SP-SM	A-2-4, A-3				
65-80	SP, SP-SM	A-3	0.0-1.0	Jan-Mar, July-Dec			
0-5	SP, SP-SM	A-3					
5-22	SP, SP-SM	A-3					
22-50	SC, SC-SM, SM	A-2-4, A-2-6					
50-80	SP, SP-SM	A-2-4, A-3	---	Jan-Dec			
0-7	SP, SP-SM	A-3					
(46) Astatula	7-80	SP, SP-SM	A-3	0.5-1.5	June-Oct		
	0-7	SP, SP-SM	A-3				
	7-25	SP, SP-SM	A-3				
	25-36	SM, SP-SM	A-2-4, A-3				
	36-80	SP, SP-SM	A-3				
	0-7	SP, SP-SM	A-3			0.5-1.5	June-Oct
	7-39	SP, SP-SM	A-3				
	39-58	SM, SP-SM	A-2-4, A-3				
	58-66	SP, SP-SM	A-3				
	66-80	SM, SP-SM	A-2-4, A-3			0.0-1.0	June-Oct
	---	---	---				
	0-7	SP, SP-SM	A-3				
	7-25	SP, SP-SM	A-3				
25-36	SM, SP-SM	A-2-4, A-3	0.0-1.0	June-Oct			
36-80	SP, SP-SM	A-3					
(58) Udorthents, excavated	---	---	---	---	Jan-Dec		

**TABLE 2-9 (CONTINUED)  
SUMMARY OF USDA SOIL SURVEY**

USDA Map Symbol And Soil Name	Soil Classification			Seasonal High Water Table	
	Depth (In)	USCS	AASHTO	Depth (Feet)	Months
(59) Arents- Urban land	0-80	SP, SP-SM	A-2-4, A-3	1.5-3.0	June-Nov
	---	---	---	---	Jan-Dec
(61) Arents, organic substratum- Urban land	0-30	SP, SP-SM	A-2-4, A-3	2.0-3.0	June-Nov
	30-65	PT	A-8		
	65-80	SP, SP-SM	A-2-4, A-3		
	---	---	---	---	Jan-Dec
(70) Duette	0-7	SP	A-3	4.0->6.0	June-Oct
	7-59	SP	A-3		
	59-80	SP, SP-SM	A-2-4, A-3		
(76) Millhopper	0-6	SM, SP-SM	A-2-4, A-3	3.5->6.0	July-Dec
	6-63	SM, SP-SM	A-2-4, A-3		
	63-80	SC, SC-SM, SM	A-2-4, A-4		
(77) Satellite	0-6	SP	A-3	1.0-3.5	June-Nov
	6-80	SP	A-3		
(83) Archbold	0-4	SP	A-3	3.5->6.0	June-Nov
	4-80	SP	A-3		
(85) Winder, depressional	0-4	SP, SP-SM	A-2-4, A-3	0	June-Dec
	4-16	SP, SP-SM	A-2-4, A-3		
	16-50	SC	A-2-4, A-2-6		
	50-80	GC-GM, SC, SC-SM, SM	A-1-b, A-2-4, A-2-6		
(87) Basinger	0-7	SP	A-3	0.0-1.0	Jan-Feb, June-Dec
	7-19	SP	A-3		
	19-39	SP, SP-SM	A-2-4, A-3		
	36-80	SP, SP-SM	A-2-4, A-3		

**TABLE 2-10  
EXISTING STRUCTURES**

Bridge Number	Crossing	Year Built	No. of Spans	Structure Type		Sufficiency Rating
				Superstructure	Substructure	
160193	SB - Lake Streety Canal	1975	2	Type II AASHTO Girders (7" Deck)	Pile Bents	97.6
160194	NB - Lake Streety Canal					97.6
160195	SB - CSX RR	1975	5	Type II AASHTO Girders (7" Deck)	Pile Bents	96.6
160196	NB - CSX RR	1974				96.6
160200	Clinch Creek	1939	2	10' x 3' CBC		74.1
160075	McCoy Drainage Ditch	1953	2	10' x 6' CBC		78.6
160067	Crooked Lake Canal	1945	3	10' x 6' CBC		70.3
160018	WB SR 60 Over US 27	1966	4	Type III AASHTO Girders (7" Deck)	Piers	80.0
160134	EB SR 60 Over US 27				Piers	80.0

## *Section 3.0*

# ***PLANNING PHASE/CORRIDOR ANALYSIS***

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Improvements to the US 27 corridor have been identified in the Polk County 2035 LRTP. The need for improvements to US 27 in the Study Area has been established based on the following:

- The need to improve connections to the SR 60 transportation corridors, as well as residential and employment centers throughout Polk and Highlands counties;
- The need to improve the circulation of freight and goods, providing access to local agricultural and ranching operations, as well as to freight activity centers located in central Florida and the populated coastal areas; as well as
- The expected future traffic demands within the Study Area due to projected future population and growth.

The objective of the corridor analysis process is to identify viable corridors in which technically and environmentally sound alignment alternatives can be developed. The proposed widening of US 27 can be constructed within the existing road ROW. Additional ROW would be needed to accommodate floodplain and wetland mitigation, as well as the SR 60 interchange improvements. Constructing a new roadway in a corridor outside of the existing US 27 corridor would result in significant environmental impacts and an overall cost that would be prohibitive. Based on the analysis of the Study Area, the existing US 27 corridor is the only viable corridor for the proposed improvements.

# Section 4.0

## PROJECT DESIGN STANDARDS

**Table 4-1** presents the roadway design criteria established for the initial phase of the project and used in the development of typical sections and alignments that were presented at the Public Information Workshop held on September 17, 2013. The design criteria are based on design parameters outlined in the FDOT PPM, Design Criteria and Process, Volume 1 (Revised July 1, 2014). A Typical Section Package was prepared for the project and is provided in **Appendix B**.

**TABLE 4-1  
ROADWAY DESIGN CRITERIA**

Design Element	Design Standard	Sources
Function Classification	Rural Principal Arterial Urban Principal Arterial	FDOT Straight Line Diagram
Design Speed	70 mph - Rural 50 mph - Suburban	PPM Vol. 1, Table 1.9.2 PPM Vol. 1, Figure 2.16.2
Median Width	40 feet - Rural 30 feet - Suburban	PPM Vol. 1, Table 2.21 PPM Vol. 1, Figure 2.16.2
Maximum Degree of Curvature	8°15' (e <sub>max</sub> = 10%) - Rural & Suburban	PPM Vol. 1, Table 2.8.3
Maximum Degree of Curvature Using Normal Cross Slope	0°30' (e <sub>max</sub> = 10%) - Rural & Suburban	PPM Vol. 1, Table 2.8.4
Length of Horizontal Curve Desired  Minimum	30V = 2,100 feet (70 mph) 30V = 1,500 feet (50 mph) 15V = 1,050 feet (70 mph) 15V = 750 feet (50 mph)	PPM Vol. 1, Table 2.8.2a
Minimum Stopping Sight Distance	730 feet (70 mph) 425 feet (50 mph)	PPM Vol. 1, Table 2.7.1
Maximum Lane Roll-Over	0.04	PPM Vol. 1, Figure 2.1.1
Maximum Shoulder Roll-Over	0.07	PPM Vol. 1, Figure 2.3.1
SE Transition Tangent Curve	80% desirable, 50% minimum 20% desirable, 50% maximum	PPM Vol. 1, Section 2.9
Maximum Profile Grade	3% - Rural 4% - Suburban	PPM Vol. 1, Table 2.6.1
Maximum Change in Grade w/o Vertical Curve	0.2% (70 mph) 0.6% (50 mph)	PPM Vol. 1, Table 2.6.2
Crest Vertical Curve	K = 401 (70 mph) K = 136 (50 mph)	PPM Vol. 1, Table 2.8.5
Sag Vertical Curve	K = 181 (70 mph) K = 96 (50 mph)	PPM Vol. 1, Table 2.8.6
Minimum Vertical Curve Length Crest Sag	300 feet (50 mph), 500 feet (70 mph) 200 feet (50 mph), 400 feet (70 mph)	PPM Vol. 1, Tables 2.8.5 and 2.8.6
Minimum Vertical Clearance	16'- 6" over roadway 23'- 6" over railroad	PPM Vol. 1, Table 2.10.1
Lane Width	12 feet	PPM Vol. 1, Table 2.1.1

**TABLE 4-1 (CONTINUED)  
ROADWAY DESIGN CRITERIA**

<b>Design Element</b>	<b>Design Standard</b>	<b>Sources</b>
Shoulder Width Inside	8 feet - full (Rural)	PPM Vol. 1, Table 2.3.2
Outside	6.5 feet - paved (Suburban) 8 feet - full / 5 feet - paved	PPM Vol. 1, Figure 2.16.2 PPM Vol. 1, Table 2.3.2
Cross Slopes	0.02 to 0.03	PPM Vol. 1, Figure 2.1.1
Horizontal Clearance	36 feet (70 mph) 24 feet (50 mph)	PPM Vol. 1, Table 2.11.11
Border Width	40 feet from shoulder point (Rural) 29 feet from edge of pavement (Suburban)	PPM Vol. 1, Table 2.5.1 PPM Vol. 1, Table 2.16.2



# *Section 5.0*

## ***ALTERNATIVE ALIGNMENT ANALYSIS***

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The objective of the alternatives analysis process is to identify technically and environmentally sound alternatives that meet the needs of the project, are cost-effective and are acceptable to the community. This section describes the alternatives considered and results of the alternatives evaluation.

### ***5.1 NO-BUILD ALTERNATIVE***

The No-Build Alternative consists of postponing major improvements to US 27 beyond the Design Year 2040. With the No-Build Alternative, the Design Year 2040 AADT volumes on US 27 are projected to range from 43,800 vehicles per day (vpd) south of US 98 to 52,800 vpd at SR 60. See **Figures 5-1, 5-2, and 5-3** for the No-Build Alternative AADT projections.

The future traffic analysis indicates that The No-Build Alternative will not accommodate future traffic demands along the project corridor. It does not alleviate the excessive delays to the traveling public or poor intersection LOS projected for this corridor. The roadway segment analysis results for the No-Build Alternative are shown in **Table 5-1**.

The results indicate that the 2040 No-Build Alternative LOS for all of the US 27 segments in the study is below the acceptable LOS (LOS C for SIS facility) for the facility. These results show the need for capacity improvements along the corridor prior to the Design Year (2040) in order to accommodate the traffic growth in the corridor.

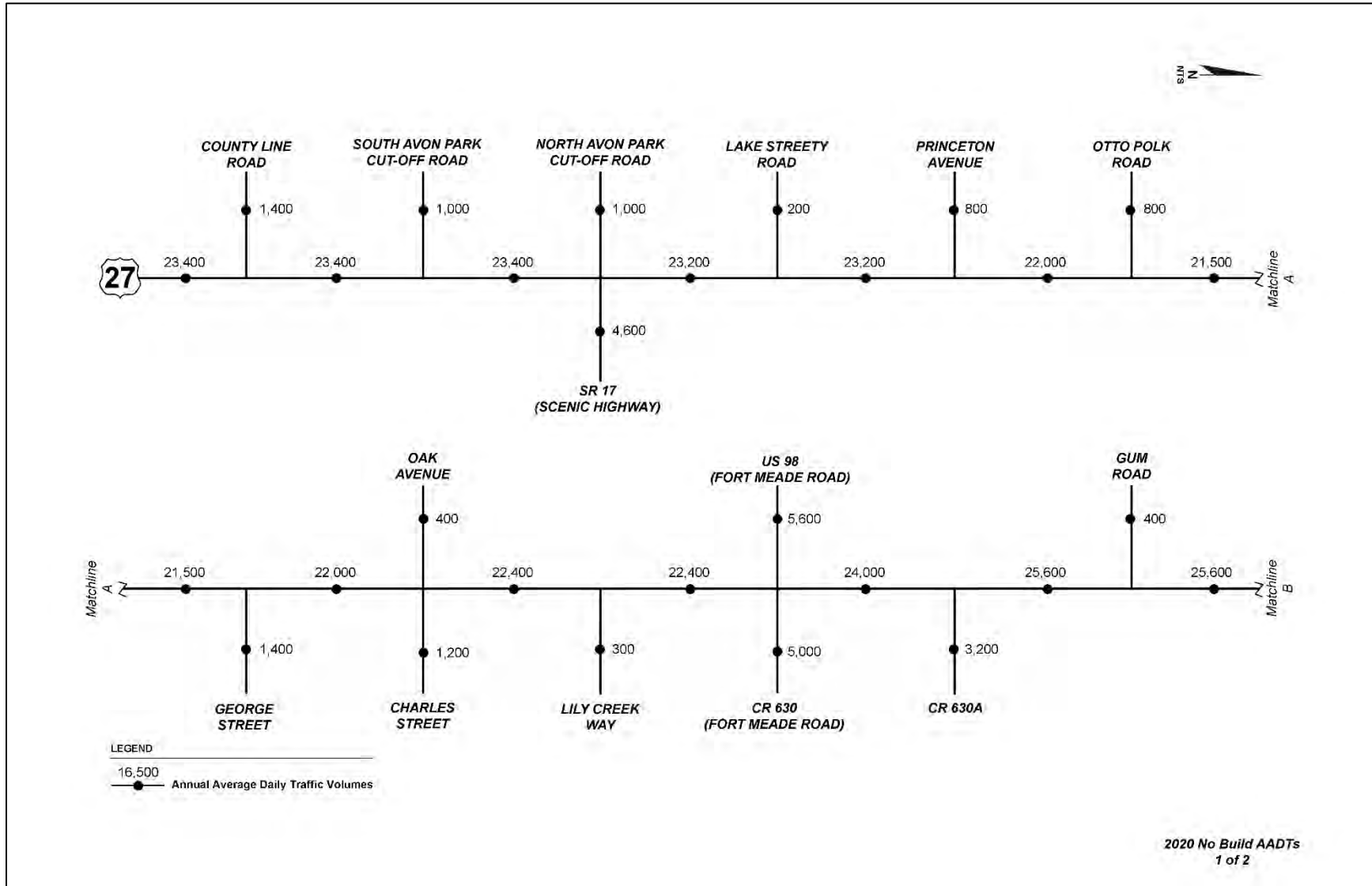
The No-Build Alternative analysis results for the intersections are contained in **Table 5-2**. Presently, many intersections in the Study Area operate below acceptable LOS under the No-Build Alternative, which demonstrates the need for additional capacity in order to accommodate traffic growth through the Design Year (2040). Most of the intersection deficiencies begin to occur around Mid-Design Year (2030) and continue to worsen through the Design Year (2040).

Advantages and limitations associated with the No-Build Alternative include the following.

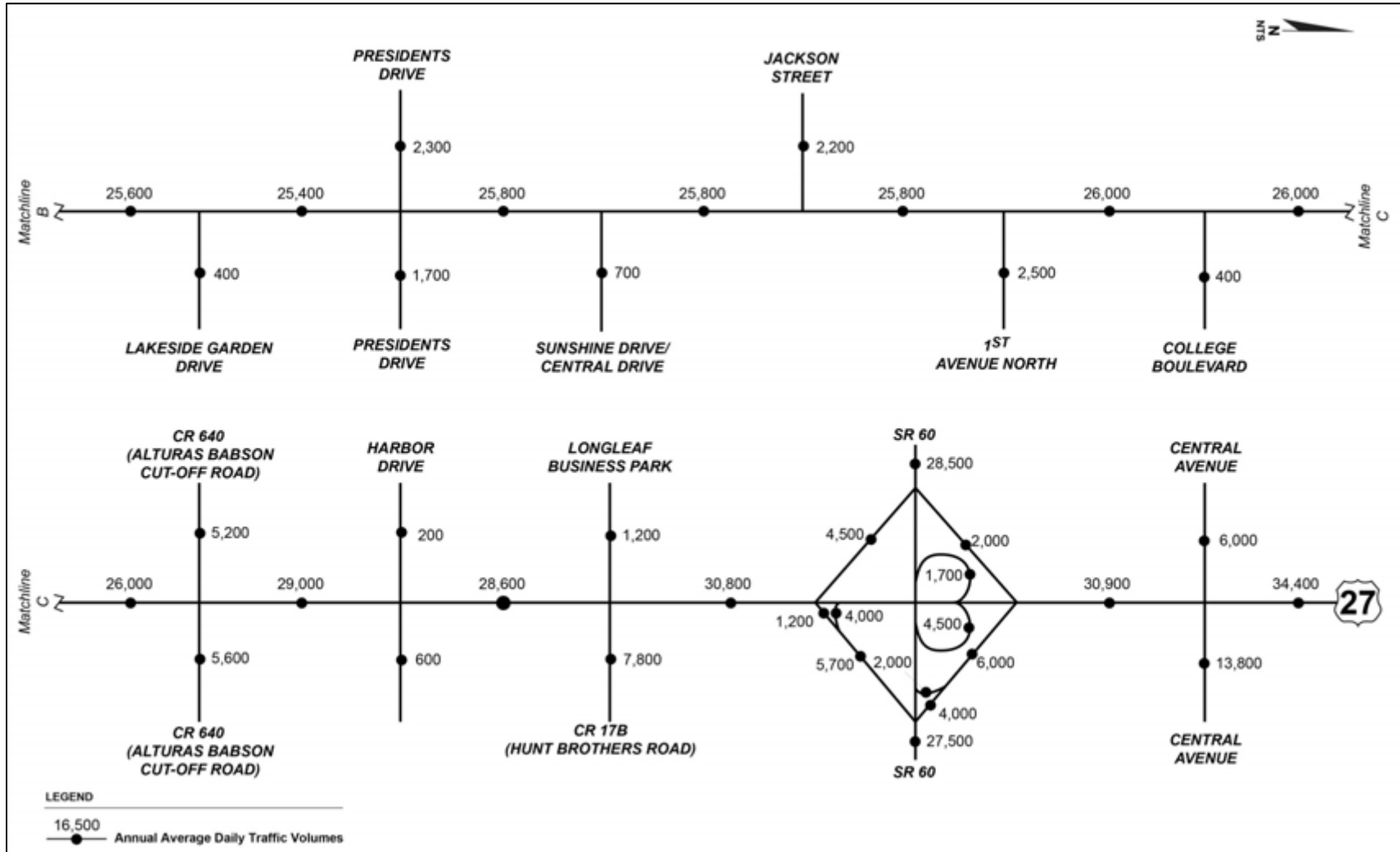
#### ***5.1.1 ADVANTAGES***

- No major design, ROW, and construction costs
- No disruption to existing land uses, the traveling public, or property owners due to construction activities
- No additional ROW acquisitions or relocation needed
- No disturbance to natural resources

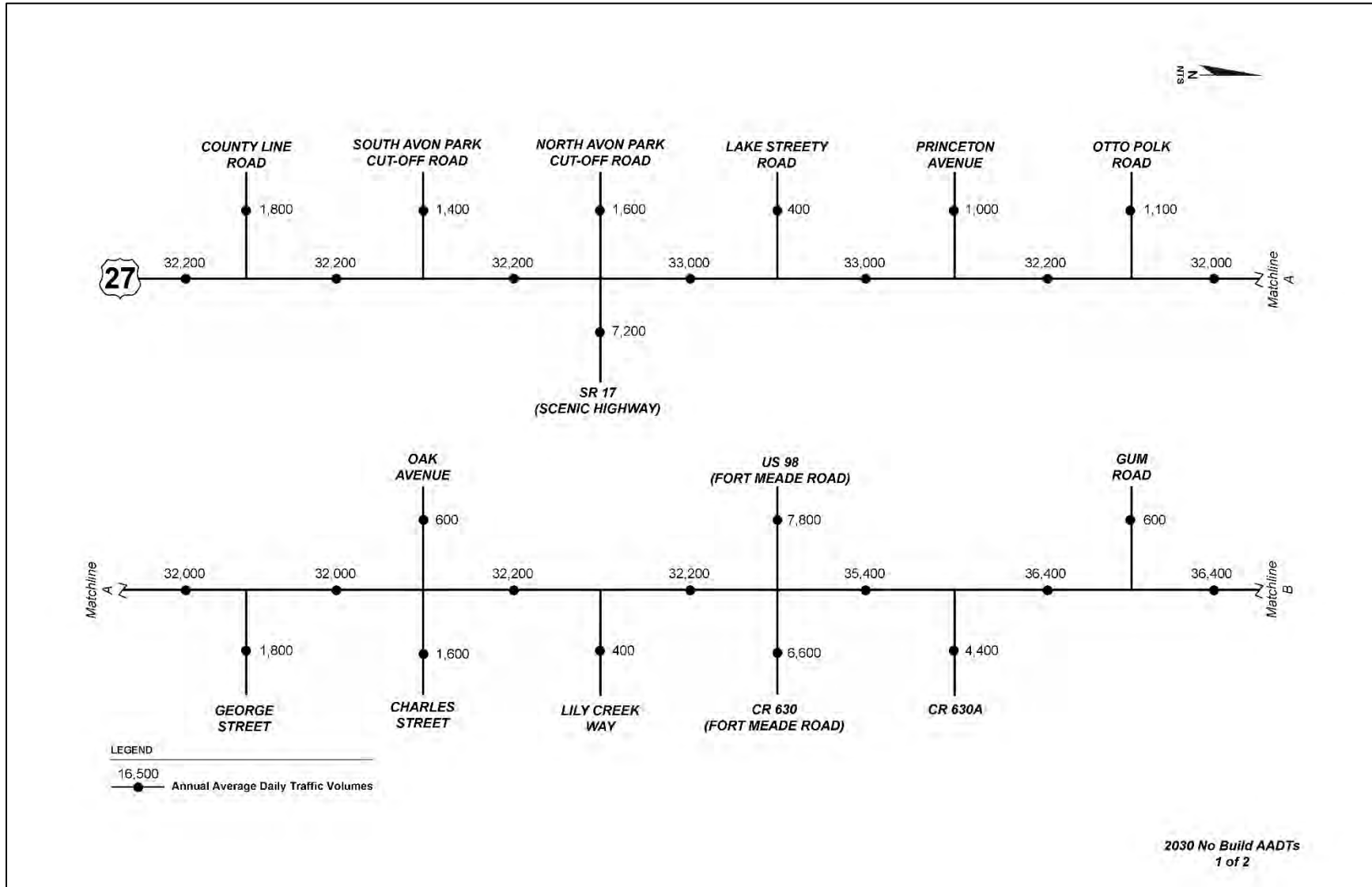
**FIGURE 5-1  
OPENING YEAR (2020) NO-BUILD AADT**



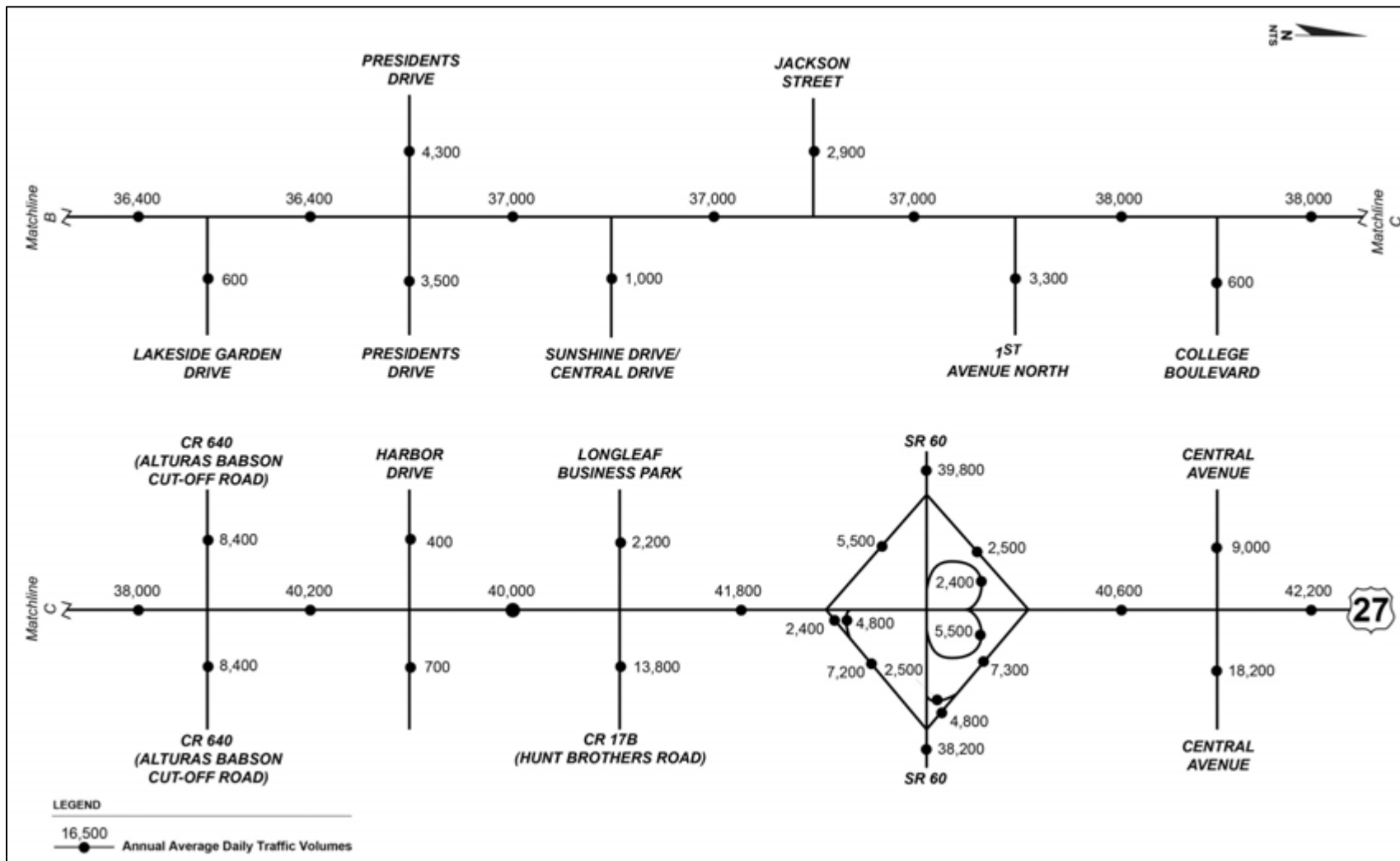
**FIGURE 5-1 (CONTINUED)  
OPENING YEAR (2020) NO-BUILD AADT**



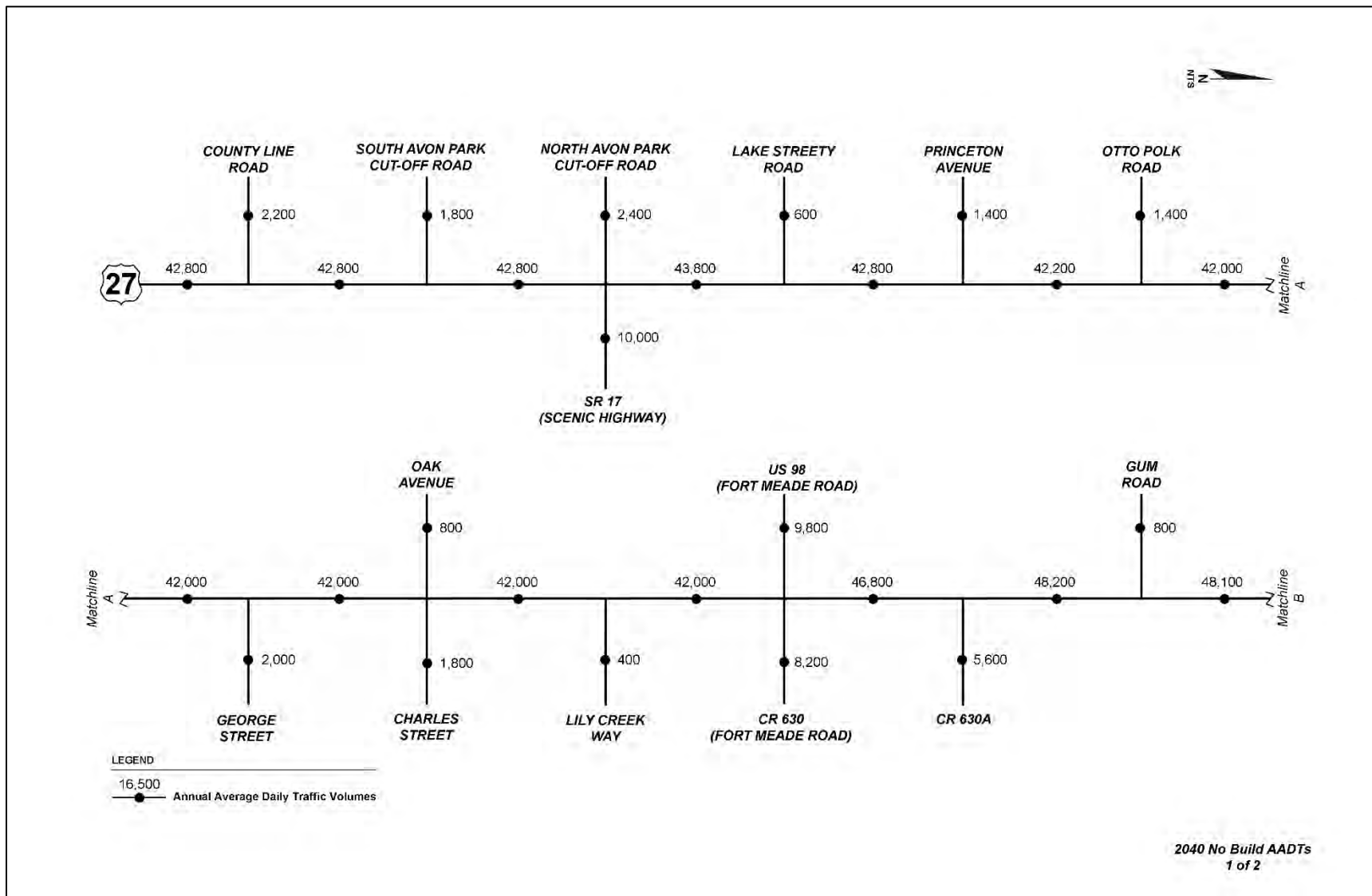
**FIGURE 5-2  
MID-DESIGN YEAR (2030) NO-BUILD AADT**



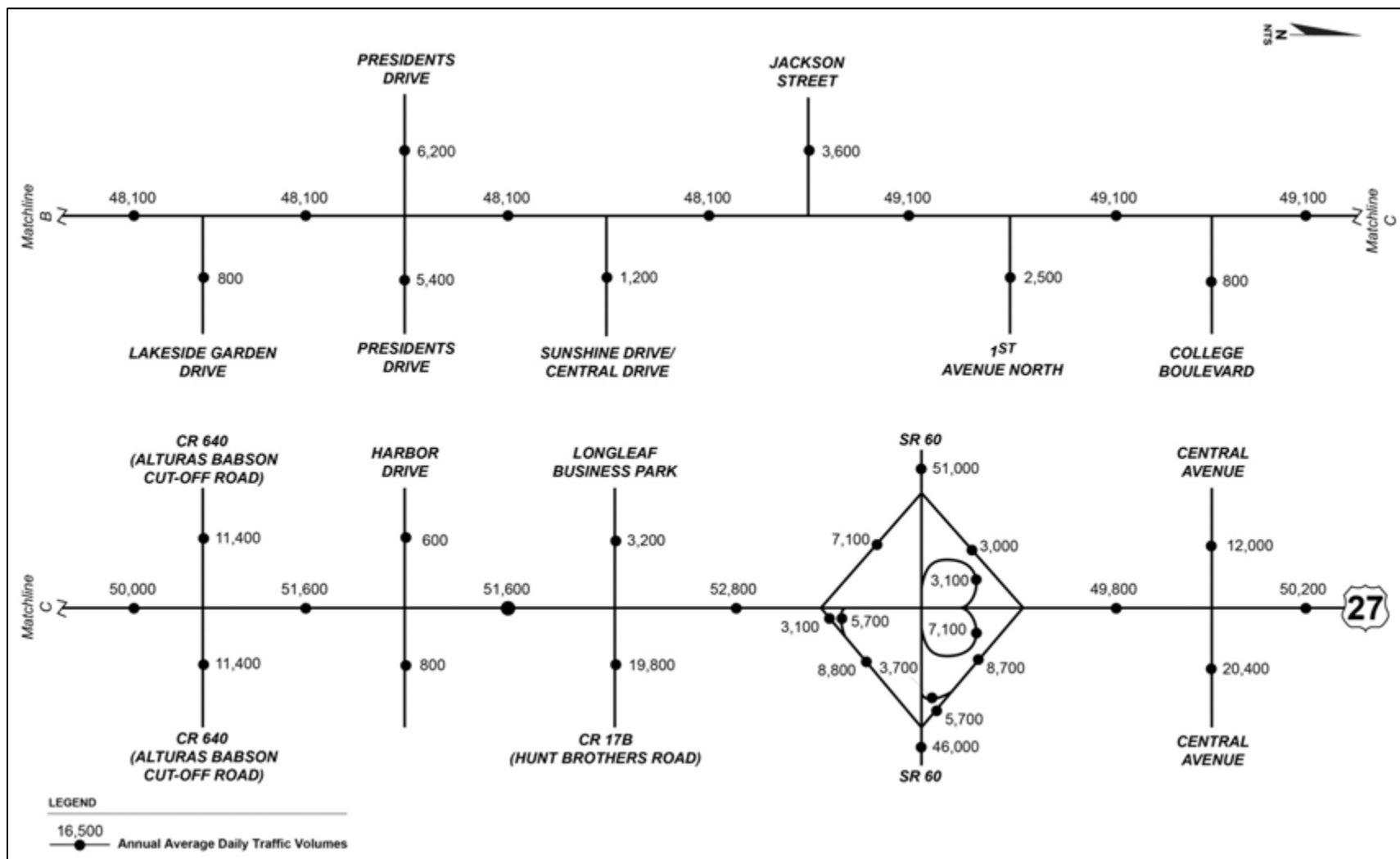
**FIGURE 5-2 (CONTINUED)  
MID-DESIGN YEAR (2030) NO-BUILD AADT**



**FIGURE 5-3  
DESIGN YEAR (2040) NO-BUILD AADT**



**FIGURE 5-3 (CONTINUED)**  
**DESIGN YEAR (2040) NO-BUILD AADT**



**TABLE 5-1  
NO-BUILD ALTERNATIVE SEGMENT ANALYSIS RESULTS**

Segment	Lanes	Posted Speed	Area Type/ LOS Standard	Opening Year (2020)			Mid Design Year (2030)			Design Year (2040)		
				AADT	V/C Ratio	LOS	AADT	V/C Ratio	LOS	AADT	V/C Ratio	LOS
US 27 from County Line Road (MP 0.000) to SR 17 (Scenic Hwy) (MP 2.585)	4	65	Rural Developed LOS C	23,400	0.36	B	32,200	0.5	C	42,800	0.67	D
US 27 from SR 17 (Scenic Hwy) (MP 2.585) to US 98 (Fort Meadow Rd) (MP 6.851)	4	65	Rural Developed LOS C	23,200	0.36	B	33,000	0.51	C	43,800	0.67	D
US 27 from US 98 (Fort Meadow Rd) (MP 6.851) to CR 630A (MP 8.612)	4	65	Rural Developed LOS C	24,000	0.37	B	35,400	0.54	C	46,800	0.72	D
US 27 from CR 630A (MP 8.612) to Presidents Drive (MP 13.638)	4	65	Rural Developed LOS C	25,600	0.39	B	36,400	0.56	C	48,200	0.74	D
US 27 from Presidents Drive (MP 13.638) to CR 640 (Alturas Babson Cut-off Rd) (MP 14.886)	4	65	Rural Developed LOS C	26,000	0.40	B	38,000	0.58	C	50,000	0.77	D
US 27 from CR 640 (Alturas Babson Cut-off Rd) (MP 14.886) to CR 17 B(Hunt Brothers Rd) (MP 16.989)	4	65	Rural Developed LOS C	29,000	0.45	C	40,200	0.62	C	51,600	0.79	D
US 27 from CR 17 B(Hunt Brothers Rd) (MP 16.989) to Central Avenue (MP 0.221)	4	50	Transitioning/Urban LOS D	30,900	0.52	C	41,800	0.70	D	52,800	0.89	F

- Notes: AADT represents maximum AADT on the segment. LOS=Level of Service.



**TABLE 5-2  
NO-BUILD INTERSECTION LOS**

Intersection	Control Type	Lane Group/ Approach	Opening Year (2020) AM/PM			Mid-Design Year (2030) AM/PM			Design Year (2040) AM/PM		
			V/C Ratio	Average Delay	LOS	V/C Ratio	Average Delay	LOS	V/C Ratio	Average Delay	LOS
US 27 and County Line Road	Unsignalized	NBL	0.08/0.10	13.1/11.8	B/B	0.15/0.14	19.7/14.7	C/B	0.31/0.24	37.7/22.9	E/C
		EBLR	0.32/0.24	22.5/19.9	C/C	0.61/0.39	55.5/31.9	F/D	1.37/0.80	>120/100.7	F/F
US 27 and South Avon Park Cut-Off Road	Unsignalized	NBL	0.08/0.08	13.0/11.6	B/B	0.15/0.12	19.4/14.4	C/B	0.30/0.22	36.6/22.1	E/C
		EBLR	0.21/0.19	19.0/18.0	C/C	0.44/0.32	38.8/27.3	E/D	1.00/0.65	>120/72.7	F/F
US 27 and SR 17 (Scenic Highway)/North Avon Park Cut-Off Road	Signalized	EB Approach		35.3/38.7	D/D		36.7/38.4	E/D		74.4/55.7	E/E
		WB Approach		38.4/45.2	D/D		36.7/38.4	D/D		>120/>120	F/F
		NB Approach		11.2/11.7	B/B		14.0/18.9	B/B		14.0/33.0	B/C
		SB Approach		8.8/7.9	A/A		14.1/11.1	B/B		45.5/33.0	D/C
		<i>Overall</i>		<i>12.6/13.0</i>	<i>B/B</i>		<i>18.5/19.8</i>	<i>B/B</i>		<i>44.3/43.2</i>	<i>D/D</i>
US 27 and Lake Streety Road	Unsignalized	NBL	0.06/0.02	13.1/11.4	B/B	0.10/0.05	19.3/14.4	C/B	0.21/0.13	34.4/21.7	D/C
		EBLR	0.08/0.12	19.9/16.7	C/C	0.29/0.26	40.0/28.1	E/D	0.91/0.55	>120/67.9	F/F
US 27 and Princeton Avenue	Unsignalized	NBL	0.09/0.07	13.2/11.6	B/B	0.15/0.10	19.8/14.8	C/B	0.35/0.19	40.5/22.6	E/C
		EBLR	0.20/0.15	19.8/16.0	C/C	0.42/0.33	40.9/29.0	E/D	0.97/0.86	>120/115.4	F/F
US 27 and Otto Polk Road	Unsignalized	NBL	0.17/0.16	13.6/11.9	B/B	0.31/0.24	22.6/15.8	C/C	0.58/0.39	54.2/27.1	F/D
		EBLR	0.32/0.25	18.9/16.4	C/C	0.65/0.54	50.1/35.3	F/E	1.55/1.11	>120/>120	F/F
US 27 and George Street	Unsignalized	SBL	0.07/0.05	11.2/12.5	B/B	0.11/0.15	14.3/19.2	B/C	0.20/0.34	22.0/38.2	C/E
		WBLR	0.20/0.35	18.7/24.4	C/C	0.38/0.66	30.2/65.2	D/F	0.93/1.56	>120/>120	F/F
US 27 and Charles Street	Unsignalized	NBL	0.06/0.04	12.5/10.8	B/B	0.13/0.07	18.6/13.5	C/B	0.23/0.12	33.2/19.7	D/C
		SBL	0.08/0.13	11.1/13.0	B/B	0.14/0.23	14.2/20.4	B/C	0.28/0.46	22.9/43.4	C/E
		WBLTR	0.28/0.33	20.3/25.5	C/D	5.95/1.12	>120/>120	F/F	>1.00/>1.00	>120/>120	F/F
		EBLTR	0.34/0.31	33.1/28.5	D/D	6.07/1.41	>120/>120	F/F	>1.00/>1.00	>120/>120	F/F
US 27 and Lily Creek Way	Unsignalized	SBL	0.02/0.02	11.0/12.6	B/B	0.07/0.09	14.5/18.9	B/C	0.12/0.21	20.9/34.4	C/D
		WBLR	0.10/0.13	18.4/22.0	C/C	0.29/0.36	29.7/41.9	D/E	0.66/0.90	83.2/>120	F/F

**TABLE 5-2 (CONTINUED)  
NO-BUILD INTERSECTION LOS**

Intersection	Control Type	Lane Group/ Approach	Opening Year (2020) AM/PM			Mid-Design Year (2030) AM/PM			Design Year (2040) AM/PM		
			V/C Ratio	Average Delay	LOS	V/C Ratio	Average Delay	LOS	V/C Ratio	Average Delay	LOS
US 27 and US 98 (Fort Meadow Road)/CR 630	Signalized	EB Approach		61.1/67.3	E/E		95.5/82.0	F/F		>120/>120	F/F
		WB Approach		57.1/61.6	E/E		>120/>120	F/F		>120/>120	F/F
		NB Approach		25.4/38.8	C/D		38.7/69.0	D/E		83.1/>120	F/F
		SB Approach		35.9/34.3	D/C		45.0/31.6	D/C		>120/45.8	F/D
		<i>Overall</i>		<i>37.0/42.4</i>	<i>D/D</i>		<i>59.5/69.1</i>	<i>E/E</i>		<i>&gt;120/&gt;120</i>	<i>F/F</i>
US 27 and CR 630A	Signalized	WB Approach		48.7/44.1	D/D		72.8/92.7	E/F		>120/>120	F/F
		NB Approach		7.1/9.0	A/A		8.8/17.7	A/B		>120/73.8	F/E
		SB Approach		4.0/4.2	A/A		7.5/7.9	A/A		22.3/14.3	C/B
		<i>Overall</i>		<i>8.0/9.4</i>	<i>A/A</i>		<i>12.1/18.4</i>	<i>B/B</i>		<i>88.8/53.8</i>	<i>F/D</i>
US 27 and Gum Road	Unsignalized	NBL	0.08/0.06	14.3/12.3	B/B	0.18/0.12	23.2/16.6	C/C	0.45/0.31	56.8/29.5	F/F
		EBLR	0.28/0.17	26.5/16.4	D/C	0.57/0.31	63.2/24.6	F/C	2.61/0.90	>120/>120	F/F
US 27 and Lakeside Garden Drive	Unsignalized (right-turn only)	WBR	0.07/0.13	12.9/14.9	B/B	0.10/0.27	15.7/22.6	C/C	0.17/0.57	22.0/51.1	C/F
US 27 and Presidents Drive	Signalized	EB Approach		48.9/53.0	D/D		98.5/>120	F/F		>120/>120	F/F
		WB Approach		49.3/52.5	D/D		86.2/109.4	F/F		>120/>120	F/F
		NB Approach		14.2/18.4	B/B		17.8/15.8	B/B		20.2/64.8	C/E
		SB Approach		15.7/16.3	B/B		18.9/13.6	B/B		50.7/31.2	D/C
		<i>Overall</i>		<i>18.8/21.3</i>	<i>B/C</i>		<i>26.8/27.2</i>	<i>C/C</i>		<i>51.4/64.3</i>	<i>D/E</i>
US 27 and Central Drive	Unsignalized (right-turn only)	WBR	0.06/0.10	12.8/14.5	B/B	0.07/0.17	15.4/20.4	C/C	0.12/0.28	20.8/33.6	C/D
US 27 and Jackson Street	Unsignalized (right-turn only)	EBR	0.15/0.11	15.0/13.2	B/B	0.32/0.20	23.3/16.6	C/C	0.52/0.32	44.6/24.8	E/C
US 27 and 1st Avenue North	Unsignalized	SBL	0.22/0.19	14.3/15.8	B/C	0.35/0.42	21.1/31.2	C/D	0.64/0.97	49.8/>120	E/F
		WBLR	0.33/0.60	17.5/36.7	C/E	0.73/1.24	49.1/>120	E/F	3.17/11.53	>120/>120	F/F
US 27 and College Boulevard	Unsignalized	WBR	0.03/0.04	13.0/14.4	B/B	0.09/0.12	16.0/19.8	C/C	0.22/0.25	23.5/32.6	C/D

**TABLE 5-2 (CONTINUED)  
NO-BUILD INTERSECTION LOS**

Intersection	Control Type	Lane Group/ Approach	Opening Year (2020) AM/PM			Mid-Design Year (2030) AM/PM			Design Year (2040) AM/PM		
			V/C Ratio	Average Delay	LOS	V/C Ratio	Average Delay	LOS	V/C Ratio	Average Delay	LOS
US 27 and CR 640 (Alturas Babson Cut Off Road)	Signalized	EB Approach		38.3/36.9	<b>D/D</b>		59.8/87.3	<b>E/F</b>		76.9/>120	<b>E/F</b>
		WB Approach		43.1/53.5	<b>D/D</b>		>120/>120	<b>F/F</b>		>120/>120	<b>F/F</b>
		NB Approach		29.2/33.5	<b>C/C</b>		38.0/49.4	<b>D/D</b>		96.0/>120	<b>F/F</b>
		SB Approach		40.6/23.1	<b>D/C</b>		35.1/34.1	<b>D/C</b>		104.7/52.3	<b>F/D</b>
		<i>Overall</i>		36.5/31.5	<b>D/C</b>		46.2/54.9	<b>D/D</b>		114.6/>120	<b>F/F</b>
US 27 and Harbor Drive	Unsignalized	NBL	0.03/0.04	15.1/13.3	<b>C/B</b>	0.10/0.07	23.9/17.6	<b>C/C</b>	0.29/0.17	50.1/28.0	<b>F/D</b>
		SBL	0.02/0.03	13.3/15.3	<b>B/C</b>	0.07/0.10	17.6/24.0	<b>C/C</b>	0.17/0.29	28.0/50.1	<b>D/F</b>
		WBLR	0.34/0.31	43.6/50.0	<b>E/E</b>	0.67/0.87	115.7/>120	<b>F/F</b>	—/—	—/—	<b>F/F</b>
		EBLR	0.19/0.15	33.0/31.2	<b>D/D</b>	0.84/0.67	>120/115.7	<b>F/F</b>	—/—	—/—	<b>F/F</b>
US 27 and CR 17B (Hunt Brothers Road)	Signalized	EB Approach		41.1/35.9	<b>D/D</b>		45.4/84.9	<b>D/F</b>		>120/>120	<b>F/F</b>
		WB Approach		36.4/35.7	<b>D/D</b>		89.4/>120	<b>F/F</b>		>120/>120	<b>F/F</b>
		NB Approach		12.8/18.3	<b>B/B</b>		23.5/36.4	<b>C/D</b>		41.2/>120	<b>D/F</b>
		SB Approach		16.5/11.7	<b>B/B</b>		30.9/25.7	<b>C/C</b>		78.0/43.6	<b>E/D</b>
		<i>Overall</i>		17.6/18.1	<b>B/B</b>		35.3/46.7	<b>D/D</b>		94.4/114.6	<b>F/F</b>
US 27 NB and SR 60 EB On Ramp	Unsignalized (right-turn only)	SBL	1.03/1.38	85.2/>120	<b>F/F</b>	1.66/2.77	>120/>120	<b>F/F</b>	3.12/6.23	>120/>120	<b>F/F</b>
US 27 SB and SR 60 EB Off Ramp	Unsignalized (right-turn only)	EBR	0.96/0.81	64.8/34.7	<b>F/D</b>	1.80/1.35	>120/>120	<b>F/F</b>	3.24/3.40	>120/>120	<b>F/F</b>
SR 60 WB Off Ramp and US 27 SB	Unsignalized (right-turn only)	WBR	0.17/0.20	9.1/9.2	<b>A/A</b>	0.26/0.30	9.6/9.8	<b>A/A</b>	0.36/0.40	10.3/10.6	<b>B/B</b>
US 27 and Central Avenue	Signalized	EB Approach		51.5/40.8	<b>D/D</b>		>120/70.9	<b>F/E</b>		>120/>120	<b>F/F</b>
		WB Approach		40.9/49.5	<b>D/D</b>		>120/93.5	<b>F/F</b>		>120/>120	<b>F/F</b>
		NB Approach		42.2/44.0	<b>D/D</b>		62.3/49.5	<b>E/D</b>		74.8/63.7	<b>E/E</b>
		SB Approach		32.5/34.1	<b>C/C</b>		57.0/50.7	<b>E/D</b>		71.0/89.6	<b>E/F</b>
		<i>Overall</i>		38.5/41.0	<b>D/D</b>		90.2/59.2	<b>F/E</b>		>120/97.2	<b>F/F</b>

- Notes: For Signalized intersections delay and LOS are for overall intersection. For unsignalized intersections delay and LOS are for Major Street left movement/Minor Street approach. X/X: AM/PM LOS. NBL = Northbound left, EBLR = Eastbound left/right, SBL = Southbound left, WBLR = Westbound left/right.

### **5.1.2 LIMITATIONS**

- Increase in traffic congestion and user costs associated with increased travel times
- Potential increase in crashes due to increased traffic congestion
- Not consistent with the Polk County 2035 LRTP
- Increase in emergency vehicle response times
- Increase in roadway maintenance costs

## **5.2 TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS**

The objective of Transportation Systems Management and Operations (TSMO) improvements is to identify strategies that reduce existing traffic congestion and prevent its occurrence in areas that are currently not congested. These strategies are designed to modify travel behavior and increase system efficiency without costly infrastructure improvements. TSMO strategies are implemented when one or more of the following occurs:

- Insufficient funds available to meet system improvement needs
- Increased construction costs for new roadways and transit facilities
- Increased need to improve operational efficiency
- Changes in travel patterns

TSMO options generally include traffic signal and intersection improvements, access management and transit improvements. The additional capacity required to meet the project traffic volumes along US 27 in the Design Year cannot be provided solely through the implementation of TSMO improvements.

The TSMO strategy of access management is included as part of the Build Alternative.

## **5.3 MULTI-MODAL ALTERNATIVES**

There are currently no transit services within the project limits serving US 27. A review of the Polk County Transportation Planning Organization (TPO) *My Ride: Consolidated Transit Development Plan FY 2012 – FY 2022* indicated that no transit facilities are planned along the US 27 corridor at this time.

## **5.4 ALTERNATIVE EVALUATION**

### **5.4.1 SEGMENT DESCRIPTIONS**

Based on existing land use patterns, location of intersecting cross streets, likely permitting impacts, and future construction package considerations, the project was divided into three segments:

- Segment 1: From County Line Road (MP 0.000) to north of CR 630A (MP 8.780);
- Segment 2: From north of CR 630A (MP 8.780) to south of Presidents Drive (MP 13.500);
- Segment 3: From south of Presidents Drive (MP 13.500) to MP 0.220 north of SR 60 (MP 18.816). This segment includes the interchange of US 27 with SR 60.

## 5.4.2 SEGMENT 1

### 5.4.2.1 Build Alternative

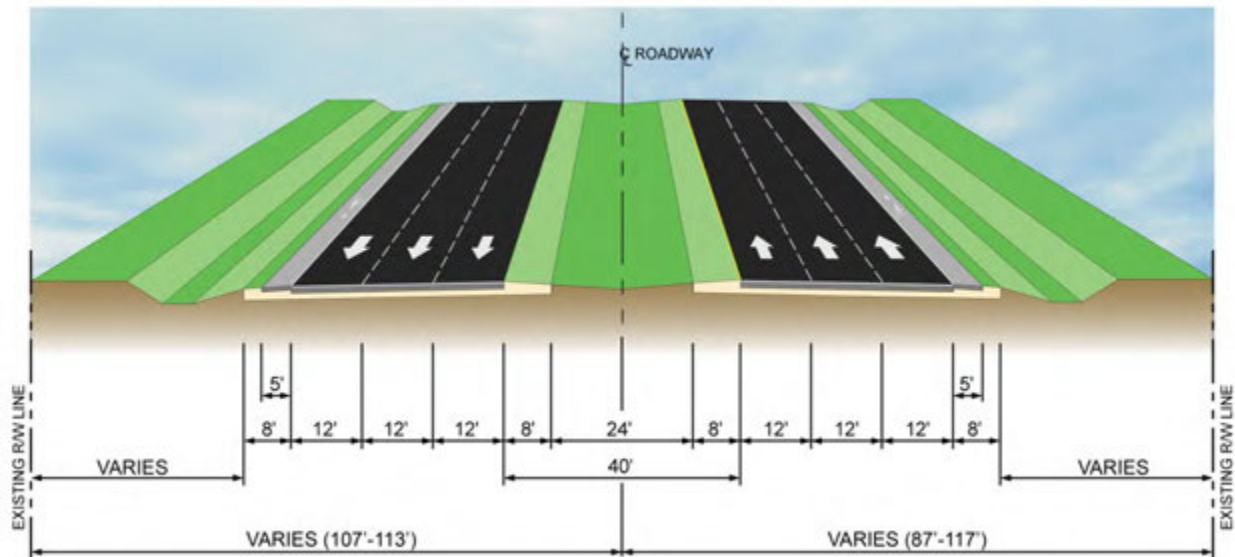
#### **From County Line Road (MP 0.000) to north of CR 630A (MP 8.780)**

In Segment 1, from County Line Road to north of CR 630A, a single alternative was presented at the Public Information Workshop. This alternative was developed to accommodate six lanes of travel, maintain a high design speed consistent with the existing facility, SIS design speed criteria, and minimize ROW impacts.

### 5.4.2.2 Typical Section

This alternative consisted of widening the existing four-lane rural section to provide a six-lane rural section as shown in **Figure 5-4**.

**FIGURE 5-4  
SIX-LANE RURAL TYPICAL SECTION  
FROM MP 0.00 TO MP 5.180**

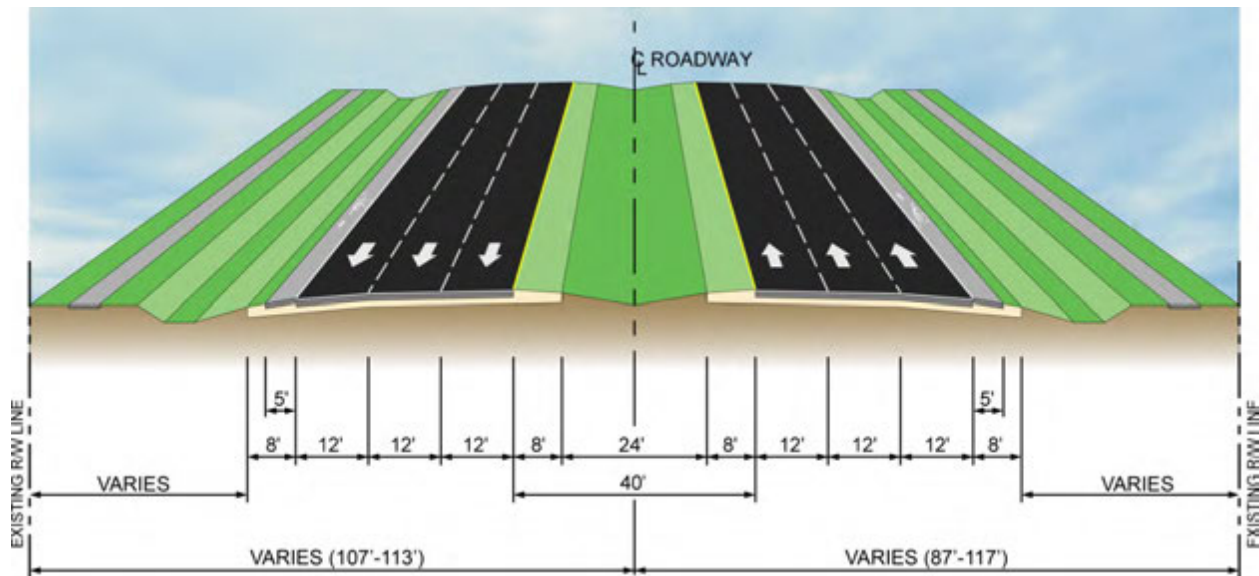


The rural typical section will consist of six 12-foot lanes, a 40-foot median, 8-foot inside shoulders, 8-foot outside shoulders (5-foot paved), and enough border width to accommodate open roadside ditches. Although, the border width will vary, the minimum clear zone width of

36 feet will remain constant throughout the corridor and bicyclists will be accommodated on the 5-foot paved shoulders. Different methods can be utilized to widen the existing roadway to six-lanes such as widening to the outside, or a combination of both inside and outside widening. For this study, it was determined to assume the most conservative method - widening to the outside - to determine the need for design variations and develop a stormwater management layout. During the design phase, the preferred widening scheme will be determined based on its ability to accommodate all necessary design elements. In the tangent sections, both the inside and center lanes would slope to the outside at 0.02 feet per foot, while the outside lane would slope to the outside at 0.03 feet per foot. The proposed design speed for this facility is 70 mph. The roadway improvements would not require any additional ROW. In some locations, the variable border width would fall below PPM requirements. A Design Variation for Border Width has been approved as shown in **Appendix F**.

Within Segment 1, the rural typical section would be modified to include 5-foot sidewalks in both directions as shown in **Figure 5-5**. These sidewalks would provide dedicated pedestrian facilities for the Frostproof Urban area and the limits have been adjusted to logical termini based on current development. During the project Design Phase, the sidewalk limits should be revisited and adjusted as necessary.

**FIGURE 5-5  
SIX-LANE RURAL TYPICAL SECTION WITH SIDEWALK  
FROM MP 5.180 TO MP 8.780**



#### 5.4.2.3 *Horizontal and Vertical Alignment*

Within Segment 1, all horizontal alignment elements meet PPM criteria. There are six vertical alignment elements that do not meet PPM criteria (see Table 2-3 for design specifics):

- MP 0.350 – Sag curve with deficient length
- MP 2.614 – Crest curve with deficient K value

- MP 4.347 – Crest curve with deficient K value
- MP 4.797 – Crest curve with deficient K value

A Design Variation for vertical alignment has been prepared for these locations.

Within Segment 1, there are two vertical alignment elements that do not meet AASHTO criteria (see Table 2-3 for design specifics):

- MP 4.214 – Sag curve with deficient K value
- MP 4.966 – Sag curve with deficient K value

It is recommended to lengthen the existing sag curves to eliminate the deficiency.

#### **5.4.2.4 Conceptual Plans**

Conceptual Plans for the one alternative in Segment 1 are located in **Appendix A**.

#### **5.4.2.5 ROW**

The roadway improvements would not require any additional ROW. Wetland impacts in Segment 1 would require the purchase of additional ROW to provide mitigation.

#### **5.4.2.6 Cost Estimate**

The Construction Cost Estimate for the Build Alternative in Segment 1 is \$68.16 million. See **Appendix C** for the LRE.

#### **5.4.2.7 Preliminary Drainage**

Stormwater management for Segment 1 would be accomplished utilizing a combination of linear dry retention and wet detention systems within the existing ROW. In several locations in this segment, the roadside slopes would be adjusted from 1:6 to 1:4 to provide sufficient treatment and attenuation volume in the roadside ditch. A Design Variation has been prepared to allow the roadside slopes to vary from 1:6 to 1:4. Mitigation for floodplain encroachment would occur within the existing ROW near the encroachments. See the *Conceptual Pond Siting Report (PSR)* (dated December 2013, prepared under separate cover) for additional information.

#### **5.4.2.8 Utilities**

The utility companies listed in Table 2-8 were contacted by letter and phone to identify the location of their facilities within the US 27 Study Area. Plans sheets and a map of the Study Area were mailed to the utility companies with a request to identify the location, size, and type of their existing and proposed facilities. The existing utilities include overhead and buried electric distribution, overhead electric transmission, overhead and buried communications cables

(coaxial, copper, and fiber optic cables), potable water, reclaimed water, sanitary sewer, and natural gas mains.

Depending on their location, size, and depth some or all of the existing utility's facilities may require adjustment or relocation due to the proposed roadway improvements. Cost estimates were provided by the utilities for worst case scenario, in the event that all of their existing utility facilities within the Study Area would require relocation. These costs are reflected in the *Utility Assessment Report* (UAR).

#### **5.4.2.9 Traffic Control Concepts**

The proposed construction phasing for the widening of US 27 from a four-lane rural roadway to a six-lane rural roadway in Segment 1 would occur in two main phases. During the first phase, the existing four-lanes of traffic would be shifted onto temporary pavement towards the median, while the outside widening and border area construction occurs. In the second phase, the existing four-lanes of traffic would be shifted towards the outside and any remaining median work such as drainage, median opening changes, and removal of the temporary pavement would occur.

#### **5.4.2.10 Bicycle and Pedestrian Accommodations**

Within Segment 1, bicycles would be accommodated on the paved outside shoulders. Bicycle keyways between outside through lanes and proposed right-turn lanes would be provided. Pedestrian facilities, 5-foot sidewalks on both sides of US 27, would be provided based on logical termini for the Frostproof Urban Area.

#### **5.4.2.11 Multi-Modal Accommodations**

As discussed in Section 5.3, there are no current or planned transit services within the project limits serving US 27; therefore, there are no transit improvements proposed within the Build Alternative.

#### **5.4.2.12 Access Management**

Existing access spacing in Segment 1 was reviewed and compared with FDOT access Class 05 requirements. It was found that many access points (driveway connections, median openings, etc.) did not meet access management standards. Locations where access could be improved while maintaining reasonable access were identified throughout the corridor. These access management improvements included consolidation of access points, relocation, modification, and/or closure of median openings.

To better accommodate truck movements, including U-turns, it is recommended that the major intersections be improved by providing adequate turn radii. In addition, three median openings



were identified where truck loons (bulb-outs) would be provided in Segment 1 to accommodate truck U-turns.

The recommended access management improvements are shown on the Concept Plans in **Appendix A** and described in detail in the PTR and PTR Addendum.

#### **5.4.2.13 Engineering Evaluation of Environmental Impacts**

All of the proposed improvements in Segment 1 would occur within the existing ROW. Proposed improvements were closely coordinated with preliminary wetland and species data to minimize impacts when possible. As no wetland mitigation banks are currently available for this area, additional ROW would be required to provide mitigation. See the WER and the ESBA.

#### **5.4.2.14 Bridge Analysis**

Within Segment 1, there are two pairs of bridges and one bridge culvert:

- Bridge 160193 and 160194 – US 27 southbound and northbound over Lake Streey Canal
- Bridge 160195 and 160196 – US 27 southbound and northbound over CSX Railroad
- Bridge Culvert 160200 – US 27 southbound and northbound at Clinch Creek

#### **Bridge 160193 and 160194 - US 27 Southbound and Northbound over Lake Streey Canal**

**Existing Conditions:** The bridges were constructed in 1975 and currently have a *Structure Inventory and Appraisal* Sufficiency Rating of 97.6 out of 100 with a Health Index of 83.6. They are 102.6 feet long and consist of two spans 51 feet and 51.6 feet long. The superstructures consist of reinforced concrete decks supported by AASHTO Type II beams. The superstructures are supported by pile bents consisting of reinforced concrete caps and driven pre-stressed concrete piles. Each bridge deck consists of a 6-foot inside shoulder, two 12-foot lanes, and a 10-foot outside shoulder. A drift horizontal clearance of 33 feet and a drift vertical clearance of 3.0 feet is provided above the Design High Water elevation of 104.1. The earthen embankments at the bridge abutments are stabilized with sand-cement riprap bags.

**Proposed:** The bridges would be widened to provide for the six-lane divided rural facility. The widenings would be considered “minor” by the definition in the Structures Design Guidelines (SDG). They would maintain the same existing horizontal and vertical alignment. The existing span arrangement would be maintained. Subsurface conditions including deep organic materials outboard of southbound Bridge 160193 are not suitable to support the bridge approaches. Two alternatives can be considered for widening these bridges:

*Widening to the outside* – A preliminary geotechnical investigation performed at the site indicated that full depth organic soil removal is not practical and as a result, a subsurface

remediation program would have to be implemented. The following remediation alternatives could be considered:

- Surcharging with the use of geosynthetics and wick drains
- Deep Soil Mixing (with Load Transfer Platform)
- Rigid Inclusions (with Load Transfer Platform)
- Stone Columns

*Widening to the inside* – To avoid potentially difficult and costly construction as a result of this condition, widen both bridges to the inside. The inside widening would form one structure with a median barrier.

In lieu of the aforementioned geotechnical issues, widening the bridges to the inside is recommended. In order to accommodate the proposed roadway section, the bridges would be widened to provide three 12-foot travel lanes and 10-foot outside shoulders. The inside shoulder widths would be limited to 7-feet due to the inside widening requiring a Design Variation for Bridge Width, see **Appendix F**. A new median barrier and new TL-4 crash resistant traffic barrier rails would be provided along the bridge copings. The new overall width would be 111.1 feet.

### **Bridge 160195 and 160196 – US 27 Southbound and Northbound over CSX Railroad**

**Existing Conditions:** The bridges were constructed in 1975 and 1974, respectively. They currently have a Structure Inventory and Appraisal Sufficiency Rating of 96.6 out of 100 with a Health Index of 95.9 and 88.3 respectively. They are 222 feet long and consist of 43-, 43-, 52-, 42-, and 42-foot spans. The bridges are aligned at a 43 degree skew to the railroad in a mild vertical crest curve. The superstructures consist of reinforced concrete decks supported by AASHTO Type II beams. The superstructures are supported by pile bents consisting of reinforced concrete caps and driven prestressed concrete piles. Each bridge deck consists of a 6-foot inside shoulder, two 12-foot lanes, and a 10-foot outside shoulder. A 12.31-foot horizontal clearance and a minimum 22.25-foot vertical clearance are provided from the centerline of track. The earthen embankments at the bridge abutments are stabilized with sand-cement riprap bags.

**Proposed:** The bridges would be widened to provide for the six-lane divided rural facility. The widenings would be considered “minor” by the definition in the Structures Design Guidelines (SDG). They would maintain the same existing horizontal and vertical alignment. The existing span arrangement would be maintained. Subsurface materials at the site are suitable for deep foundations such as driven piles or drilled shafts. Therefore, both bridges can be widened to the outside.

In order to accommodate the proposed roadway section the bridges would be widened to provide three 12-foot travel lanes, 10-foot inside shoulders, and 10-foot outside shoulders. New TL-4

crash resistant traffic barrier rails would be provided along the bridge copings. The new overall width would be 59.1 feet. The existing sand-cement riprap would be extended to provide abutment slope protection at the widened portions.

The CSX railroad line is active underneath the bridge. The bridges currently do not provide adequate horizontal and vertical clearance from the railroad. The widenings will be designed so as to not encroach into the existing clearances. Crash walls would be provided to protect the interior pile bents on either side of the track.

### **Bridge Culvert 160200 - US 27 Southbound and Northbound at Clinch Creek**

**Existing Conditions:** The culvert was constructed in 1939 and currently has a *Structure Inventory and Appraisal* Sufficiency Rating of 77.2 out of 100 with a Health Index of 99.6. It is a double barrel 10-foot by 3-foot that was likely constructed in accordance with FDOT standards at the time. The fill depth over the culvert was noted as 34 inches in the inspection report.

**Proposed:** The culvert headwalls are currently outside of the clear zones and would need to be lengthened to accommodate the proposed widening. The existing culvert barrels appear to provide sufficient hydraulic capacity as there is no evidence of overtopping.

#### ***5.4.2.15 Interchange/Intersection Layouts***

There are no interchanges within the limits of Segment 1. There are several existing intersections within Segment 1 including signalized intersections at Scenic Highway (US 17) and US 98 (Ft. Meade Road). Based on the findings in the PTR and PTR Addendum, only minor improvements are recommended. These recommendations are included in the Concept Plans in **Appendix A**.

#### ***5.4.2.16 Design Exceptions/Variations***

No Design Exceptions are anticipated in Segment 1. The following Design Variations are anticipated:

- Border Width
- Vertical Alignment
- Roadside Slope

See **Appendix F** for required Design Variations.

#### ***5.4.2.17 Safety Analysis***

Crash data was obtained from the FDOT C.A.R. System for the 5-year period from 2007 to 2011. Crash rates within Segment 1 during this period were below Statewide Average Rates. For full crash data analysis information, see the PTR and PTR Addendum.

### 5.4.3 SEGMENT 2

#### 5.4.3.1 Build Alternative

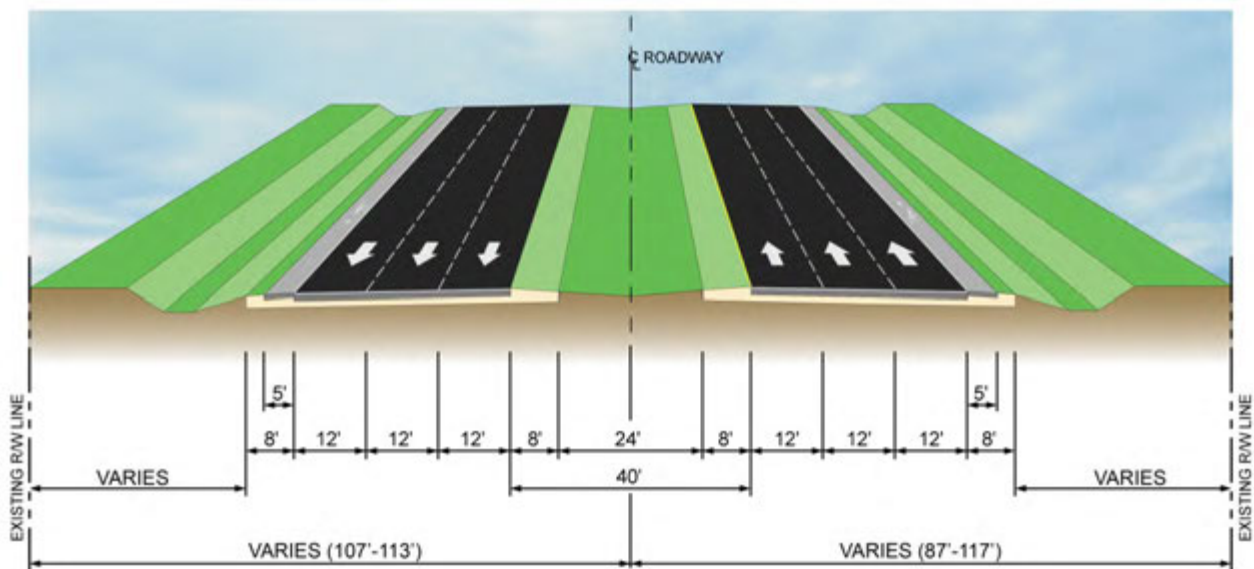
#### From north of CR 630A (MP 8.780) to south of Presidents Drive (MP 13.500)

In Segment 2, from north of CR 630A to south of Presidents Drive, a single alternative was presented at the Public Information Workshop. This alternative was developed to accommodate six lanes of travel, maintain a high design speed consistent with the existing facility, SIS design speed criteria, and minimize ROW impacts.

#### 5.4.3.2 Typical Section

Similar to Segment 1, this alternative consisted of widening the existing four-lane rural section to provide a six-lane rural section as shown in **Figure 5-6**.

**FIGURE 5-6  
SIX-LANE RURAL TYPICAL SECTION  
FROM MP 9.636 TO MP 13.500**

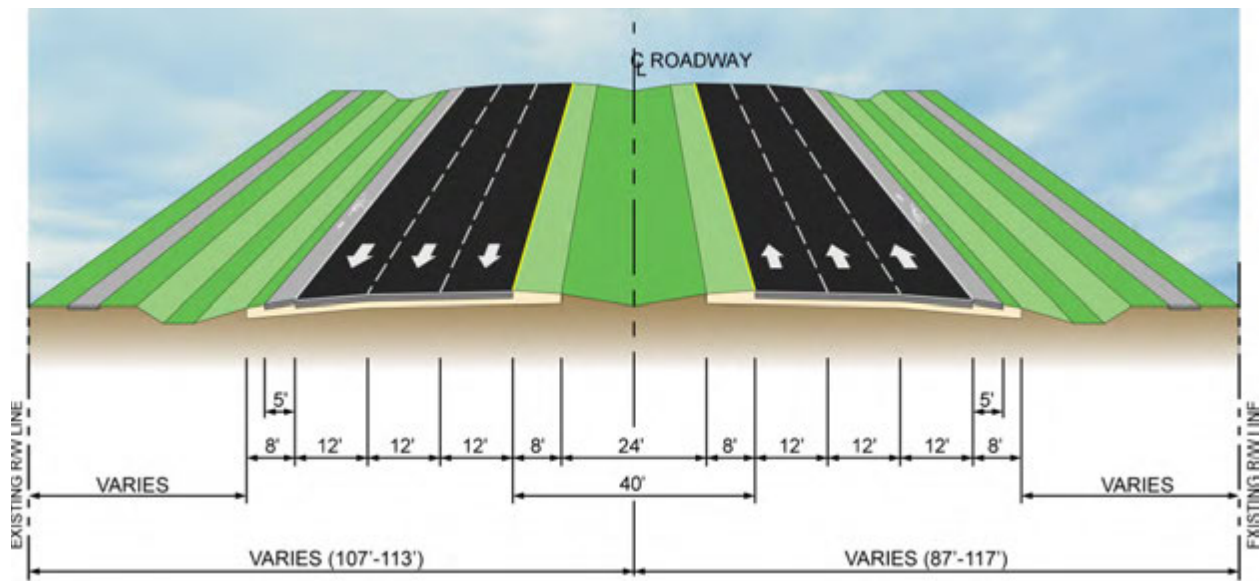


The rural typical section would consist of six 12-foot lanes, a 40-foot median, 8-foot inside shoulders, 8-foot outside shoulders (5-foot paved), and enough border width to accommodate open roadside ditches. Although, the border width would vary, the minimum clear zone width of 36 feet would remain constant throughout the corridor, and bicyclists would be accommodated on the 5-foot paved shoulder. Different methods can be utilized to widen the existing roadway to six-lanes such as widening to the outside, or a combination of both inside and outside widening. For this study, it was determined to assume the most conservative method – widening to the outside – to establish the needs for design criteria variations and stormwater management layout. During the project Design Phase, the preferred methods of widening would be determined to

capitalize on portions of the corridor where ROW widths or adjacent features dictate a need for additional border area on one side of the roadway or the other. In the tangent sections, both the inside and center lanes will slope to the outside at 0.02 feet per foot, while the outside lane would slope to the outside at 0.03 feet per foot. The proposed design speed for this facility is 70 mph. The roadway improvements would not require any additional ROW. In some locations, the variable border width will fall below PPM requirements. A Design Variation for Border Width has been prepared.

Within Segment 2, the rural typical section would be modified to include 5-foot sidewalks in both directions as shown in **Figure 5-7**. These sidewalks would provide dedicated pedestrian facilities for the Frostproof Urban area and the limits have been adjusted to logical termini based on current development. During the project design phase, the sidewalk limits should be revisited and adjusted as necessary.

**FIGURE 5-7  
SIX-LANE RURAL TYPICAL SECTION WITH SIDEWALK  
FROM MP 8.780 TO MP 9.636**



#### 5.4.3.3 *Horizontal and Vertical Alignment*

Within Segment 2, all existing horizontal and vertical alignment design elements meet PPM criteria.

#### 5.4.3.4 *Conceptual Plans*

Conceptual Plans for the one alternative in Segment 2 are located in **Appendix A**.

#### **5.4.3.5 ROW**

The roadway improvements would not require any additional ROW. Stormwater management would require additional ROW to provide floodplain compensation.

#### **5.4.3.6 Cost Estimate**

The Construction Cost Estimate for the one alternative in Segment 2 is \$50.06 million. See **Appendix C** for the LRE.

#### **5.4.3.7 Preliminary Drainage**

Stormwater management for Segment 2 would be accomplished utilizing linear dry and wet detention systems within the existing ROW. In several locations in this segment, the roadside slopes would be adjusted from 1:6 to 1:4 to provide sufficient treatment and attenuation volume in the roadside ditch. A Design Variation has been prepared to allow the roadside slopes to vary from 1:6 to 1:4. Some gravity walls will be necessary within this segment to provide the swales that are within this segment. The volume of encroachment is recommended to be mitigated within the 60-acre wetland mitigation site, also known as the “Flood parcel.” The Flood parcel would provide the required wetland mitigation for Segment 1, and the wetland mitigation and floodplain mitigation for Segment 2.

#### **5.4.3.8 Utilities**

The utility companies listed previously in Table 2-8 were contacted by letter and phone to identify the location of their facilities within the US 27 Study Area. Plans sheets and a map of the Study Area were mailed to the utility companies with a request to identify the location, size, and type of their existing and proposed facilities. The existing utilities include overhead and buried electric distribution, overhead electric transmission, overhead and buried communications cables (coaxial, copper and fiber optic cables), potable water, reclaimed water, sanitary sewer, and natural gas mains.

Depending on their location, size, and depth some or all of the existing utility’s facilities may require adjustment or relocation due to the proposed roadway improvements. Cost estimates were provided by the utilities for worst case scenario, in the event that all of their existing utility facilities within the Study Area would require relocation. Utility details are reflected in the UAR.

#### **5.4.3.9 Traffic Control Concepts**

The proposed construction phasing for the widening of US 27 from a four-lane rural roadway to a six-lane rural roadway in Segment 2 would occur in two main phases. During the first phase, the existing four lanes of traffic would be shifted onto temporary pavement towards the median, while the outside widening and border area construction occurs. In the second phase, the existing four lanes of traffic would be shifted towards the outside and any remaining median work such as drainage, median opening changes, and removal of the temporary pavement would occur.

#### **5.4.3.10 Bicycle and Pedestrian Accommodations**

Within Segment 2, bicycles will be accommodated on the paved outside shoulders. Bicycle keyways between outside through lanes and proposed right-turn lanes would be provided. Pedestrian facilities, 5-foot sidewalks on both sides of US 27, would be provided based on logical termini for the Frostproof Urban Area.

#### **5.4.3.11 Multi-Modal Accommodations**

As discussed in Section 5.3, there are no current or planned transit services within the project limits serving US 27; therefore, there are no transit improvements proposed for Segment 2.

#### **5.4.3.12 Access Management**

Existing access spacing in Segment 2 was reviewed and compared with FDOT access Class 05 requirements. It was found that many access points (driveway connections, median openings, etc.) did not meet access management standards. Locations where access can be improved while maintaining reasonable access were identified throughout the corridor. These access management improvements included consolidation of access points, relocation, modification, and/or closure of median openings.

To better accommodate truck movements, including U-turns, it is recommended that the major intersections be improved by providing adequate turn radii. In addition, one median opening was identified where truck loons (bulb-outs) would be provided in Segment 2 to accommodate truck U-turns.

The recommended access management improvements are shown on the Concept Plans in **Appendix A** and described in detail in the PTR and PTR Addendum.

#### **5.4.3.13 Engineering Evaluation of Environmental Impacts**

All of the proposed improvements in Segment 2 would occur within the existing ROW. Proposed improvements were closely coordinated with preliminary wetland and species data to minimize impacts when possible. As no wetland mitigation banks are currently available for this area, additional ROW would be required to provide mitigation. See the WER and the ESBA.

#### **5.4.3.14 Bridge Analysis**

Within Segment 2, there are two bridge culverts:

- Bridge Culvert 160075 – US 27 southbound and northbound at McCoy Drainage Ditch
- Bridge Culvert 160067 – US 27 southbound and northbound at Crooked Lake Canal

#### **Bridge Culvert 160075 - US 27 Southbound and Northbound at McCoy Drainage Ditch**

**Existing Conditions:** The culvert was constructed in 1953 and currently has a *Structure Inventory and Appraisal* Sufficiency Rating of 78.6 out of 100 with a Health Index of 68.45. It is a double barrel 10-foot by 6-foot that was likely constructed in accordance with FDOT

standards at the time. The fill depth over the culvert was noted as 37 inches in the inspection report.

**Proposed:** The culvert headwalls are currently outside of the clear zones and would need to be lengthened to accommodate the proposed widening. The existing culvert barrels appear to provide sufficient hydraulic capacity as there is no evidence of overtopping.

### **Bridge Culvert 160067 - US 27 Southbound and Northbound at Crooked Lake Canal**

**Existing Conditions:** The culvert was constructed in 1945 and currently has a *Structure Inventory and Appraisal* Sufficiency Rating of 71.0 out of 100 with a Health Index of 81.72. It is a triple barrel 8-foot by 6-foot that was likely constructed in accordance with FDOT standards at the time. The fill depth over the culvert was noted as 42 inches in the inspection report.

**Proposed:** The culvert headwalls are currently outside of the clear zones and would need to be lengthened to accommodate the proposed widening. The existing culvert barrels appear to provide sufficient hydraulic capacity as there is no evidence of overtopping.

#### ***5.4.3.15 Interchange/Intersection Layouts***

There are no interchanges within the limits of Segment 2. There are several existing intersections within Segment 2, however, none are currently signalized. Based on the findings in the PTR and PTR Addendum, only minor improvements are recommended. These recommendations are included in the Concept Plans in **Appendix A**.

#### ***5.4.3.16 Design Exceptions/Variations***

No Design Exceptions are anticipated in Segment 2. The following Design Variation is anticipated:

- Border Width
- Roadside Slope

See **Appendix F** for required Design Variations.

#### ***5.4.3.17 Safety Analysis***

Crash data was obtained from the FDOT C.A.R. System for the 5-year period from 2007 to 2011. Crash rates within Segment 2 during this period were slightly above Statewide Average Rates. For full crash data analysis information, see the PTR and PTR Addendum.

### ***5.4.4 SEGMENT 3***

#### ***5.4.4.1 Build Alternative***

### **From south of Presidents Drive (MP 13.500) to MP 0.220 north of SR 60 (MP 18.816)**

In Segment 3, from south of Presidents Drive to north of SR 60, a single alternative for US 27 was presented at the Public Information Workshop. This alternative was developed to

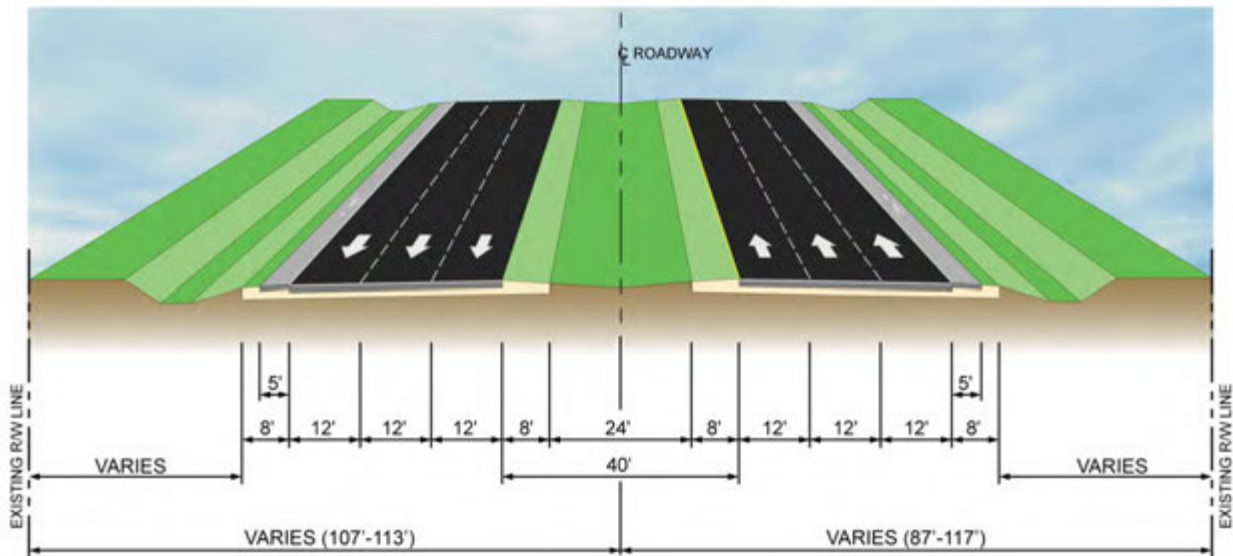


accommodate six lanes of travel, maintain a high design speed consistent with the existing facility and SIS design speed criteria, and minimize ROW impacts. Three alternatives for the interchange of US 27 and SR 60 were developed and presented at the Public Information Workshop. Documentation of these alternatives will follow the discussion of the mainline US 27 alternative.

#### 5.4.4.2 Typical Section

From the beginning of Segment 3 north to MP 18.057, this alternative consisted of widening the existing four-lane rural section to provide a six-lane rural section as shown in **Figure 5-8**.

**FIGURE 5-8  
SIX-LANE RURAL TYPICAL SECTION  
FROM MP 13.500 TO MP 15.166**

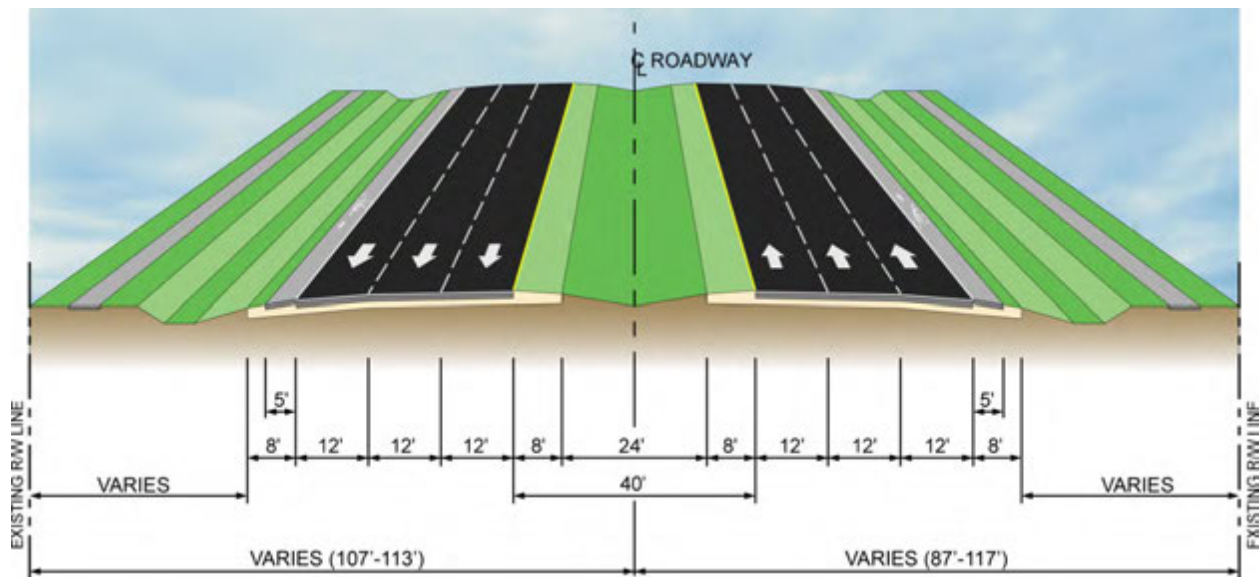


The rural typical section will consist of six 12-foot lanes, a 40-foot median, 8-foot inside shoulders, 8-foot outside shoulders (5-foot paved), and enough border width to accommodate open roadside ditches. Although, the border width will vary, the minimum clear zone width of 36 feet will remain constant throughout the corridor, and bicyclists will be accommodated on the 5-foot paved shoulder. Different methods can be utilized to widen the existing roadway to six-lanes such as widening to the outside, or a combination of both inside and outside widening. For this study, it was determined to assume the most conservative method – widening to the outside – to establish the needs for design criteria variations and stormwater management layout. During the project Design Phase, the preferred methods of widening will be determined to capitalize on portions of the corridor where ROW widths or adjacent features dictate a need for additional border area on one side of the roadway or the other. In the tangent sections, both the inside and center lanes will slope to the outside at 0.02 feet per foot, while the outside lane will slope to the outside at 0.03 feet per foot. The proposed design speed for this facility is 70 mph. The roadway improvements will not require any additional ROW. In some locations, the variable border

width will fall below PPM requirements. A Design Variation for Border Width has been prepared.

Within Segment 3, the rural typical section will be modified to include 5-foot sidewalks in both directions as shown in **Figure 5-9**. These sidewalks will provide dedicated pedestrian facilities for the Lake Wales Urban area and the limits have been adjusted to logical termini based on current development. During the project Design Phase, the sidewalk limits should be revisited and adjusted as necessary.

**FIGURE 5-9**  
**SIX-LANE RURAL TYPICAL SECTION WITH SIDEWALK**  
**FROM MP 15.166 TO MP 18.057**



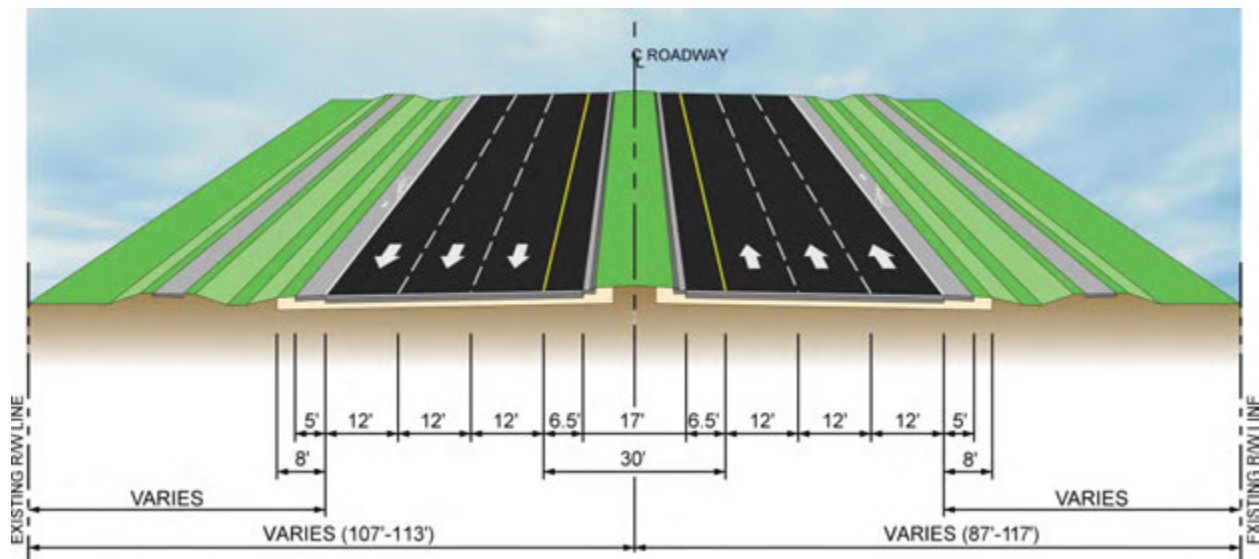
At MP 16.212, the function classification for US 27 changes from a Rural Principal Arterial roadway to an Urban Principal Arterial roadway and continues as such through the end of the project. SIS criteria requires a minimum design speed of 50 mph for urban areas. In this portion of Segment 3, it was presented at the Public Information Workshop to widen the existing four-lane rural section to a six-lane suburban typical section.

Following the Public Meeting, based on Public Comment and Department input, the proposed design speed of 50 mph between MP 16.212 and MP 18.057 was re-evaluated. North of MP 16.212, the existing posted speed begins to decrease as US 27 approaches SR 60, see Table 2-4. Between MP 16.212 and MP 18.057, where the posted speed is 60 mph, typical sections supporting design speeds of 50 mph (suburban typical section) and 70 mph (rural typical section) were evaluated. Although the SIS criteria for the Urban Principal Arterial functional classification allows for a minimum design speed of 50 mph, existing speed studies in this portion of the project corridor indicated an average speed between 65 and 70 mph. Based on this, between MP 16.212 and MP 18.057, the suburban typical section proposed at the Public

Information Workshop was changed to a rural typical section as shown in Figure 5-9 that can support a design speed of 70 mph.

North of MP 18.057, the suburban typical section will continue as proposed during the Public Information Workshop as shown in **Figure 5-10** to maximize the border areas for on-site stormwater management. Widening would occur to both the inside and outside of the existing roadway.

**FIGURE 5-10  
SIX-LANE SUBURBAN TYPICAL SECTION  
FROM MP 18.057 TO MP 18.816**



The suburban typical section will consist of six 12-foot lanes, a 30-foot median, 6.5-foot inside shoulders, 8-foot outside shoulders (5-foot paved), and enough border width to accommodate open roadside ditches. Although, the border width will vary, the minimum clear zone width of 24 feet will remain constant throughout the corridor, and bicyclists will be accommodated on the 5-foot paved shoulder. In the tangent sections, both the inside and center lanes will slope to the outside at 0.02 feet per foot, while the outside lane will slope to the outside at 0.03 feet per foot. The proposed design speed for this facility is 50 mph. The roadway improvements will not require any additional ROW.

Along SR 60, within the Study Area, the functional classification is listed as an Urban Principal Arterial. SR 60 is a SIS facility with a design speed of 45 mph. A transition from a rural typical section to an urban typical section will be required before reaching MP 29.104, which represents the beginning of the urban segment of SR 60.

#### **5.4.4.3 *Horizontal and Vertical Alignment***

Within Segment 3, all horizontal alignment elements meet PPM criteria. There are two vertical alignment elements that do not meet PPM criteria (see Table 2-3 for design specifics):

- MP 16.770 – Grade change
- MP 17.756 – Grade change

A Design Variation for vertical alignment has been prepared for these locations.

#### **5.4.4.4 *Conceptual Plans***

Conceptual Plans for the one US 27 alternative in Segment 3 are located in **Appendix A**.

#### **5.4.4.5 *ROW***

The roadway and stormwater management improvements for US 27 in Segment 3 will not require any additional ROW.

#### **5.4.4.6 *Cost Estimate***

Construction Cost Estimates for Segment 3 are included with the interchange alternatives discussion.

#### **5.4.4.7 *Preliminary Drainage***

Stormwater management for Segment 3 will be accomplished utilizing a combination of linear dry retention and wet detention systems within the existing ROW. In several locations in this segment, the roadside slopes will be adjusted from 1:6 to 1:4 to provide sufficient treatment and attenuation volume in the roadside ditch. A Design Variation has been prepared to allow the roadside slopes to vary from 1:6 to 1:4. The infield areas at the SR 60 interchange will also be utilized for stormwater management. Mitigation for floodplain encroachment will occur within the existing ROW near the encroachment. See the PSR for additional information.

#### **5.4.4.8 *Utilities***

The utility companies listed in Table 2-8 were contacted by letter and phone to identify the location of their facilities within the US 27 Study Area. Plans sheets and a map of the Study Area were mailed to the utility companies with a request to identify the location, size, and type of their existing and proposed facilities. The existing utilities include overhead and buried electric distribution, overhead electric transmission, overhead and buried communications cables (coaxial, copper and fiber optic cables), potable water, reclaimed water, sanitary sewer, and natural gas mains.

Depending on their location, size, and depth some or all of the existing utility's facilities may require adjustment or relocation due to the proposed roadway improvements. Cost estimates listed in Table 6-3 were provided by the utilities for worst case scenario, in the event that all of their existing utility facilities within the Study Area will require relocation. These costs are reflected in the UAR.

#### **5.4.4.9 Traffic Control Concepts**

The proposed construction phasing for the widening of US 27 from a four-lane rural roadway to a six-lane rural or suburban roadway in Segment 3 will occur in two main phases. During the first phase, the existing four lanes of traffic will be shifted onto temporary pavement towards the median while the outside widening and border area construction occurs. In the second phase, the existing four lanes of traffic will be shifted towards the outside and the inside widening and any remaining median work such as drainage and removal of the temporary pavement will occur.

#### **5.4.4.10 Bicycle and Pedestrian Accommodations**

Within Segment 3, bicycles will be accommodated on the paved outside shoulders. Bicycle keyways between outside through lanes and proposed right-turn lanes will be provided. Pedestrian facilities, 5-foot sidewalks on both sides of US 27, will be provided based on logical termini for the Lake Wales Urban Area.

#### **5.4.4.11 Multi-Modal Accommodations**

As discussed in Section 5.3, there are no current or planned transit services within the project limits serving US 27.

#### **5.4.4.12 Access Management**

Existing access spacing in Segment 3 was reviewed and compared with FDOT access class 05 requirements. It was found that many access points (driveway connections, median openings, etc.) did not meet access management standards. Locations where access can be improved while maintaining reasonable access were identified throughout the corridor. These access management improvements included consolidation of access points, relocation, modification, and/or closure of median openings.

To better accommodate truck movements, including U-turns, it is recommended that the major intersections be improved by providing adequate turn radii. In addition, one median opening was identified where truck loons (bulb-outs) will be provided in Segment 3 to accommodate truck U-turns.

The recommended access management improvements are shown on the Concept Plans in **Appendix A** and described in detail in the PTR and PTR Addendum.

#### **5.4.4.13 Engineering Evaluation of Environmental Impacts**

All of the proposed improvements to US 27 in Segment 3 will occur within the existing ROW. Proposed improvements were closely coordinated with preliminary wetland and species data to minimize impacts when possible. See the WER and the ESBA.

#### **5.4.4.14 Bridge Analysis**

With the exception of the existing SR 60 bridge over US 27, there are no existing or proposed bridge structures for US 27 within Segment 3.

#### **5.4.4.15 Interchange/Intersection Layouts**

An existing interchange with SR 60 is located in the northern limits of Segment 3. Three alternatives for this interchange were developed and presented at the Public Information Workshop. Documentation of these alternatives will follow the discussion of the mainline US 27 alternative in Segment 3.

There are several existing intersections within Segment 3 including signalized intersections at CR 640 (Alturas Babson Cut-Off Road), the eastbound SR 60 on-ramp, and Central Avenue. Based on the PTR and PTR Addendum, only minor improvements are recommended at the CR 640 intersection. The other two signalized locations are associated with the interchange with SR 60 and will be discussed with those alternates. The recommendations are included in the Concept Plans in **Appendix A**.

During the analysis of US 27, it was determined that SR 60 would require widening to a six-lane facility before the 2040 design year. As a result, the three interchange alternatives were re-evaluated based on their ability to accommodate a six-lane SR 60.

#### **5.4.4.16 Design Exceptions/Variations**

No Design Exceptions are anticipated in Segment 3. The following Design Variations are anticipated:

- Border Width
- Roadside Slope

See **Appendix F** for required Design Variations.

#### **5.4.4.17 Safety Analysis**

Crash data was obtained from the FDOT C.A.R. System for the 5-year period from 2007 to 2011. Crash rates within Segment 3 during this period were below Statewide Average Rates. For full crash data analysis information, see the PTR and PTR Addendum.

## **US 27 and SR 60 Interchange Alternatives**

For the interchange at US 27 and SR 60, three alternatives were developed and presented at the Public Information Workshop:

- Alternative 3A – Operational Improvement – modifications to the existing interchange
- Alternative 3B – SPUI
- Alternative 3C – Tight Diamond Interchange

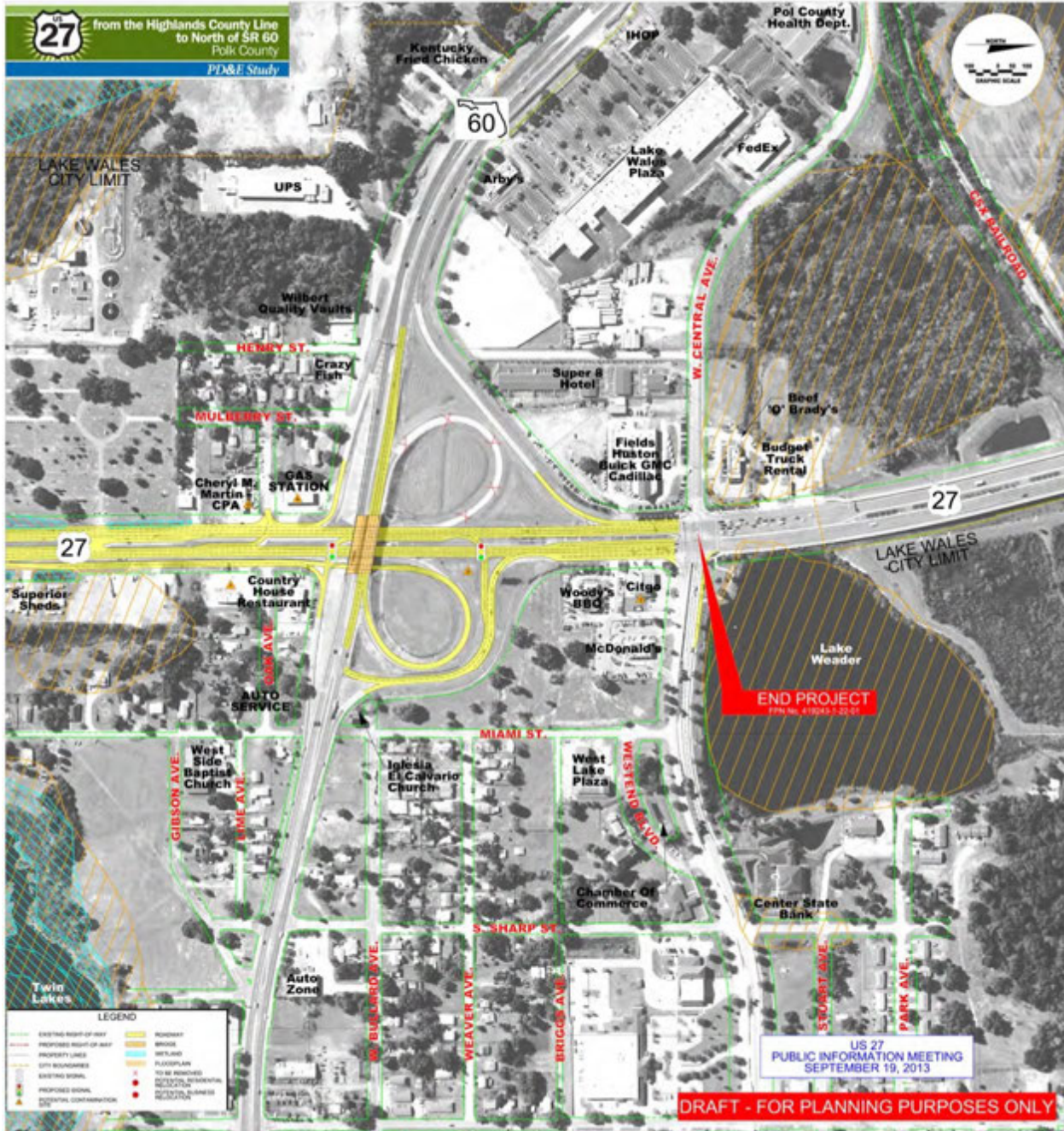
### **Alternative 3A – Operational Improvement**

The primary objective of this alternative is to preserve the existing SR 60 bridges while addressing operational deficiencies, improving safety, and accommodating both pedestrians and bicyclists.

The proposed Operational Improvement configuration eliminates the loop ramp in the northwest quadrant and combines this ramp with the westbound off-ramp. This improvement also includes signalization of ramp terminals and widens US 27 to six through lanes. It also provides additional turn lanes at both ramp terminals. This configuration utilizes the existing bridge structure at SR 60 by maximizing the number of lanes under the structure and includes the use of a tie back wall to relocate the northbound-to-westbound on-ramp through the easternmost end span. This solution provides significant cost savings, and accommodates the widening of the SR 60 interchange without the need for bridge replacement until the need for widening SR 60. This concept is shown on **Figure 5-11**. This concept also provides a traffic separator on northbound US 27 between through traffic and right-turning traffic (getting onto SR 60 ramps). This improves the safety and facilitates smooth traffic flow at the interchange.



FIGURE 5-11  
 ALTERNATIVE 3A – OPERATIONAL IMPROVEMENT





Utilizing the existing bridge structures will require a design variation for the existing substandard vertical clearance under the bridges of 15.3 feet, as well as shoulder width design variations which are a result of providing the required number of lanes within the existing bridge spans. Several alternatives were evaluated to increase the vertical clearance for the SR 60 bridges to 16.5 feet including: reconstruction of US 27 at a lower elevation, jacking the existing bridges, and construction of new bridges. The options that included bridge jacking and new bridge construction resulted in significant additional project costs and maintenance of traffic complications associated with reconstruction of SR 60 to correct the existing substandard vertical curve over SR 60. See **Appendix F** for more information.

Once the analysis of the six-lane widening of SR 60 commenced, it became apparent that salvaging the existing SR 60 bridges were not possible. Due to location of the center piers and the need for pier protection, the southbound US 27 to eastbound SR 60 movement became impossible to navigate.

As a result of this alternative's inability to accommodate the six-lane widening of SR 60, it is no longer a viable alternative and no further analysis is warranted.

#### **5.4.4.18 Design Year LOS**

The improvements proposed in Alternative 3A allow the interchange and Central Avenue to operate at an acceptable LOS through the Design Year 2040:

- US 27/SR 60 south ramps – Overall LOS B/C – Overall average delay 16.9/24.6 seconds/vehicle
- US 27/SR 60 north ramps – Overall LOS C/B – Overall average delay 20.4/11.5 seconds/vehicle
- US 27 and Central Avenue – Overall LOS D/D – Overall average delay 45.7/43.1 seconds/vehicle

#### **5.4.4.19 ROW**

Widening SR 60 to six lanes will require additional ROW.

#### **5.4.4.20 Cost Estimate**

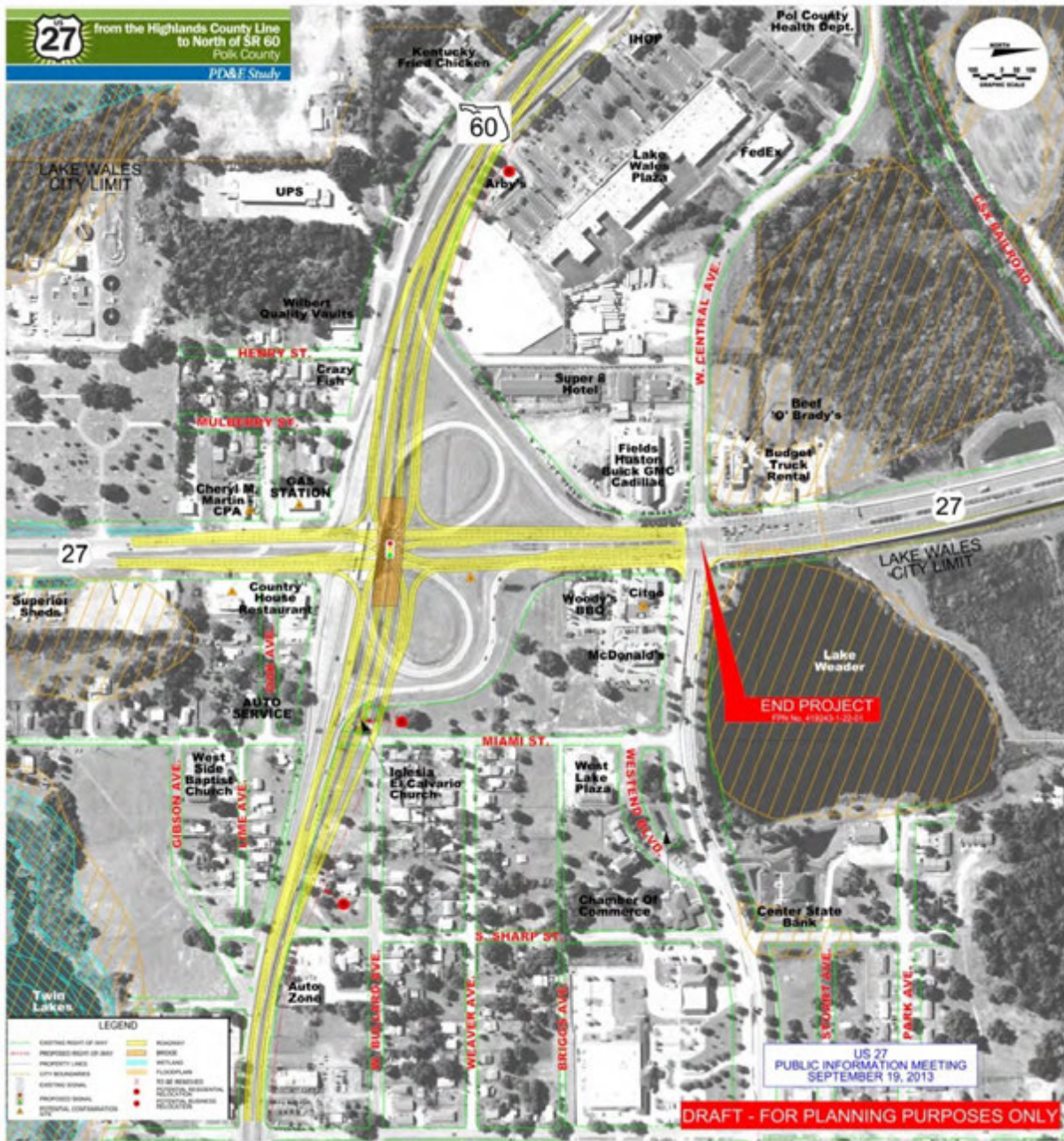
The construction cost estimate for Segment 3 with Interchange Alternative 3A is \$55.64 million and \$44.25 million without any interchange improvements. See **Appendix C** for the LRE (future widening costs of SR 60 not included).

### **Alternative 3B - SPUI**

**Figure 5-12** shows the proposed geometry for the SPUI configuration. A SPUI is similar to a diamond interchange except the two ramp terminal intersections are combined into a single

intersection. This improvement also includes signalization of the ramp terminals and six lanes on US 27. It also provides additional turn lanes at both ramp terminals. While the SPUI ROW requirements are similar to a diamond interchange, the footprint of the interchange is considerably wider than the diamond interchange. This alternative accommodates the future six-lane widening of SR 60.

**FIGURE 5-12  
ALTERNATIVE 3B – SPUI INTERCHANGE**



#### **5.4.4.21 Design Year LOS**

The improvements proposed in Alternative 3B allow the interchange and Central Avenue to operate at an acceptable LOS through the Design Year 2040:

- US 27/SR 60 SPUI – Overall LOS C/C – Overall average delay 22.1/26.7 seconds/vehicle
- US 27 and Central Avenue – Overall LOS D/D – Overall average delay 43.8/39.9 seconds/vehicle

#### **5.4.4.22 ROW**

Approximately 2.68 acres of additional ROW is required for Interchange Alternative 3B, including 21 parcels and four relocations. The preliminary ROW cost estimates for this option is \$3.87 million.

#### **5.4.4.23 Cost Estimate**

The construction cost estimate for Segment 3 with Interchange Alternative 3B is \$69.63 million. See **Appendix C** for the LRE (future widening of SR 60 not included).

#### **Alternative 3C – Tight Diamond Interchange**

A diamond interchange is the most basic interchange form with a four-ramp configuration connecting the freeway to the surface road. This alternative replaces the existing partial cloverleaf interchange with a tight diamond interchange. This configuration also includes signalization of ramp terminal intersections, turn-lane improvements, and six lanes on US 27. **Figure 5-13** shows the proposed geometry for the Tight Diamond Interchange Configuration. This alternative accommodates the future six-lane widening of SR 60.

#### **5.4.4.24 Design Year LOS**

The improvements proposed in Alternative 3C allow the interchange and Central Avenue to operate at an acceptable LOS through the Design Year 2040:

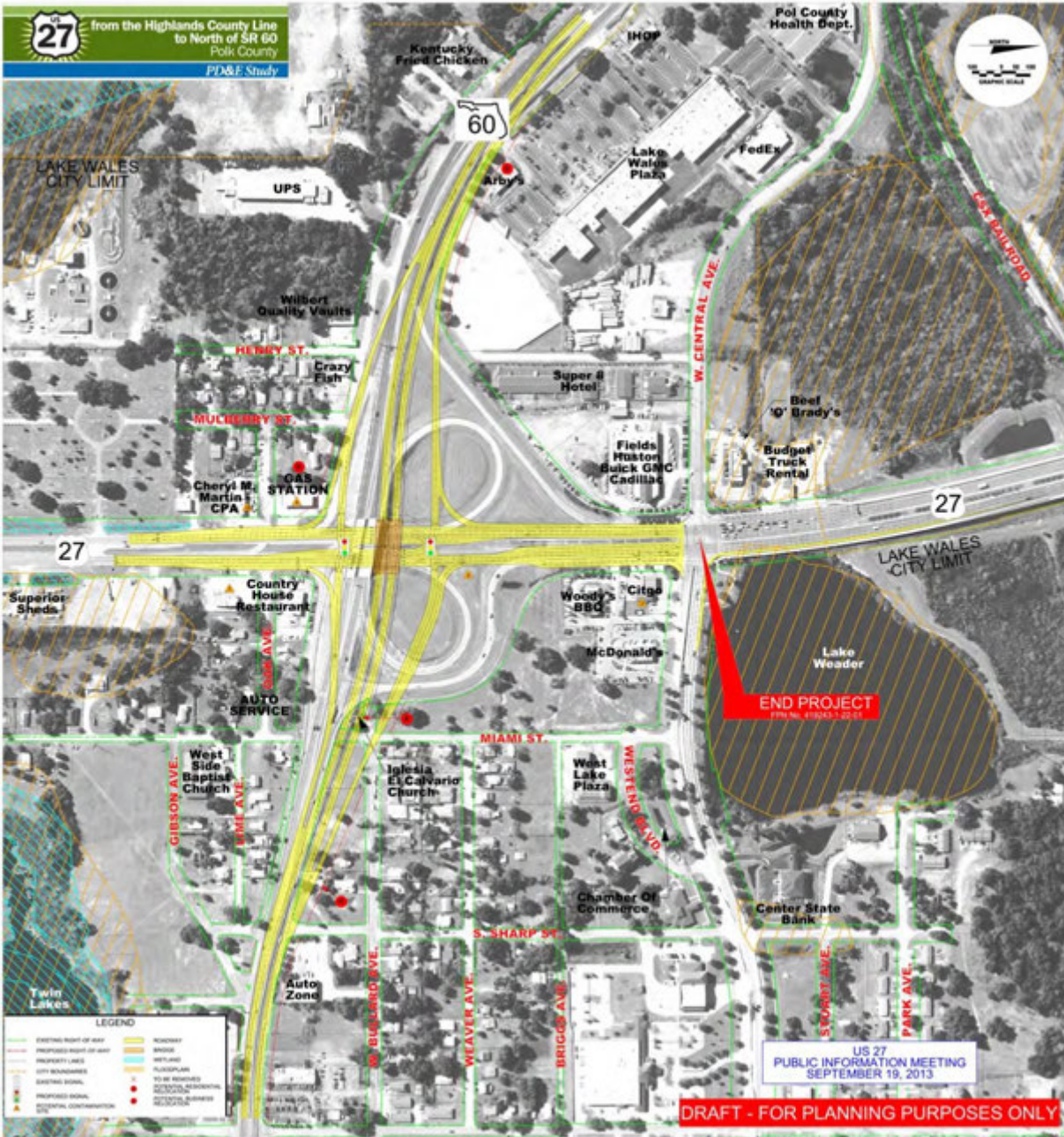
- US 27/SR 60 south ramps – Overall LOS B/B – Overall average delay 16.6/19.0 seconds/vehicle
- US 27/SR 60 north ramps – Overall LOS C/B – Overall average delay 31.2/18.2 seconds/vehicle
- US 27 and Central Avenue – Overall LOS D/D – Overall average delay 44.4/41.0 seconds/vehicle



5.4.4.25 ROW

Approximately 3.22 acres of additional ROW is required for Interchange Alternative 3C, including 26 parcels and five relocations. The preliminary ROW cost estimate for this option is \$3.13 million.

FIGURE 5-13  
ALTERNATIVE 3C – TIGHT DIAMOND INTERCHANGE



#### 5.4.4.26 Cost Estimate

The construction cost estimate for Segment 3 with Interchange Alternative 3C is \$67.92 million. See **Appendix C** for the LRE (future widening costs of SR 60 not included).

## 5.5 EVALUATION MATRIX

**Tables 5-3 and 5-4** summarize potential impacts and costs related to the proposed Build Alternative. This information was initially presented to the public at the Alternative Workshop on September 19, 2013. Since the workshop, these tables have been updated to reflect the latest information that has been gathered as of October 2016.

**TABLE 5-3  
INTERCHANGE ALTERNATIVES – US 27 AT SR 60 EVALUATION MATRIX**

<b>Evaluation Factors</b>	<b>Alternative 3A (Operational Improvements)</b>	<b>Alternative 3B (SPUI)</b>	<b>Alternative 3C (Tight Diamond)</b>
Business Parcels Affected	0	14	19
Residential Parcels Affected	0	6	7
Other Parcels Affected	0	1	1
Potential Business Relocations	0	2	3
Potential Residential Relocations	0	1	1
Churches	0	1	1
Schools	0	0	0
Parks/Recreation/Conservation	1	1	1
Potential Cultural Resources Historic	Moderate	Moderate - High	Moderate
Potential Cultural Resources Archaeological	Low	Low	Low
Potential Noise-Sensitive Sites	4	18	17
Wetlands & Other Surface Waters*	0.0	0.0	0.0
Floodplain (Acre-Foot)**	0.0	0.0	0.0
Potential Threatened and Endangered Species	Yes	Yes	Yes
Potential Contamination Sites (High/Medium)	3 / 4	3 / 4	3 / 4
Accommodates Six-Lane SR 60	Fail	Pass	Pass
<b>Estimated Costs (in millions)***</b>			
Wetland Mitigation	\$0.0	\$0.0	\$0.0
Wetland Mitigation (114,669 per acre)*			
Design****	\$0.8	\$1.8	\$1.8
Listed Species Mitigation (\$30,000 per credit)	\$0.0	\$0.0	\$0.0
ROW	\$0.0	\$3.9	\$3.1
Construction	\$11.4	\$25.4	\$23.7
Construction Engineering and Inspection****	\$1.1	\$2.5	\$2.4
<b>Total Costs (in millions)</b>	<b>\$13.3</b>	<b>\$33.6</b>	<b>\$31.0</b>

\* Direct Impact only; does not include secondary impacts. Wetland mitigation cost estimate based on fiscal year 2016/2017 cost per acre as provided in Environmental Mitigation Payment Processing Handbook, October 2013.

\*\* Floodplain impacts based on currently effective FEMA Flood Insurance Rate Maps (FIRM).

\*\*\* Engineering estimates are in present day costs.

\*\*\*\* 10% of construction cost.

**TABLE 5-4  
US 27 FROM HIGHLANDS COUNTY LINE TO SR 60 EVALUATION MATRIX**

Evaluation Factors	Roadway Build Alternative		
	Segment 1 From Highlands County Line to CR 630A	Segment 2 From CR 630A to Presidents Drive	Segment 3 From Presidents Drive to South of SR 60
Business Parcels Affected	0	0	0
Residential Parcels Affected	0	0	0
Other Parcels Affected	0	0	0
Potential Business Relocations	0	0	0
Potential Residential Relocations	0	0	0
Churches	0	0	0
Schools	0	0	0
Parks/Recreation/Conservation	1	2	0
Potential Cultural Resources - Historic	Moderate	Moderate	Moderate to High
Potential Cultural Resources - Archaeological	Low - High	Low - Moderate	Low - High
Potential Noise-Sensitive Sites	9	17	35
Wetlands & Other Surface Waters*	4.0	5.8	2.4
Floodplain (Acre-Feet)**	0.9	23.1	2.7
Potential Threatened & Endangered Species	Yes	Yes	Yes
Potential Contamination Sites (High/Medium)	1 / 11	0 / 1	1 / 15
<b>Estimated Costs (in millions)***</b>			
Wetland Mitigation (\$114,669 per acre)	\$0.5	\$0.7	\$0.3
Listed Species Mitigation \$30,000 per credit)	\$1.7	\$0.0	\$0.7
Design****	\$4.4	\$2.9	\$3.0
ROW <sup>1</sup>	\$0.0	\$1.1	\$0.0
Construction	\$68.2	\$50.1	\$44.3
Construction Engineering & Inspection****	\$6.8	\$5.0	\$4.4
<b>Total Costs (in millions)</b>	<b>\$81.6</b>	<b>\$59.8</b>	<b>\$52.7<sup>2</sup></b>

\* Direct Impact only; does not include secondary impacts. Wetland mitigation cost estimate based on fiscal year 2016/2017 cost per acre as provided in Environmental Mitigation Payment Processing Handbook, October 2013.

\*\* Floodplain impacts based on currently effective FEMA FIRM.

\*\*\* Engineering estimates are in present day costs.

\*\*\*\* 10% of construction cost.

<sup>1</sup> ROW cost estimate prepared by FDOT in August 2014.

<sup>2</sup> Does not include cost of US 27/SR 60 Interchange – See Table 5-3.

# *Section 6.0*

## *DESIGN DETAILS OF RECOMMENDED ALTERNATIVE*

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Based on information received from the local government, agencies, and the public, the following was selected as the Recommended Alternative. This section presents the engineering and environmental considerations. The Recommended Alternative is illustrated on the concept plans contained in **Appendix A**.

### **6.1**      *SEGMENT 1 RECOMMENDED ALTERNATIVE*

In Segment 1, the Recommended Alternative is to widen US 27 from a four-lane rural roadway to provide a six-lane rural section as described in Section 5.4.2.

This alternative was selected as it would provide an acceptable LOS in the Design Year, maintain a high design speed consistent with the existing facility, SIS design speed criteria, and minimize ROW impacts.

### **6.2**      *SEGMENT 2 RECOMMENDED ALTERNATIVE*

Similar to Segment 1, the Recommended Alternative in Segment 2 is to widen US 27 from a four-lane rural roadway to provide a six-lane rural section as described in Section 5.4.3.

This alternative was selected as it would provide an acceptable LOS in the Design Year, maintain a high design speed consistent with the existing facility and SIS design speed criteria, and minimizes ROW impacts.

### **6.3**      *SEGMENT 3 RECOMMENDED ALTERNATIVE*

Similar to Segments 1 and 2, the Recommended Alternative in the southern portion of Segment 3 is to widen US 27 from a four-lane rural roadway to provide a six-lane rural section as described in Section 5.4.4. From MP 18.057 north to the end of the project, the Recommended Alternative is to widen US 27 from a four-lane rural roadway to provide a six-lane suburban section as described in Section 5.4.4.

This alternative was selected as it would provide an acceptable LOS in the Design Year, maintain a high design speed consistent with the existing facility, SIS design speed criteria, and minimize ROW impacts.

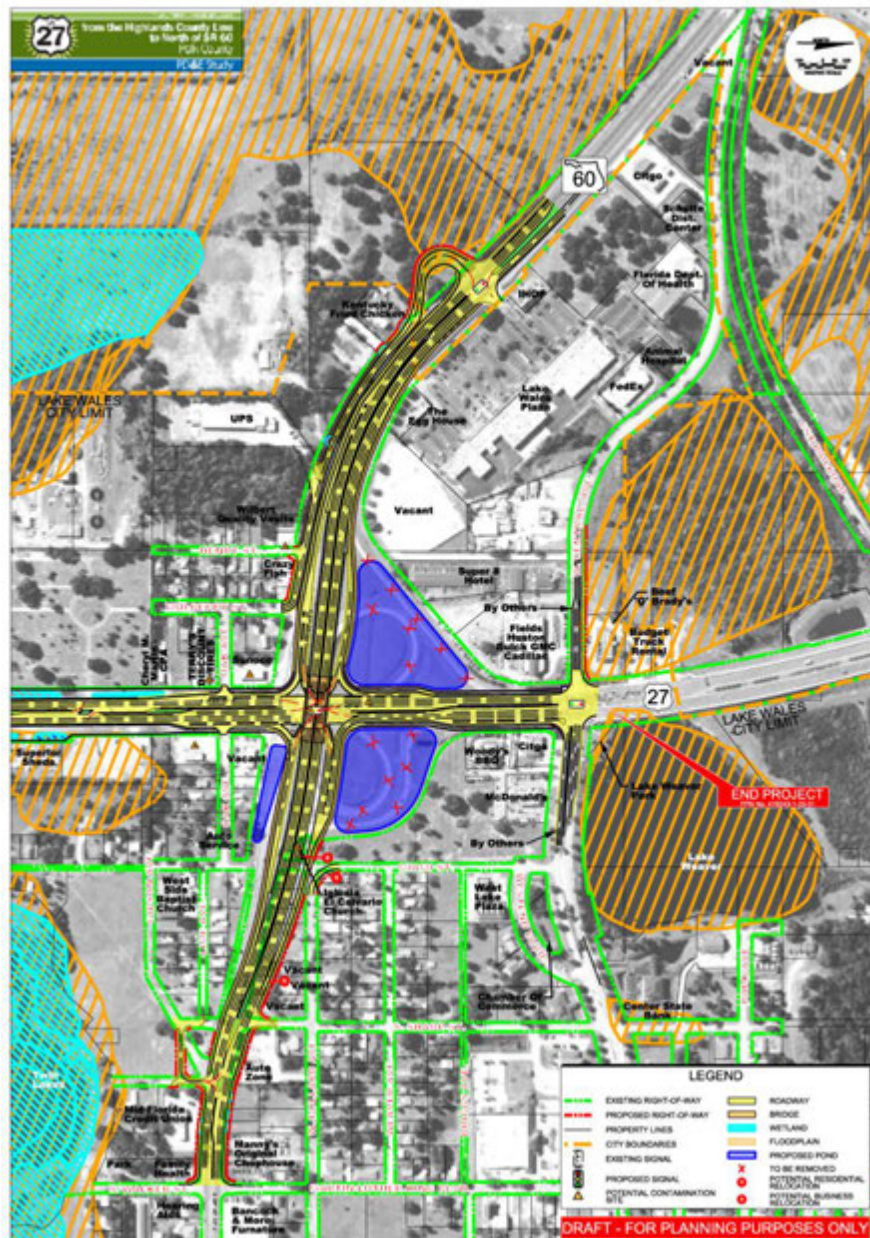
A modified Alternative 3B is the Recommended Alternative for the SR 60 interchange. While all three interchange alternatives presented to the public would provide acceptable LOS through the Design Year, this alternative would provide the optimal LOS with minimum delay while accommodating the future six-lane widening of SR 60.



### 6.3.1 RECOMMENDED REFINED SPUI

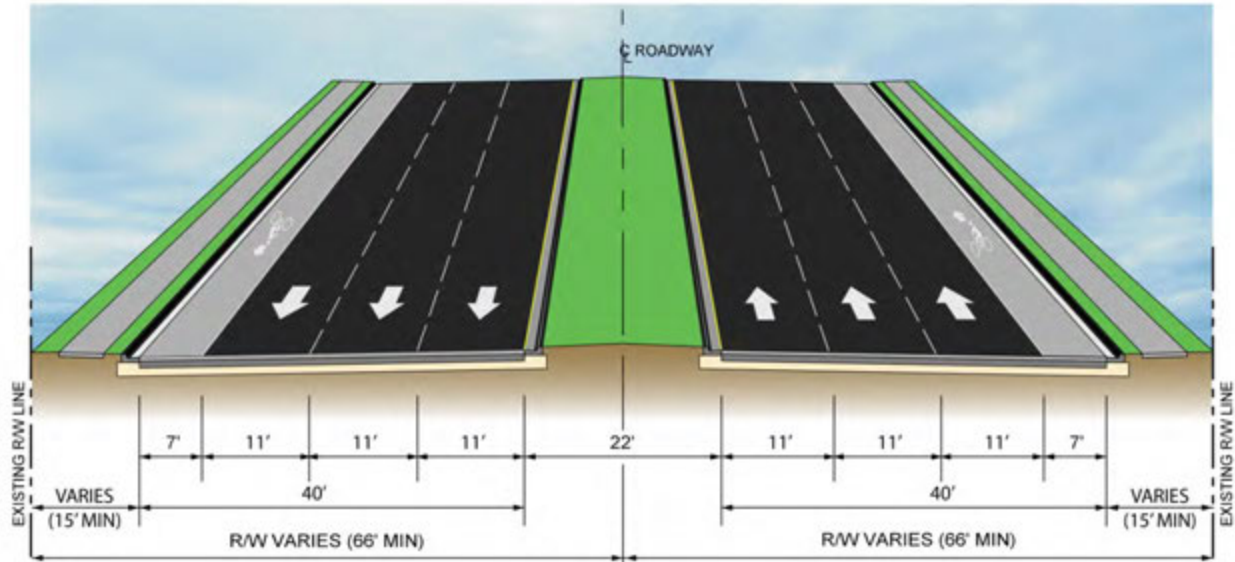
After the public meeting and conducting an exhaustive access management analysis a refined SPUI alternative was developed as shown in **Figure 6-1**. Also, the SPUI alternative produces \$128,816,719 in delay savings per year compared to \$128,448,408 in delay savings per year produced by the Tight Diamond alternative. A two lane, two-way frontage road was added to the southwest quadrant of the interchange so that all access management issues could be appropriately addressed. The improved SR 60 would be an urban typical section consisting of six 11-foot lanes, a 22-foot median, 7-foot buffered bicycle lanes (in each direction), and 5-foot sidewalks as shown in **Figure 6-2**. The costs associated to this interchange alternative can be found in **Appendix C**.

**FIGURE 6-1  
SINGLE POINT URBAN INTERCHANGE (SIX LANES)**





**FIGURE 6-2  
URBAN TYPICAL SECTION FOR SR 60**



An evaluation was conducted to determine if the six-laning of SR 60 would have significant impact on travel demand forecasts at the interchange and along US 27. The Polk TPO model (published May 2011), which reflects Polk County’s 2035 Mobility Vision Plan (MVP) was used for this analysis. This is the same model that was used in the PTR. The SR 60 widening project is not in the cost-feasible plan of the 2035 LRTP. It is just an assumption in this analysis to accommodate future widening of SR 60 to six lanes (if FDOT desires to do so). The segment of SR 60 west of US 27 is in the LRTP needs plan and the segment to the east is not in the needs plan. For the purpose of this analysis, SR 60 was coded as six lanes west of US 27 all the way to Bartow and approximately a mile east of US 27.

### **6.3.2 DESIGN YEAR LOS (REFINED SPUI)**

#### **6.3.2.1 Design Year LOS**

The improvements proposed in Alternative 3B Refined SPUI allow the interchange and Central Avenue to operate at an acceptable LOS through the Design Year 2040:

- US 27/SR 60 SPUI – Overall LOS C/C – Overall average delay 32.2/21.3 seconds/vehicle
- US 27 and Central Avenue – Overall LOS D/D – Overall average delay 54.7/53.3 seconds/vehicle

#### **6.3.2.2 ROW**

Approximately 3.55 acres of additional ROW is required for Interchange Alternative 3B, including impacts to 26 parcels and two residential and one business relocations. The preliminary ROW cost estimates for this option is \$3.86 million.

### 6.3.2.3 Cost Estimate

The construction cost estimate for Segment 3 with Interchange Alternative 3B Refined SPUI is \$75.36 million. See **Appendix C** for the LRE (future widening of SR 60 not included).

## 6.4 INTERSECTION CONCEPTS AND SIGNAL ANALYSIS

A planning-level queue analysis was performed for the Design Year (2040) Build Alternative. The queue lengths for each lane group at the study intersections/interchange were determined from the intersection analysis using SYNCHRO software. The storage lengths were based on the 95<sup>th</sup> percentile queue and recommended storage lengths for the Design Year (2040) are provided in **Table 6-1**. The reported queue lengths were rounded to the nearest 25 feet with a minimum queue length recommendation of 50 feet. All existing turn lanes and acceleration lanes were maintained in development of the Design year (2040) Build Alternative recommendations. In addition, it should be noted that the specific lengths do not include taper or deceleration distances. Actual storage length requirements will be determined during the Design phase of the project. The refined SPUI interchange includes a newly relocated intersection of Gibson Avenue and SR 60 (no signal) west of Dr. Martin Luther King, Jr. Boulevard intersection. The refined SPUI interchange also includes a proposed signalized intersection on SR 60 2,000 feet west of US 27 to allow enhanced access to the properties (opposite of the shopping center entrance) in the southwest quadrant of the US 27/SR 60 interchange. The Recommended Build Alternative intersection geometry is shown in **Figure 6-3**. As part of the Purpose and Need coordination for the FHWA, a document was sent to the FHWA from the FDOT and is included in **Appendix ES-1**.

*No signal warrant* analysis was performed during this PD&E study; however, to ensure an orderly flow of traffic, provide an opportunity for pedestrians or vehicles to cross intersections and help to reduce the number on conflicts between vehicles entering intersections from different directions, a traffic signal at the following locations is recommended:

- US 27 and CR 630A
- US 27 and Presidents Drive
- US 27 and CR 17B
- US 27 and SR 60 north and south side ramps (at SPUI intersection)
- SR 60 and Frontage Road 2,000 feet west of US 27

**TABLE 6-1  
BUILD ALTERNATIVE DESIGN YEAR 2040 QUEUE LENGTHS**

Intersection	Movement	Lanes	95 <sup>th</sup> Percentile Queue		Recommended Storage (Feet)
			AM	PM	
US 27 and County Line Road	NBL	1	25	25	50
	EBLR	1	75	50	75

**TABLE 6-1 (CONTINUED)  
BUILD ALTERNATIVE DESIGN YEAR 2040 QUEUE LENGTHS**

Intersection	Movement	Lanes	95 <sup>th</sup> Percentile Queue		Recommended Storage (Feet)
			AM	PM	
US 27 and South Avon Park Cut-Off Road	NBL	1	25	25	50
	EBLR	1	50	25	50
US 27 and SR 17 (Scenic Highway)/ North Avon Park Cut-Off Road	NBL	1	25	25	50
	SBL	1	325	125	325
	EBL	1	100	75	100
US 27 and Lake Streety Road	NBL	1	25	25	50
	EBLR	1	25	25	50
US 27 and Princeton Avenue	NBL	1	25	25	50
	EBLR	1	75	50	75
US 27 and Otto Polk Road	NBL	1	25	25	50
	EBLR	1	100	75	100
US 27 and George Street	SBL	1	25	25	50
	WBLR	1	50	100	100
US 27 and Charles Street	NBL	1	25	25	50
	SBL	1	25	25	50
	EBLTR	1	175	175	175
	WBLTR	1	150	150	150
US 27 and Lily Creek Way	SBL	1	25	25	50
	WBLR	1	25	25	50
US 27 and US 98 (Fort Meade Road)/ CR 630	NBL	1	250	100	250
	SBL	2	275	325	325
	EBL	1	350	425	425
	EBR	1	150	50	150
	WBL	1	200	225	225
	WBR	1	425	100	425
US 27 and CR 630A	SBL	1	225	525	525
	WBL	1	275	275	275
	WBR	1	400	475	475
US 27 and Gum Road	NBL	1	25	25	50
	EBLR	1	25	50	50
US 27 and Lakeside Garden Drive	WBR	1	25	25	50
US 27 and Presidents Drive	NBL	1	225	225	225
	SBL	1	200	125	200
	EBL	1	375	275	375

**TABLE 6-1 (CONTINUED)  
BUILD ALTERNATIVE DESIGN YEAR 2040 QUEUE LENGTHS**

Intersection	Movement	Lanes	95 <sup>th</sup> Percentile Queue		Recommended Storage (Feet)
			AM	PM	
US 27 and Presidents Drive (Continued)	EBR	1	275	200	275
	WBL	1	300	175	300
	WBR	1	175	300	300
US 27 and Central Drive	WBR	1	25	25	50
US 27 and Jackson Street	EBR	1	25	25	50
US 27 and 1st Avenue North	SBL	1	75	50	75
	WBLR	1	400	625	625
College Boulevard	WBR	1	25	25	50
US 27 and CR 640 (Alturas Babson Cu Off Road)	NBL	1	125	150	150
	SBL	1	400	475	475
	EBL	1	525	525	525
	EBR	1	75	25	75
	WBL	1	300	275	300
	WBR	1	125	25	125
US 27 and Harbor Drive	NBL	1	25	25	50
	SBL	1	25	25	50
	EBLTR	1	50	150	150
	WBLTR	1	75	125	125
US 27 and CR 17B (Hunt Brothers Road)	NBL	1	225	50	225
	SBL	2	400	425	425
	EBL	1	75	150	150
	EBTR	1	150	275	275
	WBL	1	400	500	500
	WBR	1	450	525	525

**TABLE 6-1 (CONTINUED)  
BUILD ALTERNATIVE DESIGN YEAR 2040 QUEUE LENGTHS**

Intersection	Movement	Lanes	95 <sup>th</sup> Percentile Queue		Recommended Storage (Feet)
			AM	PM	
US 27 and SR 60 (SPUI Concept)	NBL	2	475	375	475
	NBR	1	300	175	300
	SBL	2	150	250	250
	SBR	1	125	100	125
	EBL	2	175	150	175
	WBL	2	275	250	275
	WBR	2	400	300	400
US 27 and Central Avenue	NBL	1	275	250	350 <sup>1</sup>
	NBR	1	25	25	275 <sup>1</sup>
	SBL	2	325	275	325
	SBR	1	50	50	325 <sup>1</sup>
	EBL	1	250	225	250
	EBR	1	175	25	175
	WBL	2	300	225	300
WBR	1	300	375	375	
SR 60 and Gibson Avenue*	WBL	1	25	25	100 <sup>1</sup>
SR 60 and Shopping Center	EBL	1	-	-	150 <sup>1</sup>
	WBL	1	-	-	100 <sup>2</sup>

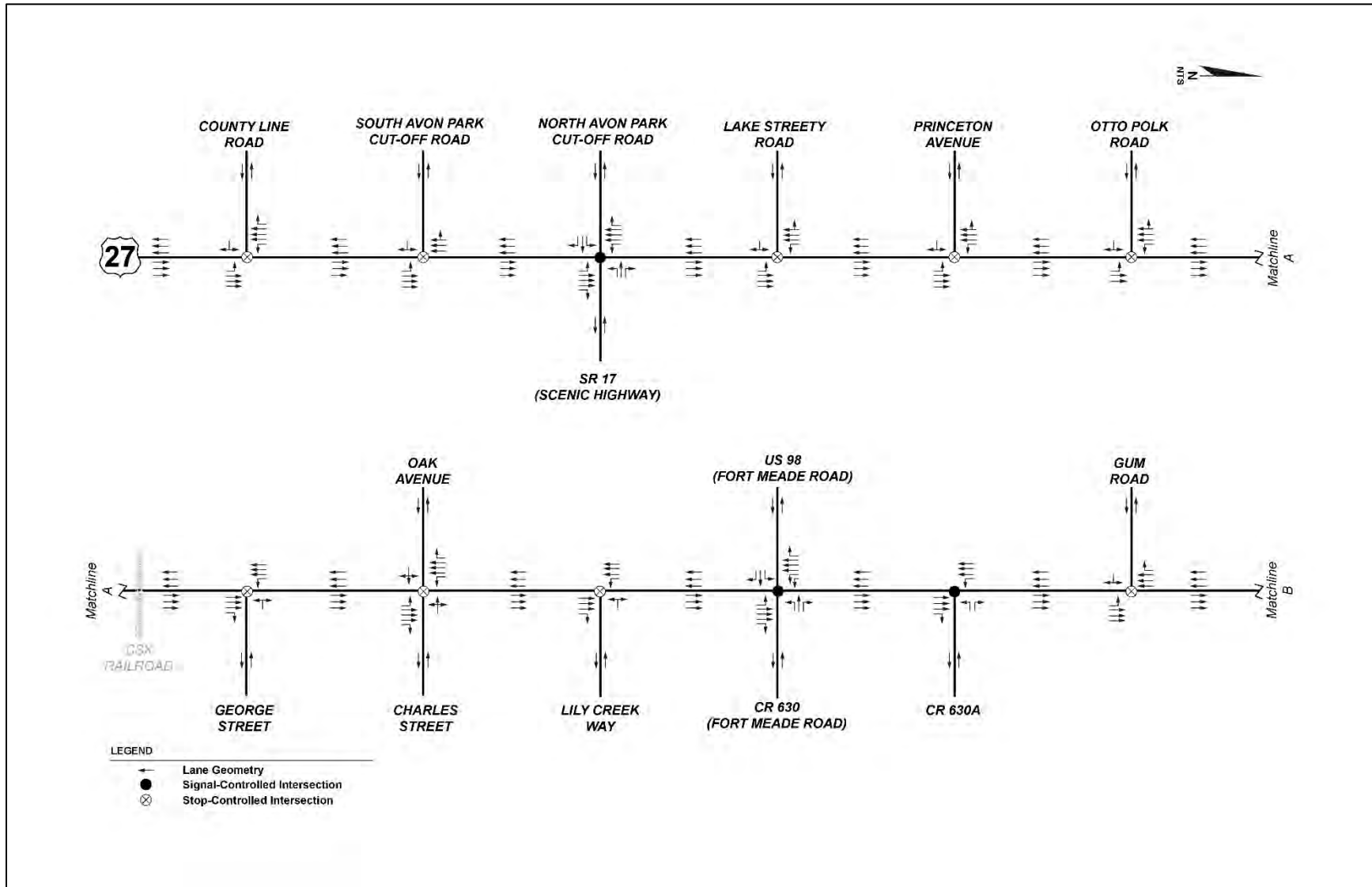
Notes: Queue lengths are per lane based on 95th percentile back of queue reported in Synchro. Movements with free-flow movement are excluded. NBL = Northbound left, NBR = Northbound right, SBL= Southbound left, SBR = Southbound right, EBL = Eastbound left, EBR = Eastbound right, WBL = Westbound left, WBR = Westbound right.

<sup>1</sup> Existing storage length.

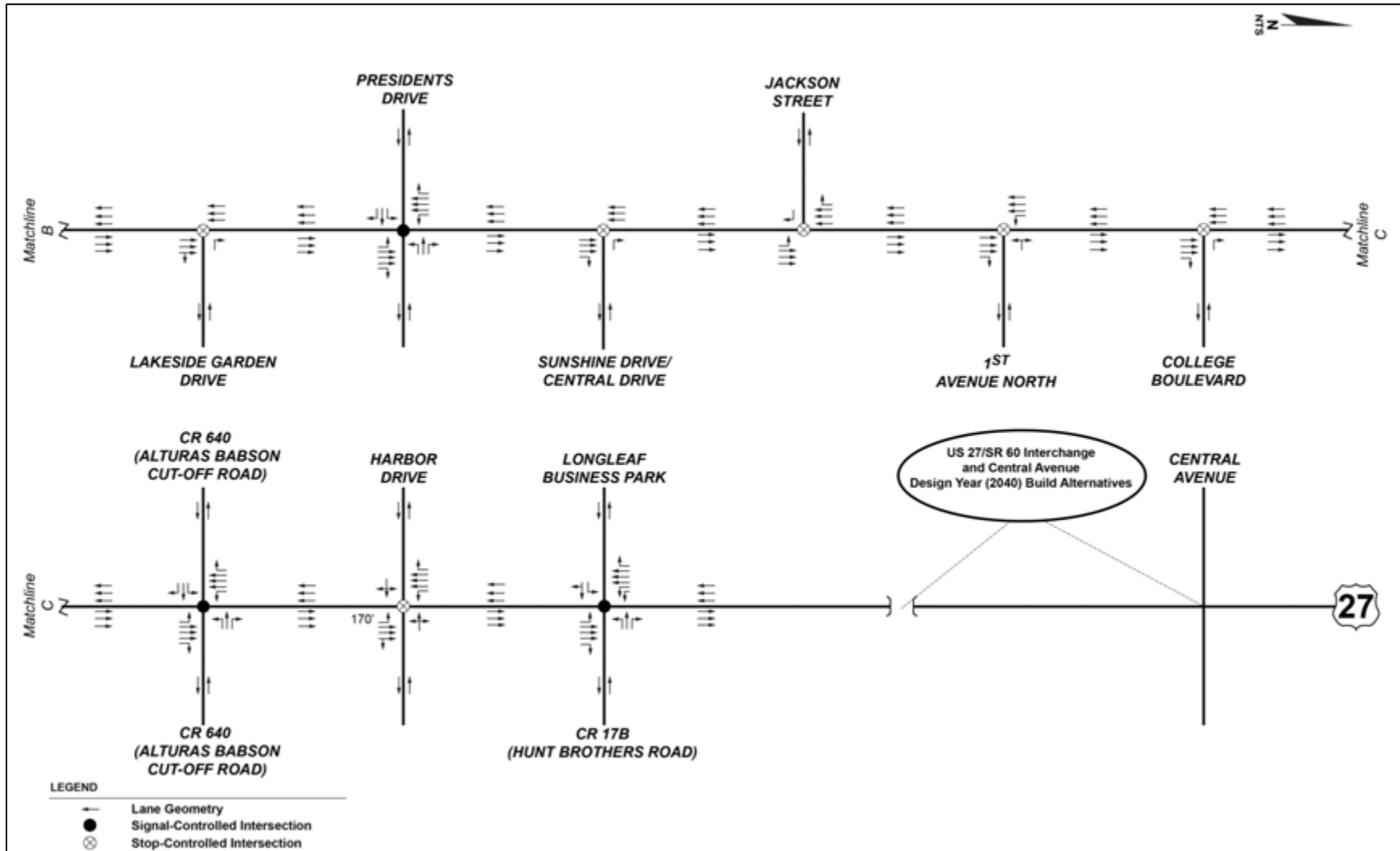
<sup>2</sup> FDOT typically requires a 100-foot queue length in an urban/suburban area where a specific queue study does not exist (Source: FDOT Median Handbook).

\* Existing year 2015 analysis.

**FIGURE 6-3  
DESIGN YEAR 2040 BUILD GEOMETRY**



**FIGURE 6-3 (CONTINUED)  
DESIGN YEAR 2040 BUILD GEOMETRY**



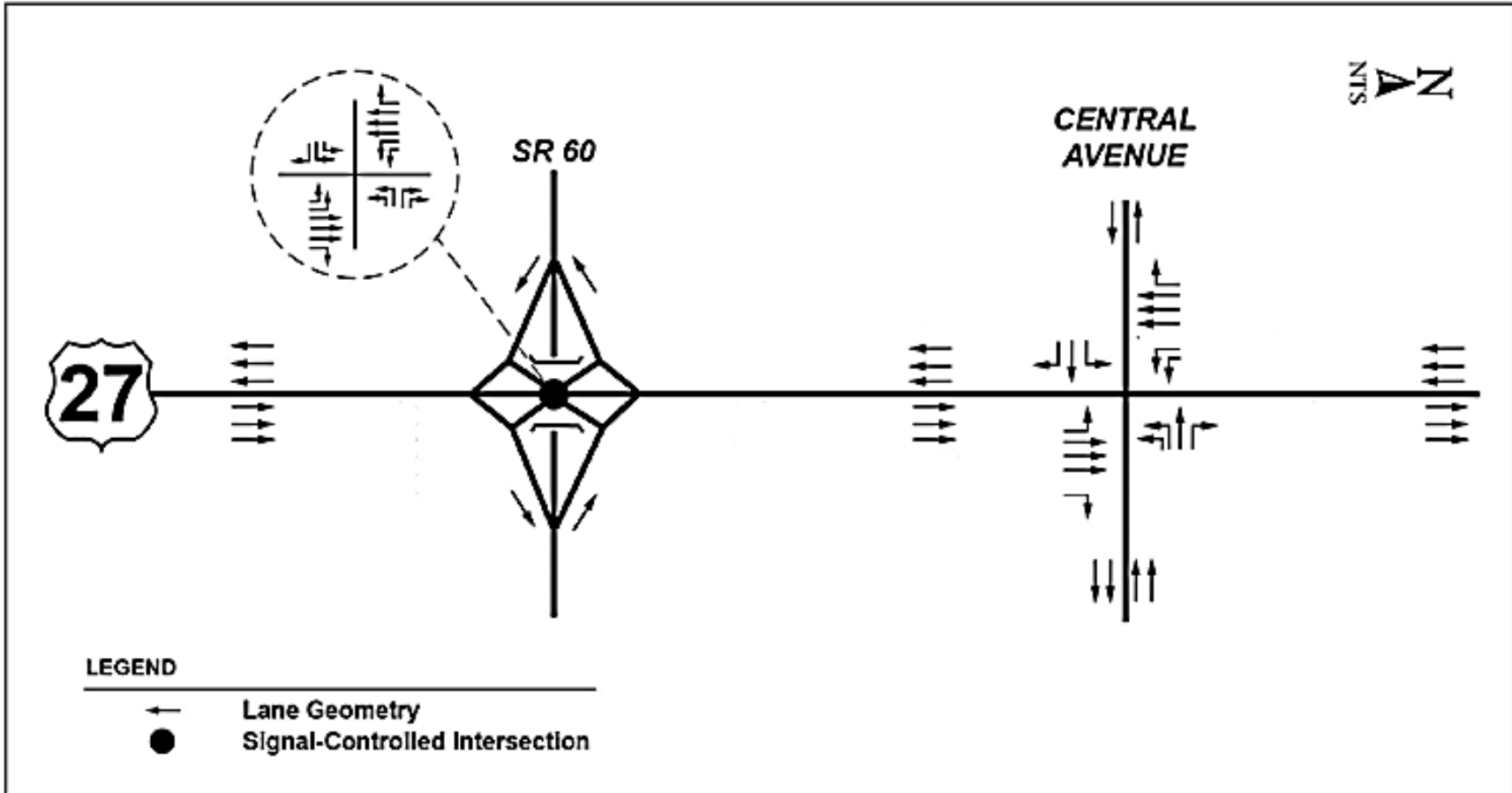
## **6.5      *DESIGN TRAFFIC VOLUMES***

### **6.5.1    *TRAFFIC PROJECTIONS***

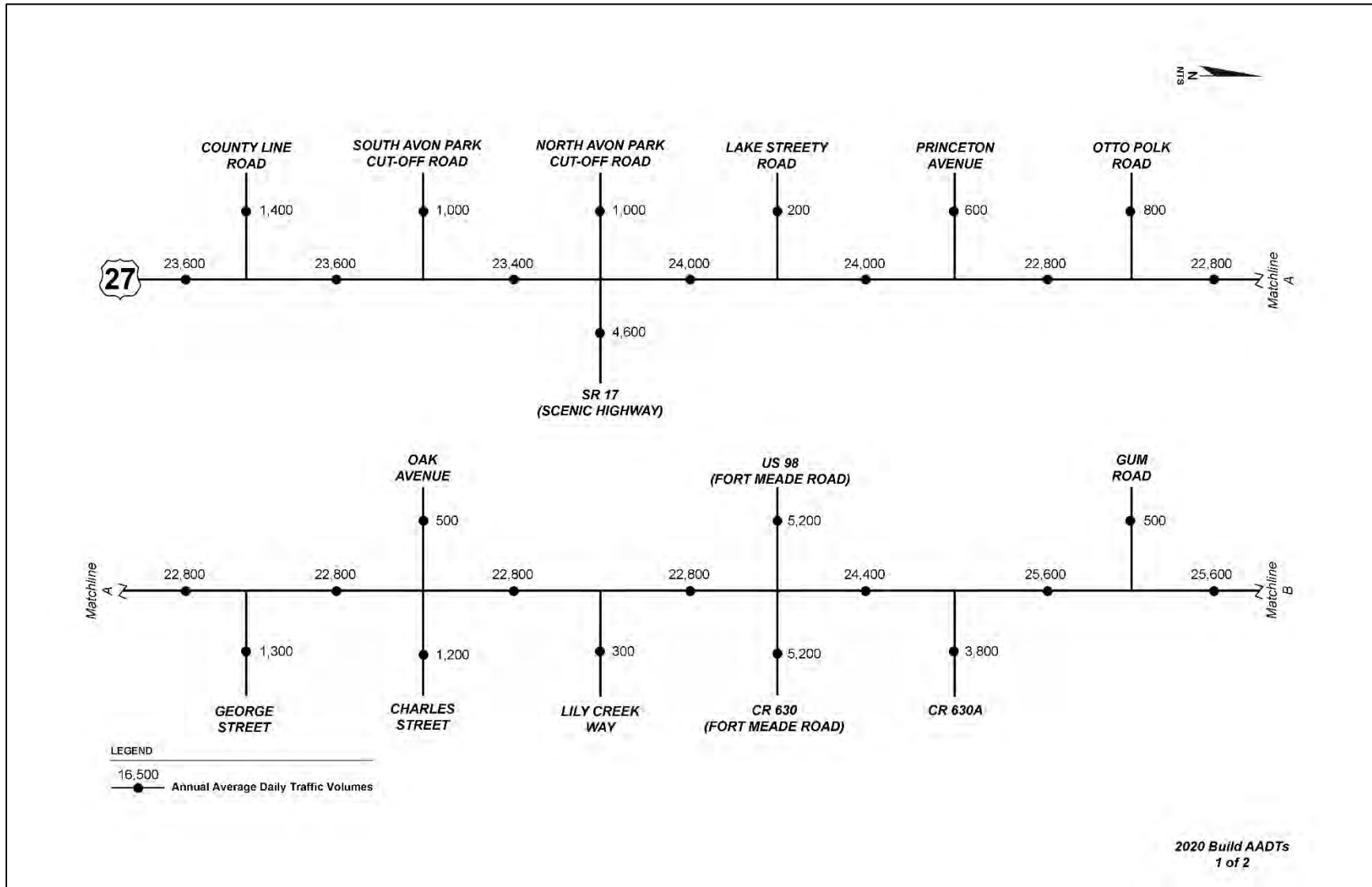
Future traffic projections for this project were developed using the adopted Polk TPO model (published May 2011), which reflects Polk County's 2035 LRTP. The Polk TPO model is based on the Florida Standard Urban Transportation Modeling Structure (FSUTMS) and is recognized by FDOT District One as the accepted travel demand forecasting tool. This model has been validated for the year 2007 and the future year is 2035. As part of the model review and validation effort, tasks such as assessment of validation accuracy of the base year (2007) model, review of the network connectivity for reasonable loadings, review of socioeconomic data (ZDATA), review of the model consistency with County LRTPs, and network consistency with the adjacent counties were performed. The projected AADT volumes from the model were reviewed and manual adjustments were made based on reasonableness checks. Where the model output was less than the existing year AADT, the model AADT was adjusted to grow from the existing year using growth rates. The projected AADT volumes for Opening Year (2015), Mid-Design Year (2030), and Design Year (2040) are shown in **Figures 6-4 through 6-7**.



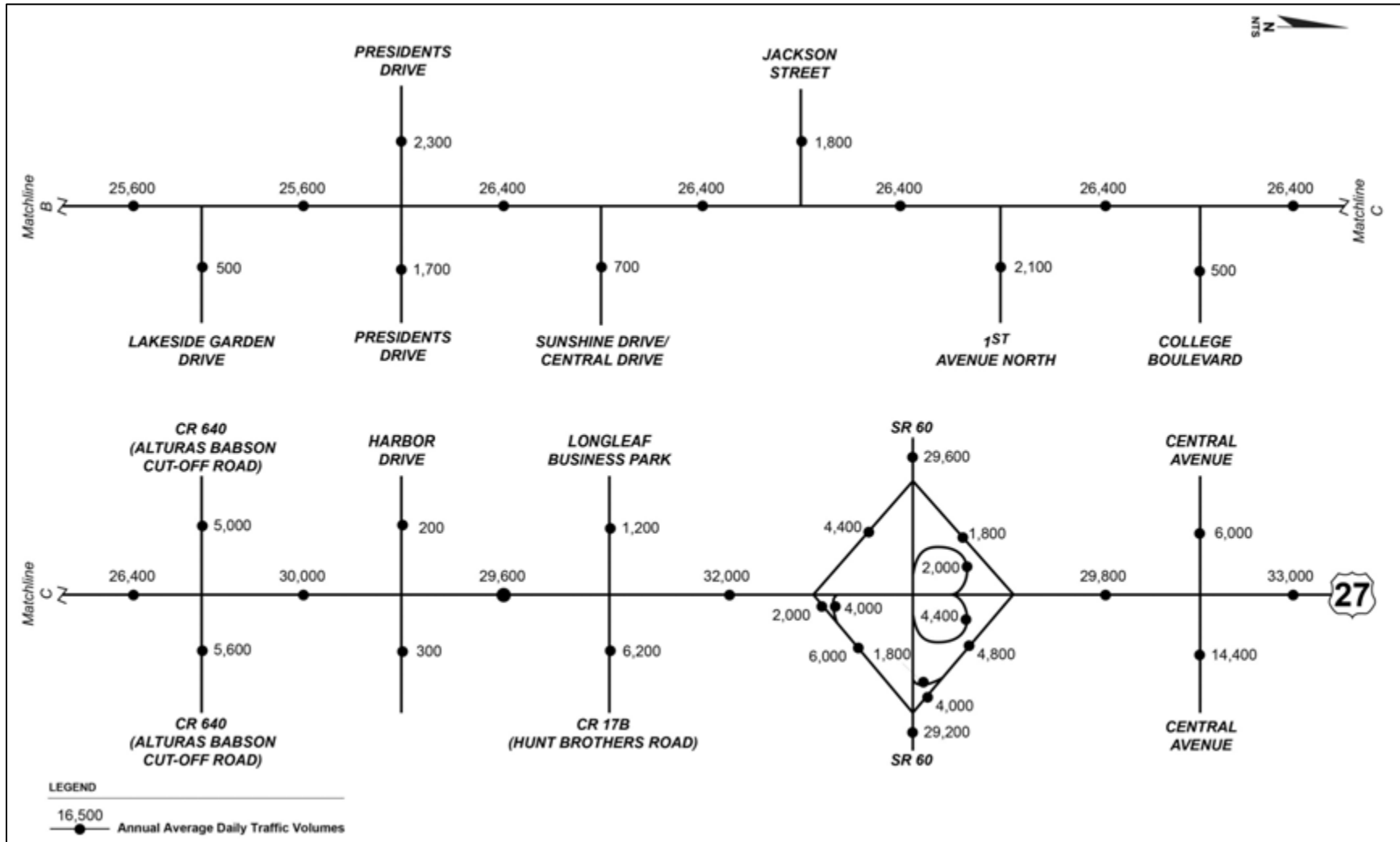
**FIGURE 6-4**  
**SR 60 INTERCHANGE RECOMMENDED DESIGN YEAR 2040 BUILD GEOMETRY**



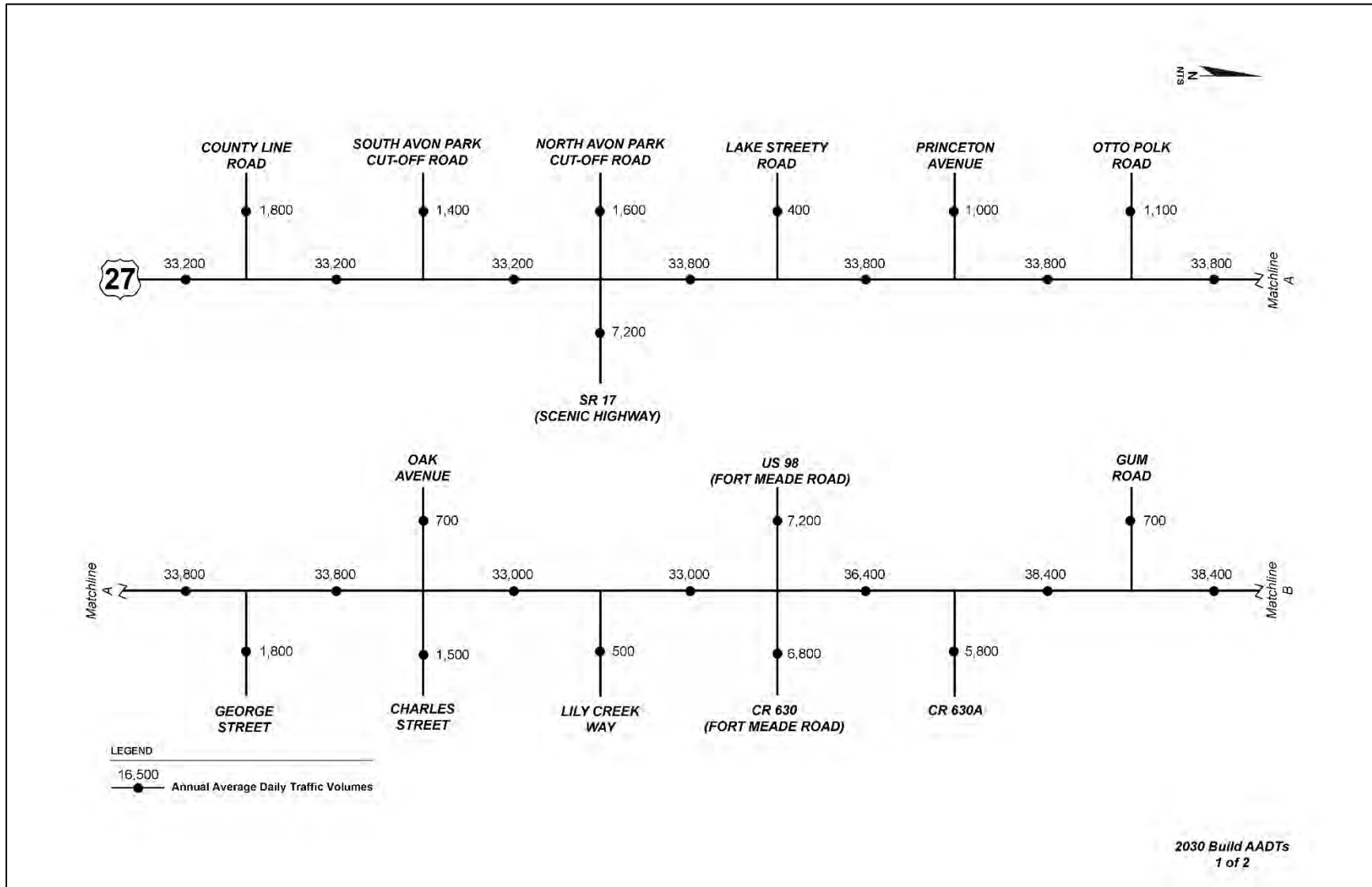
**FIGURE 6-5  
OPENING YEAR 2020 BUILD AADT**



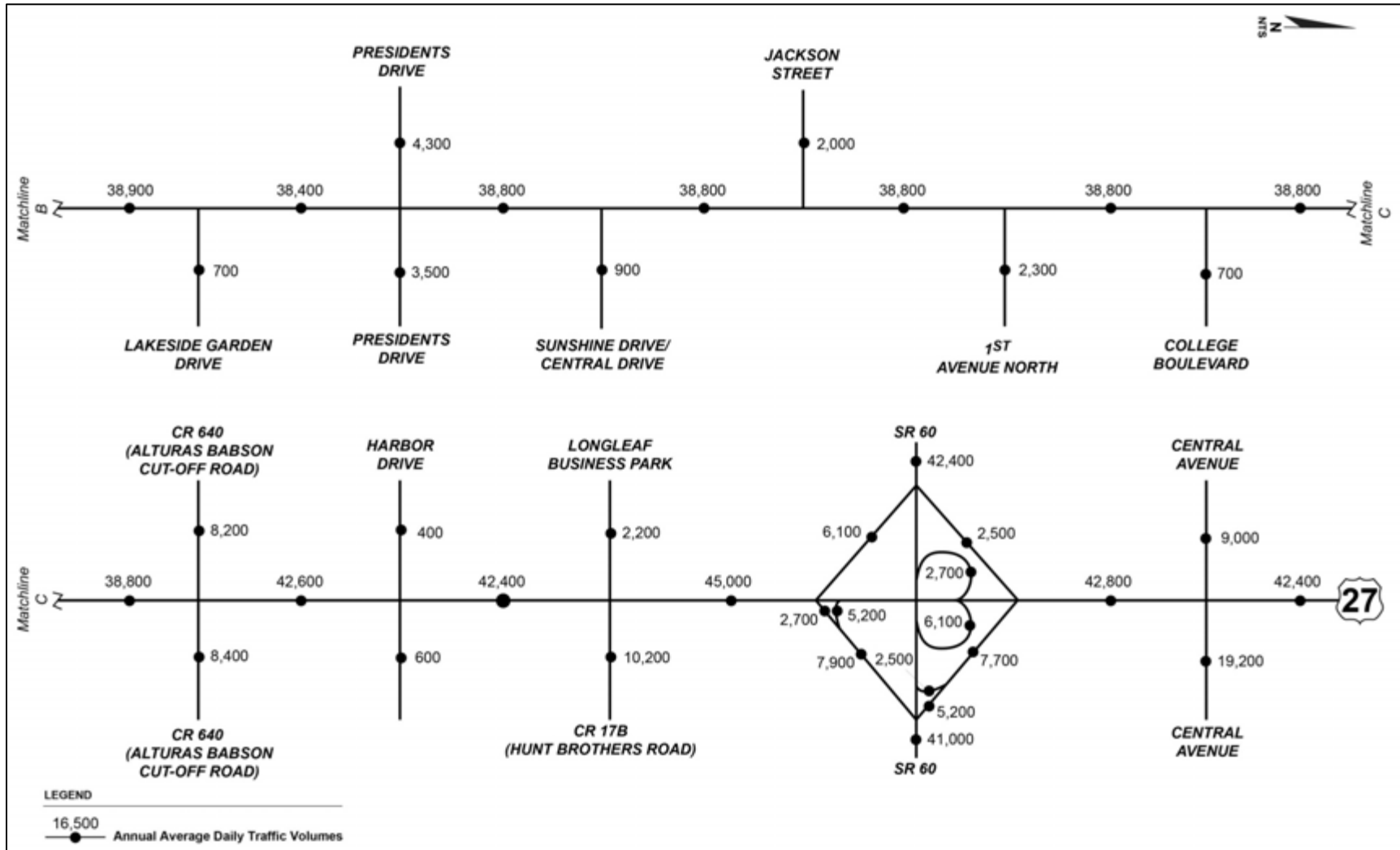
**FIGURE 6-5 (CONTINUED)  
OPENING YEAR 2020 BUILD AADT**



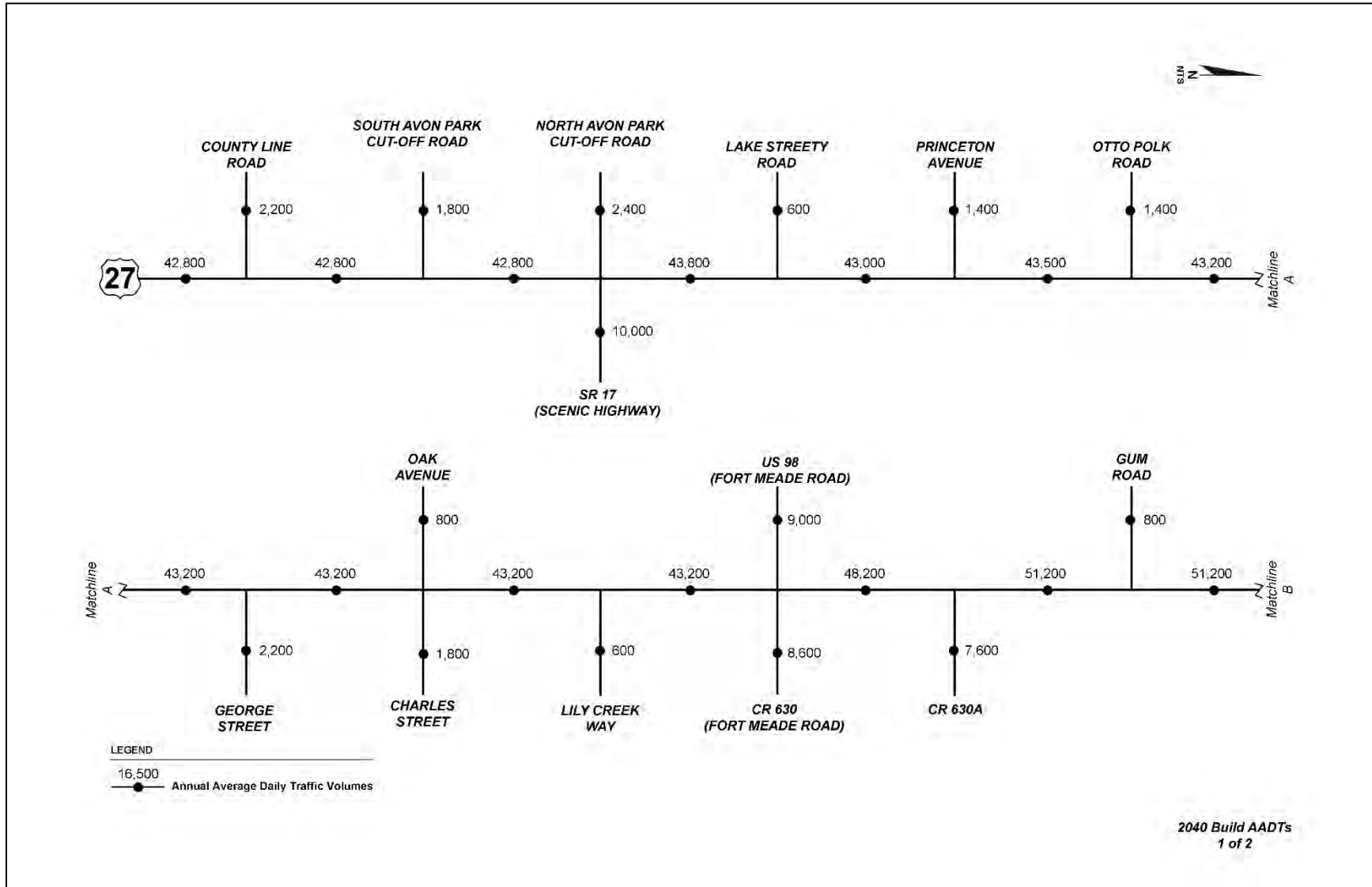
**FIGURE 6-6  
MID-DESIGN YEAR 2030 BUILD AADT**



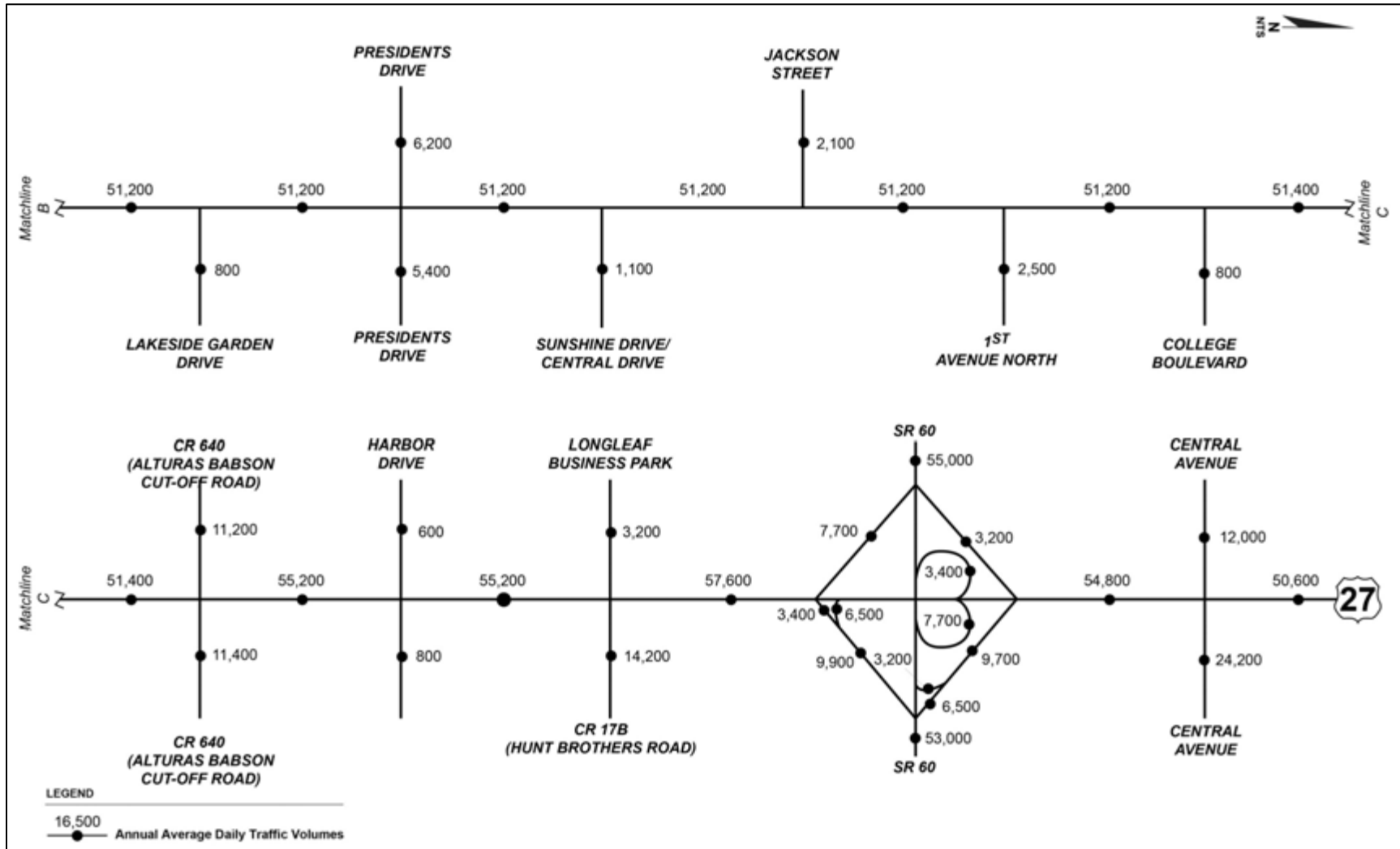
**FIGURE 6-6 (CONTINUED)  
MID-DESIGN YEAR 2030 BUILD AADT**



**FIGURE 6-7  
DESIGN YEAR 2040 BUILD AADT**



**FIGURE 6-7 (CONTINUED)  
DESIGN YEAR 2040 BUILD AADT**



### 6.5.2 LOS ANALYSIS

The analysis of the No-Build condition shows that the US 27 roadway LOS will deteriorate and fall below acceptable LOS prior to the Design Year 2040. The LOS standard for the majority of the segments of US 27 is LOS C except for the segment in the vicinity of SR 60 interchange, for which the LOS standard is D. The Build Alternative is expected to provide acceptable LOS through the Design Year 2040 for all segments of US 27 in the Study Area. Detailed traffic analysis is provided under separate cover in the PTR approved in February 2014.

### 6.5.3 DESIGN TRAFFIC CHARACTERISTICS

The design traffic factors used in the development of the design hour traffic for this PD&E study were established based upon the traffic count data and historical traffic factors at the FDOT count stations in the Study Area. These factors include the K-, D-, and T-factors. These factors represent the percentage of daily traffic volume occurring during the peak hour, the proportion of traffic traveling in the peak direction during the peak hour, and the percentage of daily truck traffic, respectively. These factors were developed based on guidelines from FDOT's *Project Traffic Forecasting Handbook (2010)*. **Table 6-2** shows the recommended design traffic factors for US 27 corridor in the Study Area.

**TABLE 6-2  
RECOMMENDED DESIGN TRAFFIC FACTORS**

Roadway	K-Factor	D-Factor	T-Factor (Daily)	T-Factor (Peak)
US 27 at SR 60	9.5%	56.0%	18.0%	9.0%

Sources: FDOT's FTI DVD (2011). FDOT's *Project Traffic Forecasting Handbook (2010)*. T-factor for peak hour is one half of the T-factor for daily.

## 6.6 RIGHT-OF-WAY NEEDS AND RELOCATIONS

The existing roadway ROW width along US 27 varies between 200 and 230 feet. Additional ROW would be required for floodplain compensation in Segment 2 and the preferred interchange alternative in Segment 3. The proposed ROW for floodplain compensation is not expected to result in any residential or business relocations; however, the proposed ROW need for the preferred interchange alternative would impact 26 parcels and require two residential and one business relocations.



## 6.7 COST ESTIMATE

The project costs were estimated for the preferred alternative and are summarized in **Table 6-3**. Construction costs were estimated in 2016 using the FDOT LRE program with present day costs. The LRE is provided in **Appendix C**. The cost for final design and Construction Engineering & Inspection (CEI) was estimated at 10 percent of the construction costs.

**TABLE 6-3  
PREFERRED ALTERNATIVE ESTIMATED COSTS**

<b>Project Phase</b>	<b>Total Project Cost</b>
Wetland Mitigation (\$151,131 per acre) <sup>1</sup>	\$1.55 M
Species Mitigation (\$30,000 per unit)	\$2.4 M
ROW Acquisition <sup>2</sup>	\$3.9 M
Construction Cost <sup>3</sup>	\$216.8 M
Design <sup>4</sup>	\$21.7 M
Construction Engineering and Inspection <sup>4</sup>	\$21.7 M
Preliminary Estimate of Total Project Cost	\$268.05 M

Notes: <sup>1</sup> Wetland Mitigation includes direct impacts to wetlands inside the corridor. Price per acre (\$115,131) is based on the FDOT Environmental Mitigation Payment Processing Handbook, July 2015, Page 3 (2017/18).

<sup>2</sup> ROW cost estimates were prepared by FDOT in August 2015.

<sup>3</sup> Construction Costs are based on LRE updated in October 2016.

<sup>4</sup> Design and CE&I costs are estimated at 10% Construction Cost.

## 6.8 SCHEDULE AND PLANNING CONSISTENCY

The PE (final design) phase of Segments 1, 2, and 3 are currently funded in the FDOT Five-Year Work Program using state funding sources.

**Table 6-4** shows the planned implementation schedule by construction segment.

**TABLE 6-4  
FUNDING SUMMARY**

<b>Segment 1: Highlands County Line to CR 630A (FPID 419243-2)</b>					
<b>Currently Adopted CFP - LRTP</b>	<b>COMMENTS</b>				
Yes	This project is included within the Cost Feasible Plan (CFP) of the Polk TPO's Momentum 2040 Long Range Transportation Plan (LRTP) as adopted December 10, 2015 and amended June 9, 2016 and the 2040 LRTP TIP adopted June 9, 2016. This segment is included in the 2040 CFP Tier III for years 2031- 2040.				
<b>PHASE</b>	<b>Currently Approved TIP</b>	<b>Currently Approved STIP</b>	<b>TIP/STIP \$</b>	<b>TIP/STIP FY</b>	<b>COMMENTS</b>
PE (Final Design)	Y	Y	\$6.703M/ \$6.734M	<2017/<2017	State funded, design underway. Adopted Work Program (State Funds), <2016 STIP.
R/W	Y	Y	\$4.014M/ \$3.897M	>2021/>2020	Adopted Work Program (Federal Funds), 2nd Five-Year SIS Plan, >2019 STIP. Anticipated funding in FY 2021.
Construction	N	N	\$50.787M	2031-2035	2040 SIS CFP (State and Federal Funds), LRTP CFP Tier III FY 2031-2035
<b>Segment 2: CR 630A to Presidents Drive (FPID 419243-3)</b>					
<b>Currently Adopted CFP- LRTP</b>	<b>COMMENTS</b>				
Yes	This project is included within the Cost Feasible Plan (CFP) of the Polk TPO's Momentum 2040 Long Range Transportation Plan (LRTP) as adopted December 10, 2015 and amended June 9, 2016 and the 2040 LRTP TIP adopted June 9, 2016. This segment is included in the 2040 CFP Tier II for years 2019- 2030.				
<b>PHASE</b>	<b>Currently Approved TIP</b>	<b>Currently Approved STIP</b>	<b>TIP/STIP \$</b>	<b>TIP/STIP FY</b>	<b>COMMENTS</b>
PE (Final Design)	Y	Y	\$4.843M/ \$4.869M	<2017/<2017	State funded, design underway. Adopted Work Program (State Funds), <2016 STIP.
R/W	Y	Y	\$2.229M/ \$2.604M	2021/>2020	Adopted Work Program (Federal Funds), 2nd Five-Year SIS Plan, >2019 STIP. Anticipated funding in FY 2021.
Construction	N	N	\$34.943M	2026-2030	2040 SIS CFP (State and Federal Funds), LRTP CFP Tier II FY 2026-2030.

**TABLE 6-4  
FUNDING SUMMARY  
(CONTINUED)**

<b>Segment 3: Presidents Drive to SR 60 (FPID 419243-4)</b>					
<b>Currently Adopted CFP - LRTP</b>	<b>COMMENTS</b>				
Yes	This project is included within the Cost Feasible Plan (CFP) of the Polk TPO's Momentum 2040 Long Range Transportation Plan (LRTP) as adopted December 10, 2015 and amended June 9, 2016 and the 2040 LRTP TIP adopted June 9, 2016. This segment is included in the 2040 CFP Tier II for years 2019- 2030.				
<b>PHASE</b>	<b>Currently Approved TIP</b>	<b>Currently Approved STIP</b>	<b>TIP/STIP \$</b>	<b>TIP/STIP FY</b>	<b>COMMENTS</b>
PE (Final Design)	Y	Y	\$6.664M/ \$7.179M	<2017/<2017	State funded, design underway. Adopted Work Program (State Funds), <2016 STIP.
R/W	Y	Y	\$5.221M/ \$4.638M	2018 & 2019/2018 & 2019	Adopted Work Program (State Funds).
Construction	Y	Y	\$49.505M/ \$48.767M	2020/2020	Adopted Work Program (State Funds).

## **6.9 PEDESTRIAN AND BICYCLE FACILITIES**

Pedestrian facilities, 5-foot sidewalks on both sides of US 27, would be provided based on logical termini within both the Frostproof and Lake Wales Urban areas. Bicycles would be accommodated on the paved outside shoulders. Bicycle keyways between outside through lanes and proposed right-turn lanes would be provided.

## **6.10 UTILITY IMPACTS**

The utility companies listed in **Table 6-5** were contacted by letter and phone to identify the location of their facilities within the US 27 Study Area. Plans sheets and a map of the Study Area were mailed to the utility companies with a request to identify the location, size, and type of their existing and proposed facilities. The existing utilities include overhead and buried electric distribution, overhead electric transmission, overhead and buried communications cables (coaxial, copper and fiber optic cables), potable water, reclaimed water, sanitary sewer, and natural gas mains.

Depending on their location, size, and depth some or all of the existing utility's facilities may require adjustment or relocation due to the proposed roadway improvements. Cost estimates listed in Table 6-3 were provided by the utilities for worst case scenario, in the event that all of their existing utility facilities within the Study Area will require relocation. Utility details are reflected in the UAR.

**TABLE 6-5  
UTILITY IMPACTS**

<b>Utility Company</b>	<b>Facilities</b>
Central Florida Gas 3667 Sand Path Road Bonifay, FL 32425	Cost for relocation as provided by the UAO is estimated to be \$2,500,000.
CenturyLink 924 Memorial Drive Avon Park, FL 33825	Cost for relocation as provided by the UAO is estimated to be \$650,000.
City of Lake Wales Utility Dept. 201 Central Avenue W Lake Wales, FL 33853	Cost for relocation as provided by the UAO is estimated to be \$2,200,000.
Comcast Cablevision 5205 Fruitville Road Sarasota, FL 34232	Cost for relocation as provided by the UAO is estimated to be \$605,687.
Duke Energy Distribution 3300 Exchange Place Lake Mary, FL 34638	Cost for relocation as provided by the UAO is estimated to be \$50,000.
Duke Energy Transmission C/O UC Synergetic 20525 Amberfield Drive Suite 201 Land O' Lakes, FL 34638	N/A – Anticipates no relocation of facilities
Florida Gas Transmission 2405 Lucien Way Suite 200 Maitland, FL 32751	No relocation cost estimate was provided by the UAO.
Gulfstream Natural Gas System 1905 Intermodal Circle Suite 310 Palmetto, FL 34221	Cost for relocation as provided by the UAO is estimated to be \$25,700,000.
Level 3 Communications, Inc. 1025 Eldorado Boulevard Broomfield, CO 80021	No relocation cost estimate was provided by the UAO.
MCI/Verizon Business 1909 US 301 N Building D Tampa, FL 33619	Cost for relocation as provided by the UAO is estimated to be \$60,000.
Park Water Company 25 1st Avenue N Lake Wales, FL 33859	Cost for relocation as provided by the UAO is estimated to be \$2,000,000.
Polk County Utilities Dept. 1011 Jim Keene Boulevard Winter Haven, FL 33880	Cost for relocation as provided by the UAO is estimated to be between \$4-5 million.
TECO Peoples Gas 5901 Enterprise Parkway Fort Myers, FL 33905	No relocation cost estimate was provided by the UAO.
Frontier 1909 US Highway 301 N Tampa, FL 33619	Cost for relocation as provided by the UAO is estimated to be \$3,862,190.

## **6.11 TEMPORARY TRAFFIC CONTROL PLAN**

The proposed construction phasing for the widening of US 27 from a four-lane rural roadway to a six-lane rural or suburban roadway would occur in two main phases. During the first phase, the existing four lanes of traffic would be shifted onto temporary pavement towards the median while the outside widening and border area construction occurs. In the second phase, the existing four lanes of traffic would be shifted towards the outside and the inside widening and any remaining median work such as drainage and removal of the temporary pavement would occur.

## **6.12 DRAINAGE**

A *Conceptual Location Hydraulic Report* (LHR) (March 2014); a *Pond Siting Report* (PSR) (December 2016); a *PSR Addendum* (June 2014); and a *PSR Addendum 2* (December 2015) were all completed under separate cover. These studies were prepared as part of the PD&E Study.

### **6.12.1 LOCATION HYDRAULICS**

The purpose of the Conceptual LHR is to address the base floodplain encroachments resulting from the roadway improvements evaluated in this PD&E study. The intent is to avoid or minimize highway encroachments within the 100-year (base) floodplains.

The area is dominated by a series of large lakes (Lake Livingston, Lake Streety, Lake Clinch, Crooked Lake, Blue Lake, Tractor Lake, and Lake Altamaha), the Peace Creek basin, and drainage ditches that flow to those water bodies. In Segments 1 and 2, surface water flow generally flows from west to east, toward wetland areas surrounding Lake Livingston, Lake Clinch, and Crooked Lake. In Segment 3, surface water flow is both to the east and to the west, depending upon surface topography, but drainage in this segment is mainly controlled by the Peace Creek Canal, located west of the ROW.

The majority of the FEMA floodplain encroachments are concentrated within three areas of the project: Lake Streety Canal, within Segment 1; Crooked Lake Basin, within Segments 1 and 2; and several sub-basins within the larger Peace Creek Canal Basin, within Segment 3.

#### **6.12.1.1 Segment 1 Floodplain Encroachment**

Two areas of floodplain impacts were noted within Segment 1, creating a total floodplain encroachment volume of 0.87 acre-feet. The first area produced very minor impacts (0.04 acre-feet) to an unnamed floodplain area located to the south and west of Lake Livingston, in Drainage Sub-Basin 3 and near the southern project limit. No separate volumetric compensation area is anticipated for this minor floodplain encroachment. This small volume of floodplain encroachment due to roadside stormwater management ponds does not affect the stage within the floodplain and is, therefore, a *de minimis* impact.

### **6.12.1.2 Segment 2 Floodplain Encroachment**

The floodplain impacts within Segment 2 comprise, essentially, a 3.4-mile longitudinal impact of 23.07 acre-feet within the Crooked Lake floodplain. Using a volumetric approach, the floodplain encroachments would produce a 0.002-foot rise in the 100-year flood stage for the floodplain, and would increase the surface area of the current 13,500-acre Crooked Lake floodplain by 6 acres.

A meeting was conducted with the Southwest Florida Water Management District (SWFWMD) on May 8, 2013, to discuss the overall drainage and floodplain issues related to the project. For the Crooked Lake floodplain, the SWFWMD did not commit to a level of impact to the lake that would be considered *de minimis*, due to the large number of impacted parcels surrounding the lake, the acreage of impact and considerations of future floodplain encroachments. Compensation for the 23.07 acre-feet of floodplain encroachment in the Crooked Lake floodplain would be provided in a floodplain parcel located west of the roadway (Flood Parcel) and west of the lake, adjacent to the SWFWMD parcels. In addition to floodplains, it is probable that wetland mitigation can also be provided within this 60-acre parcel.

### **6.12.1.3 Segment 3 Floodplain Encroachment**

Within Segment 3, floodplain impacts totaling 2.69 acre-feet are concentrated adjacent to Lake Altamaha, as well as the drainage basins contributing to the Peace River Drainage Canal. Lake Altamaha is located within an open drainage basin, but it was determined that increasing the volume of stormwater runoff to the lake and the placement of any fill material adjacent to its banks would increase the frequency of flooding of the area surrounding the lake; therefore, floodplain impacts were minimized by reducing the volume of additional stormwater runoff to the lake by storage of excess runoff in percolation ponds located within the existing infield areas of the US 27/SR 60 interchange at the northern project limit.

## **6.12.2 STORMWATER MANAGEMENT**

A PSR was prepared in support of this PD&E study. The purpose of the PSR was to develop engineering and environmental data and document the feasibility of providing treatment, attenuation, and floodplains within the existing FDOT ROW for the recommended PD&E typical section on US 27.

Thirty eight (38) sub-basins were delineated along the project. In most cases, each sub-basin consists of several linear stormwater management facilities sized to provide the required treatment and attenuation volumes. Design criteria from SWFWMD and FDOT were used to determine the required treatment and attenuation volumes.

**Table 6-6** provides a summary of the treatment and attenuation for each WBID outfall. The presumptive treatment summary in this table only addresses the required treatment of the project's new impervious area and not the required treatment volume that is based on the total Directly Connected Impervious Area (DCIA) to each pond. The Peace Creek Drainage Canal

(PCDC) basin pollutant loading volumes and the attenuation volumes are also summarized. The attenuation volumes are based upon the difference in runoff volume for the 25-year, 24-hour event utilizing the NRCS method.

**TABLE 6-6  
TREATMENT AND ATTENUATION SUMMARY BY WBID**

WBID	Name	New Impervious (Acres)	DCIA Treated (Acres)	Treatment Required (Ac-Ft)	Treatment Provided (Ac-Ft)	Attenuation Required (Ac-Ft)	Attenuation Provided (Ac-Ft)
1730F	Lake Livingston	17.67	17.77	0.74	1.05	7.38	7.42
1706A	Lake Clinch	6.57	7.92	0.25	0.60	2.20	2.44
1663A	Crooked Lake	27.00	39.23	1.18	2.79	5.04	6.70
1613	PCDC	Pollutant Loading controls	Pollutant Loading controls	3.01	4.25	16.24	20.36

### **6.13 BRIDGE ANALYSIS**

Within Segment 1, there are two pairs of bridges and one bridge culvert:

- Bridge 160193 and 160194 – US 27 southbound and northbound over Lake Streey Canal
- Bridge 160195 and 160196 – US 27 southbound and northbound over CSX Railroad
- Bridge Culvert 160200 – US 27 southbound and northbound at Clinch Creek

#### **Bridge 160193 and 160194 - US 27 Southbound and Northbound over Lake Streey Canal**

The bridges would be widened to provide for the six-lane divided rural facility. The widenings would be considered “minor” by the definition in the SDG. They would maintain the same existing horizontal and vertical alignment. The existing span arrangement would be maintained. Due to subsurface conditions including deep organic materials outboard of southbound Bridge 160193, widening the bridges to the inside is recommended. In order to accommodate the proposed roadway section, the bridges would be widened to provide three 12-foot travel lanes and 10-foot outside shoulders. The inside shoulder widths would be limited to 7-feet due to the inside widening requiring a Design Variation for Bridge Width, see **Appendix F**. A new median barrier and new TL-4 crash resistant traffic barrier rails would be provided along the bridge copings. The new overall width would be 111.1 feet.

A Bridge Project Questionnaire (U.S. Coast Guard Form D-7-1103 Rev. 4-10) was prepared for Lake Streey Canal Bridges 160193 and 160194. As a result of the Lake Streey Canal Bridges only being widened to the inside, there will not be any change in vertical clearance over the Lake Streey Canal. The USCG form reflects no change to the existing conditions, and there will not be any increase in floodplain impacts or obstruction of water flow. See **Appendix G** for USCG forms and photographs of the bridge locations and associated Lake Streey Canal.

### **Bridge 160195 and 160196 - US 27 Southbound and Northbound over CSX Railroad**

The bridges would be widened to provide for the six-lane divided rural facility. The widenings would be considered “minor” by the definition in the SDG. They would maintain the same existing horizontal and vertical alignment. The existing span arrangement would be maintained. Subsurface materials at the site are suitable for deep foundations such as driven piles or drilled shafts. Therefore, both bridges could be widened to the outside. In order to accommodate the proposed roadway section, the bridges would be widened to provide three 12-foot travel lanes, 10-foot inside shoulders, and 10-foot outside shoulders. New TL-4 crash resistant traffic barrier rails would be provided along the bridge copings. The new overall widths would be 59.1 feet. The existing sand-cement riprap would be extended to provide abutment slope protection at the widened portions. The CSX railroad line is active underneath the bridge. The bridges currently do not provide adequate horizontal and vertical clearance from the railroad. The widenings would be designed so as to not encroach into the existing clearances. Crash walls would be provided to protect the interior pile bents on either side of the track.

### **Bridge Culvert 160200 - US 27 Southbound and Northbound at Clinch Creek**

The culvert headwalls are currently outside of the clear zones and would need to be lengthened to accommodate the proposed widening. The existing culvert barrels appear to provide sufficient hydraulic capacity as there is no evidence of overtopping.

Within Segment 2, there are two bridge culverts:

- Bridge Culvert 160075 – US 27 southbound and northbound at McCoy Drainage Ditch
- Bridge Culvert 160067 – US 27 southbound and northbound at Crooked Lake Canal

### **Bridge Culvert 160075 - US 27 Southbound and Northbound at McCoy Drainage Ditch**

The culvert headwalls are currently outside of the clear zones and will need to be lengthened to accommodate the proposed widening. The existing culvert barrels appear to provide sufficient hydraulic capacity as there is no evidence of overtopping.

### **Bridge Culvert 160067 - US 27 Southbound and Northbound at Crooked Lake Canal**

The culvert headwalls are currently outside of the clear zones and would need to be lengthened to accommodate the proposed widening. The existing culvert barrels appear to provide sufficient hydraulic capacity as there is no evidence of overtopping.

Within Segment 3, there is one pair of bridges:

- Bridge 1600018 and 160134 – SR 60 westbound and eastbound over US 27



## **Bridge 1600018 and 160134 - SR 60 Westbound and Eastbound over US 27**

For the Recommended Alternative, these bridges are proposed to be removed and replaced with new bridges needed for the SPUI.

### **6.14 DESIGN VARIATIONS**

The design criteria used for this project is provided in Table 4-1. Four design variations from FDOT standards will be required for this project. They are explained below. No exceptions are anticipated. The signed design variations are included in **Appendix F**.

#### **6.14.1 BORDER WIDTH**

The PPM, Volume I – English (07/01/2014), Table 2.5.1 – Highways with Flush Shoulders, indicates that the required border width for arterials and collectors with a design speed greater than 45 mph is 40 feet, measured from the shoulder point of the roadway. The proposed criteria would utilize a minimum border width of 36 feet. This would allow the approved six-lane rural typical section to be constructed in areas where the existing ROW width is 200 feet. This condition would occur in various locations along the project corridor. The cost to acquire the additional ROW along the east side of US 27 in various locations of the project is not justified when compared to the minimal benefit that the additional border width would provide.

#### **6.14.2 VERTICAL ALIGNMENT**

This design variation is to allow certain existing vertical alignment elements to remain without correction following the widening project. All of these elements are located within the proposed six-lane rural typical section with a design speed of 70 mph.

The PPM, Volume I – English (07/01/14), Table 2.6.2 – Maximum Change in Grade without Vertical Curves, indicates that at 70 mph, the maximum change in grade in percent without a vertical curve is 0.20. It is proposed to allow two locations where the change in grade is between 0.20 and 0.30 to remain without correction.

The PPM, Volume I – English (07/01/14), Tables 2.8.5 & 2.8.6, indicate a K value of 401 and minimum length of 500 feet be used for crest vertical curves and a K value of 181 and minimum length of 400 feet be used for sag vertical curves. It is proposed to allow one sag curve that does not meet minimum curve length and three crest curves that do not meet minimum K values to remain without correction.

Based on the crash data analysis, it does not appear that any of the six existing vertical alignment elements proposed to remain are a contributing factor in a significant number of crashes. Based on this, coupled with the significant construction costs of meeting PPM criteria, it is justified to allow these six existing vertical alignment elements to remain.

### **6.14.3 ROADSIDE SLOPE**

This design variation is to allow varying roadside slopes. The front slope and back slope of the proposed roadside ditch would vary from 1:6 to 1:4 and 1:4 to 1:3, respectively, as required to meet stormwater management requirements within the existing ROW. This is anticipated to occur in several locations throughout the project.

The PPM, Volume I – English (01/01/14), Table 2.4.1 – Roadside Slopes, indicates that for a height of fill between zero to five feet, rural arterials with a projected 20 year AADT of 1,500 or greater should have front slopes of 1:6 and back slopes of 1:4. Back slopes of 1:3 are acceptable with a standard width trapezoidal ditch and 1:6 front slopes. This criteria table is considered to be more applicable to defining the most economical slopes to be utilized for various fill heights rather than providing appropriate recoverable terrain.

Additional roadside slope criteria can be found in the PPM Volume I, Figure 4.1.3.2 – Roadside Ditch Trapezoidal Shape, provides acceptable roadside ditch front slope and back slope combinations when the ditch bottom width is four feet or greater. These configurations match those provided in the AASHTO Roadside Design Guide. A review of this chart indicates that combinations such as 1:6 front/1:3 back, 1:4 front/1:4 back, and 1:3 front/1:6 back are acceptable trapezoidal roadside ditch combinations in that they are considered recoverable terrain.

Providing the roadside slopes per PPM Table 2.4.1 would result in the need to purchase additional ROW in 16 drainage basins to provide stormwater management facilities. These purchases would occur throughout the project limits and would impact dozens of different owners. The increased project costs associated with purchasing this ROW does not appear to provide any identifiable safety benefits. Both PPM and AASHTO indicate that several combinations of roadside ditch front and back slopes are acceptable that exceed those identified in PPM Table 2.4.1 – Roadside Slopes.

### **6.14.4 BRIDGE WIDTH**

This design variation is to allow a substandard bridge width following widening of the existing US 27 bridges over the Lake Streey Canal. The existing Lake Streey Canal bridges are located within the portion of the project with a proposed six-lane rural typical section with a design speed of 70 mph.

The PPM, Volume I – English (01/01/14), Figure 2.0.1 – Partial Bridge Sections, indicates that for a divided highway with three lanes, the bridge width should accommodate a 10-foot inside shoulder, three travel lanes, and a 10-foot outside shoulder.

Due to geotechnical issues, it is proposed to widen the Lake Streey Canal bridges to the inside and join the two structures together with a median barrier separating the northbound and southbound travel ways. Based on the existing median width of 40 feet, this would result in maximum bridge widths consisting of a 7-foot inside shoulders, three 12-foot travel lanes, and a 10-foot outside shoulders in both the northbound and southbound directions.

Considering the cost, replacing the existing bridges or implementing settlement strategies due to the widening of the existing roadways would not result in any significant benefit to the project.

## **6.15 ENVIRONMENTAL IMPACTS**

As stated previously, the Recommended Alternatives discussed in this Preliminary Engineering Report (PER) remain within the existing ROW of US 27; therefore, avoiding and minimizing potential impacts to the natural environment, cultural resources, communities, and other environmental considerations. Those environmental considerations that have potential impacts are summarized below.

### **6.15.1 NATURAL ENVIRONMENT**

#### **6.15.1.1 Floodplains**

The project may impact 26.7 acre-feet of floodplain. The impacts to the floodplain can be compensated in most cases within the existing ROW with the exception of Segment 2, where additional ROW will be required for a compensation site. During the final design phase of the project, every step will be taken to further minimize impacts to floodplains. The floodplain encroachments associated with this project are classified as minimal and no change in the flood risk is anticipated as a result of this project.

#### **6.15.1.2 Wetlands**

The Recommended Alternative would result in direct impacts to 13.48 acres of wetlands and other surface waters. Based on the considerations that have been outlined in the *Wetland Evaluation Report*, it has been determined that there is no practical alternative to the proposed construction in wetlands and that the proposed action includes all practical measures to minimize impacts to wetlands which may result from such use.

Final determination of jurisdictional wetland areas and mitigation requirements will occur between FDOT and the regulatory agencies during the final design phase of this project. Wetlands impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. 1344.

#### **6.15.1.3 Wildlife and Habitat**

In February 2014, FDOT prepared and submitted to the U.S. Fish and Wildlife Service (FWS) an Endangered Species Biological Assessment (ESBA) to address potential effects of the project on state- and federally-listed species. In November 2014, FDOT submitted an ESBA Addendum to the FWS that provided additional information on the project. Findings contained in the ESBA Addendum include the loss of 12.4 acres of occupied Florida scrub-jay habitat, the loss of 39.7 acres of occupied sand skink/bluetail mole skink habitat, and the potential loss of several federally-listed plants.

In December 2014, the FHWA determined the project may affect and is likely to adversely affect the Florida scrub jay, sand skink, blue-tailed mole skink, scrub buckwheat, papery whitlow-wort, pygmy fringe-tree, short-leaved rosemary, sandlace, and scrub plum. The FHWA requested the FWS initiate formal consultation for the US 27 project's adverse effects to these species pursuant to section 7 of the Endangered Species Act of 1973, as amended.

In May 2015, the FWS issued a Biological Opinion (BO) for the US 27 project. Terms and Conditions of the BO include the requirement that FDOT purchase at least 12.4 acres of scrub jay habitat or 12.4 scrub jay credits from a conservation bank and 79.34 acres of sand skink habitat or 79.34 sand skink credits from a conservation bank. The ESBA Addendum also includes the commitment to relocate populations of listed plants within the project area prior to construction.

## **6.15.2 CULTURAL ENVIRONMENT**

### **6.15.2.1 Historical and Archaeological**

A Cultural Resource Assessment Survey (CRAS) was performed in 2013 and approved by the State Historic Preservation Officer (SHPO) and the Federal Highway Administration (FHWA) in 2014. The CRAS identified and recorded 38 historic resources (50 years of age or older) within the project area. These resources include five resource groups (8PO07639-7641 and 8PO07726-7727), 31 buildings (8PO07608-7634, 8PO07728-7731), one linear resource (8PO07654), and one cemetery (8PO07635). Since the submittal of the CRAS, design changes have occurred and additional field work was required. The resulting technical memorandum addendum identified 33 historic resources within the project area, six of which had already been identified and recorded in the 2013 CRAS. Thus, 27 historic resources (8PO01126, 8PO01128, 8PO01262-1265, 8PO01408, 8PO01411, 8PO01474-1475, 8PO01488, 8PO08011-8022, 8PO08024, and 8PO08027-8029), all of them structures, were newly identified and recorded as part of tech memo addendum.

In total, 65 historic resources have been identified and recorded within the project area. Overall, the resource groups, buildings, and linear resource (US 27) that comprise a majority of the total represent commonly occurring types of architecture and engineering for the locale, and none is associated with significant historic events or persons. As a result, it is the opinion of ACI's architectural historian that none of these 64 historic resources are eligible for listing in the NRHP. The Lake Wales Cemetery (8PO07635), however, is considered eligible for listing in the NRHP at the local level under Criteria A and B in the areas of early settlement and community planning & development, as well as through its association with the early founders of Lake Wales (Criteria Consideration D).

In summary, proposed improvements to approximately 18 miles (mi) of US 27 will include about 0.4 mi of highway adjacent to the NRHP-eligible Lake Wales Cemetery (8PO7635); however, no additional right-of-way (ROW) will be required. The improvements to US 27 will not alter the qualities of the cemetery that make it eligible for listing in the NRHP, nor will the change from a four-lane to a six-lane highway significantly diminish the setting. Therefore, the proposed undertaking will have no adverse effect on the Lake Wales Cemetery.

### 6.15.3 SOCIAL ENVIRONMENT

#### 6.15.3.1 Social

In February 1994, the President of the United States issued Executive Order 12898 (Environmental Justice) requiring federal agencies to analyze and address, as appropriate, disproportionately high adverse human health and environmental effects of federal actions on ethnic and cultural minority populations and low-income populations, when such analysis is required by the National Environmental Policy Act (NEPA) of 1969.

An evaluation of environmental, public health, and interrelated social and economic effects of the proposed projects on minority and/or low-income populations has been completed. A detailed discussion of the population, housing and income information for the State of Florida, Polk County and the project study area is provided in Section 5 of the CSRP. Area population characteristics were identified through analysis of 2013 ACS Data.

Census data indicates the presence of minority and low-income populations in the area of the project. The information in **Table 6-7** is summarized from Tables 5-2 and 5-3 in the CSRP, which identify the total population distribution along the project corridor.

**TABLE 6-7  
MINORITY AND LOW-INCOME POPULATION CENSUS DATA**

	<b>Hispanic</b>	<b>Non-White</b>	<b>Low-Income (% Below Poverty Level)</b>
<b>Project Census Tract Ranges</b>	2.3%-30.8%	1.7%-85.3%	4.65-41.9%
<b>Polk County-Wide Average</b>	18.2%	21.1%	18.2%

The Recommended Build Alternative will occur mainly within the existing US 27 and SR 60 ROW. However, additional ROW will be needed for wetland mitigation for Segment 1, wetland and floodplain mitigation for Segment 2, and for the Refined SPUI Alternative (within the limits of Segment 3). The Recommended Build Alternative (including the 6-lane Refined SPUI) was selected based on its attainment of SIS requirements and reduced community impacts. Other interchange concepts either failed to meet SIS requirements or resulted in additional community impacts (i.e., relocations or direct parcel impacts). The Refined SPUI Alternative reduces the total number of both relocations and parcel impacts that would occur in the area of the interchange. The Recommended Build Alternative also better enhances safety and access to SR 60 and US 27 from adjacent neighborhoods.

The ROW needed for Segment 3 will predominantly impact vacant commercial parcels and several active commercial parcels. However, the relocation of two residential parcels and one vacant building (former church) are necessary for the Recommended Build Alternative. Although these impacts will occur within areas which contain higher percentages of low-income and Hispanic/non-white populations, the Recommended Build Alternative will have a minimal impact on the periphery of these populations.

The Recommended Build Alternative is not anticipated to adversely impact elderly persons; handicapped individuals; non-drivers; transit-dependent individuals; or minorities. This project is expected to enhance the quality of life by improving mobility, accessibility and connectivity along the US 27 corridor. The project will not bisect any communities or isolate any portions thereof. It is anticipated that the project improvements will have no significant impact on community cohesion. This project has been developed to comply with Executive Order 12898, Environmental Justice, issued February 11, 1994 and has been developed without regard to race, color, national origin, age, sex, religion, disability, or family status. Therefore, the level of effects is expected to be not significant.

#### **6.15.4 OTHER EFFECTS**

##### **6.15.4.1 Noise**

For the Recommended Alternative, which includes the Single Point Urban Interchange (SPUI) configuration at the US 27/SR 60 interchange, noise levels are predicted at 450 receptor points representing 506 residences (includes designated camping and RV sites), four residential common use areas (community pools and a pavilion), three motels (swimming pools at Sun Ray Motel, Lake Wales Inn and Royale Inn), one office (exterior use), the Lake Wales Cemetery, three churches (Sun Ray United Methodist interior, West Side Baptist interior/exterior including a barbecue area and playground and Connections Community Church interior), two community recreational areas (soccer field at Sun Ray Community Center and Walker Family Park), Bok Academy (school interior), the Elks Lodge (exterior use) and a medical facility (Lake Wales Family Health Center interior).

Exterior noise levels are predicted to approach or exceed the Noise Abatement Criteria (NAC) for 2040 Recommended Alternative conditions at 140 residences (includes designated camping and RV sites), the community pool and pavilion at Camp Inn RV Resort, a community pool at Camp'n Aire Camping Resort, gravesite areas in the Lake Wales Cemetery, Elks Lodge outdoor seating, the motel pool at Lake Wales Inn and the West Side Baptist Church barbecue area. Compared to existing conditions, traffic noise levels for 2040 Recommended Alternative conditions are predicted to increase 9.2 dB(A), or less. Therefore, traffic noise levels are not predicted to substantially increase (increase by 15 dB(A) or greater) at any noise sensitive site as a direct result of the transportation improvement project.

Abatement is evaluated for all noise sensitive sites identified as impacted by the Recommended Alternative. Traffic management and alignment modifications are determined to not be viable abatement measures. Consideration of buffer zones during planning of future development is identified as a viable abatement measure that can be implemented by local officials responsible for land use planning.

Noise barriers could potentially provide at least the minimum required noise reduction for a cost below the reasonable limit of \$42,000 per benefited receptor at five residential areas. From south to north, the first residential area includes Camp Inn RV Resort, the second residential area

includes Shady Nook RV Park, Camp'n Aire Camping Resort and Lake Wales Campground, the third residential area includes Lakeside Garden Mobile Home Park, the fourth area includes the residences along Wales Street and the fifth area includes residences along Lime Avenue. The potentially feasible and cost reasonable noise barriers are predicted to benefit 82 impacted residences at locations distributed between Camp Inn RV Resort (four impacted residences potentially benefited), Shady Nook RV Park/Camp'n Aire Camping Resort/Lake Wales Campground (39 impacted residences potentially benefited), Lakeside Garden Mobile Home Park (eight impacted residences potentially benefited), the residential community along Wales Street (24 impacted residences potentially benefited) and the residential community along Lime Avenue (seven impacted residences potentially benefited). The impacted common use areas at the Camp Inn RV Resort (community swimming pool and pavilion) and West Side Baptist Church barbecue area would also potentially benefit from a noise barrier provided for residences. In addition to impacted residences, up to 55 residences with predicted noise levels that do not approach the NAC may potentially be provided an incidental benefit. FDOT is committed to construction of noise barriers at these locations contingent on: 1) abatement being found feasible and cost reasonable in the design phase, 2) community support, and 3) resolution of any safety and engineering issues.

Noise barriers are not feasible and cost reasonable at 58 impacted residences primarily because the impact is at an isolated residence, the impacted residences are in an area where the density of residential development is low or gaps in a noise barrier to accommodate driveways/roads accessing US 27 limit the amount of noise reduction to less than 5 dB(A). Noise barriers are not cost reasonable at impacted non-residential sites (community pool at Camp'n Aire Camping Resort, Lake Wales Cemetery, outdoor seating at the Elks Lodge, motel pool at Lake Wales Inn) because the noise reduction design goal could not be achieved or the noise sensitive site would not generate the person-hours of use on an average day required to meet the cost reasonable limit.

#### **6.15.4.2 Contamination**

A *Contamination Screening Report* (dated October 2015) was prepared for the project. Based on research and site reviews, five sites along the project corridor have a HIGH potential and 23 sites have a MEDIUM potential for contaminating the US 27 ROW. These sites and any newly-identified sites will be evaluated further during the future project design phase(s), including Level II testing as necessary. Future project design plans will contain marked contamination polygons and general notes as applicable. The FDOT will oversee any remediation activities necessary

#### **Potential HIGH Sites**

- Site No. 11 – Sunoco/J Glenn Wright #145/South 27 Amoco - 19300 (formerly 302) US 27
- Site No. 12 – Iglesia Le Calvario (former gas station) - 403 W. Bullard Avenue
- Site No. 13 – Terry's Discount Tire - 19254 (formerly 304, Becton's Tire Service) US 27

- Site No. 16 – Dorman’s Auto Sales - 18631/18643 (formerly 841) US 27
- Site No. 59 – Orange Box Café (former gas station) - 7315 US 27

**Potential MEDIUM Sites**

- Site No. 5 – Former Pole Barn - located within the US 27 median at SR 60
- Site No. 10 – Quality Vaults - 801 Henry St. (formerly 601 SR 60/Bartow Road)
- Site No. 14 – Abandoned Gas Station (former Shell-Mapco#8438) - 19253 (formerly 301 and 305) US 27
- Site No. 17 – Chuck Wagon Property (former gas station) - 18630 (formerly 900) US 27
- Site No. 23 – Citgo Quik Mart / Lake Wales Citgo - 16311 (formerly 3131) US 27
- Site No. 25 – C&J Equipment (former Joey Food Mart gas station) - 16200 (formerly 3230) US 27
- Site No. 29 – Story Grove Service - 16030 (formerly 3358) US 27
- Site No. 36 – Former Smith & Sons (a.k.a. Glen Smith & Sons) - 3899 US 27
- Site No. 37 – Abandoned Gas Station (former JJ/RF, Texaco gas station) - 15375 (formerly 3987) US 27
- Site No. 46 – Kangaroo/Valero gas station - 14581 (formerly 4719) US 27
- Site No. 47 – On Time Quality Printers/J & A Auto Sales (former Star Auto Repair) - 14440 US 27
- Site No. 48 – Payne’s Trailers - 14410 US 27
- Site No. 51 – Former Auto Boutique - 14105 US 27
- Site No. 52 – The Performance Shop (TPS) - 14095 US 27
- Site No. 55 – Crops - west side of US 27
- Site No. 61 – Direct Transport Tanker Spill - 7030 US 27
- Site No. 62 – Townstar #46/BP - 7030 US 27
- Site No. 63 – Former 27 Truck Stop - 100 S. US 27
- Site No. 64 – Former Sunoco/BP Sun Ray - 5321 US 27
- Site No. 65 – Marathon - 5320 US 27
- Site No. 66 – Railroad Tracks at US 27 bridge over CSX tracks
- Site No. 67 – Polk Edgar (former gas station) - 2400 US 27
- Site No. 72 – Groves and Former Groves - (eight locations) east and west sides of the US 27 project corridor



#### **6.15.4.3 Air Quality**

The highest predicted CO concentrations are 6.5 ppm for a 1-hour averaging time and 3.9 ppm for an 8-hour averaging time. All predicted CO concentrations for the No-Build and Build conditions in the opening year and design year are below the National Ambient Air Quality Standards (NAAQS) of 35 ppm for a 1-hour averaging time and the NAAQS of 9 ppm for an 8-hour averaging time. The predicted 1-hour and 8-hour concentrations include a background CO level of 3.3 ppm and 2.0 ppm, respectively.

The project is in an area that has been designated as attainment for all of the NAAQS established by the Clean Air Act and subsequent amendments. Therefore, demonstration of conformity with a State Implementation Plan (SIP) is not required for this project.

Green House Gases (GHG) cause a global phenomenon in which heat is trapped in the earth's atmosphere. Because atmospheric concentration of GHGs continues to climb, our planet will continue to experience climate-related phenomena. For example, warmer global temperatures can cause changes in precipitation and sea levels. The burning of fossil fuels and other human activities are adding to the concentration of GHGs in the atmosphere. Many GHGs remain in the atmosphere for time periods ranging from decades to centuries.

To date, no national standards have been established regarding GHGs, nor has the United States Environmental Protection Agency (EPA) established criteria or thresholds for ambient GHG emissions pursuant to its authority to establish motor vehicle emission standards for CO<sub>2</sub> under the Clean Air Act. GHGs are different from other air pollutants evaluated in the Federal environmental reviews because their impacts are not localized or regional due to their rapid dispersion into the global atmosphere, which is characteristic of these gases. The affected environment for CO<sub>2</sub> and other GHG emissions is the entire planet. In addition, from a quantitative perspective, global climate change is the cumulative result of numerous and varied emissions sources (in terms of both absolute numbers and types), each of which makes a relatively small addition to global atmospheric GHG concentrations. In contrast to broad scale actions such as actions involving an entire industry sector or very large geographic areas, it is difficult to isolate and understand the GHG emissions impacts for a particular transportation project. Furthermore, presently there is no scientific methodology for attributing specific climatological changes to a particular transportation project's emissions.

Under NEPA, detailed environmental analysis should be focused on issues that are significant and meaningful to decision-making (Title 40 CFR 1500.1(b), 1500.2(b), 1500.4(g), and 1501.7). The FHWA has concluded, based on the nature of GHG emissions and the exceedingly small potential GHG impacts of the proposed action, that the GHG emissions from the proposed action will not result in "reasonably foreseeable significant adverse impacts on the human environment" (40 CFR 1502.22(b)). The GHG emission from the project build alternative will be insignificant, and will not play a meaningful role in a determination of the environmentally preferable

alternative or the selection of the Recommended Build Alternative. More detailed information on GHG emissions “is not essential to a reasoned choice among reasonable alternatives” (40 CFR 1502.22(a)) or to making a decision in the best overall public interest based on a balanced consideration of transportation, economic, social, and environmental needs and impacts (23 CFR 771.105(b)).

This document does not incorporate an analysis of the GHG emissions or climate change effects of each of the alternatives because the potential change in GHG emissions is very small in the context of the affected environment. Because of the insignificance of the GHG impacts, those local impacts will not be meaningful to a decision on the environmentally preferable alternative or to a choice among alternatives. For these reasons, no alternatives-level GHG analysis has been performed for this project.

Temporary air quality impacts (smoke, fugitive dust, etc.) may result during the course of construction activities, however, these will be avoided and minimized to the maximum practicable extent through adherence to applicable state and local regulations, the implementation of standard Best Management Practices (BMPs) and adherence to the FDOT’s *Standard Specifications for Road and Bridge Construction* any other applicable requirements in the construction contract documents.

## **6.16 RESULTS OF PUBLIC INVOLVEMENT PROGRAM**

### **6.16.1 PUBLIC INVOLVEMENT PLAN**

A *Public Involvement Plan* (dated August 2012, prepared under separate cover) was created for this project outlining community outreach efforts, and presents the approach used throughout this project to involve the general public, public officials, the media, and government agencies throughout the project process. A property owner list was developed for the purpose of sending out newsletters and public meeting invitations. A public official’s mailing list was also developed for the purpose of informing representatives of the project area with newsletters, and workshop and hearing invitations. This Public Involvement Plan is in compliance with the FDOT’s PD&E Manual, F.S. 339.155, Executive Orders 11990 and 11988, Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA, and 23 Code of Federal Regulations (CFR) 711.

### **6.16.2 ETDM SCREENING**

The project was screened through the Efficient Transportation Decision Making (ETDM) process as ETDM Number 3869. The Programming Screen Environmental Technical Advisory Team (ETAT) review was initiated on April 15, 2011, and completed on May 30, 2011. None of the reviewing ETAT members submitted a Degree of Effect (DOE) of “5” for Dispute Resolution. The Programming Screen Summary Report was published on August 26, 2011. It was republished on September 8, 2011, with new commentary to reflect Summary DOE

coordination with applicable agencies for the Farmlands, Navigation, Wetlands, Historic and Archeological Sites, Land Use, and Mobility resource issues. In addition, the Summary DOE for the Land Use issue was changed from Minimal to Moderate due to additional considerations along the project corridor. See **Appendix G** for the Programming Screen Summary Report.

### **6.16.3      *ADVANCE NOTIFICATION***

An Advance Notification package was completed for this project and mailed to the Florida State Clearinghouse and local and federal agencies on June 27, 2012, in accordance with Executive Order 95-359. A response was received from the Southwest Florida Regional Planning Council, and stated this project was Regionally Significant and Consistent. The comments received through the Advance Notification process were either no comment or were related to respective agency permitting requirements and stressed avoidance and minimization of environmental impacts. There were no adverse comments regarding the proposed roadway improvements and all comments have been addressed in the appropriate sections of this report. See **Appendix H** for the Advance Notification package.

### **6.16.4      *NEWSLETTERS***

Newsletters were prepared in English and Spanish translation to inform the public of upcoming opportunities for comment and review of project materials. An original property owners list was developed from information in the property appraiser's website for Polk and Highlands counties. This list was updated as requests were received by citizens to be added to the list, either through the project website, or through meeting with citizens and business owners within the project area throughout the course of the study. The first newsletter issue was published and distributed in August 2012. It informed the public of the start of the project and included a discussion of the study process and schedule. The newsletter also stressed the need for public input and provided information on points of contact within the Department regarding citizen comments and concerns. The second issue was mailed in September 2013. It presented an overview of the study progress to date and served as notification of the public information meeting. The third issue, published and distributed in September 2014, informed the public of the preferred Build Alternative and served as notification of the Public Hearing.

### **6.16.5      *PUBLIC INFORMATION MEETING***

A public information meeting was held on September 19, 2013 from 5:00 p.m. to 7:00 p.m. at Warner University, Ratzlaff Administration Building, 211 Presidents Drive, Lake Wales, Florida. The purpose of the public meeting was to provide interested persons with information on the alternative alignments developed to date and to allow the public the opportunity to comment. No formal presentation was made, but a looping project video was shown. The video included an overview of the PD&E study process, a description of the alternatives being considered, the estimated project costs, and discussion regarding the overall project schedule. The materials on display and handed out at the meeting were uploaded to the project website for

public viewing. The workshop was attended by 45 citizens. All attendees were given the opportunity to provide written comments at the workshop or within an 11-day comment period. FDOT received 13 completed comment sheets and emails at the public meeting and during the 11-day period following the meeting. The comments included requests for access management and traffic operations improvements relating to specific properties or situations, to be added to the study mailing lists, and to receive study concept maps. The study team reviewed the comments to determine if suggestions can be included in the conceptual design.

#### **6.16.6 PUBLIC HEARING**

A formal public hearing was held on Tuesday, March 22, 2016, at 7:00 p.m. at South Lake Wales Church of God, 210 Presidents Drive, Lake Wales, Florida. The public hearing was held to inform the public of the results of the PD&E study and to give the public the opportunity to express their views regarding specific location, design, socio-economic effects, and environmental impacts associated with the recommended build alternative and the no-build alternative.

Tony Sherrard, FDOT project manager, presided at the hearing. FDOT and its consultant team were present for one hour prior to the formal proceedings to informally discuss the project with the general public. Aerial photographs with the recommended alternative and poster boards were displayed. A project handout was offered to attendees. It included a description of the right-of-way (ROW) acquisition procedures with particular reference to state and federal relocation assistance programs. Comment sheets were offered for the public to complete.

A total of 64 persons registered at the public hearing. Following introductory remarks by Mr. Sherrard, FDOT presented a video about the study. The video included a summary of the need for the facility and advantages and disadvantages of the recommended build alternative and the no-build alternative. Socio-economic and environmental impacts were presented.

Specific questions and comments raised at the public hearing were answered during informal discussions with concerned individuals or by letter following the hearing. Five persons spoke for the public record at the hearing with 12 comment sheets received at the hearing. There were 10 comments sheets, comments submitted on the study web site, e-mails, and letters received in the ten-day period following the hearing. Substantive comments made at and subsequent to the public hearing focused primarily on water quality and mitigation associated with Crooked Lake, access management/traffic signal issues, and requests for wildlife underpasses. FDOT responded that the comments were reviewed and will be further evaluated during the design phases of the three projects that are included within the study limits.

Due to circumstances involving property owners along SR 60 within the study limits who were not notified of the first public hearing on March 22, 2016, and to ensure compliance with federal and state requirements, FDOT hosted a second public hearing on September 8, 2016, at 7:00 p.m. at South Lake Wales Church of God, 210 Presidents Drive, Lake Wales, Florida. The information presented was identical to the information displayed at the first public hearing.

Tony Sherrard, project manager, presided at the hearing. FDOT and its consultant team were present at the meeting site for one hour prior to the formal proceedings to informally discuss the project with the general public. Aerial photographs with the viable alternatives and poster boards were displayed. A project handout was offered to attendees. It included a description of the ROW acquisition procedures with particular reference to state and federal relocation assistance programs. Comment sheets were offered for the public to complete.

Forty persons registered at the public hearing. Following introductory remarks, FDOT presented a project video. The video included a summary of the need for the facility and advantages and disadvantages of the viable build alternatives and the no-build alternative. Socio-economic and environmental impacts were presented.

Specific questions and comments raised at the public hearing were answered during informal discussions with concerned individuals. One person spoke for the public record at the hearing and FDOT received two comments by e-mail during the ten-day comment period that followed.

Substantive comments made at and subsequent to the public hearing focused on access management and traffic signal issues. FDOT responded that the comments will be reviewed and further evaluated during the design phases of the three projects that are included within the study limits.

A more detailed description (Full Version) can be found in the Comments & Coordination Report.

# *Section 7.0*

## *LIST OF TECHNICAL REPORTS*

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The purpose of the PD&E study is to evaluate engineering and environmental data and document information that will assist FDOT and the FHWA in determining the type, preliminary design, and location of the proposed improvements. The study was conducted in order to meet the requirements of NEPA and other related federal and state laws, rules and regulations. The technical reports completed during this study are listed below.

<b>TECHNICAL REPORTS</b>	<b>DATED</b>
<b>Public Involvement</b>	
Advance Notification Package	June 2012
Comments and Coordination Report	TBD
Public Hearing Transcript	TBD
Public Involvement Plan	August 2012
<b>Engineering</b>	
Conceptual Location Hydraulic Report	March 2014
Conceptual Pond Siting Report	December 2013
Conceptual Pond Siting Report Addendum	June 2014
Conceptual Pond Siting Report Addendum 2	December 2015
Design Variations Package	June 2014
Preferred Build Alternative Concept Plans	February 2016
Project Traffic Report	February 2016
Project Traffic Report Addendum	February 2016
Typical Section Package	February 2016
Utility Assessment Report	November 2015
FSUTMS Modeling Effort MOU	January 2013
Existing Conditions Traffic Memorandum	November 2012
<b>Environmental</b>	
Contamination Screening Evaluation Report	February 2016
Geotechnical Memorandum	December 2013
Cultural Resource Assessment Survey	June 2014
Cultural Resource Assessment Survey Technical Memorandum Addendum	February 2016
Endangered Species Biological Assessment	February 2014
Endangered Species Biological Assessment Addendum	November 2014
Noise Study Report	December 2015
Section 4(f) Determination of Applicability	November 2015
Wetland Evaluation Report	November 2015
Water Quality Impact Evaluation (WQIE)	September 2014
Farmlands Evaluation	June 2014
Air Quality Report	July 2014
Conceptual Stage Relocation Plan	October 2015

***APPENDIX ES-1***

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***Purpose and Need Technical Memorandum***



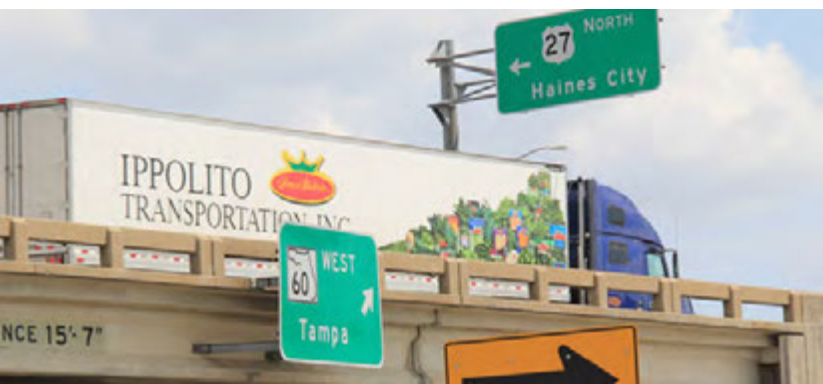


from the Highlands County Line  
to North of SR 60  
Polk County

Financial Project Number: 419243-1-22-01

*PD&E Study*

# Purpose and Need Technical Memorandum



Prepared for



District One

February 2016



Dear Cathy,

In response to your August 20, 2015 email, the District is providing additional data and clarifications where needed that further demonstrates a critical need for the US27 project improvements that are consistent with the "Purpose and Needs Statement". However, to better identify the full purpose and need for the Project we are offering a revised/restated "Purpose and Needs Statement" for US27 based on guidance obtained in the AASHTO's Practitioner's Handbook. Briefly, what is being provided is summarized below:

**PURPOSE and NEED:**

***The primary purpose of this critical centrally located Strategic Intermodal Systems (SIS) project is to: increase capacity due to projected level of service deficiencies; to complete a statewide interconnected multimodal divided roadway transportation system that supports local, regional, and statewide goals related to economic diversification and development; enhance interregional connectivity between Florida's economic regions; provide for safe and efficient operations between transportation modes; and, to ensure Florida's Transportation Systems can meet national defense, emergency response and evacuation needs while providing adequate capacity for the efficient movement of freight, goods and services for all users of the transportation system and one that is consistent with the Florida's Legislative intent for the creation of a multimodal Strategic Intermodal System (SIS) that accommodates all modes and users safely; provides support for local land use decisions; enhances transportation alternatives for the region's population; provides transportation choices for education and employment growth in the central Florida area (specifically transportation elements of the CFRPC 2060 Plan); and, augments the existing emergency hurricane evacuation route for central and south Florida.***

**A. Need (Capacity/Transportation Demand)** - See Exhibit A (attached) and SIS Bottleneck Study (attached) – Level of Service Table for all significant cross street locations (No Build). As shown in Exhibit A, 6 intersections operate at LOS E/F in 2020, 33 intersections in 2030 and 55 intersections by the year 2040. Also included- See Exhibit A1 (attached) are the most recent model runs from the update of the Polk TPO's 2040 LRTP depicting highway capacity deficiencies (V/C ratios) for US27 in Polk County. As reflected in the graphics, US27 is projected to be at capacity or exceed capacity by 2040. The attachment also includes the link volumes for the build and no-build scenarios from the US27 project traffic report (PTR). The V/C ratios project a capacity deficiency within the corridor by 2040 and is further impacted operationally by the high percentage of heavy trucks and higher crash rates. US27 is a SIS identified four lane bottle neck from Polk County line to SR60. With a six lane demand at either end of the project, US27 capacity for these segments will be diminished as time progresses. See Bottleneck Study (attached) in support of the restated "Purpose and Need Statement".

**B. Need (Safety)** – See Exhibit B (attached) – Crash analysis for project. One segment and 5 major intersections are all experiencing crash rates higher than the state wide average for similar facilities. Delay associated with higher crash rates subsequently contribute to reduced

capacity at these locations. Improvements were determined based on the crash data review (2007-2011, see attached Exhibit B), and the Road Safety Audit (RSA) conducted along the corridor was subsequently documented in the PTR. The Roadway Safety Audit (RSA) was conducted during March 2013, which included representatives from FDOT, Polk County School Board, Polk County Sheriff's Office, Lake Wales Police Department, and URS. The RSA team identified existing safety and access issues and discussed possible solutions. The audit determined that US27 had higher crash rates in the study area compared to similar facilities in the State. To accommodate the high percentage of heavy trucks in the study corridor, roadway geometric improvements strategies such as truck loons and widening of turning radii were proposed.

**C. Need (Regionally Significant Roadway)** See SIS Freight and Congested Corridors Exhibit (attached) US27 and SR60 are SIS crossroads in central Florida. Florida's SIS Highways are the backbone of the highway transportation network, which consists of nearly 4,400 miles of roadways. This mileage represents only 3% of the total state roadway mileage, but is responsible for 54% of all traffic and 70% of all truck traffic on the State Highway System. These significant corridors connect all of Florida's economic regions including economic markets beyond Florida. Within the State, they facilitate the movement of passengers and goods between the major airports, seaports, rail facilities, and notable intermodal hubs. The integrated logistics center (ILC) in Winter Haven is one of those hubs and US27 provides the vital transportation link necessary to ensure the efficient movement of goods and services.

**D. Need (National Defense)** –US27 is the only principal arterial that serves the Avon Park Air Force Range (APAFR), which is the primary air-to-ground training facility in Florida and an alternate range for Moody Air Force Base, Georgia. APAFR is also an important range for military air-to-ground operations originating from nearby Patrick AFB and MacDill AFB, which routinely host numerous squadron/unit level deployments from Active and Reserve USAF, USN, USMC and U.S. Army units, to include Army National Guard and Air National Guard, from across the country to practice air-to ground operations. Training requirements include low level flights, night vision training, and the firing/release of many different types of ordnance and weaponry across the full spectrum of Air Force, Navy, Marine Corps and Army assets, all of which can be readily employed on the APAFR and they require unimpeded access to US27 to ensure successful training deployments.

**E. Need (Emergency/Evacuation)** Due to projected capacity deficiencies along this segment of US27, the southern segment improvements are needed to address the lack of a FDOT continuous six lane north/south Strategic Intermodal System corridor that serves south central Florida and provides that critical economic link, hurricane emergency/evacuation route, and further provides unrestricted traffic movement for vital military training access to the Avon Park Range facility. Additionally, this is the only segment of US27 in Polk County that is not currently six lanes. The traffic data and analysis demonstrates the improvements are needed by 2020-2040 in the Polk TPO Plan (see attached Polk TPO population projections), and the 2040 SIS Plan (see attached SIS documents). To maintain the integrity of the Strategic Intermodal System and comply with stated goals, objectives and policies the projected improvement needs are

supported by the Polk TPO, local governments, business leaders, and FDOT. They are included by reference in the Florida Transportation Plan (FTP) and specifically identified in the 2040 Strategic Intermodal System (SIS) Plans.

**F. Need (Intermodal Connectivity)** This segment of US27 represents a critical link in the overall transportation system serving Florida from south to north. The I-75 Vision Study is now beginning to document the need for additional capacity for I-75, a parallel north-south SIS corridor, as it is projected to be over capacity in the same timeframe as we propose to upgrade US 27 (next 25 year period). It is likely that north-south parallel traffic will divert to US27 if I-75 experiences heavy congestion/delay in the future. Additionally, the Port of Palm Beach Intermodal Logistics Center (ILC, formerly called “inland port”) has received final land use amendments and has begun to move forward once again. The Port of Palm Beach ILC is located south of this project along US 27 on land owned by Florida Crystals and will further enhance the need for US 27 to accommodate a full range of traffic in the future as it moves forward. Additionally, the total estimated economic impact for the integrated logistics center (ILC) in Polk County/Winter Haven is estimated at \$10.6 billion with a projected employment base of 6500 to 11000 jobs within 10 years. The employment projection is an estimate of the annual number of full-time jobs that will be generated after 10 years of operation. The most affected sectors are Rail and Truck Transportation (\$6.7 billion), Manufacturing (\$1.8 billion) and Services (\$1.4 billion). It is projected that the total development impact within the ILC will be: 3.0 million square feet of warehouse, 1.5 million square feet of industrial sites/plants, and 0.5 million square feet of office space. All figures are expressed in billions of 2005 dollars. These impacts will need adequate transportation facilities to support the projected growth. It is critical that adequate highway infrastructure exist or be provided for to ensure the safe and efficient flow of freight to and from an ILC facility.

**G. Need (Economic Competiveness)** The FTP/SIS supports Florida’s Global Economic Competitiveness, is consistent with Florida’s Growth Management Laws and is consistent with local land use policies, as well. The integrated logistics center (ILC) in Winter Haven is a primary hub that will be served by the US27 improvements and it is a critical investment that supports the growing economic region in terms of freight movement, greater freight accessibility, and will enhance Rural Areas of Critical Economic Concern (RACEC) in south central Florida that utilize the corridor. For example, the mining industry, fruit industry, cattle industry, sugar industry, logging industry, sod industry and goods and services via the trucking industry, to name a few, all utilize this corridor to move their products, and/or goods and services.

**1. Project Funding & Implementation** – See Exhibit C Funding and Implementation Plan (attached) – Funding summary attached. Areas shown in red indicate later project phases that would anticipate Federal funding. Also attached are:

- a. Exhibit C-1 FDOT District 1 SIS Non-Interstate Plan 1st 5 Years & 2nd 5 Years Funding Plan, July 2015 and the 2040 SIS CFP.

- b. *Exhibit C-2 Polk County 2015/2016 to 2019/2020 TIP Adopted June 11, 2015. FM 4192434 US 27 from Presidents Drive to SR 60.*
- c. *Exhibit C-3 2035 Polk TPO Long Range Transportation Plan, Adopted 12/2010, and Amended 12/2013 (see attachment).*

*The above information is consistent with*

*[http://www.fhwa.dot.gov/planning/tpr\\_and\\_nepa/tprandnepasupplement.cfm](http://www.fhwa.dot.gov/planning/tpr_and_nepa/tprandnepasupplement.cfm) - Supplement to January 28, 2008 'Transportation Planning Requirements and Their Relationship to NEPA Process Completion' February 9, 2011 – under requirements section it is stated:*

- i. *“Before the FHWA can sign the final NEPA decision (i.e., ROD, FONSI, or CE), the proposed Project ("Project") as defined in the NEPA document must meet the following specific criteria:*
  - 1. *For Metropolitan Planning Areas (within a MPO): ◦The Project or phases of the Project within the time horizon of the MTP must be included in the fiscally constrained MTP, and other phases of the Project and the associated costs beyond the MTP horizon must be referenced in the Plan.*
  - 2. *The Project or phase of the Project must be in the fiscally constrained STIP/TIP, which includes: At least one subsequent Project phase, or the description of the next Project phase for information purposes only in unusual instances.*
  - 3. *All Federal-aid Projects or Project phases and non-federally funded, regionally significant projects that require a Federal action. [23 CFR § 450.324(d)].*

*A review of AASHTO Practitioner’s Handbook “Defining the Purpose and Need and Determining the Range of Alternatives for Transportation Projects” Under Practical Tips, Section 2 – Determining the Needs, Forecast Year the following guidance is provided:*

*“Forecast Year. There is no specific NEPA requirement regarding the time horizon that should be used in defining a Project’s Purpose and Need, but the typical period for highway projects is approximately 25 years from the initiation of the NEPA study.<sup>16</sup> The forecast year should be specified in the purpose and need chapter, and should be used consistent throughout the study. In some cases, where a NEPA study takes considerably longer than expected, it may be appropriate to revise the forecast year (by moving it farther out). If this is done, the change should be explained in the document and should be implemented consistently.”*

*A review of the above information clearly shows a consistent implementation plan for the project. Segment 3, US27 from President's Way to SR 60 has the highest need and is funded through construction by FY 2020. US27 from CR 630A to President's Way (segment 2) is funded through construction in the FY 2026 through FY 2030 year-band and the final segment from the Highlands County Line to CR 630A (segment 1) is funded for construction in the FY 2031 through FY 2035 year-band. The Polk TPO's 2040 LRTP will reflect the full funding commitment when adopted in December of 2015. As demonstrated in the attached STIP, the project is proposed to primarily use State funding, inclusive of all segments. By providing the requested approvals FHWA agrees to partner with District One to advance the Project on a reasonable time frame as demonstrated in the attached funding schedules which will complete the entire Project's implementation in concurrence with the demonstrated needs over the next 15 to 20+ year time frame and subsequently continue to support project segments 1 and 2 as federal aid eligible.*

*With the transmittal of this supplemental information, we are formally requesting FHWA's concurrence and acceptance of the restated "Purpose and Needs Statement" for US27 based on well-documented needs to address current and future corridor deficiencies and to better position central Florida to capture future economic opportunities. Further, to comply with continued implementation of the SIS System as required in Florida's statutes, regulations, policies, procedures, plans & programs, and to maintain NEPA compliance for the entirety of the project we recommend a continued partnership with FHWA for this critical link in central Florida. As always, we propose to perform reevaluations for segments 1 and 2 prior to moving to the next project phases since the overall sequencing for the entire project spans approximately 20 years based on current funding availability.*

*I trust the restated "Purpose and Needs Statement" and the additional data w/explanations further clarify the need for the project, the Department's commitment to the project, and address your noted concerns regarding the project timing and the importance of moving forward with this critical transportation improvement. In addition to the no-build alternative, other reasonable project alternatives will be evaluated that minimize environmental impacts, respond to public and stakeholder input to the maximum extent practical, and reduce implementation cost where possible.*

*Thank you,*

*Tony Sherrard  
Senior Project Manager  
D-1Environmental Management Office*

# Exhibit A

**TABLE 9-2  
NO-BUILD INTERSECTION LOS**

Intersection	Control Type	Lane Group/ Approach	Opening Year (2020) AM/PM			Mid-Design Year (2030) AM/PM			Design Year (2040) AM/PM		
			V/C Ratio	Average Delay	LOS	V/C Ratio	Average Delay	LOS	V/C Ratio	Average Delay	LOS
			US 27 and County Line Road	Unsignalized	NBL	0.08/0.10	13.1/11.8	B/B	0.15/0.14	19.7/14.7	C/B
EBLR	0.32/0.24	22.5/19.9	C/C		0.61/0.39	55.5/31.9	F/D	1.37/0.80	>120/100.7	F/F	
US 27 and South Avon Park Cut-Off Road	Unsignalized	NBL	0.08/0.08	13.0/11.6	B/B	0.15/0.12	19.4/14.4	C/B	0.30/0.22	36.6/22.1	E/C
		EBLR	0.21/0.19	19.0/18.0	C/C	0.44/0.32	38.8/27.3	E/D	1.00/0.65	>120/72.7	F/F
US 27 and SR 17 (Scenic Highway)/North Avon Park Cut-Off Road	Signalized	EB Approach		35.3/38.7	D/D		36.7/38.4	E/D		74.4/55.7	E/E
		WB Approach		38.4/45.2	D/D		36.7/38.4	D/D		>120/>120	F/F
		NB Approach		11.2/11.7	B/B		14.0/18.9	B/B		14.0/33.0	B/C
		SB Approach		8.8/7.9	A/A		14.1/11.1	B/B		45.5/33.0	D/C
		Overall		12.6/13.0	B/B		18.5/19.8	B/B		44.3/43.2	D/D
US 27 and Lake Streety Road	Unsignalized	NBL	0.06/0.02	13.1/11.4	B/B	0.10/0.05	19.3/14.4	C/B	0.21/0.13	34.4/21.7	D/C
		EBLR	0.08/0.12	19.9/16.7	C/C	0.29/0.26	40.0/28.1	E/D	0.91/0.55	>120/67.9	F/F
US 27 and Princeton Avenue	Unsignalized	NBL	0.09/0.07	13.2/11.6	B/B	0.15/0.10	19.8/14.8	C/B	0.35/0.19	40.5/22.6	E/C
		EBLR	0.20/0.15	19.8/16.0	C/C	0.42/0.33	40.9/29.0	E/D	0.97/0.86	>120/115.4	F/F
US 27 and Otto Polk Road	Unsignalized	NBL	0.17/0.16	13.6/11.9	B/B	0.31/0.24	22.6/15.8	C/C	0.58/0.39	54.2/27.1	F/D
		EBLR	0.32/0.25	18.9/16.4	C/C	0.65/0.54	50.1/35.3	F/E	1.55/1.11	>120/>120	F/F
US 27 and George Street	Unsignalized	SBL	0.07/0.05	11.2/12.5	B/B	0.11/0.15	14.3/19.2	B/C	0.20/0.34	22.0/38.2	C/E
		WBLR	0.20/0.35	18.7/24.4	C/C	0.38/0.66	30.2/65.2	D/F	0.93/1.56	>120/>120	F/F
US 27 and Charles Street	Unsignalized	NBL	0.06/0.04	12.5/10.8	B/B	0.13/0.07	18.6/13.5	C/B	0.23/0.12	33.2/19.7	D/C
		SBL	0.08/0.13	11.1/13.0	B/B	0.14/0.23	14.2/20.4	B/C	0.28/0.46	22.9/43.4	C/E
		WBLTR	0.28/0.33	20.3/25.5	C/D	5.95/1.12	>120/>120	F/F	>1.00/>1.00	>120/>120	F/F
		EBLTR	0.34/0.31	33.1/28.5	D/D	6.07/1.41	>120/>120	F/F	>1.00/>1.00	>120/>120	F/F
US 27 and Lily Creek Way	Unsignalized	SBL	0.02/0.02	11.0/12.6	B/B	0.07/0.09	14.5/18.9	B/C	0.12/0.21	20.9/34.4	C/D
		WBLR	0.10/0.13	18.4/22.0	C/C	0.29/0.36	29.7/41.9	D/E	0.66/0.90	83.2/>120	F/F

# Exhibit A

**TABLE 9-2 (CONTINUED)  
NO-BUILD INTERSECTION LOS**

Intersection	Control Type	Lane Group/ Approach	Opening Year (2020) AM/PM			Mid-Design Year (2030) AM/PM			Design Year (2040) AM/PM		
			V/C Ratio	Average Delay	LOS	V/C Ratio	Average Delay	LOS	V/C Ratio	Average Delay	LOS
US 27 and US 98 (Fort Meadow Road)/CR 630	Signalized	EB Approach		61.1/67.3	E/E		95.5/82.0	F/F		>120/>120	F/F
		WB Approach		57.1/61.6	E/E		>120/>120	F/F		>120/>120	F/F
		NB Approach		25.4/38.8	C/D		38.7/69.0	D/E		83.1/>120	F/F
		SB Approach		35.9/34.3	D/C		45.0/31.6	D/C		>120/45.8	F/D
		<i>Overall</i>		37.0/42.4	D/D		59.5/69.1	E/E		>120/>120	F/F
US 27 and CR 630A	Signalized	WB Approach		48.7/44.1	D/D		72.8/92.7	E/F		>120/>120	F/F
		NB Approach		7.1/9.0	A/A		8.8/17.7	A/B		>120/73.8	F/E
		SB Approach		4.0/4.2	A/A		7.5/7.9	A/A		22.3/14.3	C/B
		<i>Overall</i>		8.0/9.4	A/A		12.1/18.4	B/B		88.8/53.8	F/D
US 27 and Gum Road	Unsignalized	NBL	0.08/0.06	14.3/12.3	B/B	0.18/0.12	23.2/16.6	C/C	0.45/0.31	56.8/29.5	F/F
		EBLR	0.28/0.17	26.5/16.4	D/C	0.57/0.31	63.2/24.6	F/C	2.61/0.90	>120/>120	F/F
US 27 and Lakeside Garden Drive	Unsignalized (right-turn only)	WBR	0.07/0.13	12.9/14.9	B/B	0.10/0.27	15.7/22.6	C/C	0.17/0.57	22.0/51.1	C/F
US 27 and Presidents Drive	Signalized	EB Approach		48.9/53.0	D/D		98.5/>120	F/F		>120/>120	F/F
		WB Approach		49.3/52.5	D/D		86.2/109.4	F/F		>120/>120	F/F
		NB Approach		14.2/18.4	B/B		17.8/15.8	B/B		20.2/64.8	C/E
		SB Approach		15.7/16.3	B/B		18.9/13.6	B/B		50.7/31.2	D/C
		<i>Overall</i>		18.8/21.3	B/C		26.8/27.2	C/C		51.4/64.3	D/E
US 27 and Central Drive	Unsignalized (right-turn only)	WBR	0.06/0.10	12.8/14.5	B/B	0.07/0.17	15.4/20.4	C/C	0.12/0.28	20.8/33.6	C/D
US 27 and Jackson Street	Unsignalized (right-turn only)	EBR	0.15/0.11	15.0/13.2	B/B	0.32/0.20	23.3/16.6	C/C	0.52/0.32	44.6/24.8	E/C
US 27 and 1st Avenue North	Unsignalized	SBL	0.22/0.19	14.3/15.8	B/C	0.35/0.42	21.1/31.2	C/D	0.64/0.97	49.8/>120	E/F
		WBRL	0.33/0.60	17.5/36.7	C/E	0.73/1.24	49.1/>120	E/F	3.17/11.53	>120/>120	F/F
US 27 and College Boulevard	Unsignalized	WBR	0.03/0.04	13.0/14.4	B/B	0.09/0.12	16.0/19.8	C/C	0.22/0.25	23.5/32.6	C/D

# Exhibit A

**TABLE 9-2 (CONTINUED)  
NO-BUILD INTERSECTION LOS**

Intersection	Control Type	Lane Group/ Approach	Opening Year (2020) AM/PM			Mid-Design Year (2030) AM/PM			Design Year (2040) AM/PM		
			V/C Ratio	Average Delay	LOS	V/C Ratio	Average Delay	LOS	V/C Ratio	Average Delay	LOS
US 27 and CR 640 (Alturas Babson Cut Off Road)	Signalized	EB Approach		38.3/36.9	D/D		59.8/87.3	E/F		76.9/>120	E/F
		WB Approach		43.1/53.5	D/D		>120/>120	F/F		>120/>120	F/F
		NB Approach		29.2/33.5	C/C		38.0/49.4	D/D		96.0/>120	F/F
		SB Approach		40.6/23.1	D/C		35.1/34.1	D/C		104.7/52.3	F/D
		Overall		36.5/31.5	D/C		46.2/54.9	D/D		114.6/>120	F/F
US 27 and Harbor Drive	Unsignalized	NBL	0.03/0.04	15.1/13.3	C/B	0.10/0.07	23.9/17.6	C/C	0.29/0.17	50.1/28.0	F/D
		SBL	0.02/0.03	13.3/15.3	B/C	0.07/0.10	17.6/24.0	C/C	0.17/0.29	28.0/50.1	D/F
		WBLR	0.34/0.31	43.6/50.0	E/E	0.67/0.87	115.7/>120	F/F	—/—	—/—	F/F
		EBLR	0.19/0.15	33.0/31.2	D/D	0.84/0.67	>120/115.7	F/F	—/—	—/—	F/F
US 27 and CR 17B (Hunt Brothers Road)	Signalized	EB Approach		41.1/35.9	D/D		45.4/84.9	D/F		>120/>120	F/F
		WB Approach		36.4/35.7	D/D		89.4/>120	F/F		>120/>120	F/F
		NB Approach		12.8/18.3	B/B		23.5/36.4	C/D		41.2/>120	D/F
		SB Approach		16.5/11.7	B/B		30.9/25.7	C/C		78.0/43.6	E/D
		Overall		17.6/18.1	B/B		35.3/46.7	D/D		94.4/114.6	F/F
US 27 NB and SR 60 EB On Ramp	Unsignalized (right-turn only)	SBL	1.03/1.38	85.2/>120	F/F	1.66/2.77	>120/>120	F/F	3.12/6.23	>120/>120	F/F
US 27 SB and SR 60 EB Off Ramp	Unsignalized (right-turn only)	EBR	0.96/0.81	64.8/34.7	F/D	1.80/1.35	>120/>120	F/F	3.24/3.40	>120/>120	F/F
SR 60 WB Off Ramp and US 27 SB	Unsignalized (right-turn only)	WBR	0.17/0.20	9.1/9.2	A/A	0.26/0.30	9.6/9.8	A/A	0.36/0.40	10.3/10.6	B/B
US 27 and Central Avenue	Signalized	EB Approach		51.5/40.8	D/D		>120/70.9	F/E		>120/>120	F/F
		WB Approach		40.9/49.5	D/D		>120/93.5	F/F		>120/>120	F/F
		NB Approach		42.2/44.0	D/D		62.3/49.5	E/D		74.8/63.7	E/E
		SB Approach		32.5/34.1	C/C		57.0/50.7	E/D		71.0/89.6	E/F
		Overall		38.5/41.0	D/D		90.2/59.2	F/E		>120/97.2	F/F

Notes: For Signalized intersections delay and LOS are for overall intersection. For unsignalized intersections delay and LOS are for Major Street left movement/Minor Street approach. X/X: AM/PM LOS. NBL = Northbound left, EBLR = Eastbound left/right, SBL = Southbound left, WBLR = Westbound left/right.

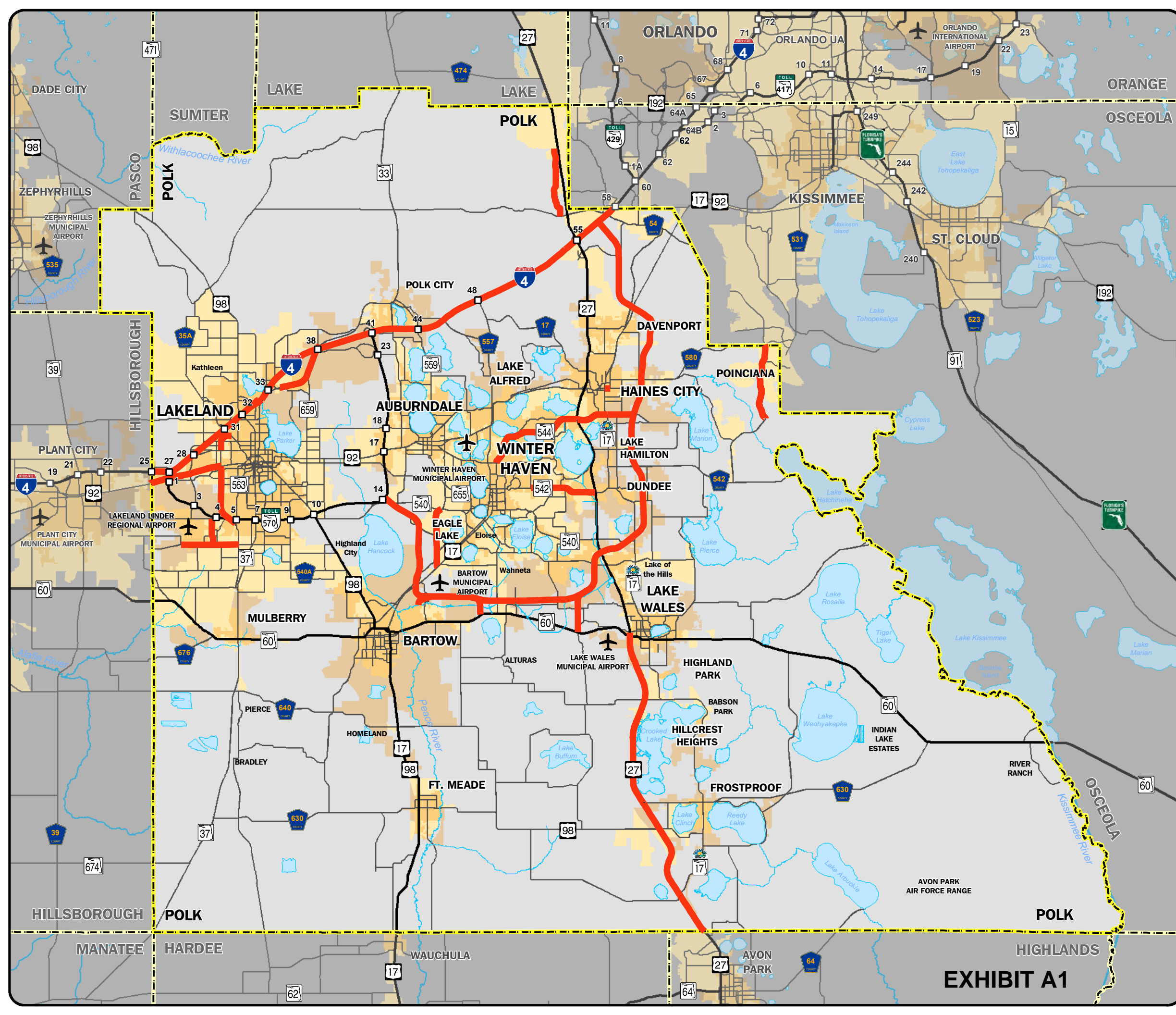
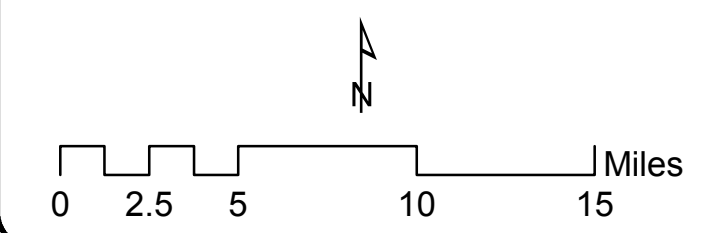


# Highway Alternative V

## Legend

### Highway Alternative V Recommended Projects

Highway Capacity Projects



**EXHIBIT A1**

## Highway Alternative V

### Legend

#### Highway Alternative V Results Volume/Capacity (V/C)

- < 0.75
- 0.75 - 1.00
- 1.00 - 1.25
- 1.25 - 1.50
- 1.50 - 1.75
- > 1.75

Highway Network = 0.59 V/C  
System Performance

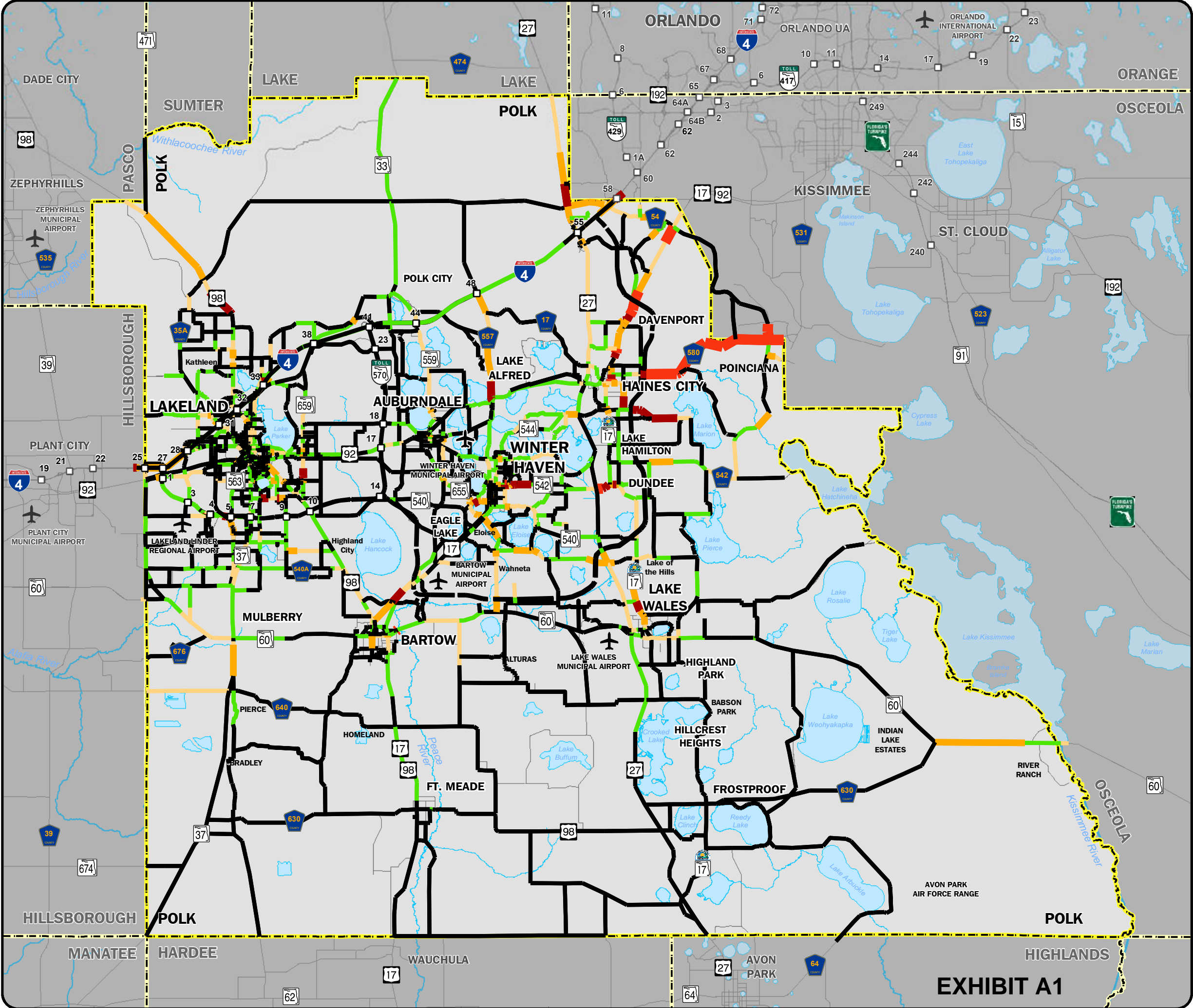
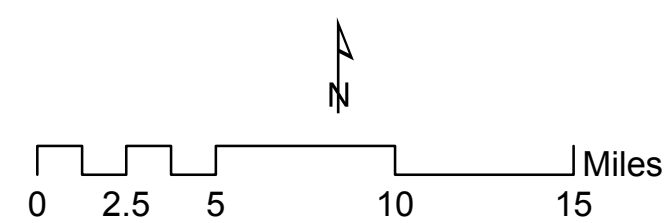


EXHIBIT A1



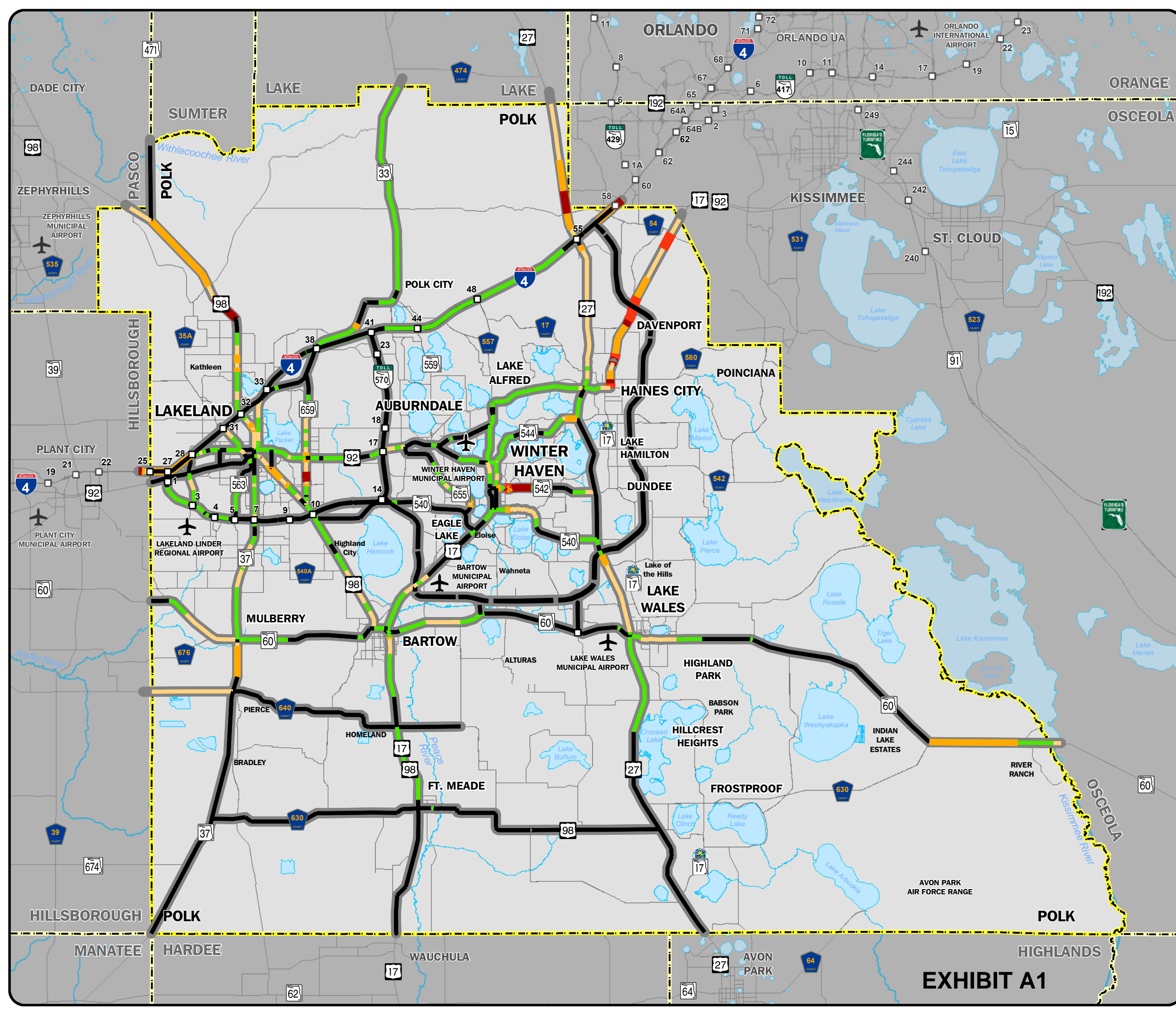
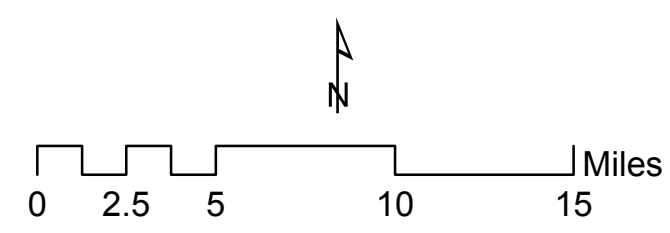
## Highway Alternative V

### Legend

#### Highway Alternative V Results Arterial Volume/Capacity (V/C)

- < 0.75
- 0.75 - 1.00
- 1.00 - 1.25
- 1.25 - 1.50
- 1.50 - 1.75
- > 1.75
- Arterial Network

Arterial Network = 0.78 V/C  
System Performance



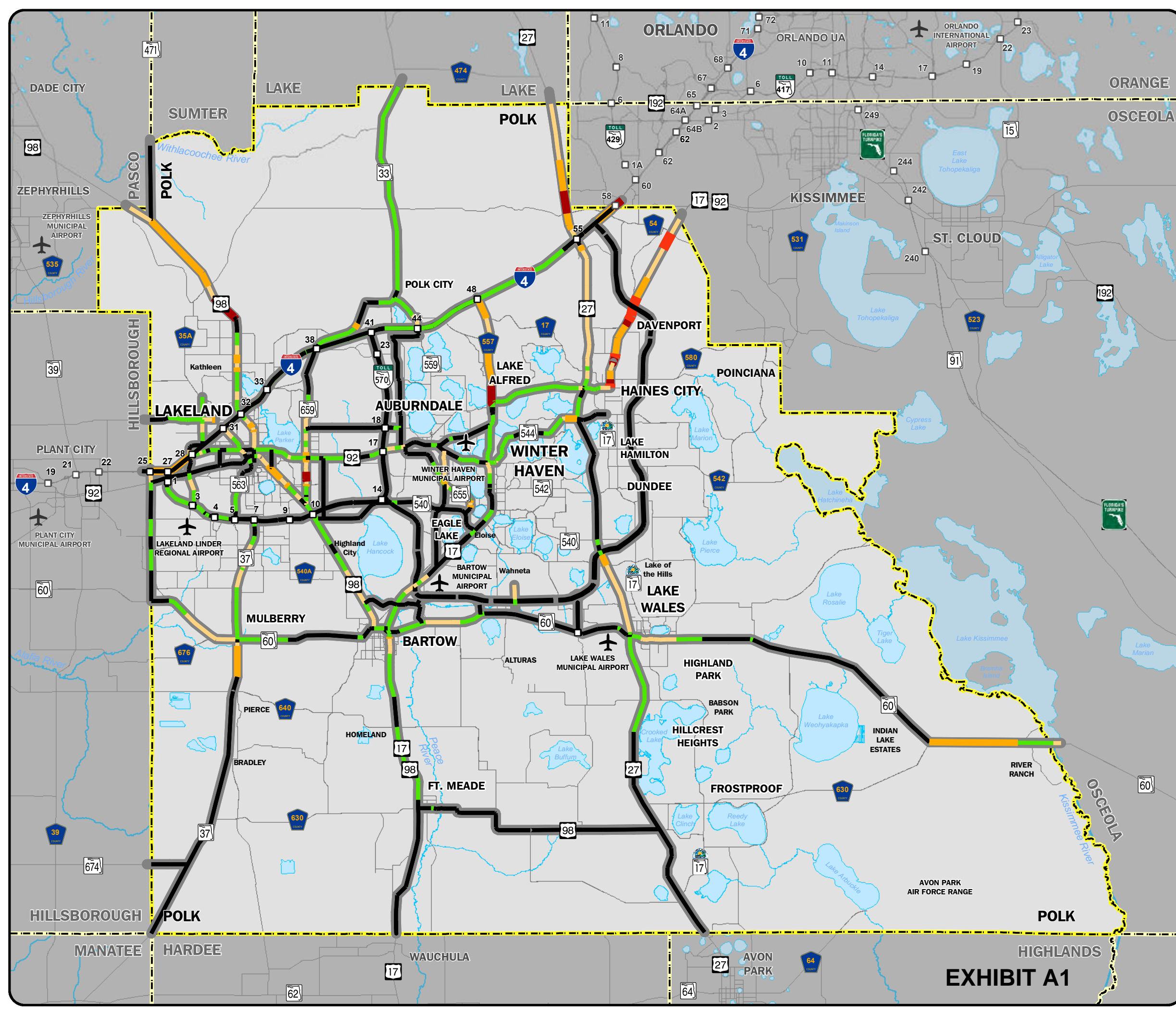
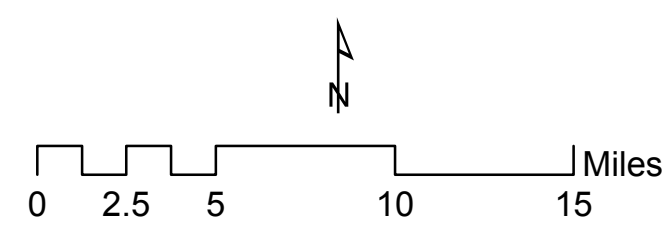
# Highway Alternative V Freight Network

## Legend

### Highway Alternative V Results Volume/Capacity (V/C)

- < 0.75
- 0.75 - 1.00
- 1.00 - 1.25
- 1.25 - 1.50
- 1.50 - 1.75
- > 1.75
- Freight Network

Freight Network = 0.75 V/C  
System Performance



**EXHIBIT A1**





# Draft 2040 Cost-Feasible Highway Network

## Legend

### Tier I - Committed Highway Network 2014 - 2018

- Committed/Under Construction - Highways
- + Committed/Under Construction - Intersection/Interchanges

### Tier II + III - Cost-Feasible Highways 2019 - 2040

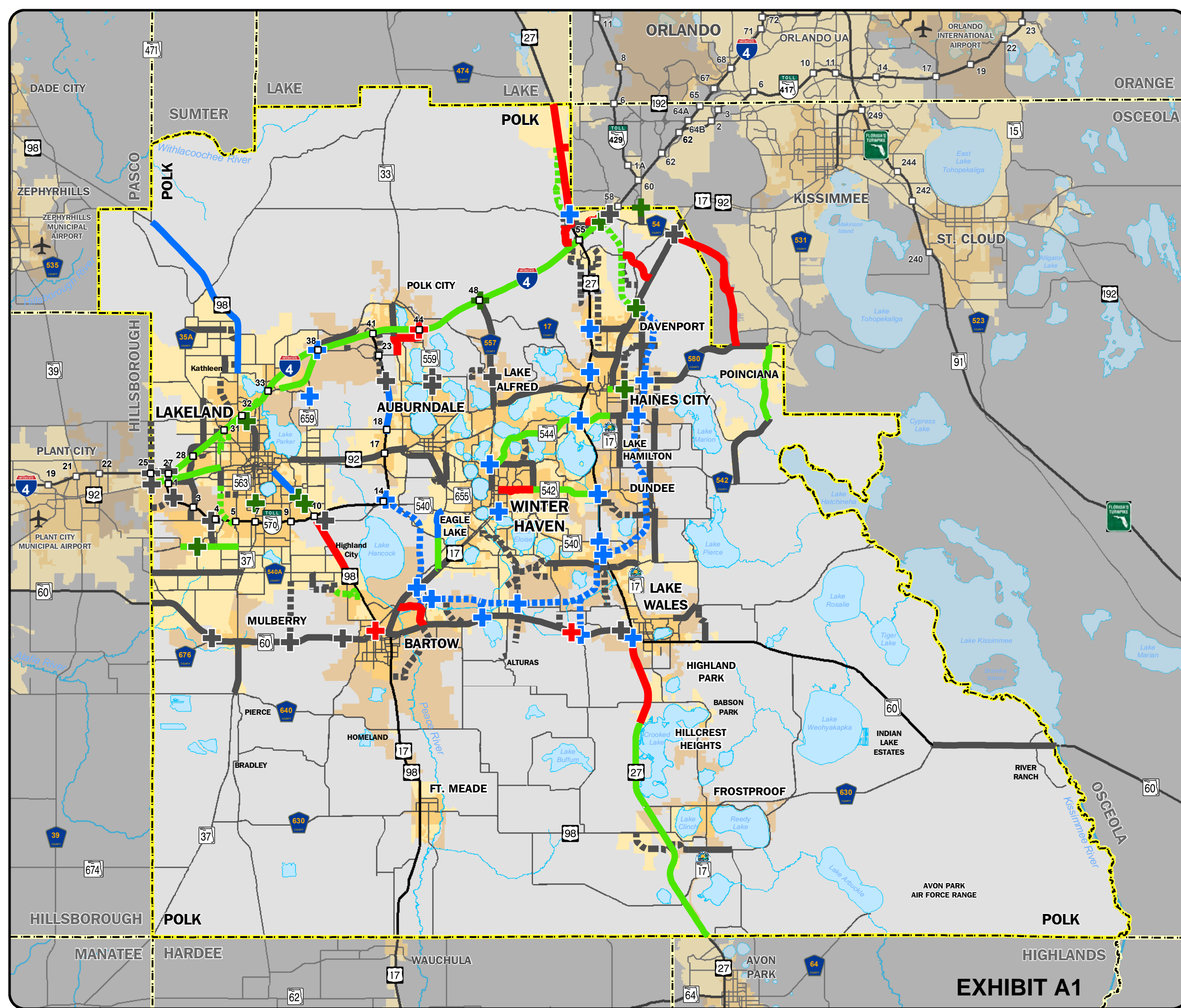
- - - - New Road
- Road Widening
- + Intersection/Interchange Improvement

### Tier IV - Illustrative Projects or Partially Funded through 2040

- - - - New Road
- Road Widening
- + Intersection/Interchange Improvement

### Tier V - Unfunded Needs 2019 - 2040

- - - - New Road
- Road Widening
- + Intersection/Interchange Improvement





## APPENDIX E

### Planning Area Summary

Polk TPO: 2040 Socioeconomic Data Forecast (August 2014)

Plan Area	PA Code	Dwellings			DU %			Employment			Employment %		
		2010	2040	2010->2040	2010	2040	2010->2040	2010	2040	2010->2040	2010	2040	2010->2040
Northwest	1	34,676	54,789	20,113	13%	12%	10%	17,389	28,878	11,489	7%	7%	6%
West Central	2	83,332	134,510	51,178	30%	28%	26%	113,749	159,763	46,014	47%	37%	24%
Northeast	3	15,497	22,712	7,215	6%	5%	4%	4,484	9,223	4,739	2%	2%	2%
Central	4	68,715	111,493	42,778	25%	23%	22%	62,728	129,207	66,479	26%	30%	35%
East	5	48,430	106,316	57,886	18%	22%	29%	23,282	61,344	38,062	10%	14%	20%
Southeast	6	11,888	24,365	12,477	4%	5%	6%	5,516	9,186	3,670	2%	2%	2%
Southcentral	7	4,481	7,852	3,371	2%	2%	2%	3,398	8,451	5,053	1%	2%	3%
Southwest	8	9,640	13,009	3,369	3%	3%	2%	12,894	29,614	16,720	5%	7%	9%
Countywide		276,659	475,046	198,387	100%	100%	100%	243,440	435,666	192,226	100%	100%	100%

Polk TPO: 2035 Socioeconomic Data Forecast (Provided for Comparison Only)

Plan Area	PA Code	Dwellings			DU %			Employment			Employment %		
		2007	2035	2007->2035	2007	2035	2007->2035	2007	2035	2007->2035	2007	2035	2007->2035
Northwest	1	27,824	36,291	8,467	10%	8%	5%	18,368	23,787	5,419	7%	5%	2%
West Central	2	81,266	131,354	50,088	30%	30%	30%	104,796	164,892	60,096	43%	35%	26%
Northeast	3	16,847	21,590	4,743	6%	5%	3%	3,621	25,991	22,370	1%	5%	10%
Central	4	68,882	102,769	33,887	26%	24%	20%	68,728	136,146	67,418	28%	29%	30%
East	5	52,853	109,103	56,250	20%	25%	34%	27,909	72,718	44,809	11%	15%	20%
Southeast	6	6,305	15,614	9,309	2%	4%	6%	6,148	12,935	6,787	2%	3%	3%
Southcentral	7	4,514	5,875	1,361	2%	1%	1%	3,337	18,513	15,176	1%	4%	7%
Southwest	8	8,633	11,411	2,778	3%	3%	2%	13,044	17,810	4,766	5%	4%	2%
Countywide		267,124	434,007	166,883	100%	100%	100%	245,951	472,792	226,841	100%	100%	100%

**TABLE 9-1  
NO-BUILD ALTERNATIVE SEGMENT ANALYSIS RESULTS**

Segment	Lanes	Posted Speed	Area Type/ LOS standard	Opening Year (2020)			Mid Design Year (2030)			Design Year (2040)		
				AADT	V/C Ratio	LOS	AADT	V/C Ratio	LOS	AADT	V/C Ratio	LOS
US 27 from County Line Road (MP 0.000) to SR 17 (Scenic Hwy) (MP 2.585)	4	65	Rural Developed LOS C	23,400	0.36	B	32,200	0.5	C	42,800	0.67	D
US 27 from SR 17 (Scenic Hwy) (MP 2.585) to US 98 (Fort Meadow Rd) (MP 6.851)	4	65	Rural Developed LOS C	23,200	0.36	B	33,000	0.51	C	43,800	0.67	D
US 27 from US 98 (Fort Meadow Rd) (MP 6.851) to CR 630A (MP 8.612)	4	65	Rural Developed LOS C	24,000	0.37	B	35,400	0.54	C	46,800	0.72	D
US 27 from CR 630A (MP 8.612) to Presidents Drive (MP 13.638)	4	65	Rural Developed LOS C	25,600	0.39	B	36,400	0.56	C	48,200	0.74	D
US 27 from Presidents Drive (MP 13.638) to CR 640 (Alturas Babson Cut-off Rd) (MP 14.886)	4	65	Rural Developed LOS C	26,000	0.40	B	38,000	0.58	C	50,000	0.77	D
US 27 from CR 640 (Alturas Babson Cut-off Rd) (MP 14.886) to CR 17 B(Hunt Brothers Rd) (MP 16.989)	4	65	Rural Developed LOS C	29,000	0.45	C	40,200	0.62	C	51,600	0.79	D
US 27 from CR 17 B(Hunt Brothers Rd) (MP 16.989)- to Central Avenue (MP 0.221)	4	50	Transitioning/Urban LOS D	30,900	0.52	C	41,800	0.70	D	52,800	0.89	F

Notes: AADT represents maximum AADT on the segment. LOS=Level of Service.

## EXHIBIT A1



**TABLE 9-3  
BUILD ALTERNATIVE SEGMENT ANALYSIS RESULTS**

Segment	Lanes	Posted Speed	Area Type/ LOS standard	Opening Year (2020)				Mid Design Year (2030)				Design Year (2040)			
				AADT	V/C Ratio	Speed	LOS	AADT	V/C Ratio	Speed	LOS	AADT	V/C Ratio	Speed	LOS
US 27 from County Line Road (MP 0.000) to SR 17 (Scenic Hwy) (MP 2.585)	6	65	Rural Developed LOS C	23,600	0.24	-	B	33,200	0.34	-	B	42,800	0.44	-	C
US 27 from SR 17 (Scenic Hwy) (MP 2.585) to US 98 (Fort Meadow Rd) (MP 6.851)	6	65	Rural Developed LOS C	24,000	0.25	-	B	33,800	0.35	-	B	43,800	0.45	-	C
US 27 from US 98 (Fort Meadow Rd) (MP 6.851) to CR 630A (MP 8.612)	6	65	Rural Developed LOS C	24,400	0.25	-	B	36,400	0.37	-	B	48,200	0.49	-	C
US 27 from CR 630A (MP 8.612) to Presidents Drive (MP 13.638)	6	65	Rural Developed LOS C	25,600	0.26	-	B	38,900	0.40	-	B	51,200	0.53	-	C
US 27 from Presidents Drive (MP 13.638) to CR 640 (Alturas Babson Cut-off Rd) (MP 14.886)	6	50	Rural Developed LOS C	26,400	-	41.33	A	38,800	-	38.61	A	51,400	-	31.35	A
US 27 from CR 640 (Alturas Babson Cut-off Rd) (MP 14.886) to CR 17 B(Hunt Brothers Rd) (MP 16.989)	6	50	Rural Developed LOS C	30,000	-	47.34	A	42,600	-	42.99	A	55,200	-	38.08	A
US 27 FROM CR 17 (Hunt Brothers Rd) (MP 16.989) to SR 60 (MP 18.816)	6	50	Transition/ Urban LOS D	32,000	41.26	-	A	45,000	40.08	-	A	57,600	36.48	-	A
US 27 from SR 60 WB to Central Avenue (MP 0.221)	6	50	Transition/ Urban LOS D	29,800	23.36	-	B	42,800	19.43	-	C	54,800	18.13	-	C

Notes: AADT represents maximum AADT on the segment. LOS=Level of Service.

## EXHIBIT A1

# Exhibit B

TABLE 4-1  
US 27 CORRIDOR CRASH SUMMARY (2007-2011)

Segment <sup>1</sup>			Frequency by Crash Type									Frequency by Crash Severity			Corridor Crash Rates	
Description	Functional Class	Length (Miles)	Total	Angle <sup>2</sup>	Rear End	Side swipe	Head-On	Over-turned	Pedestrian /Bicycle	All Other <sup>3</sup>	Fatality	Injury	Property Damage	Project Crash Rate (crashes/MVMT)	Statewide Average Rate <sup>4</sup> (crashes/MVMT)	
From Highlands County Line to Railroad Crossing	Rural Principal-Arterial-Other	4.78	5-Year	82	11	16	3	3	13	1	35	7	43	32	0.516	0.571
			Average	16.4	2.2	3.2	0.6	0.6	2.6	0.1	7	1.4	8.6	6.4		
From Railroad Crossing to CR 630A	Urban Principal-Arterial-Other	3.84	5-Year	83	22	16	3	1	9	1	31	2	52	29	0.718	2.451
			Average	16.6	4.4	3.2	0.6	0.2	1.8	0.1	6.2	0.4	10.4	5.8		
From CR 630A to CR 640 (Alturas Babson Cut-Off Road)	Rural Principal-Arterial-Other	6.26	5-Year	121	41	35	6	2	5	4	28	10	58	53	0.658	0.571
			Average	24.2	8.2	7	1.2	0.4	1	0.5	5.6	2	11.6	10.6		
From CR 640 (Alturas Babson Cut-Off Road) to Central Avenue	Urban Principal-Arterial-Other	4.08	5-Year	150	56	32	12	9	7	2	32	4	73	73	0.960	2.451
			Average	30	11.2	6.4	2.4	1.8	1.4	0.2	6.4	0.8	14.6	14.6		
<b>US 27 Corridor Summary</b>		<b>18.96</b>	5-Year	<b>436</b>	<b>130</b>	<b>99</b>	<b>24</b>	<b>15</b>	<b>34</b>	<b>7</b>	<b>126</b>	<b>23</b>	<b>226</b>	<b>187</b>		
			Average	<b>87.2</b>	<b>26.0</b>	<b>19.8</b>	<b>4.8</b>	<b>3.0</b>	<b>6.8</b>	<b>1.4</b>	<b>25.2</b>	<b>4.6</b>	<b>45.2</b>	<b>37.4</b>		

Source: FDOT's C.A.R. System (2007-2011).

<sup>1</sup> Includes side street crashes at intersections.

<sup>2</sup> Includes left- and right-turn type crashes.

<sup>3</sup> Includes all other crash types not listed.

<sup>4</sup> Statewide average crash rate based on the 5-year data between 2006-2010.

TABLE 4-2  
INTERSECTION CRASH SUMMARY (2007-2011)

Mile Post	Location	Crashes Per Year					Intersection Crash Rates			
		2007	2008	2009	2010	2011	Total	Project Crash Rate (crashes/MEV)	Statewide Crash Rate <sup>1</sup> (crashes/MEV)	
2.585	SR 17 (Scenic Highway)/North Avon Park Cut-Off Road	7	10	6	5	4	32	0.888	0.252	
6.851	US 98 (Fort Meadow Road)/SR 700/Fort Meade Road	5	10	3	2	4	24	0.664	0.406	
8.612	CR 630A	3	1	1	1	2	8	0.258	0.406	
14.886	CR 640 (Alturas Babson Cut-Off Road)	9	10	5	5	6	35	0.849	0.406	
16.989	CR 17B (Hunt Brothers Road)	6	4	1	4	3	18	0.434	0.406	
18.776 0.221	SR 60 Interchange	30	28	8	18	21	105	1.314	1.063	
<b>Total Crashes</b>		<b>60</b>	<b>63</b>	<b>24</b>	<b>35</b>	<b>40</b>	<b>222</b>			

Source: FDOT's C.A.R. System.

<sup>1</sup> Florida Average Crash Rates For Urban And Rural Spots – 5-Year Average (2006-2010) tables.

# Exhibit B-1

**To: Tony Sherrard, FDOT**

**From: Srinivas Meka, Domingo Noriega, and Ron Gregory, URS**

**Date: 10/04/2013**

**RE: US 27 PD&E STUDY  
FROM HIGHLANDS COUNTY LINE TO NORTH OF SR 60  
POLK COUNTY**

**FINANCIAL PROJECT ID: 419243 1 22 01**

**FDOT CONTRACT: C9667**

**URS NUMBER 12010691,**

**File Number 204.08,228**

**Responses to FDOT Access Management Review comments**

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We have received and evaluated the FDOT Access Management Review comments provided via email on August 19, 2013 and have prepared the following responses pertaining to revisions. The safety and access management analysis was conducted as part of the US 27 PD&E study to widen US 27 from existing four lanes to six lanes. These safety and access management improvements are illustrated on an existing aerial base map and included in the Project Traffic Report (PTR) for the PD&E study. Once approved by FDOT, these improvements will be incorporated into the preferred alternative for the PD&E study. The safety and access management improvements were determined from the following factors:

1. Higher crash rates in the study area compared to similar facilities in the state.
2. A Roadway Safety Audit (RSA) was conducted during March 2013 which included representatives from FDOT, Polk County School Board, Polk County Sheriff's Office, Lake Wales Police Department, and URS. The RSA team has identified existing safety and access issues and discussed possible solutions.
3. Access Management Review of the corridor and comparison with the FDOT access management standards.
4. To accommodate the high percentage of heavy trucks in the study corridor, truck loons were proposed at several median openings throughout the corridor. The location of the truck loons was placed in such a way to space them reasonably apart and to minimize the distance required by a truck (FL WB-62) to make a U-turn. Other factors such as constructability, ROW, drainage, and wetland impacts were also considered in determination of the location of truck loons to aid safer U-turn of trucks. In addition all existing and proposed signalized intersections were also provided with adequate turning radii to accommodate truck U-turns.

For ease of review, the original agency comments are reproduced below in **bold font**, followed by the proposed response and/or action.

## **General Comments:**

1. **How did you determine the safety improvements? Please provide a copy of tools used in determining such (crash data, etc.).**

The Safety Improvements were determined based on the crash data review (2007-2011), and the Road Safety Audit (RSA) conducted part of the PD&E study. This information is provided in the DRAFT PTR (May 2013) and will included in the final PTR.

# Exhibit B-1

## 2. Explain the random locations for truck loons.

The location of the truck loons was placed in such a way to space them reasonably apart and to minimize the distance required by a truck (FL WB-62) to make a U-turn. Other factors such as constructability, ROW, drainage, and wetlands impacts were also considered in determination of the location of truck loons.

## 3. Why are you combining some driveways and not others?

The driveways are proposed to be consolidated providing one driveway per parcel to maintain reasonable access. If a single parcel has more than one driveway then consolidation of such driveways was recommended.

After further coordination with FDOT, specific recommendations regarding driveway consolidation have been removed. However a general recommendation to consolidate driveways where feasible, especially if a single parcel has multiple driveways will be made in the Project Traffic Report (PTR)

## 4. There is not enough information to determine the need for right turn lanes. We will need traffic counts in order to make this determination.

All the existing right turn lanes in the study area were maintained and will remain in all PD&E alternatives. Additional turn lanes were recommended at intersections based on the turning volume and intersection analysis.

## 5. Any median opening remaining or being added should have turn lanes.

All existing and proposed median openings will have exclusive left turn lanes.

## 6. Throughout the project recommendations were made for truck loons (bulb outs) at certain locations and not others. What was your determining factor as to where to place the bulb outs?

Please see response to comment #2.

## 7. Throughout the project you are recommending consolidating driveways for multi-use. Are you obtaining cross access easement agreements between parcels and proposing shared use driveways?

Improvements that require cross access easement agreements and shared use driveways were not recommended in this study. The driveways are proposed to be consolidated providing one driveway per parcel to maintain reasonable access.

After further coordination with FDOT, specific recommendations regarding driveway consolidation have been removed. However a general recommendation to consolidate driveways where feasible, especially if a single parcel has multiple driveways will be made in the Project Traffic Report (PTR)

### Specific Comments:

#### 1. Station 225 – Full median opening don't meet spacing and don't service anyone. Close this median opening.

OK. The recommendation to close the full median opening at station 225 has been incorporated.

#### 2. Station 260 (Avon Park Cut-Off Road S) – Add southbound left turn lane.

Yes. The southbound left turn lane is being provided as part of US 27 widening in the PD&E study.

#### 3. Station 300 – You are recommending a truck loon (bulb out) for the southbound to northbound U-turn. What about the northbound to southbound movement? Why not add this bulb out also?

# Exhibit B-1

A northbound to southbound truck loon could not be accommodated without ROW impacts along with US 27 widening to six lanes. A northbound to southbound truck loon is provided at station 261 and both NB and SB truck U-turns were accommodated at station 339 (Avon Park Cut-Off Rd N).

- 4. Station 339 (S. Scenic Hwy (SR 17) – Why free flow rights at the signal? Why not bring them under signal control?**

All right turn movements at the signal will be brought under permitted signal control to prevent free-flow right turns.

- 5. Station 394 to 402 (Harvard Ave, Princeton Ave, Yale Ave) – You recommended to consolidate access with a frontage road. Where are you putting the frontage road? If it is within the red box it is really close to US 27. Are you closing the streets off? We don't really understand what you recommend here.**

After further coordination with FDOT, the recommendations regarding driveway consolidation have been removed.

- 6. Station 415 – Your recommendation was to add a NB directional median opening with truck loon for NB to SB U-turns. Why?**

This location meets the spacing for directional median opening and provides for safe truck U-turn. A SB to NB truck U-turn loon is provided at station 444.

- 7. Station 435 (Otto Polk Road) – Do we need a right turn lane here? It has been requested several times within the past few months.**

Based on FDOT Access Management recommendation, an exclusive SB right turn lane has been provided at Otto Polk Road.

- 8. Station 444 (TJT's Farm Store) – You recommend to consolidate multi-driveway access. The red icons show an X for the NB left turn (which means you are removing this movement) and the graphic shows left turn access into the northern driveway of TJT's Farm Store. Which are you proposing? We recommend we make this a dual directional median opening with adequate left turn lanes.**

The improvement has been modified to provide dual directional median opening with left turn lanes. A truck loon has been included for the southbound to northbound U-turn with access to Polk County Disposal facility.

After further coordination with FDOT, the recommendations regarding driveway consolidation have been removed.

- 9. Station 507 – The full median opening does not line up with Madog Drive. We recommend you line this median opening up with Madog Drive at station 506.**

Comment acknowledged. The full median opening at station 507 is recommended to be relocated to station 506 and aligned with Madog Drive.

- 10. Station 544 – There is a full median opening. We don't see a clear left turn lane for the northbound left turn. Please provide adequate northbound and southbound left turn lanes.**

OK. All existing and proposed median openings are proposed to have exclusive left turn lanes as part of PD&E study for US 27 widening

- 11. Station 561 and 564 – There are two driveways at this location. Why not combine these driveways as you have recommended throughout the project? We recommend consolidating these two driveways.**

# Exhibit B-1

After further coordination with FDOT, the recommendations regarding driveway consolidation have been removed.

- 12. Station 572 – 579 – You recommend to consolidate driveways. How do you propose to do so? Frontage Road? If so, where will it go? In the little red box?**

After further coordination with FDOT, the recommendations regarding driveway consolidation have been removed.

- 13. Station 575 – You recommend converting this full median opening to a SB directional median opening. There is no mention of a bulb out for trucks. How are you going to accommodate trucks making U-turns and trucks accessing the business in which you want to consolidate the driveways.**

This median opening is too close to the intersection of US 98 (station 595) to meet spacing for a full median opening. The southbound directional median opening will serve the businesses. The business also has alternative access from US 98/CR 630.

- 14. Station 600 – Full median opening. Add bulb out for trucks and a SB left turn lane.**

As part of the proposed US 27 widening exclusive left turn lanes are being added at all existing and proposed median openings. Truck bulb outs could not be accommodated at this median opening due to wetlands and ROW.

- 15. Station 630 – You recommend providing a new NB/SB directional median opening (dual directional). Why? And, you don't mention adding bulb outs for truck traffic.**

This median opening was added as a result of recommended median closures at stations 623 and 647. This location meets the spacing requirements for a full median opening on both sides. Truck bulb outs could not be accommodated at this median opening due to wetlands and ROW.

After further discussions with FDOT, this improvement has been moved to stations 637-640 to line up with existing driveways.

- 16. Station 658 (CR 630A) – There is a free flow right and no acceleration lane at CR 630A onto US 27. Add acceleration lane.**

All right turn movements at the signal will be brought under permitted signal control to prevent free-flow right turns.

- 17. Station 697 (Lake Caloosa Landing) – Add SB left turn lane and bulb outs for trucks U-turn.**

An exclusive southbound left turn lane has been included. However bulb out for trucks U-turn could not be accommodated at this location due to wetlands.

- 18. Station 714 (Limpkin Lane) – Add NB directional median opening with adequate left turn lane.**

To meet spacing a northbound directional median opening with exclusive left turn lane has been provided at station 714 and a southbound directional median opening with left turn lane has been provided at station 720. The existing median opening at station 723 will be closed.

- 19. Station 723 – Add southbound left turn lane.**

Please see response to comment 18.

- 20. Station 740 – You recommended changing the full median opening to a NB directional median opening. We recommend to leave it a full. This is the only ingress/egress for Camp Inn RV Resort.**

Ok. The full median opening at station 740 will be maintained and an exclusive southbound left turn has been added.

## Exhibit B-1

- 21. Station 770 – Permit 2013-A-190-0034 is requiring the developer to close the full median opening at station 774 and move it to station 770.**

OK. This change has been incorporated into the improvements.

- 22. Station 790 to 800 – You recommend to close the median opening at station 800 and provide a dual directional median opening only 400 feet to the south. We recommend you provide the dual directional where the full is at station 800 – or- put the northbound directional so that it provides access to a tower at station 788. Provide truck bulb outs for both directionals.**

The full median opening at station 800 doesn't meet spacing with full median opening at station 825. Therefore a dual directional median opening with exclusive left turn lanes will be provided at station 788 to match the access to tower station. A truck loon for NB to SB U-turns will also be provided. It should be noted that a truck loon for SB to NB U-turns at this location along with US 27 widening would result in wetlands impacts and therefore was not recommended.

- 23. Station 915 (Lake Side Garden Drive) – You recommend closing the median opening. We recommend a dual directional median opening. It will provide access for the Warner University Ball Field and access to the Lakeside Garden Mobile Home Park.**

OK. After further discussions with Access Management it was agreed that the existing full median opening be converted to a dual directional median opening. In addition the full median opening at station 903 will be closed.

- 24. Station 924 (Presidents Drive) – You recommend signaling this full median opening. Has a signal warrant been performed and approved by Traffic Operations?**

At Presidents Drive Signalization when warranted, was recommended based on recent crashes, RSA, and projected future traffic demand. Several crashes are reported at this median opening and it serves the Warner University on the west and Bok Academy on the east. This location also meets spacing requirements for signalization.

A signal warrant study will need to be completed and approved by FDOT prior to the installation of traffic signal.

- 25. Station 934 (Central Drive) – You recommend closing full median opening. We recommend a southbound directional median opening with adequate left turn lane.**

After further coordination with FDOT it was agreed that this median opening be remain as full. In addition the adjacent full median opening at stations 945 and 950 will be closed. The full median opening at station 954 (1<sup>st</sup> Avenue N) will be converted to southbound directional median opening.

- 26. Station 958 (Caloosa Fire Station) – Is the Fire Station still in operation? If not, we should close this median opening (left out movement).**

According to Polk County Fire Rescue, The Caloosa Lake fire station is operational. Therefore the directional left out will be maintained.

- 27. Station 965 (Heatherwood Blvd) – Move the full median opening from station 968 that don't line up with anything to station 965 Heatherwood Blvd. It will serve both sides of the road and we have had this request in the past.**

Ok. The median opening at station 968 will be moved to station 965 and aligned with Heatherwood Blvd. Exclusive left turn lanes will be provided in both directions. However it should be noted that this full median opening doesn't meet the standard spacing with adjacent full median openings.

- 28. Station 991 (Pine Crest Rd/Alturas Babson Park Cutoff Rd) – You show free flow rights. Why not bring the right turns under signal control?**

# Exhibit B-1

All right turn movements at the signal will be brought under permitted signal control to prevent free-flow right turns.

- 29. Station 1002 – You recommend converting a full median opening to a southbound directional median opening. We recommend providing a dual directional. It services Gary’s Boating Center and Liquidation Station.**

Ok. The median opening at station 1002 will remain unchanged as a dual directional median opening serving the businesses on both sides.

- 30. Station 1025 (Harbor Ave) – Provide adequate left turn lane at Harbor Avenue.**

Ok. The existing left turn lanes in both directions will be extended to provide additional storage.

- 31. Station 1035 – You propose to consolidate multi-driveway access. How do you propose to do this?**

The driveways are proposed to be consolidated providing one driveway per parcel to maintain reasonable access. The driveway modifications would require further coordination between FDOT and property owners.

After further coordination with FDOT, the recommendations regarding driveway consolidation have been removed.

- 32. Station 1075 – You propose to consolidate multi-driveway access. How do you propose to do this?**

The three driveways serving single parcel (Elks Lodge) are proposed to be consolidated into one while maintaining reasonable access. The driveway modifications would require further coordination between FDOT and property owners.

After further coordination with FDOT, the recommendations regarding driveway consolidation have been removed.

- 33. Station 1100 (Hunt Brothers Rd (CR 17B) – Why free flow rights? Why not under signal control**

All right turn movements at the signal will be brought under permitted signal control to prevent free-flow right turns.

- 34. Station 1144 – You recommend to convert a dual directional median opening to a 1-way (northbound) directional median opening. We recommend leaving it as a dual directional with adequate left turn lane and bulb outs in each direction.**

Ok. The full dual directional median opening at station 1144 will remain unchanged. It should be noted that a bulb out for truck U-turns could only be accommodated for the NB to SB U-turn at this location due to ROW constraints to widen US 27 to six lanes.

- 35. Station 1160 – You recommend to consolidate multi-driveway access. How?**

After further coordination with FDOT, the recommendations regarding driveway consolidation have been removed.

- 36. Station 1166 – You recommend providing a bulb out for SB to NB U-turns. Why not provide same in other direction?**

Due to ROW constraints to widen US 27 to six lanes, a bulb out for truck U-turns could only be accommodated for the SB to NB U-turn at this location.

- 37. Stations 1176 to 1193 – You recommend consolidate multi driveway access. How?**

After further coordination with FDOT, the recommendations regarding driveway consolidation have been removed.



# Exhibit B-1

**38. Station 1195 – For Safety – something needs to be done with the off ramp. Also, there is a new signal being installed at the SB on ramp.**

Following improvements are proposed in the PD&E study to improve capacity and safety of this off-ramp and the SR 60 interchange in addition to widening of US 27 to six lanes:

-Close the northbound directional median opening in to Oak Avenue

-Signalization of the south side ramp terminals was recently completed by FDOT to improve the SB to EB movement.

-The WB to SB loop ramp is recommended to be eliminated to avoid weaving on WB SR 60 and to improve the short merge area on SB US 27 between the loop and the EB to SB off-ramp. Also the receiving lane for the EB to SB off-ramp is being extended to improve the merge.

-Signalization of the north side ramp terminals to serve the WB to SB and WB to NB movements under signal control. This will eliminate the weave between SR 60 ramps and Central Avenue.

**39. Following additional recommendations have been incorporated upon further coordination with access management and comments from the alternatives public workshop held on September 19, 2013.**

- i. A full median opening has been recommended at station 235 (Bell Road)
- ii. An exclusive right turn lane has been recommended at station 435 (Otto Polk Road)

**40. Following input/comments were received from Jay Jarvis (Polk County Transportation) at the 10-28-2013 meeting.**

- i. **Elimination of the illegal move at the gas station on the SW corner of US 27 & US 98 and to provide a U-turn for EB vehicles that want to go back WB.**

It was verified that a U-turn can be provided for EB vehicles (single unit) to go back WB. This would require the removal of the island in the NE quadrant and reconfigure the west leg of the intersection.

- ii. **Jay expressed concern about potential issues from the owners and patrons of the Orange Box Café at Station 575+00.**

The proposed modification would still provide reasonable access to Orange Box Café while meeting FDOT access management standards.

- iii. **Jay recommended a flasher be provided at the Polk Fire Station at Station 958+00.**

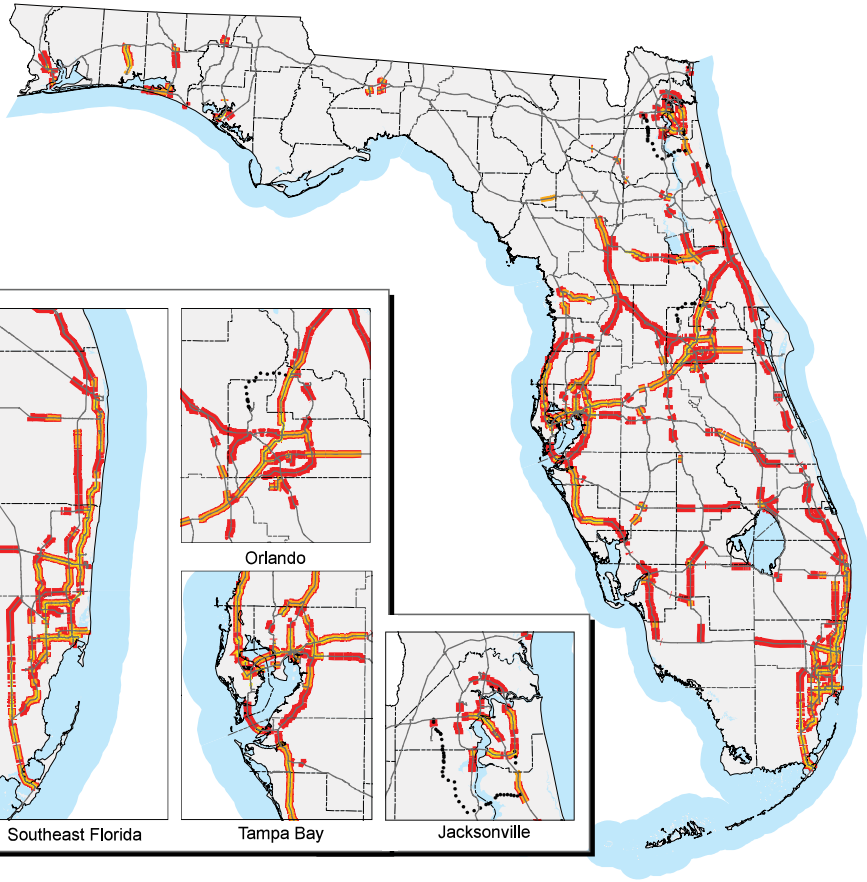
Comment acknowledged. This recommendation has been incorporated into the access management improvements. However it needs to be further coordinated with FDOT access management and traffic operations.

- iv. **Jay recommended an additional set of dual directional be provided around Station 1045+00 to give access to the certified scales and the mobile home park.**

OK. A dual directional median opening has been provided at Station 1045+00.

# Exhibit-SIS Freight & Congested Corridors

## CURRENT AND FUTURE HEAVILY CONGESTED CORRIDORS



**LEGEND**

- Heavily Congested Corridors as of Year 2013
- Heavily Congested Corridors as of Year 2024<sup>1</sup>
- Heavily Congested Corridors as of Year 2040<sup>2</sup>
- Existing SIS/ESIS Facilities
- ⋯ Planned SIS/ESIS Facilities

0 15 30 60 90 120 Miles

Statewide Scale  
Inset Scale Varies

**NOTES**

<sup>1</sup>2024 System includes lanes added as a result of constructing the SIS Ten-Year Plan through 2024 with SIS Funds.

<sup>2</sup>2040 System includes lanes added as a result of constructing the SIS Ten-Year Plan through 2024 with SIS Funds and the SIS Cost Feasible Plan through 2040.

Traffic data is as of 2013 by the FDOT Transportation Statistics Office

Congestion includes the latest implementation of standard K, which is the peak hour to annual average daily traffic ratio.

Heavy congestion in Urban Areas means traffic is either moving bumper to bumper or is stop and go during peak periods (Level of Service E or worse).

Heavy congestion in Non-Urban Areas means passenger and truck traffic is heavy during peak periods and changing lanes is very difficult (Level of Service D or worse).

STRATEGIC INTERMODAL SYSTEM | HIGHWAY COMPONENT  
 FLORIDA DEPARTMENT OF TRANSPORTATION  
 INTERMODAL SYSTEMS DEVELOPMENT | SYSTEMS PLANNING OFFICE  
[HTTP://WWW.DOT.STATE.FL.US/PLANNING/SYSTEMS/MSPI](http://www.dot.state.fl.us/planning/systems/mspi)



## CURRENT AND FUTURE Heavily Congested Corridors

SEPTEMBER 2014



# Exhibit-SIS Freight & Congested Corridors

## Florida

### FREIGHT & LOGISTICS OVERVIEW

POPULATION	U.S. POPULATION RANK	AREA	U.S. AREA RANK	POPULATION GROWTH RATE
18.8 million	4th	53,625 sq. mi.	22nd	17.6% (2000-2010)

Chamber of Commerce website: <http://www.flchamber.org>

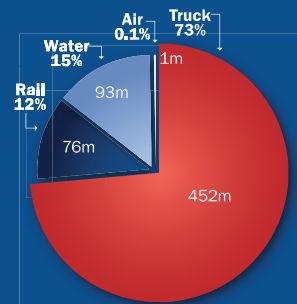
#### Top Employment Sectors

(Nonagricultural Business Groups by Industry)

1. Trade, Transportation, and Utilities
2. Education and Health Services
3. Government Services
4. Professional and Business Services
5. Healthcare and Social Assistance
6. Leisure and Hospitality

Source: Department of Economic Opportunity-Current Employment Statistics (2012)

#### DOMESTIC AND INTERNATIONAL MODAL MIX (millions of tons)



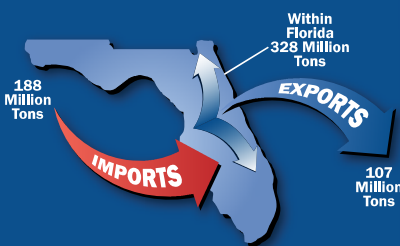
Source: Trade & Logistics Study, Florida Chamber 2009

#### Top Business Sector Initiatives for Retention and Promotion

1. Clean Energy
2. Information Technology
3. Life Sciences
4. Aviation/ Aerospace
5. Homeland Security/ Defense
6. Financial/ Professional Services

Source: Florida Chamber of Commerce

#### TOTAL FREIGHT FLOWS



Source: Trade & Logistics Study, Florida Chamber 2009

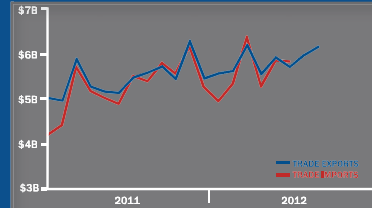
#### Top International Trade Partners

The state of Florida is a major international hub accounting for approximately \$149 billion in international trade activity in 2011.

EXPORTS		IMPORTS	
1. Switzerland		1. China	
2. Brazil		2. Mexico	
3. Venezuela		3. Japan	
4. Canada		4. Canada	
5. Colombia		5. Colombia	

Source: Trade & Logistics Study, Florida Chamber 2009

#### FLORIDA TRADE ACTIVITY



Florida infrastructure moves 762 million tons of freight traffic annually.

The state highway system sees 195,755 million annual vehicle miles of travel.

Truck travel accounted for approximately 11% of vehicle miles traveled on the SIS in 2010.

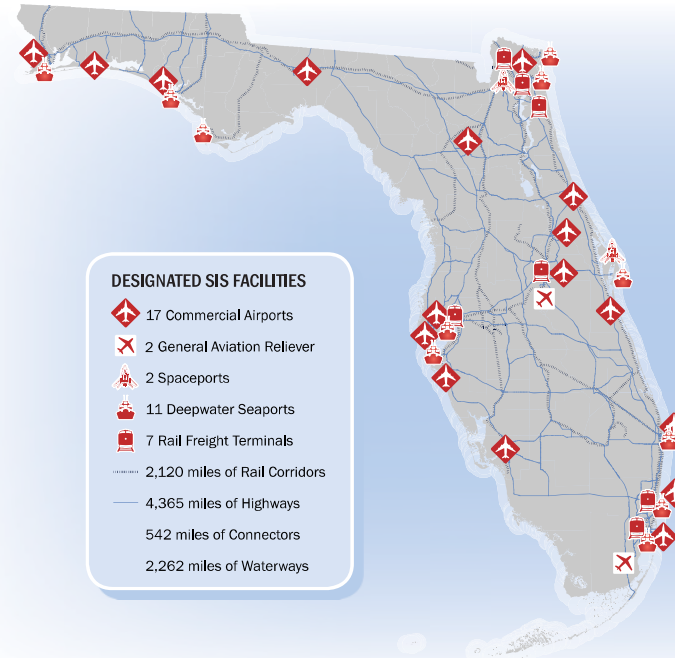
Florida has over 2,700 miles of rail lines, which move over 98 million tons of freight annually.

#### Florida's Strategic Intermodal System (SIS)

- **Strategic** – Consists of statewide and regionally significant facilities and services
- **Intermodal** – Contains all forms of transportation for moving both people and goods, including linkages for smooth and efficient transfers between modes and major facilities
- **System** – Integrates individual facilities, services, forms of transportation (modes) and linkages into a single, integrated transportation network

#### The SIS was established to:

- Efficiently serve the mobility needs of Florida's citizens, businesses and visitors
- Help Florida become a worldwide economic leader, enhance economic prosperity and competitiveness, enrich quality of life and reflect responsible environmental stewardship



Florida has 784 aviation facilities, 129 public use, and 19 have commercial service.

The state boasts 2 spaceports and 5 active launch facilities.

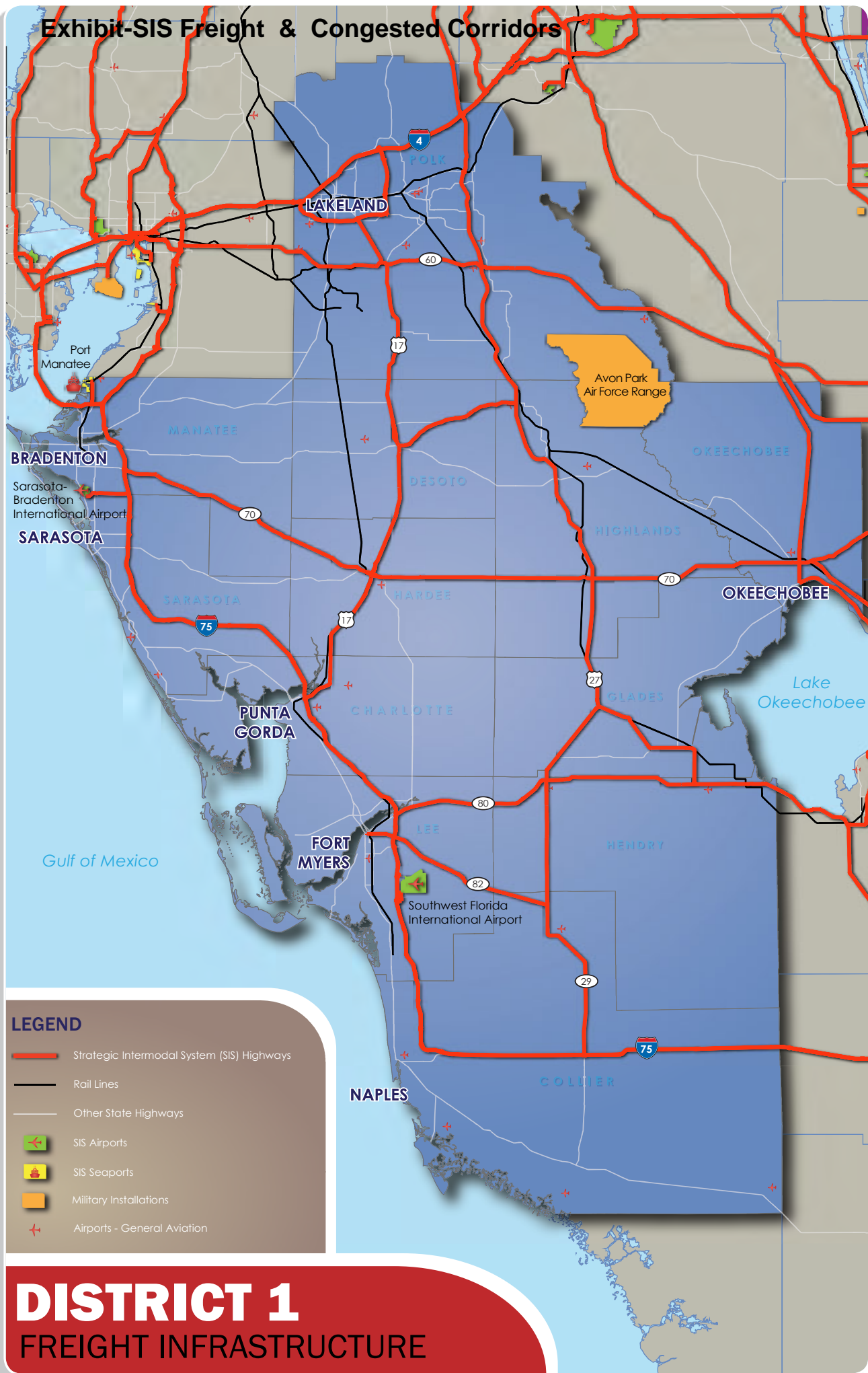
Florida's 15 deepwater seaports moved 106.4 million tons of cargo and handled 2.8 million TEU's (20 foot equivalent container unit) in 2010.

Seven of the 15 seaports in Florida carried 12.7 million passengers, 12.1 million of which sailed on multi-day cruises in 2010.








100% of SIS waterborne freight in Florida is on a coastal or international shipping route.

16 Fortune 500 companies have their headquarters in Florida.

# Exhibit-SIS Freight & Congested Corridors



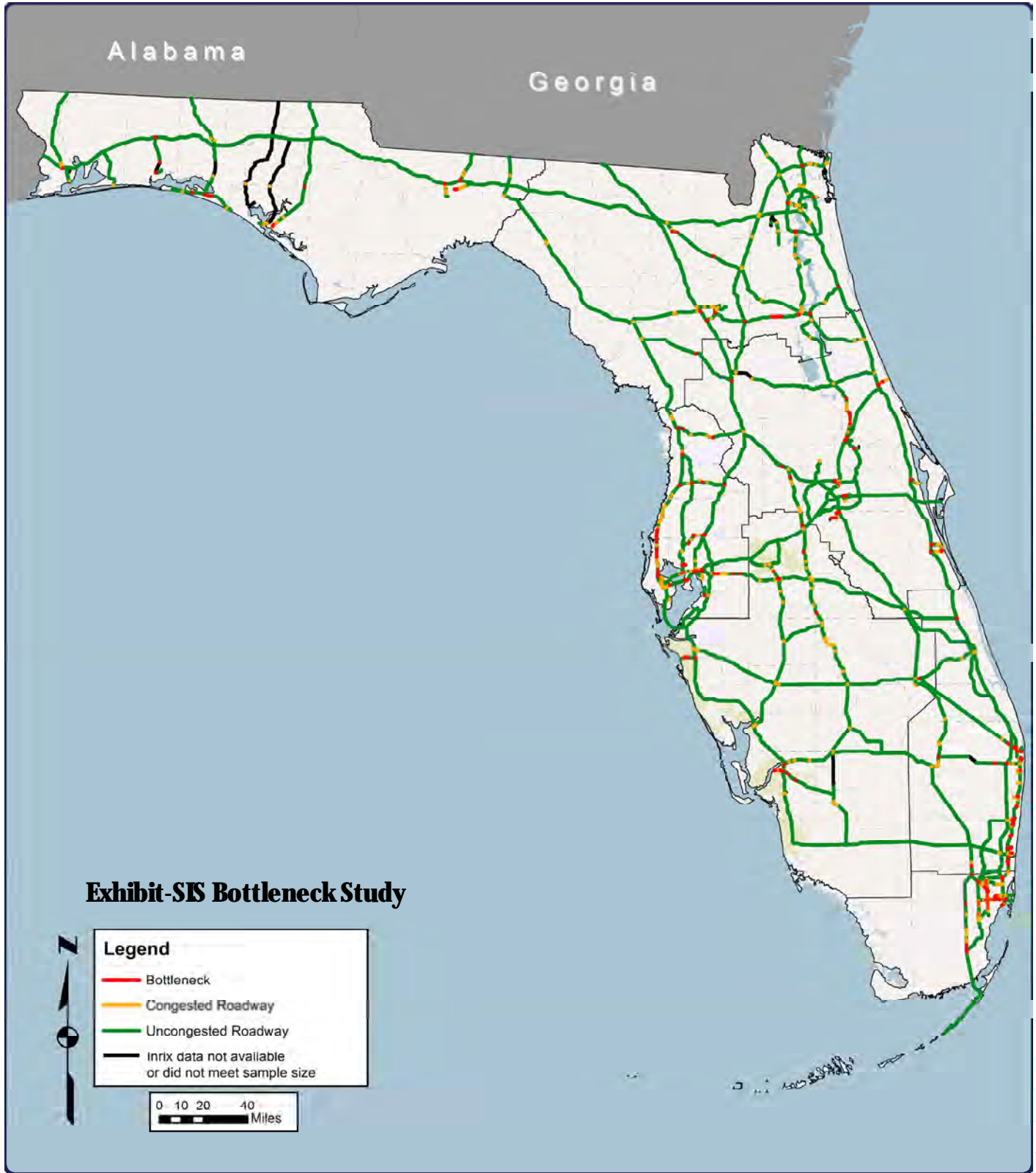
## LEGEND

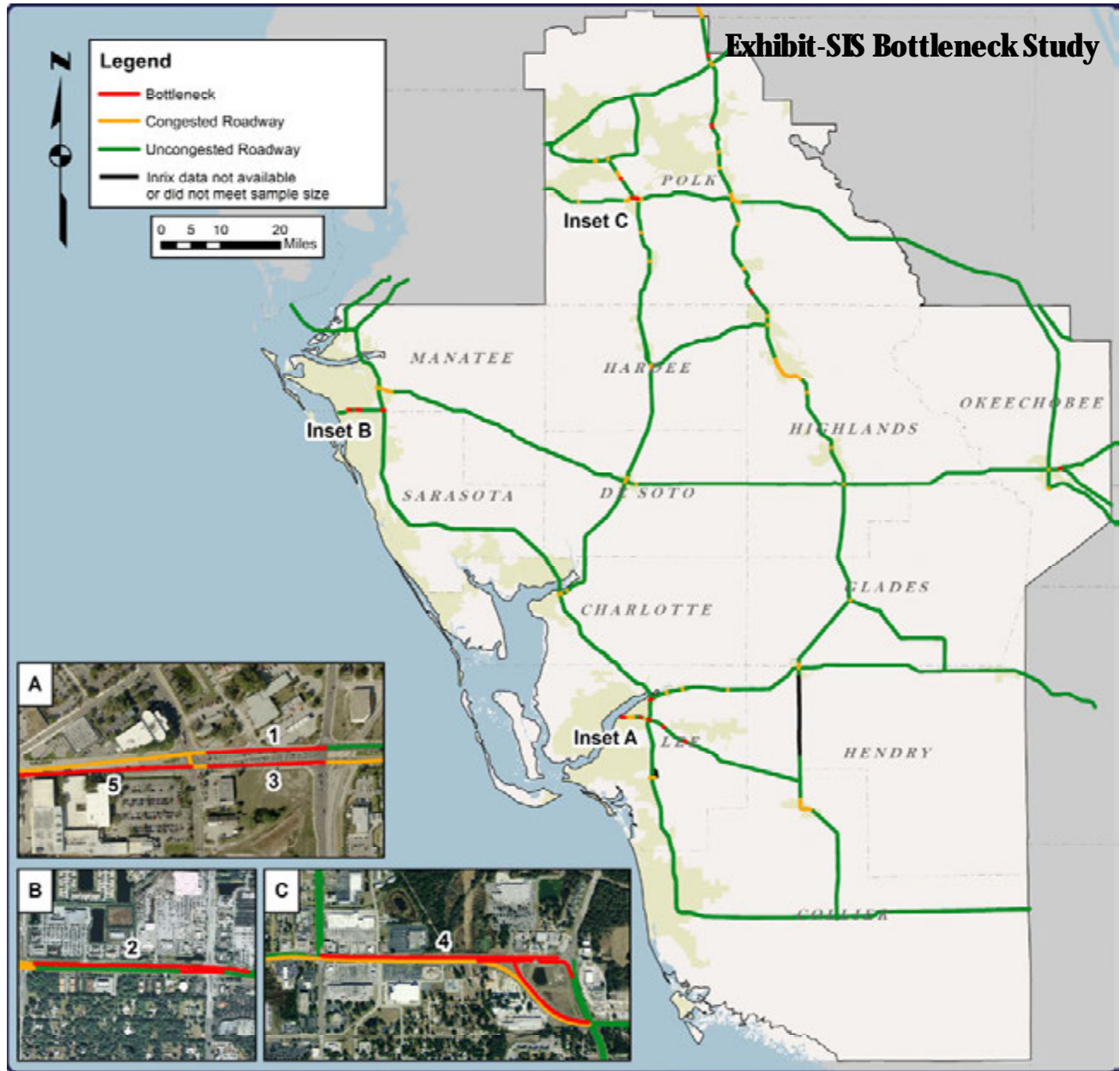
-  Strategic Intermodal System (SIS) Highways
-  Rail Lines
-  Other State Highways
-  SIS Airports
-  SIS Seaports
-  Military Installations
-  Airports - General Aviation

# DISTRICT 1

## FREIGHT INFRASTRUCTURE







## Top Bottlenecks

ID	Road	Segment	County	Length
1	Martin Luther King Jr. Boulevard WB	Evans Avenue to Fowler Street	Lee	0.11 miles
2	University Parkway WB	Lockwood Ridge Road to Tuttle Avenue	Sarasota	0.45 miles
3	Martin Luther King Jr. Boulevard EB	Fowler Street to Evans Avenue	Lee	0.11 miles
4	E Van Fleet Drive WB	SR 60 to Broadway Avenue	Polk	0.60 miles
5	Martin Luther King Jr. Boulevard EB	Monroe Street to Fowler Street	Lee	0.44 miles



## Exhibit-SIS Bottleneck Study

INRIX historical traffic flow data is delivered in CSV (comma separated value) format, with all the data for the state of Florida. Data provided by INRIX contains the following information: TMC ID, year, month, day, hour, minute and speed. Traffic Message Channel (TMC) is the basic spatial unit used by INRIX to report the traffic flow data. TMC is a specific application of the FM Radio Data System (RDS) used for broadcasting real-time traffic and weather information. INRIX uses a 9-digit TMC ID to define a unique segment and direction of roadway in North America.

This section provides details on INRIX data processing for determining the traffic bottlenecks on Florida's SIS.

### Step 1: Initial Processing

The following three steps were performed before conducting detailed analysis.

- The original raw file from INRIX for the whole state of Florida contained 711,351,697 vehicle probe data records. Data for the SIS study area was identified and extracted from the statewide data which resulted in 293,372,069 vehicle probe data for further processing.
- The original vehicle probe data from INRIX was provided in Coordinated Universal Time (UTC) standard. These universal times were converted to Florida local time including the adjustment for the daylight savings time.
- Next, the data was formatted to a format convenient for conducting analysis using Oracle.

### Step 2: Calculate Performance Measures

In order to calculate the performance measures, the following parameters are defined:

- **Valid weekday** – Defined as any weekday excluding holidays (listed below)
- **Daytime** – Defined as the time from 6 am to 7 pm
- **Overnight hours** – Defined as the time from 10 pm to 5 am
- **Holidays** – The following days are considered as holidays: Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, Thanksgiving Friday, Christmas Day, New Year's Day, Martin Luther King Jr. Day, Washington's Birthday, Memorial Day.

The processed data obtained from step 1 was analyzed using Oracle software and the following measures were calculated.

- **Number of Observations** – this measures the number of data records for each TMC segment for the whole year.
- **Daytime 10<sup>th</sup> Percentile Speed** – this measures the 10<sup>th</sup> percentile speed for valid weekdays during daytime for each TMC segment for the whole year. This is also equivalent to the 90<sup>th</sup> percentile travel time.
- **Free-flow Speed** – this measures the 85<sup>th</sup> percentile speed for all 365 days during overnight hours for each TMC.
- **Daytime Planning Time Index** – this measure is calculated for each TMC segment for the whole year using the following formula. For example, a planning time index of 1.60 means that, for a 15-minute trip in light traffic, the total time that should be planned for the trip is 24 minutes. If the calculated value is less than 1, then it is assumed as 1.0
  - $$\text{Planning Time Index} = \frac{\text{Free-flow Speed}}{10^{\text{th}} \text{ Percentile Speed}}$$
- **Frequency of Congestion** – this measures the percent of time that the travel speeds are less than 75 percent of the free-flow speed. This measure is calculated for valid weekdays during daytime hours.

### Step 3: Statistical Validation of Performance Measures

Since the INRIX data included a large sampling of the vehicle speeds on Florida's SIS, a statistical validation of the calculated performance measures is essential. The margin of error is a statistic expressing the amount of random sampling error in a survey's results. For the INRIX vehicle probe data, margin of error for two performance measures—free-flow speed and daytime 10<sup>th</sup> percentile speed—are calculated. The TMC segments for which the margin of error is greater than 10 percent are not accounted for in the estimation of traffic bottlenecks.

# Exhibit C

Polk TPO 2035 LRTP CFP Phase and Funding for US27 Planning Consistency Requirements Review																
Roadway Discription				2040 SIS Plan/AD/G1 File			Polk TPO 2035 LRTP CFP			Polk TPO TIP FY 2016-2020			Current STIP FY 2016-2019			Comments
FM#	Roadway	From	To	Phase	Fiscal Year(s)	Amount	Phase	Year	Amount	Phase	Year	Amount	Phase	Year	Amount	
419243-2	US27	Highlands County Line	CR630A	PE*	FY 2015	\$6.90mil	PE	2016-2020	\$9.87mil	PE	< 2016	\$8.10mil	PE	< FY 2016	\$6.72mil	No amendments required.
Add Lanes and Reconstruct-8.612 miles				ROW*	FY 2022	\$4.16mil	ROW	2026-2030	\$4.77mil	ROW	Unfunded	\$0.00	ROW	> FY 2019	\$4.01mil	TIP requires updating next TIP cycle.
				CST^	2031-2035	\$49.26mil	CST	Unfunded	\$194.55mil	CST	Unfunded	\$0.00	CST	Unfunded	\$0.00	CST should be funded FY 2022

Polk TPO 2035 LRTP CFP Phase and Funding for US27 Planning Consistency Requirements Review																
Roadway Discription				2040 SIS Plan/G1 File			Polk TPO 2035 LRTP CFP			Polk TPO TIP FY 2016-2020			Current STIP FY 2016-2019			Comments
FM#	Roadway	From	To	Phase	Fiscal Year(s)	Amount	Phase	Year	Amount	Phase	Year	Amount	Phase	Year	Amount	
419243-3	US27	CR630A	Presidents Drive	PE*	FY 2015	\$5.45mil	PE	2016-2020	\$6.83mil	PE	< 2016	\$5.60mil	PE	< FY 2016	\$4.84mil	No amendments required.
Add Lanes and Reconstruct-5.026 miles				ROW*	FY 2021	\$2.39mil	ROW	2026-2030	\$4.77mil	ROW	Unfunded	\$0.00	ROW	> FY 2019	\$2.67mil	TIP requires updating next TIP cycle.
				CST^	2026-2030	\$33.89mil	CST	2026-2030	\$57.29mil	CST	Unfunded	\$0.00	CST	Unfunded	\$0.00	Polk 2040 LRTP will reflect construction

Polk TPO 2035 LRTP CFP Phase and Funding for US27 Planning Consistency Requirements Review																
Roadway Discription				2040 SIS Plan/G1 File			Polk TPO 2035 LRTP CFP			Polk TPO TIP FY 2016-2020			Current STIP FY 2016-2019			Comments
FM#	Roadway	From	To	Phase	Fiscal Year(s)	Amount	Phase	Year	Amount	Phase	Year	Amount	Phase	Year	Amount	
419243-4	US27	Presidents Drive	SR60	PE*	FY 2015	\$6.69mil	PE	2016-2020	\$7.31mil	PE	< 2016	\$5.82mil	PE	< FY2016	\$6.69mil	No amendments required.
Add Lanes and Reconstruct-5.178 miles				ROW*	2018 & 2019	\$5.57mil	ROW	Unfunded	\$0.00	ROW	Unfunded	\$0.00	ROW	Unfunded	\$0.00	TIP/STIP/LRTP Amendment required- ROW/CST
				CST*	FY 2020	\$52.00mil	CST	2016-2020	\$62.93mil	CST	FY 2020	\$55.28mil	CST	> FY 2019	\$52.00mil	

Notes: \*= G1/AD WPA File  
 ^= 2040 SIS Plan PDC  
 The Polk LRTP includes the operational improvements to the interchange.  
 All design segments are programmed; consequently minimum planning consistency requirements are met.

Date: 6/23/2015  
 Revision Date: 10/22/2015

Exhibit C - Implementation Plan									
Years	2015 - 2020			2021 - 2025			2026 - 2035+		
Segment	1	2	3	1	2	3	1	2	3
PE	PE	PE	PE						
ROW				ROW	ROW				
CST			ROW/CST	CST			CST	CST	





# District 1 SIS Non-Interstate Plan



MAP ID	FACILITY	DESCRIPTION	2016	2017	2018	2019	2020	TOTAL STATE MANAGED	TOTAL DISTRICT MANAGED	TOTAL LOCAL FUNDS	PD&E	PE	ROW	CON
4178786	SR 29 FROM BERMONT RD (CR 74) TO US 27	Add 2 Lanes to build 4 Lanes	\$0	\$0	\$0	\$5,275	\$0	\$5,275	\$0	\$0		●		
4178785	SR 29 FROM COLLIER COUNTY LINE TO CR 832 (KERI RD)	Add 2 Lanes to build 4 Lanes	\$6,435	\$0	\$0	\$0	\$0	\$6,235	\$200	\$0		●		
4178788	SR 29 FROM COWBOY WAY (CR 80A) TO WHIDDEN RD (CR 731)	Add 2 Lanes to build 4 Lanes	\$9,625	\$0	\$0	\$120	\$0	\$8,620	\$1,125	\$0		●		
4178787	SR 29 FROM CR 832 (KERI RD) TO F RD	Add 2 Lanes to build 4 Lanes	\$6,306	\$0	\$0	\$0	\$0	\$6,056	\$250	\$0		●		
4175405	SR 29 FROM CR 846 (AIRPORT RD) TO N. OF NEW MARKET ROAD N.	Add 2 Lanes to build 6 Lanes	\$0	\$0	\$0	\$6,310	\$0	\$0	\$6,310	\$0		●		
4175407	SR 29 FROM FIRST STREET TO NINTH STREET	Add 2 Lanes to build 6 Lanes	\$0	\$0	\$0	\$910	\$0	\$0	\$910	\$0		●		
4344901	SR 29 FROM I-75 TO OIL WELL RD	Project Development & Environmen	\$2,015	\$0	\$0	\$0	\$0	\$0	\$2,015	\$0	●			
4175404	SR 29 FROM S. OF AGRICULTURE WAY TO CR 846 (AIRPORT ROAD)	Add 2 Lanes to build 6 Lanes	\$0	\$0	\$0	\$4,175	\$0	\$0	\$4,175	\$0		●		
4178783	SR 29 FROM SPENCER TO N OF COWBOY WAY	Add 2 Lanes to build 4 Lanes	\$4,452	\$5,340	\$1,370	\$30	\$50	\$10,353	\$889	\$0		●	●	
4178784	SR 29 FROM SR 82 TO HENDRY COUNTY LINE	Add 2 Lanes to build 4 Lanes	\$80	\$0	\$415	\$0	\$0	\$415	\$80	\$0		●		
4175403	SR 29 FROM SUNNILAND NURSERY ROAD TO S. OF AGRICULTURE WAY	Add 2 Lanes to build 4 Lanes	\$0	\$0	\$0	\$3,625	\$0	\$0	\$3,625	\$0		●		
4175406	SR 29 FROM WESTCLOX ROAD TO SR 82	Add 2 Lanes to build 4 Lanes	\$0	\$0	\$0	\$4,830	\$0	\$0	\$4,830	\$0		●		
4178789	SR 29 FROM WHIDDEN RD (CR 731) TO BERMONT RD (CR 74)	Add 2 Lanes to build 4 Lanes	\$0	\$0	\$0	\$2,050	\$0	\$2,050	\$0	\$0		●		
4338561	SR 60/CR 630 KISSIMMEE RIVER BRIDGE	Project Development & Environmen	\$19	\$0	\$0	\$0	\$0	\$0	\$19	\$0	●			
4332011	SR 64 AT NORTH OLIVIA DRIVE	Add Turn Lane	\$48	\$0	\$468	\$0	\$0	\$0	\$516	\$0		●		●
4145061	SR 70 FROM JEFFERSON AVENUE TO CR 29	Project Development & Environmen	\$10	\$0	\$0	\$0	\$0	\$0	\$10	\$0	●			
4145062	SR 70 FROM LORRAINE RD TO SINGLETARY RD (MYAKKA)	Project Development & Environmen	\$0	\$4,300	\$0	\$0	\$0	\$0	\$4,300	\$0	●			
4082865	SR 80 FROM DALTON LANE TO INDIAN HILLS DRIVE	Add 2 Lanes to build 4 Lanes	\$4,347	\$31,433	\$0	\$0	\$0	\$35,045	\$734	\$0		●	●	●
4082866	SR 80 FROM INDIAN HILLS DRIVE TO CR 833	Add 2 Lanes to build 4 Lanes	\$5,918	\$33,844	\$0	\$0	\$0	\$32,722	\$7,040	\$0		●	●	●
4298941	SR 82 (IMMOKALEE RD) AT HOMESTEAD ROAD	Add Turn Lane	\$833	\$0	\$0	\$0	\$0	\$0	\$833	\$0		●		●
4331751	SR 82 (IMMOKALEE RD) AT CR 850 (CORKSCREW RD)	Add Turn Lane	\$72	\$906	\$0	\$0	\$0	\$0	\$906	\$72		●		●
4258413	SR 82 FROM ALABAMA ROAD S TO HOMESTEAD ROAD S	Add 4 Lanes to build 6 Lanes	\$2,496	\$1,744	\$254	\$50	\$100	\$0	\$4,645	\$0		●	●	
4258411	SR 82 FROM CR 884 (LEE BLVD) TO SHAWNEE ROAD	Add 4 Lanes to build 6 Lanes	\$1,320	\$30	\$70,769	\$0	\$0	\$15,767	\$53,977	\$2,374		●	●	●
4308491	SR 82 FROM GATOR SLOUGH LANE TO SR 29	Add 2 Lanes to build 4 Lanes	\$476	\$385	\$0	\$20	\$50	\$0	\$930	\$0		●	●	
4308481	SR 82 FROM HENDRY COUNTY LINE TO GATOR SLOUGH LANE	Add 2 Lanes to build 4 Lanes	\$91	\$0	\$0	\$3,267	\$50	\$0	\$3,409	\$0		●	●	
4258414	SR 82 FROM HOMESTEAD ROAD S TO HENDRY C/L	Add 2 Lanes to build 4 Lanes	\$216	\$0	\$0	\$0	\$0	\$0	\$216	\$0		●	●	
4258415	SR 82 FROM LEE C/L TO COLLIER C/L	Add 2 Lanes to build 4 Lanes	\$17,493	\$0	\$0	\$0	\$0	\$0	\$17,493	\$0		●		●
4258412	SR 82 FROM SHAWNEE ROAD TO ALABAMA ROAD S	Add 4 Lanes to build 6 Lanes	\$313	\$0	\$0	\$0	\$0	\$129	\$184	\$0		●	●	
4192432	SR25 (US 27) FROM HIGHLANDS COUNTY LINE TO CR 630A	Add 2 Lanes to build 6 Lanes	\$182	\$0	\$0	\$0	\$0	\$0	\$182	\$0		●		
4145471	US 17 FROM DESOTO C/L TO CR 634 (SWEETWATER RD)	Add 2 Lanes to build 4 Lanes	\$30,625	\$0	\$800	\$0	\$0	\$30,107	\$1,318	\$0		●	●	●
4206333	US 17 FROM S OF WEST 9TH STREET TO N OF WEST 3RD STREET(ZOLFO SPRING	Add 2 Lanes to build 6 Lanes	\$2,472	\$14,239	\$440	\$0	\$0	\$5,376	\$10,976	\$800		●	●	●
4302621	US 27 AT 6TH STREET AND AT 7TH STREET	Add Turn Lane	\$40	\$0	\$0	\$0	\$0	\$0	\$40	\$0		●		
4350631	US 27 AT EAST PHOENIX ST	Add Turn Lane	\$0	\$10	\$0	\$96	\$0	\$0	\$106	\$0		●		●
4313251	US 27 AT S HIGHLANDS AVE	Add Turn Lane	\$26	\$336	\$0	\$0	\$0	\$0	\$362	\$0		●		●
4313201	US 27 AT SEBRING PARKWAY	Add Turn Lane	\$271	\$0	\$0	\$0	\$0	\$0	\$271	\$0		●		●
4313191	US 27 AT VICKI DRIVE	Add Turn Lane	\$346	\$0	\$0	\$0	\$0	\$0	\$346	\$0		●		●
4192433	US 27 FROM CR 630A TO PRESIDENTS DRIVE	Add 2 Lanes to build 6 Lanes	\$180	\$0	\$0	\$0	\$0	\$0	\$180	\$0		●		
4192431	US 27 FROM HIGHLANDS C/L TO N OF SR 60	Project Development & Environmen	\$22	\$0	\$0	\$0	\$0	\$0	\$22	\$0	●			

All Values in Thousands of "As Programmed" Dollars

PD&E - Project Development & Environmental;  
PE - Preliminary Engineering;

ROW - Right-of-Way;  
CON - Construction & Support (may Include Grants);  
TOTAL LOCAL FUNDS include all funds that start with LF fund code;



# District 1 SIS Non-Interstate Plan



MAP ID	FACILITY	DESCRIPTION	2016	2017	2018	2019	2020	TOTAL STATE MANAGED	TOTAL DISTRICT MANAGED	TOTAL LOCAL FUNDS	PD&E	PE	ROW	CON
4192434	US 27 FROM PRESIDENTS DRIVE TO SR 60	Add 2 Lanes to build 6 Lanes	\$78	\$0	\$195	\$500	\$54,817	\$695	\$54,896	\$0		●		●
4313381	US 441 AT CR 724 (240TH STREET)	Add Turn Lane	\$50	\$75	\$694	\$0	\$0	\$0	\$819	\$0		●		●
4313371	US 441 AT NW 144TH STREET	Add Turn Lane	\$60	\$0	\$580	\$0	\$0	\$0	\$640	\$0		●		●
<b>ANNUAL TOTALS</b>			<b>\$96,917</b>	<b>\$92,642</b>	<b>\$75,985</b>	<b>\$31,258</b>	<b>\$55,067</b>	<b>\$158,845</b>	<b>\$189,779</b>	<b>\$3,246</b>				

All Values in Thousands of "As Programmed" Dollars

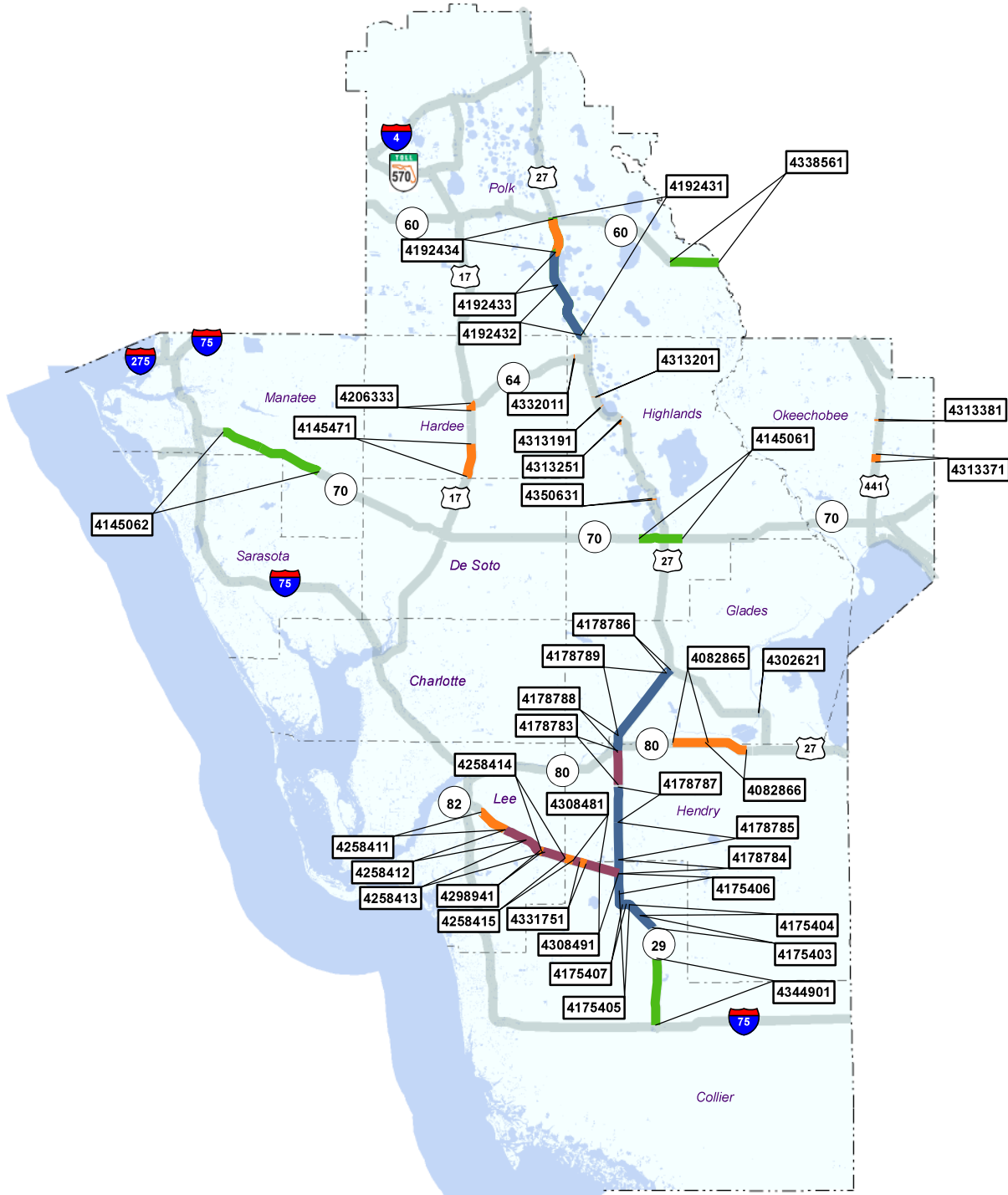
PD&E - Project Development & Environmental;  
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ROW - Right-of-Way;  
CON - Construction & Support (may Include Grants);  
TOTAL LOCAL FUNDS include all funds that start with LF fund code;

# DISTRICT 1

## First Five Years

### Non-Interstate Plan



#### STRATEGIC INTERMODAL SYSTEM

Capacity Improvement Projects

**Adopted Work Program**  
 FY 2015/2016 through FY 2019/2020  
 (as of July 1, 2015)

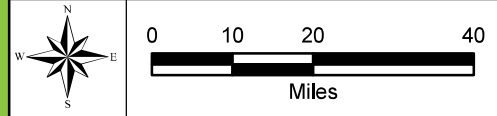
#### LEGEND

##### Project Phase

- █ Project Development & Environment
- █ Preliminary Engineering
- █ Right-Of-Way
- █ Construction

#### NOTES

Projects color coded by highest project phase.  
 Some projects may overlap on map.  
 Project costs are subject to change.





# District 1 SIS Plan



MAP ID	FACILITY	DESCRIPTION	2021	2022	2023	2024	2025	TOTAL STATE MANAGED	TOTAL DISTRICT MANAGED	TOTAL LOCAL FUNDS	PD&E	PE	ROW	CON
2012178	I-4 AT CSX RAILROAD	Rail	\$0	\$0	\$16,507	\$0	\$0	\$16,507	\$0	\$0				●
2012144	I-4 SR 570 (POLK PKWY) TO US 27	Project Development & Environmen	\$0	\$0	\$0	\$0	\$4,020	\$4,020	\$0	\$0	●			
2012775	I-75 (SR93) AT BEE RIDGE ROAD	Modify Interchange	\$2,615	\$9,417	\$8,743	\$0	\$0	\$20,474	\$301	\$0		●	●	
2010326	I-75 AT SR 64	Modify Interchange	\$0	\$50,778	\$0	\$0	\$0	\$50,778	\$0	\$0				●
2010322	I-75 AT SR 70 INTERCHANGE	Modify Interchange	\$0	\$123,886	\$0	\$0	\$0	\$123,886	\$0	\$0				●
4130424	I-75 FROM S OF N JONES LOOP TO N OF US 17	Add 2 Lanes to build 6 Lanes	\$63,796	\$0	\$0	\$0	\$0	\$63,796	\$0	\$0				●
4178788	SR 29 FROM COWBOY WAY (CR 80A) TO WHIDDEN RD (CR 731)	Add 2 Lanes to build 4 Lanes	\$0	\$7,495	\$0	\$0	\$0	\$7,495	\$0	\$0			●	
4175404	SR 29 FROM S. OF AGRICULTURE WAY TO CR 846 (AIRPORT ROAD)	Add 2 Lanes to build 6 Lanes	\$270	\$0	\$0	\$0	\$0	\$0	\$270	\$0		●		
4178784	SR 29 FROM SR 82 TO HENDRY COUNTY LINE	Add 2 Lanes to build 4 Lanes	\$1,514	\$0	\$8,574	\$0	\$0	\$10,088	\$0	\$0		●	●	●
4175403	SR 29 FROM SUNNILAND NURSERY ROAD TO S. OF AGRICULTURE WAY	Add 2 Lanes to build 4 Lanes	\$500	\$0	\$0	\$0	\$0	\$0	\$500	\$0		●		
4175406	SR 29 FROM WESTCLOX ROAD TO SR 82	Add 2 Lanes to build 4 Lanes	\$380	\$0	\$0	\$0	\$0	\$0	\$380	\$0		●		
4338562	SR 60 FROM CR 630 TO GRAPE HAMMOCK RD	Add 2 Lanes to build 6 Lanes	\$7,350	\$0	\$0	\$0	\$0	\$7,350	\$0	\$0		●		
4338563	SR 60 FROM GRAPE HAMMOCK ROAD TO OSCEOLA COUNTY LINE	Add 2 Lanes to build 4 Lanes	\$3,350	\$0	\$0	\$0	\$0	\$3,350	\$0	\$0		●		
4193444	SR 710 FROM E OF L-63 CANAL TO SHERMAN WOOD RANCHES	Add 2 Lanes to build 4 Lanes	\$0	\$3,500	\$0	\$0	\$0	\$3,500	\$0	\$0		●		
4193445	SR 710 FROM SHERMAN WOOD RANCHES TO CR 714 (MARTIN C/L)	Add 2 Lanes to build 4 Lanes	\$0	\$6,500	\$0	\$0	\$0	\$6,500	\$0	\$0		●		
4258413	SR 82 FROM ALABAMA ROAD S TO HOMESTEAD ROAD S	Add 4 Lanes to build 6 Lanes	\$0	\$39,064	\$0	\$0	\$0	\$36,353	\$2,411	\$300				●
4258411	SR 82 FROM CR 884 (LEE BLVD) TO SHAWNEE ROAD	Add 4 Lanes to build 6 Lanes	\$2,500	\$0	\$0	\$0	\$0	\$2,500	\$0	\$0				●
4258412	SR 82 FROM SHAWNEE ROAD TO ALABAMA ROAD S	Add 4 Lanes to build 6 Lanes	\$0	\$31,151	\$0	\$0	\$0	\$30,032	\$819	\$300				●
4192432	SR25 (US 27) FROM HIGHLANDS COUNTY LINE TO CR 630A	Add 2 Lanes to build 6 Lanes	\$350	\$4,305	\$0	\$0	\$0	\$4,655	\$0	\$0		●	●	
4192433	US 27 FROM CR 630A TO PRESIDENTS DRIVE	Add 2 Lanes to build 6 Lanes	\$2,688	\$70	\$0	\$0	\$0	\$2,672	\$86	\$0		●	●	
<b>ANNUAL TOTALS</b>			<b>\$85,313</b>	<b>\$276,166</b>	<b>\$33,824</b>	<b>\$0</b>	<b>\$4,020</b>	<b>\$393,956</b>	<b>\$4,767</b>	<b>\$600</b>				

All Values in Thousands of "As Programmed" Dollars

PD&E - Project Development & Environmental;  
PE - Preliminary Engineering;

ROW - Right-of-Way;  
CON - Construction & Support (may Include Grants);  
TOTAL LOCAL FUNDS include all funds that start with LF fund code;

# DISTRICT 1

## Second Five Years



### STRATEGIC INTERMODAL SYSTEM

Capacity Improvement Projects

### Approved Plan

FY 2020/2021 through FY 2024/2025  
(as of July 1, 2015)

#### LEGEND

#### Project Phase

- █ Project Development & Environment
- █ Preliminary Engineering
- █ Right-Of-Way
- █ Construction

#### NOTES

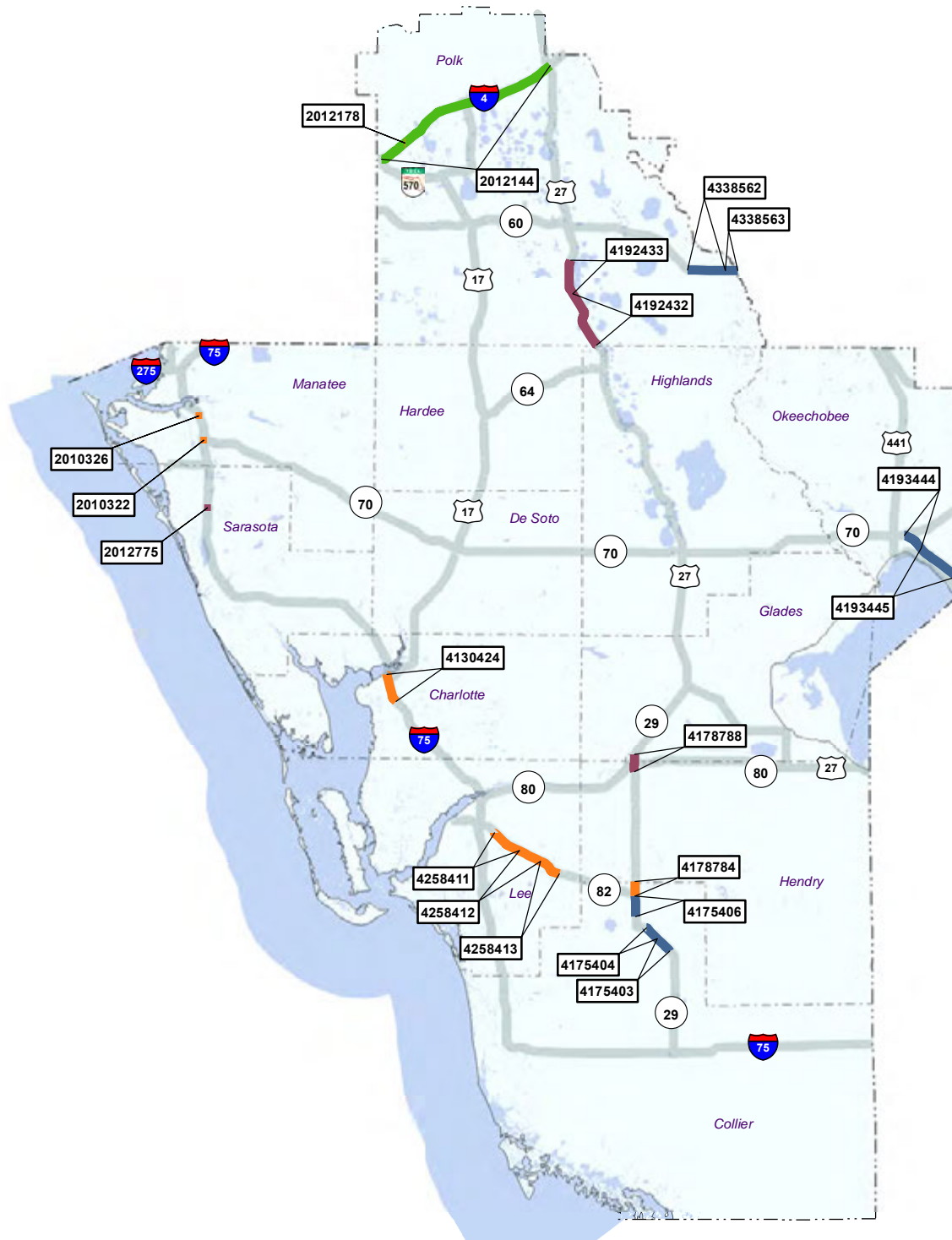
Projects color coded by highest project phase.

Some projects may overlap on map.

Project costs are subject to change.



HIGHWAY







# DISTRICT 1

# STRATEGIC INTERMODAL SYSTEM COST FEASIBLE PLAN 2024-2040



ID	FACILITY	FROM	TO	Design			District Managed Funds			State Managed Funds			State Managed P3 Funds			Other Funds	IMPRV TYPE	Project Phasing			
				PDE	PE	TOTAL	ROW	CON	TOTAL	ROW	CON	TOTAL	COST	Begin Yr	#Yrs			TOTAL	PDE	PE	ROW
907	I-75	at University Pkwy	(Manatee County)								49,943	49,943				M-INCH					
1259	SR 710	US 441	L-63 Canal					38,052	38,052							NR					
1402	I-4	at CSX Railroad Bridge									9,605	9,605				BRIDGE					
1687	I-75	at University Pkwy	(Sarasota County)								22,519	22,519				M-INCH					
908	I-75	at SR 70 Interchange					29,498	118,288	147,786							M-INCH					
909	I-75	at Fruitville Rd						81,088	81,088	35,693		35,693				M-INCH					
1248	SR 82	Homestead Rd S	Hendry C/L				8,215	29,484	37,699							A4-6					
1256	SR 29	Collier C/L	CR 832 (Keri Rd)		7,562	7,562					11,716		11,716			A2-4					
1257	SR 29	CR 832 (Keri Rd)	Spencer		7,346	7,346					3,790		3,790			A2-4					
1258	SR 29	Spencer	N of Cowboy Way					38,110	38,110							A2-4					
1287	I-75	at Bee Ridge Rd									72,980	72,980				M-INCH					
1288	I-75	at SR 72 (Clark Rd)						98,853	98,853							M-INCH					
1385	SR 29	Bermont Rd (CR 74)	US 27							1,900		1,900				A2-4					
1390	I-75	at SR 64									68,480	68,480				M-INCH					
1392	US 27	CR 630A	Presidents Dr					49,968	49,968	2,470		2,470				A2-6					
1383	SR 29	CR 80-A (Cowboy Way)	Whidden Rd (CR 731)					170,567	170,567							A2-4					
1387	I-75	at SR 951									76,348	76,348				M-INCH					
1391	US 27	Highlands C/L	CR 630A					85,475	85,475							A2-6					
1689	I-4	SR 570 (Polk Pkwy)	US 27 (SR 25)		3,866	3,866					1,262,201	1,262,201				A4-SUL					
969	US 17	Copley Drive	N of CR 74 (Bermont Rd)	1,077	1,031	2,108										A2-6					
1379	SR 29	I-75	Oil Well Rd		6,186	6,186	3,630		3,630							A2-4					
1386	SR 70	Jefferson Ave	CR 29		4,124	4,124										A2-4					
1403	I-4	SR 570 (Polk Pkwy)	US 98		1,675	1,675	645,421	645,421								A4-SUL					
1589	SR 70	Lorraine Rd	Singletery Rd (Myakka City)		8,764	8,764										A2-4					
1590	SR 70	Singletery Rd (Myakka City)	American Legion Dr (Arcadia)	3,093	10,826	13,919										A2-4					
1591	SR 70	American Legion Dr (Arcadia)	Jefferson Ave	5,155	18,455	23,610										A2-4					
1592	SR 70	CR 29	US 98 (Eagle Bay Dr)	5,155	18,558	23,713										A2-4					
1593	SR 60	CR 630	Kissimmee River Bridge		4,640	4,640										A2-4					
1688	I-4	US 98	SR 570 (Polk Pkwy)		2,578	2,578					973,070	973,070				A4-SUL					
<b>Funded CFP Totals</b>						<b>110,091</b>			<b>1,396,649</b>			<b>2,590,715</b>									

### LEGEND

FY 2024/2025	Mega Projects Phased Over Time
FY 2025/2026 - 2029/2030	Programmed, Planned, or Completed
FY 2030/2031 - 2034/2035	Unfunded Needs Plan
FY 2035/2036 - 2039/2040	

### INFLATION FACTORS

FY 2024/2025 - 1.301
FY 2027/2028 - 1.430
FY 2032/2033 - 1.683
FY 2037/2038 - 1.979

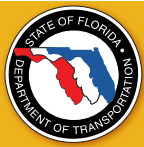
### NOTES

- (1) Values in thousands of dollars in the year of expenditure, inflated to the middle year in each band.
- (2) All phase costs shown as supplied by each District.
- (3) CON includes both Construction (CON52) and Construction Support (CEI).
- (4) ROW includes both Right-of-Way Acquisition/Mitigation (ROW43/45) and Right-of-Way Support.
- (5) Project costs are subject to change.
- (6) Revenue forecast provides separate values for PDE and PE than for ROW and CON. Therefore these phases have been separated in this table.
- (7) Other Funds- assumed to be toll revenue or partner funded.
- (8) Project Phasing- "COMP"- project underway or complete.
- (9) Specific to District 6 - Costs for project ID# 1853 represent DDR funds allocated from 2025 through 2040 at a total cost of \$272 million.

### IMPROVEMENT TYPES

- A2-4: Add 2 Lanes to Build 4
- A2-6: Add 2 Lanes to Build 6
- A2-8: Add 2 Lanes to Build 8
- A4-6: Add 4 Lanes to Build 6
- A2-SUL: Add 2 Special Use Lanes
- A4-SUL: Add 4 Special Use Lanes
- BRIDGE: Bridge

- M-INCH: Modify Interchange
- N-INCH: New Interchange
- MGLANE: Managed Lanes
- MCON: Modify Connector
- NR: New Road
- UP: Ultimate Improvement

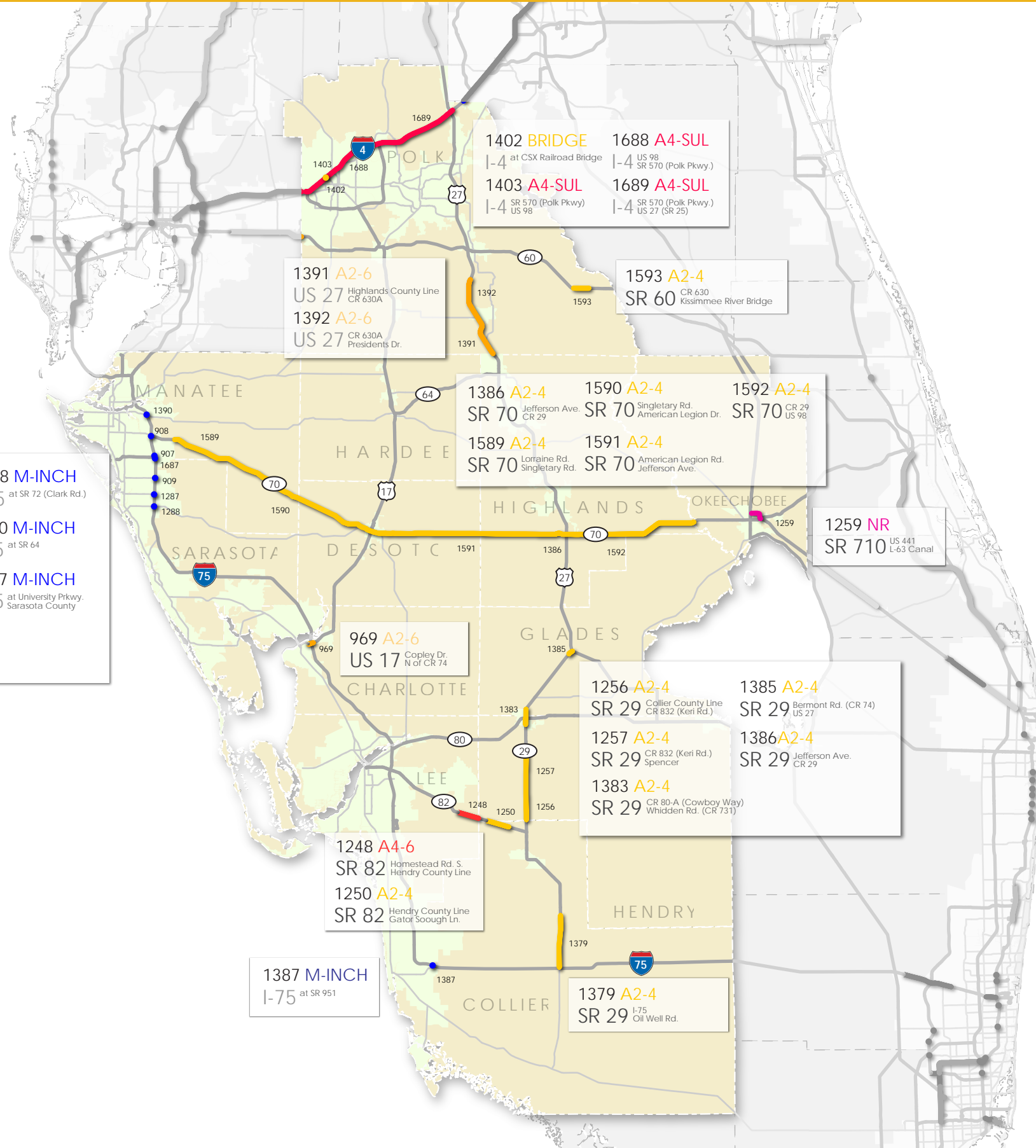


# STRATEGIC INTERMODAL SYSTEM COST FEASIBLE PLAN 2024-2040

DISTRICT 1



Exhibit C-1



### IMPROVEMENT TYPE

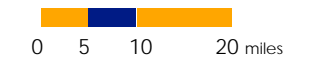
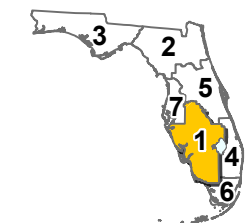
- A2-4 - Add 2 Lanes to Build 4
- A2-6 - Add 2 Lanes to Build 6
- A4-6 - Add 4 Lanes to Build 6
- A4-SUL - Add 4 Special Use Lanes
- NR - New Road
- BRIDGE - Bridge
- M-INCH - Modify Interchange

### OTHER FEATURES

- SIS Highways
- Other State Highways
- Urban Areas

### PROJECT LABELS

Project ID	934 A2-4	Improvement Type Limits
Facility	SR 40 SR 326 (Silver Springs) CR 314	



**4192434**

**US 27 FROM PRESIDENTS DRIVE TO SR 60**

**Non-SIS**



**Work Summary:** ADD LANES & RECONSTRUCT  
**From:** Presidents Drive  
**To:** SR 60  
**Lead Agency:** Managed by FDOT  
**Length:** 5.178 MI

Phase	Fund Source	2015/16	2016/17	2017/18	2018/19	2019/20	Total
ENV	DI	0	0	195,000	500,000	0	<b>695,000</b>
RRU	DDR	0	0	0	0	1,032,076	<b>1,032,076</b>
CST 62	DDR	0	0	0	0	52,843,410	<b>52,843,410</b>
CST 62	DIH	0	0	0	0	941,628	<b>941,628</b>
<b>Total</b>		<b>0</b>	<b>0</b>	<b>195,000</b>	<b>500,000</b>	<b>54,817,114</b>	<b>55,512,114</b>

**Prior Year Cost:** 5,770,468  
**Future Year Cost:**  
**Total Project Cost:** 61,282,582  
**LRTP:** 8-6  
**Project Description:**



Effective Date:  
10/21/2015

Florida Department of Transportation

Run: 10/21/2015  
14.04.12

## Current STIP

[View Current STIP Phase Grouping](#)

Crosswalk

Item Segment: 419243 \_

Fund	<2016	2016	2017	2018	2019	>2019	All Years
<b>HIGHWAYS</b>							
Item Number: 419243 1	Project Description: US 27 FROM HIGHLANDS C/L TO N OF SR 60						*SIS*
District: 01	County: POLK	Type of Work: PD&E/EMO STUDY			Project Length: 19.037		
<b>P D &amp; E / MANAGED BY FDOT</b>							
DIH -STATE IN-HOUSE PRODUCT SUPPORT	142,788	26,769	0	0	0	0	169,557
DS -STATE PRIMARY HIGHWAYS & PTO	3,218,720	0	0	0	0	0	3,218,720
<b>PRELIMINARY ENGINEERING / MANAGED BY FDOT</b>							
DS -STATE PRIMARY HIGHWAYS & PTO	41,061	0	0	0	0	0	41,061
<b>Item 419243 1 Totals:</b>	<b>3,402,569</b>	<b>26,769</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,429,338</b>
Item Number: 419243 2	Project Description: SR25 (US 27) FROM HIGHLANDS COUNTY LINE TO CR 630A						*SIS*
District: 01	County: POLK	Type of Work: ADD LANES & RECONSTRUCT			Project Length: 8.612		
<b>PRELIMINARY ENGINEERING / MANAGED BY FDOT</b>							
DI -ST. - S/W INTER/INTRASTATE HWY	6,703,441	0	0	0	0	0	6,703,441
DIH -STATE IN-HOUSE PRODUCT SUPPORT	19,578	181,547	0	0	0	0	201,125
<b>RIGHT OF WAY / MANAGED BY FDOT</b>							
ACNP -ADVANCE CONSTRUCTION NHPP	0	0	0	0	0	4,014,308	4,014,308
<b>RAILROAD &amp; UTILITIES / MANAGED BY FDOT</b>							
DI -ST. - S/W INTER/INTRASTATE HWY	0	10,000	0	0	0	0	10,000
<b>ENVIRONMENTAL / MANAGED BY FDOT</b>							
ACNP -ADVANCE CONSTRUCTION NHPP	0	0	0	0	0	500,000	500,000
<b>Item 419243 2 Totals:</b>	<b>6,723,019</b>	<b>191,547</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,514,308</b>	<b>11,428,874</b>
Item Number: 419243 3	Project Description: US 27 FROM CR 630A TO PRESIDENTS DRIVE						*SIS*
District: 01	County: POLK	Type of Work: ADD LANES & RECONSTRUCT			Project Length: 5.026		
<b>PRELIMINARY ENGINEERING / MANAGED BY FDOT</b>							
DI -ST. - S/W INTER/INTRASTATE HWY	4,842,633	0	0	0	0	0	4,842,633
DIH -STATE IN-HOUSE PRODUCT SUPPORT	20,900	179,561	0	0	0	0	200,461
<b>RIGHT OF WAY / MANAGED BY FDOT</b>							
DI -ST. - S/W INTER/INTRASTATE HWY	0	0	0	0	0	2,235,445	2,235,445
DIH -STATE IN-HOUSE PRODUCT SUPPORT	0	0	0	0	0	71,643	71,643
<b>ENVIRONMENTAL / MANAGED BY FDOT</b>							

ACNP -ADVANCE CONSTRUCTION NHPP	0	0	0	0	0	370,000	370,000
<b>Item 419243 3 Totals:</b>	<b>4,863,533</b>	<b>179,561</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,677,088</b>	<b>7,720,182</b>
Item Number: 419243 4	Project Description: US 27 FROM PRESIDENTS DRIVE TO SR 60					*SIS*	
District: 01	County: POLK	Type of Work: ADD LANES & RECONSTRUCT			Project Length: 5.178		
<b>PRELIMINARY ENGINEERING / MANAGED BY FDOT</b>							
DI -ST. - S/W INTER/INTRASTATE HWY	6,589,884	74,566	0	0	0	0	6,664,450
DIH -STATE IN-HOUSE PRODUCT SUPPORT	21,940	78,430	0	0	0	0	100,370
<b>RAILROAD &amp; UTILITIES / MANAGED BY FDOT</b>							
DDR -DISTRICT DEDICATED REVENUE	0	0	0	0	0	1,575,076	1,575,076
<b>CONSTRUCTION / MANAGED BY FDOT</b>							
DDR -DISTRICT DEDICATED REVENUE	0	0	0	0	0	49,505,031	49,505,031
DIH -STATE IN-HOUSE PRODUCT SUPPORT	0	0	0	0	0	921,700	921,700
<b>ENVIRONMENTAL / MANAGED BY FDOT</b>							
DI -ST. - S/W INTER/INTRASTATE HWY	0	0	0	195,000	500,000	0	695,000
<b>Item 419243 4 Totals:</b>	<b>6,611,824</b>	<b>152,996</b>	<b>0</b>	<b>195,000</b>	<b>500,000</b>	<b>52,001,807</b>	<b>59,461,627</b>
<b>Project Total:</b>	<b>21,600,945</b>	<b>550,873</b>	<b>0</b>	<b>195,000</b>	<b>500,000</b>	<b>59,193,203</b>	<b>82,040,021</b>
<b>District 01 Totals:</b>	<b>21,600,945</b>	<b>550,873</b>	<b>0</b>	<b>195,000</b>	<b>500,000</b>	<b>59,193,203</b>	<b>82,040,021</b>
<b>Grand Total</b>	<b>21,600,945</b>	<b>550,873</b>	<b>0</b>	<b>195,000</b>	<b>500,000</b>	<b>59,193,203</b>	<b>82,040,021</b>



December 17, 2013



Ms. Lori Carlton, Community Liaison  
Florida Department of Transportation, District One  
PO Box 1249  
Bartow, FL 33831-1249

**RE: Amendments to Long Range Transportation Plan – Polk 2035 Mobility Vision Plan**

Dear Ms. Carlton:

On December 12, 2013 the Polk Transportation Planning Organization (TPO) adopted amendments to the *Polk 2035 Mobility Vision Plan (MVP)*. Amendments to the 2035 MVP were necessary as project phases, project limits, and costs were updated and advanced in the FY 2014-2018 FDOT Draft Tentative Work Program. These amendments ensure consistency between the two documents. Changes in the document itself are highlighted in yellow in the cost feasible table (Table 8-1 from the 2035 MVP document) which is enclosed.

Public involvement on the draft amendments was completed in accordance with the adopted Polk TPO *Public Participation Plan (PPP)* and included a public comment period and a public hearing at the TPO board meeting on December 12, 2013, which was held prior to board action for adoption. The Polk TPO Technical Advisory Committee (TAC) also reviewed the amendment and recommended the TPO Board take action to approve the change.

If you have any questions regarding the recently adopted amendments to the 2035 MVP please feel free to call me at 863-534-6558.

Sincerely,

Ryan Kordek, Transportation Planning Administrator  
Polk TPO

Enclosure

ec: Tom Deardorff, AICP, Polk TPO Executive Director  
Shontrill Lowe, Polk TPO

POLK TRANSPORTATION PLANNING ORGANIZATION (TPO)  
DECEMBER 12, 2013  
AGENDA ITEM 1

Agenda Item: **Public Hearing on Draft Amendment to the 2035 Mobility Vision Plan (Long Range Transportation Plan)**

Presenter: Ryan Kordek

Summary: There is a need to amend the TPO's Adopted 2035 Mobility Vision Plan (MVP) so the document is consistent with the Florida Department of Transportation's (FDOT) Work Program. There have been changes to several of the TPO's Priority Transportation Projects since the MVP was adopted in 2010. Much like the TPO's Transportation Improvement Program (TIP), each time a change is made to the status of these projects it triggers an LRTP amendment due to the fact they are either new projects, the project limits or scope have changed, or the scheduling reflected in the LRTP has changed. In addition, it is critical that these projects are reflected correctly in the 2035 MVP or the phases that are currently underway or programmed for these projects may not be approved by the Federal Highway Administration (FHWA).

A summary of the projects and the needed amendments are described below.

- **FDOT FPN: 419243-1** – Currently the Adopted 2035 MVP lists the four to six-lane widening of US 27 between the Highlands County Line and State Road 60 in Lake Wales as a partially funded project. The PD&E project currently underway is the only phase listed in the cost-feasible plan. Subsequent phases, (Design and ROW) are not included. FDOT has programmed the next two phases of this project, design and right-of-way, so there is need to change the 2035 MVP to accurately reflect the status of this project.
- **FDOT FPN: 4324591** - US 98 widening between Memorial Boulevard and Griffin Road is currently not described as a cost-feasible project in the 2035 MVP. The MVP needs to be amended to reflect the project as cost-feasible.
- **FDOT FPN: 4335581 & 4336531** – US 92 (New Tampa Highway) is shown as two (2) separate projects in the 2035 MVP. In adopting the 2013 Priority Transportation Projects and per the direction of FDOT combined these projects into

one project with the limits extending from Hillsborough County line to Wabash Avenue. Likewise there is a need to change the timing of project phases in the MVP.

- FDOT FPN: 4301851 – SR 33 from Old Combee Road to North of Tomkow Road. The 2035 MVP needs to be amended to include the PD&E and Design cost for the I-4 @ SR 33 interchange as an element of the SR 33 improvement. The amendment will include an updated phase cost and timing inclusive of the additional right-of-way cost for SR 33. The MVP also needs to indicate that that future funding for the right-of-way and construction of the interchange will ultimately be allocated from FDOT's Strategic Intermodal System (SIS) Cost-Feasible Plan.

The TPO's Technical Advisory Committee (TAC) has recommended that the TPO Board approve the draft amendments. A public hearing is scheduled for this item and public comments will be heard prior to taking action on this item.

Recommended  
Action:

Approve the Draft Amendments to the 2035 MVP as presented.

Attachments:

1. FDOT Letters requesting amendments to the 2035 Mobility Vision Plan
2. 2035 Mobility Vision Plan (MVP) Draft Amendments





## Florida Department of Transportation

RICK SCOTT  
GOVERNOR

801 North Broadway  
Bartow, FL 33830

ANANTH PRASAD, P.E.  
SECRETARY

November 14, 2013

Mr. Thomas Deardorff, Director  
Polk Transportation Planning Organization  
Drawer TS05 - P. O. Box 9005  
Bartow, FL 33831-9005

Attn: Ryan Kordek

**RE: Request for Amendment to the Polk Transportation Planning Organization's (TPO) 2035 Long Range Transportation Plan**

Dear Mr. Deardorff:

This letter is to formally request the Polk Transportation Planning Organization (TPO) amend its 2035 Long Range Transportation Plan (LRTP) to include the US27 project/phases noted below in the Cost Feasible Plan (CFP).

- In order for the Department to produce this project and receive location design concept acceptance (LDCA) through FHWA, the TPO needs to amend its 2035 LRTP CFP. Thresholds provided by Policy Planning/FHWA recently set the minimum requirements for achieving NEPA approval as follows:
  - A. The project must be described within the LRTP CFP. The description, at a minimum, must include roadway identification, termini, implementation time frame and full project cost.
  - B. Ideally, all phases of the project will be funded in the LRTP CFP.
  - C. At least one subsequent phase of the entire project must be in the LRTP CFP. If the next phase for the entire project is not in the CFP, then at least one segment of the project must be fully funded in the CFP through construction.
  - D. The information that is displayed in the TIP/STIP would depend on the timing of the programming for the next phase of the project implementation.

Currently, US27 is partially funded in Polk TPO's CFP as a committed Project Development and Environmental Study (PD&E) phase for the length of the project excluding operational improvements to the US27/SR60 interchange. The Department requests the TPO amend its

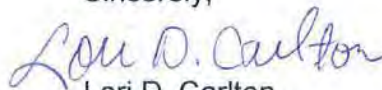
2035 LRTP to include the three segments noted below, inclusive of the phases, funding, and appropriate years. Operational improvements to the existing interchange (*removal of the westbound to southbound ramp to accommodate the southbound through lane under the interchange*) should also be noted as an element of the initial improvements included in the PD&E Study.

#### US27 PD&E Segments from Highlands County Line to SR60:

- The approved Strategic Intermodal Systems' 2040 Cost Feasible Plan segments the US27 improvements into three separate projects:
  - A. US27 from Highlands County Line to CR630A
    - Design is funded in 2015-2016 @ \$8.1mil (Tentative Work Program)(1<sup>st</sup> Five Years SIS Plan)
    - Right-of-Way is funded in 2025-2028 @ \$2.8mil (2040 SIS CFP)
    - Construction is unfunded
  - B. US27 from CR630A to Presidents Drive
    - Design is funded in 2015-2016 @ \$5.6mil (Tentative Work Program)(1<sup>st</sup> Five Years SIS Plan)
    - Right-of-Way is funded in 2025-2028 @ \$2.8mil (2040 SIS CFP)
    - Construction is funded in 2025-2028 @ \$31.9mil (2040 SIS CFP)
  - C. US27 from Presidents Drive to SR60 (inclusive of operational improvements to the interchange)
    - Design is funded in 2015-2016 @ \$6.0mil (Tentative Work Program)(1<sup>st</sup> Five Years SIS Plan)
    - Construction is funded in 2018-2019 @ \$48.486mil (Tentative Work Program)(1<sup>st</sup> Five Years SIS Plan)

Please contact me at (863) 519-2358 if you need further assistance or information.

Sincerely,



Lori D. Carlton  
Community Liaison

LDC:cfm

cc: Chris Smith, Director of Transportation Development, FDOT  
Jennifer Stults, AICP, CTP, Intermodal Systems Development Manager, FDOT  
Laura Lockwood, AICP, Liaison Administrator, FDOT  
Marlon Bizerra, P.E., District Environmental Manager, FDOT  
Lawrence Massey, SIS Coordinator, FDOT



# Exhibit C-3

ID/ FPN	Project Details					PD&E				Project Engineering				ROW				Construction				Total	
	Facility	From	To	No. of Existing Lanes	Project Type	Cost <sup>1</sup> (PDC)	Funding Source	YOE	Projected Cost <sup>3</sup>	Cost <sup>1</sup> (PDC)	Funding Source	YOE	Projected Cost <sup>3</sup>	Cost <sup>2</sup> (PDC)	Funding Source	YOE	Projected Cost <sup>3</sup>	Cost <sup>2</sup> (PDC)	Funding Source	YOE	Projected Cost <sup>3</sup>	Costs Funded <sup>5</sup>	Unfunded Needs <sup>6</sup>
351	SR 60	@ CR 676			GRADE SEPARATION	1.09	SIS	UNFUNDED	2.02	3.27	SIS	UNFUNDED	6.06	0.00	SIS	UNFUNDED	0.00	21.78	SIS	UNFUNDED	49.05	0.00	57.13
352	SR 60	@ CR 37B (LAKELAND HIGHLANDS RD EXT)			GRADE SEPARATION	1.09	SIS	UNFUNDED	2.02	3.27	SIS	UNFUNDED	6.06	0.00	SIS	UNFUNDED	0.00	21.78	SIS	UNFUNDED	49.05	0.00	57.13
353	SR 60	W OF CR 555			GRADE SEPARATION	1.09	SIS	UNFUNDED	2.02	3.27	SIS	UNFUNDED	6.06	0.00	SIS	UNFUNDED	0.00	21.78	SIS	UNFUNDED	49.05	0.00	57.13
354	SR 60	E OF SR 653 EXT			GRADE SEPARATION	1.09	SIS	UNFUNDED	2.02	3.27	SIS	UNFUNDED	6.06	0.00	SIS	UNFUNDED	0.00	21.78	SIS	UNFUNDED	49.05	0.00	57.13
355	SR 60	E OF WEST LAKE WALES RD COLLECTOR			GRADE SEPARATION	1.09	SIS	UNFUNDED	2.02	3.27	SIS	UNFUNDED	6.06	0.00	SIS	UNFUNDED	0.00	21.78	SIS	UNFUNDED	49.05	0.00	57.13
203	SR 655 (RECKER HWY)	SPIRIT LAKE RD/42ND ST	THORNHILL RD	2	ROADWAY WIDENING	0.49	OA	UNFUNDED	0.90	1.46	OA	UNFUNDED	2.70	0.18	OA	UNFUNDED	0.56	9.73	OA	UNFUNDED	21.90	0.00	26.07
20	SR 659 (COMBEE RD)	CR 546 (SADDLE CREEK RD)	SR 33	2	ROADWAY WIDENING	1.46		UNFUNDED	2.70	4.38		UNFUNDED	8.11	1.01		UNFUNDED	3.18	29.18		UNFUNDED	65.71	0.00	79.70
28	US 17	SR 60A CONNECTOR	EAGLE LAKE RD (ONE-WAY PAIR)	4	ROADWAY WIDENING	4.01		UNFUNDED	7.43	12.02		UNFUNDED	22.28	0.00		UNFUNDED	0.00	80.11		UNFUNDED	180.42	0.00	210.13
200	US 17 (6TH ST NW)	E CENTRAL AVE	SR 544 (AVENUE T)	4	ROADWAY WIDENING	1.07	OA	UNFUNDED	1.99	3.21	OA	UNFUNDED	5.96	12.36	OA	UNFUNDED	38.74	21.43	OA	UNFUNDED	48.26	0.00	94.95
97	US 17/92	US 17/92 (HINSON AVE)	OSCEOLA COUNTY LINE	2	ROADWAY WIDENING	5.35	IMPACT DIST C	2031-2035	9.45	16.05	IMPACT DIST C	2031-2035	28.34	1.14	OA	2031-2035	3.25	106.98	OA	UNFUNDED	240.92	41.04	240.92
328	US 17/92	ROCHELLE AVE	US 27	4	ROADWAY WIDENING	2.68	OA	2031-2035	4.73	8.04	OA	2031-2035	14.19	0.00		UNFUNDED	0.00	53.57		UNFUNDED	120.65	18.92	120.65
96	US 17/92 (HINSON AVE)	10TH ST	17TH ST	2	ROADWAY WIDENING	0.15	OA	2016-2020	0.70	0.44	OA	2021-2025	0.60	0.35	OA	2021-2025	0.61	2.92	OA	2021-2025	4.46	5.87	0.00
108	US 27	N OF RITCHIE RD	S OF BARRY RD	4	ROADWAY WIDENING	1.89		COMPLETED	0.00	5.66		COMPLETED	0.00	20.95		COMPLETED	0.00	25.68	SIS	COMMITTED	0.00	0.00	0.00
110	US 27	S OF BARRY RD	LAKE COUNTY LINE	4	ROADWAY WIDENING	2.43	SIS		0.00	7.28	SIS		0.00	0.00	SIS	-	0.00	22.26	SIS	COMMITTED	0.00	0.00	0.00
98	US 27	HIGHLANDS COUNTY LINE	N OF SR 60	4	ROADWAY WIDENING	3.42		COMMITTED	0.00	25.48		UNFUNDED	47.24	0.21		UNFUNDED	0.44	169.86		UNFUNDED	382.52	0.00	430.20
98A	US 27	HIGHLANDS COUNTY LINE	CR 630A	4	ROADWAY WIDENING	1.14	SIS	COMMITTED	0.00	8.1	SIS	2016-2020	9.87	2.80	SIS	2026-2030	4.77	92.12	SIS	UNFUNDED	194.55	14.64	194.55
98B	US 27	CR 630A	PRESIDENTS DRIVE	4	ROADWAY WIDENING	1.14	SIS	COMMITTED	0.00	5.6	SIS	2016-2020	6.83	2.80	SIS	2026-2030	4.77	31.90	SIS	2026-2030	57.29	83.53	0.00
98C	US 27	**Operational Improvements to the existing US 27@ SR 60 interchange including the removal WB to SB ramp to accommodate the SB through lane under the interchange are included in the PD&E Study.	PRESIDENTS DRIVE	4	ROADWAY WIDENING	1.14	SIS	COMMITTED	0.00	6.0	SIS	2016-2020	7.31	0.00			0.00	48.486	SIS	2016-2020	62.93	70.24	0.00
102	US 27	@ DUNDEE ROAD (SR 542)			INTERSECTION	0.13	SIS		0.00	0.40	SIS		0.00	0.54	SIS		0.00	2.65	SIS		0.00	0.00	0.00
100	US 27	@ CYPRESS GARDENS BLVD (SR 540)			INTERSECTION	0.13	SIS		0.00	0.40	SIS		0.00	0.00	SIS		0.00	2.65	SIS		0.00	0.00	0.00
99	US 27	@ SR 60			INTERCHANGE	4.66		UNFUNDED	8.63	13.97		UNFUNDED	25.90	0.00		UNFUNDED	0.00	93.13		UNFUNDED	209.74	0.00	244.27
343	US 27	@ SR 544 (LUCERNE PARK RD)			INTERSECTION	0.13	IMPACT DIST D	2026-2030	0.21	0.40	LOCAL AD VAL TAX	2026-2030	0.62	1.07	MULTIPLE SOURCES LOCAL AD VAL TAX	2031-2035	3.05	2.65	MULTIPLE SOURCES TRIP	2031-2035	5.61	9.49	0.00
													0.67			1.91	1.15				2.44		

Legend:  = COST AFFORDABLE PROJECT  = PARTIALLY FUNDED PROJECT  = UNFUNDED NEED



TABLE 8-1: FUNDED AND UNFUNDED ROAD AND HIGHWAY CAPACITY PROJECTS



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***APPENDIX A***  
***Concept Plans***

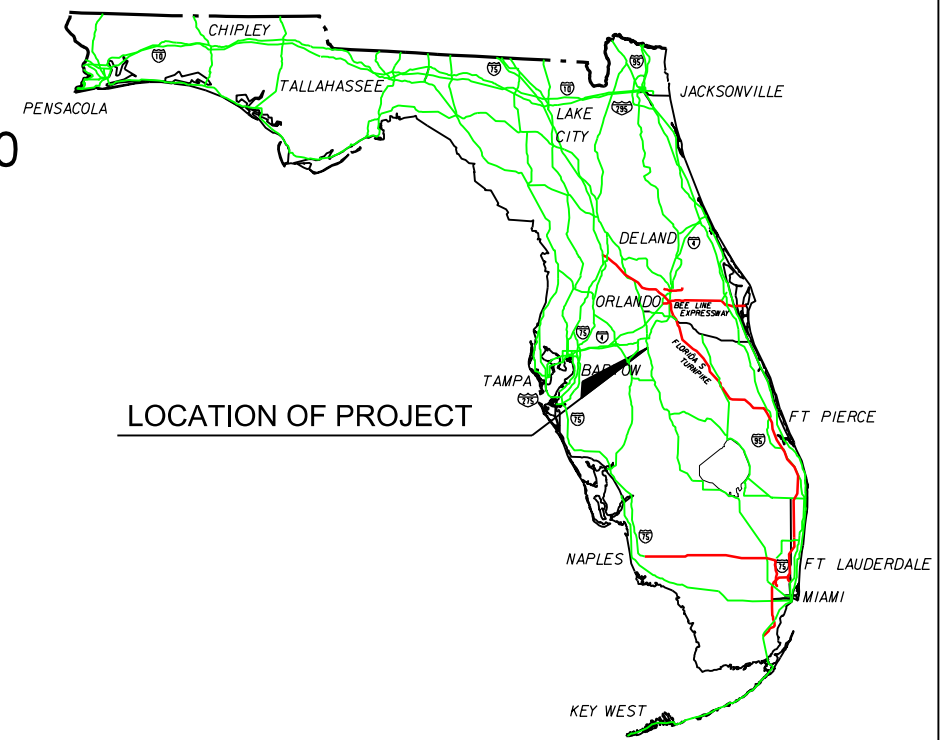
# POLK COUNTY

## US 27 PD&E STUDY FROM HIGHLANDS COUNTY LINE TO NORTH OF SR 60

FPN NO: 419243-1-22-01

## CONCEPT PLANS

PREPARED BY  
AECOM Technical Services, Inc.



LOCATION OF PROJECT

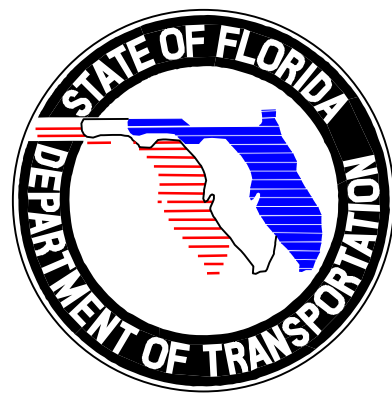
### INDEX OF PLANS

SHEET NO.	SHEET DESCRIPTION
I	COVER SHEET
II	LEGEND/SHEET LAYOUT
III	TYPICAL SECTIONS
IV	TYPICAL SECTIONS
1-38	PLANS

Aerial Photography Date: 2011



PROJECT LOCATION MAP



AECOM Technical Services, Inc.  
7650 West Courtney  
Campbell Causeway  
Tampa, FL 33607-1462  
C.A. No. 8115

CONCEPT PLANS  
ENGINEER OF RECORD: Jeffrey W. Blazowski, P.E.

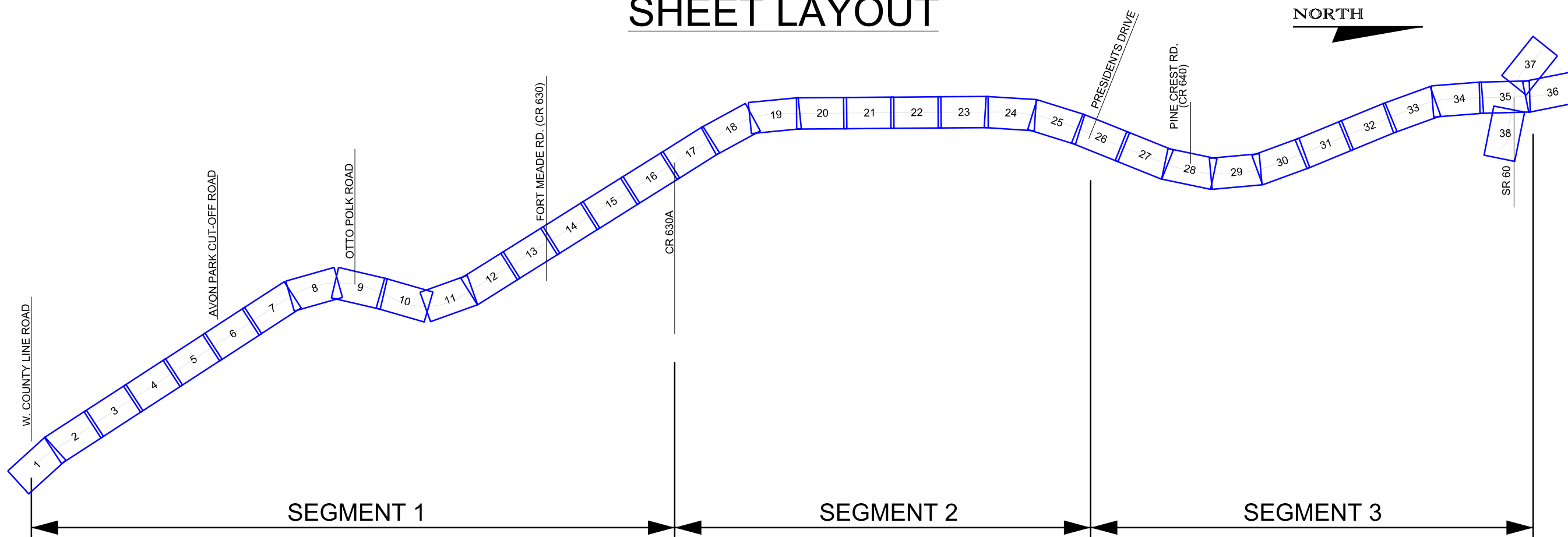
P.E. NO.: 55527

DRAFT - FOR PLANNING PURPOSES ONLY

# LEGEND

- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- PROPERTY LINES
- ROADWAY
- PROPOSED BRIDGE
- MEDIAN
- PROPOSED SIDEWALK
- PROPOSED POND
- WETLAND
- FLOODPLAIN
- EXISTING SIGNAL
- PROPOSED SIGNAL

## SHEET LAYOUT



REVISIONS	
DATE	DESCRIPTION
2/15/2013	FINAL BASE MAPS.

**DRAFT - SUBJECT TO CHANGE - CONCEPTUAL LEVEL GRAPHIC FOR PLANNING PURPOSES ONLY. NOT INTENDED FOR DESIGN OR CONSTRUCTION.**

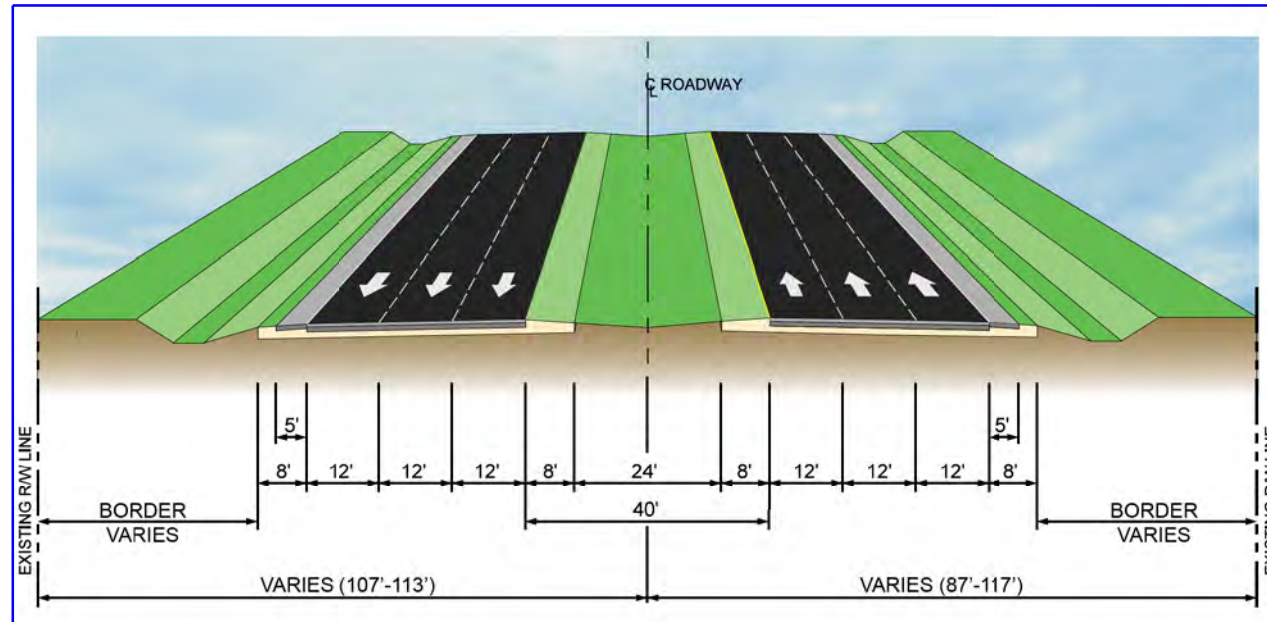
AECOM Technical Services, Inc.  
 7650 West Courtney  
 Campbell Causeway  
 Tampa, FL 33607-1462  
 C.A. No. 8115  
 Jeffrey W. Blazowski, P.E. No. 55527

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 27	POLK	419243-1-22-01

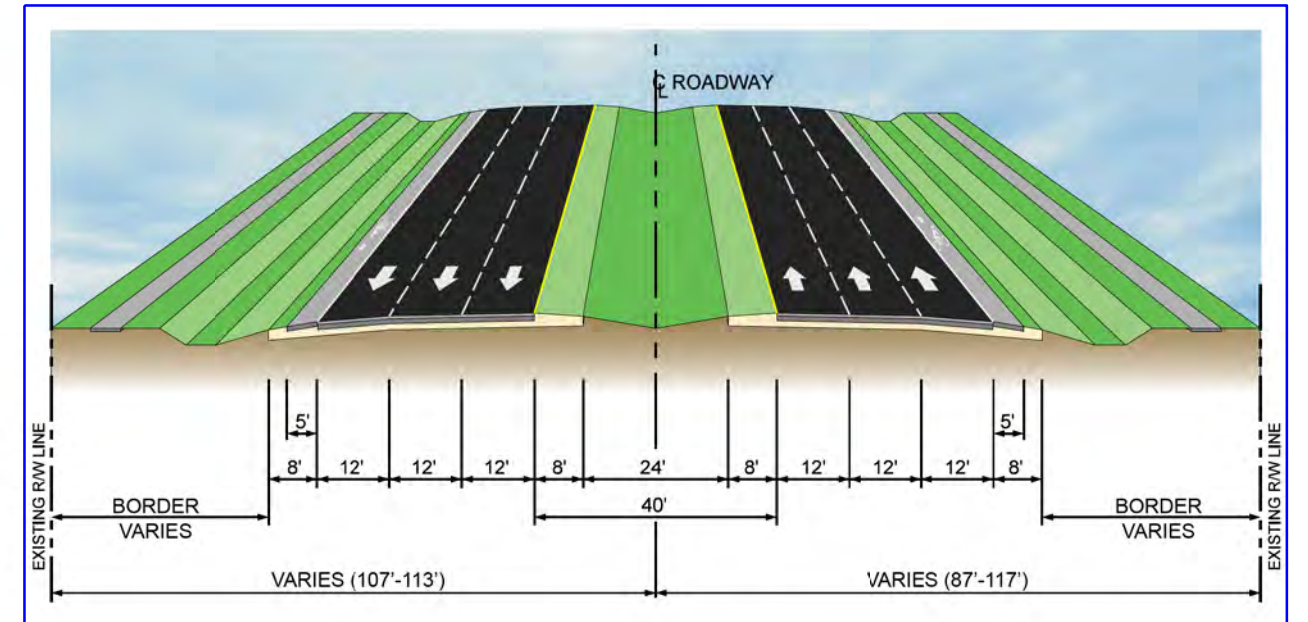
*LEGEND/  
SHEET LAYOUT*

SHEET NO.  
**II**

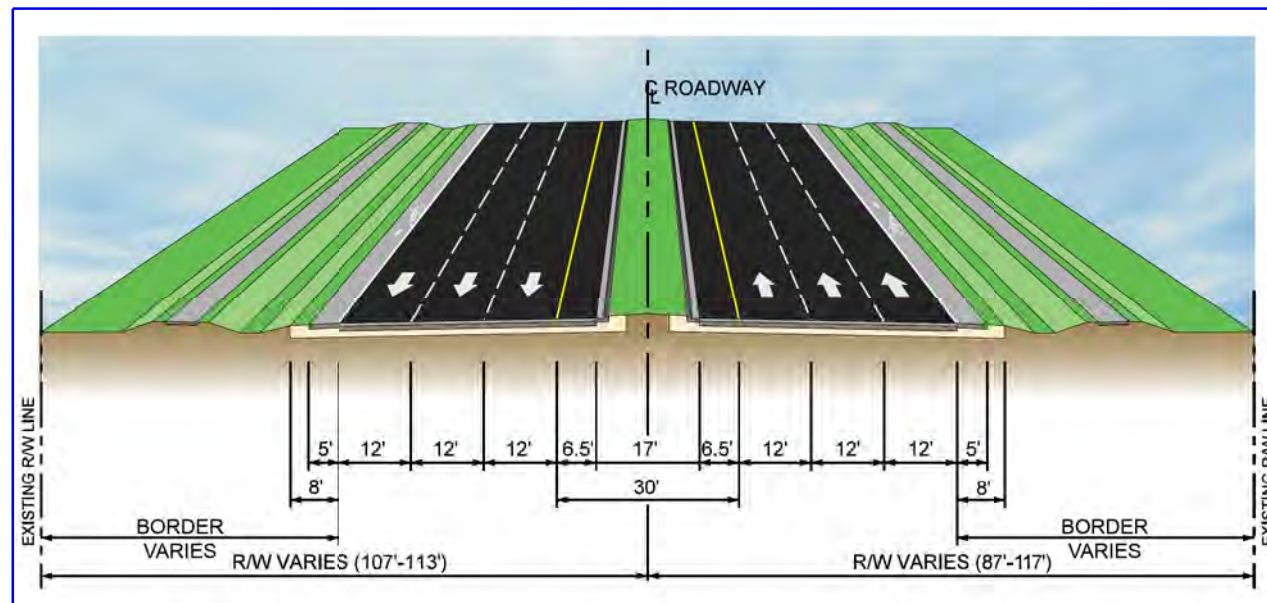




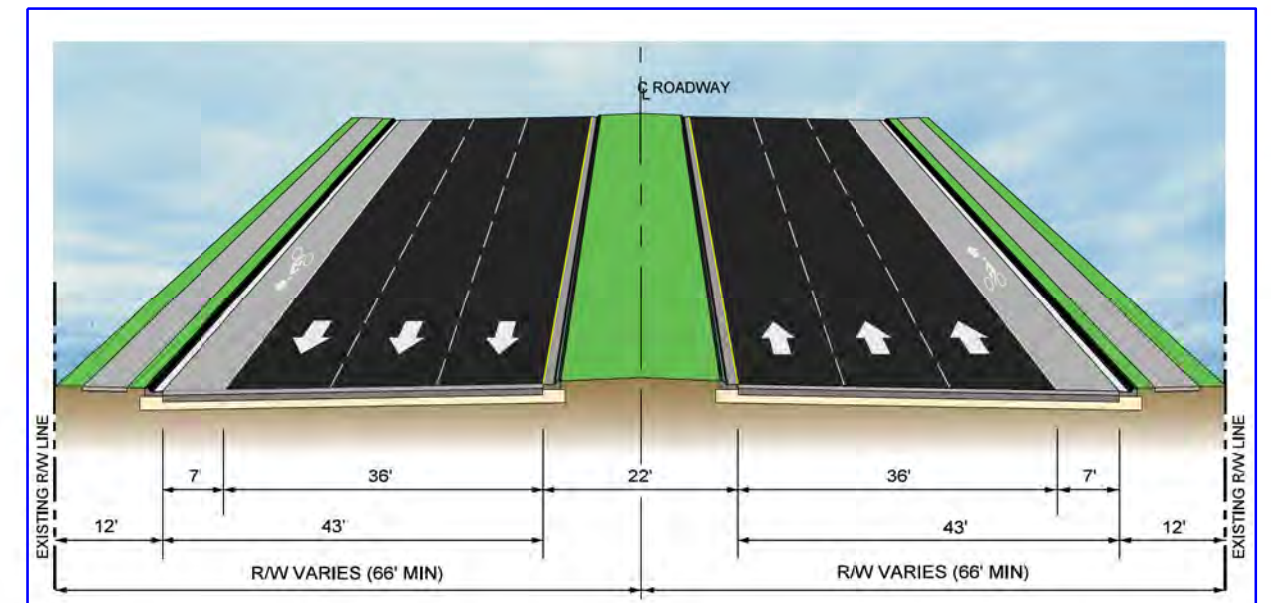
**6-LANE RURAL TYPICAL SECTION**  
 Station 201+51.34 to Station 467+50.00  
 Station 656+80.78 to Station 991+30.00



**6-LANE RURAL TYPICAL SECTION WITH SIDEWALK**  
 Station 467+50.00 to Station 656+40.00  
 Station 991+30.00 to Station 1154+92.00



**6-LANE SUBURBAN TYPICAL SECTION**  
 Station 1154+92.00 to Station 1208+00.00



**6-LANE URBAN TYPICAL SECTION**  
 Station 2010+28.00 to Station 2050+76.00

REVISIONS	
DATE	DESCRIPTION
2/15/2013	FINAL BASE MAPS.

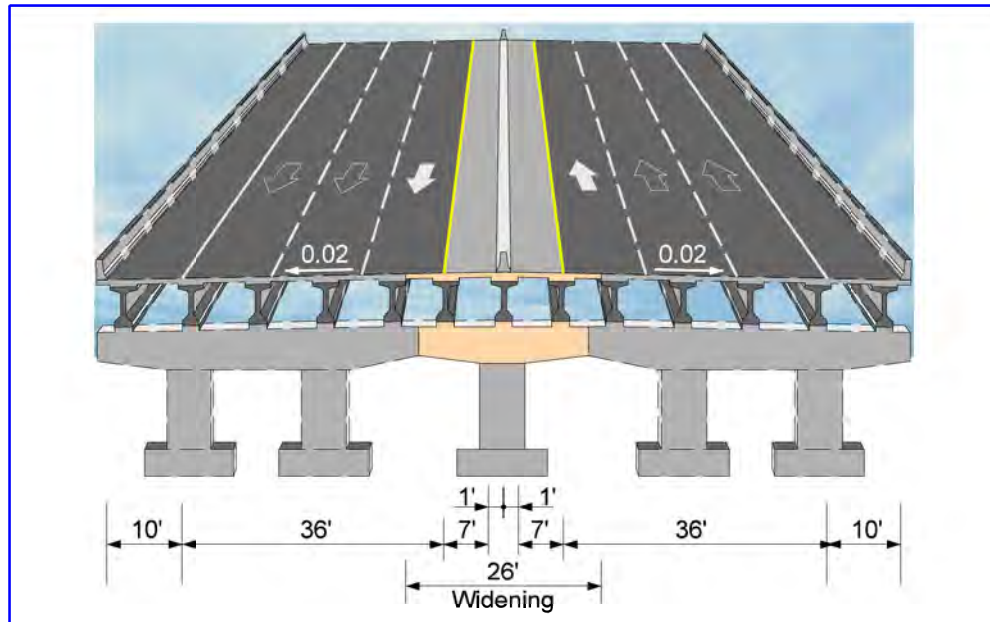
**DRAFT - SUBJECT TO CHANGE - CONCEPTUAL LEVEL GRAPHIC FOR PLANNING PURPOSES ONLY. NOT INTENDED FOR DESIGN OR CONSTRUCTION.**

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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
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**TYPICAL SECTIONS  
SHEET**

SHEET NO.  
**III**



6-LANE BRIDGE TYPICAL SECTION  
Bridge Crossing at Lake Streey Canal



6-LANE BRIDGE TYPICAL SECTION  
Bridge Crossing at CSX Railroad

REVISIONS		DRAFT - SUBJECT TO CHANGE - CONCEPTUAL LEVEL GRAPHIC FOR PLANNING PURPOSES ONLY, NOT INTENDED FOR DESIGN OR CONSTRUCTION.	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			TYPICAL SECTIONS SHEET	SHEET NO.  IV
DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
2/15/2013	FINAL BASE MAPS.	AECOM Technical Services, Inc. 7650 West Courtney Campbell Causeway Tampa, FL 33607-1462 C.A. No. 8115 Jeffrey W. Blazowski, P.E. No. 55527	US 27	POLK	419243-1-22-01		





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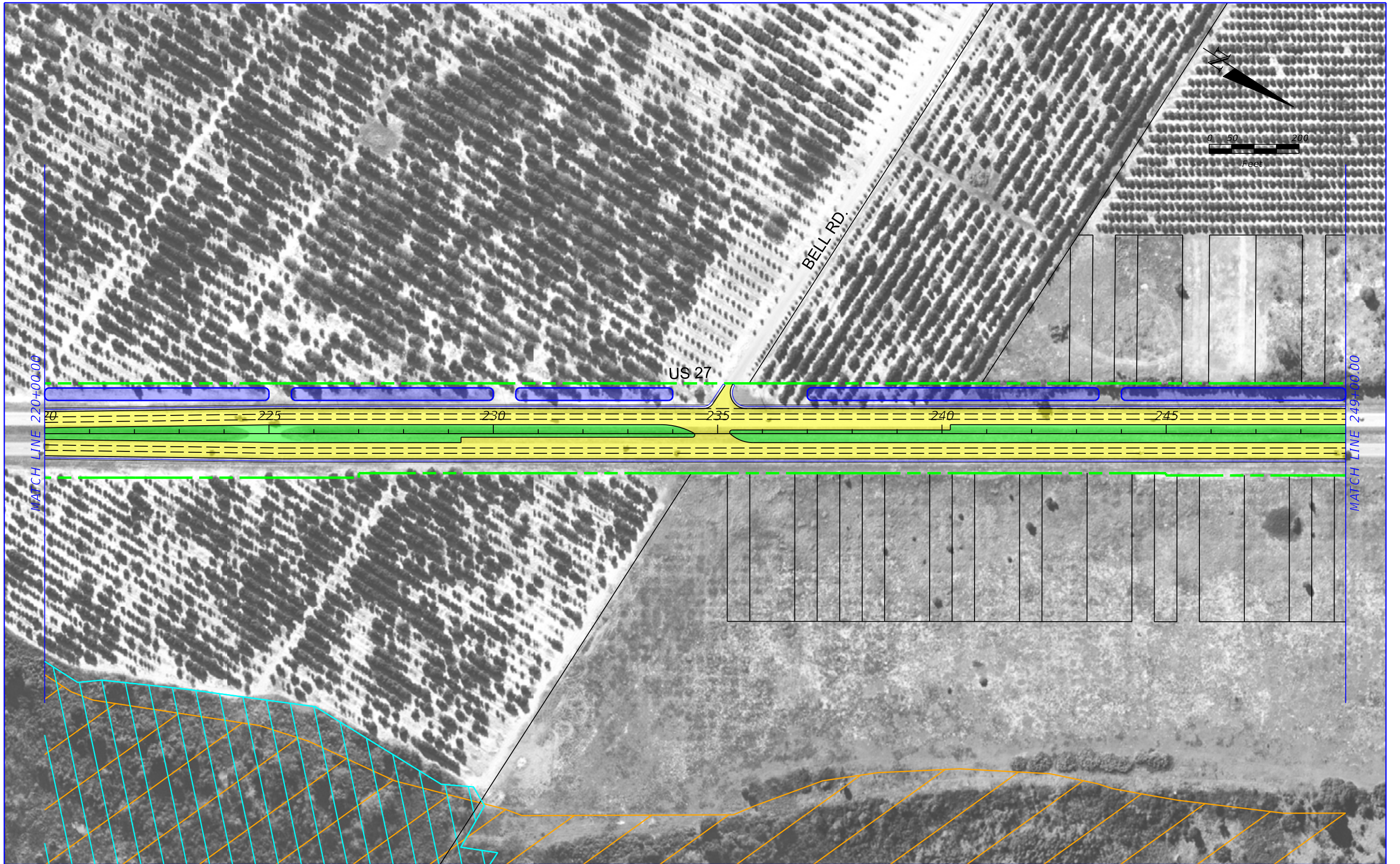
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**CONCEPT PLANS**

SHEET NO.  
1





REVISIONS	
DATE	DESCRIPTION
2/15/2013	FINAL BASE MAPS.

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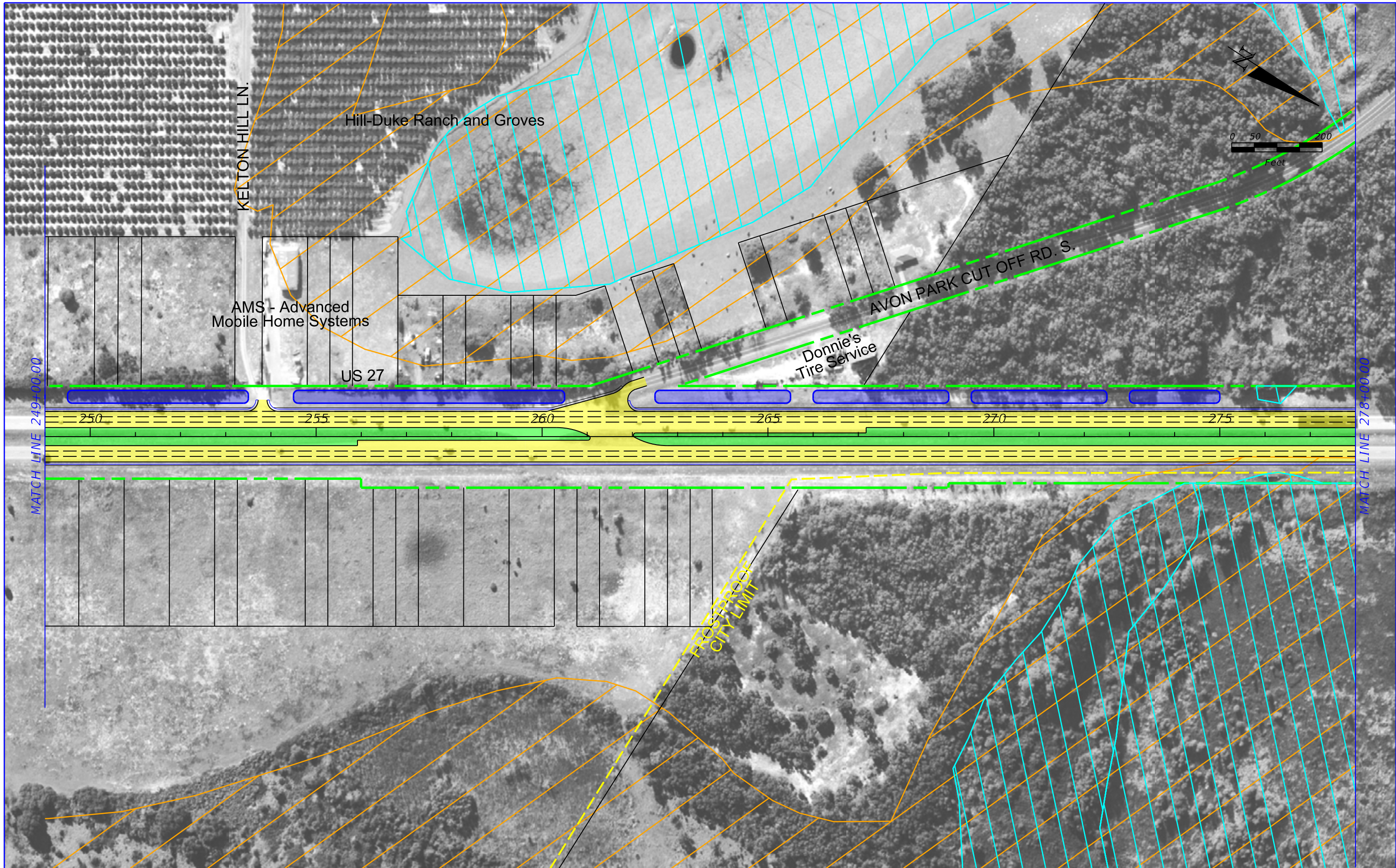
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*CONCEPT PLANS*

SHEET NO.
2





REVISIONS	
DATE	DESCRIPTION
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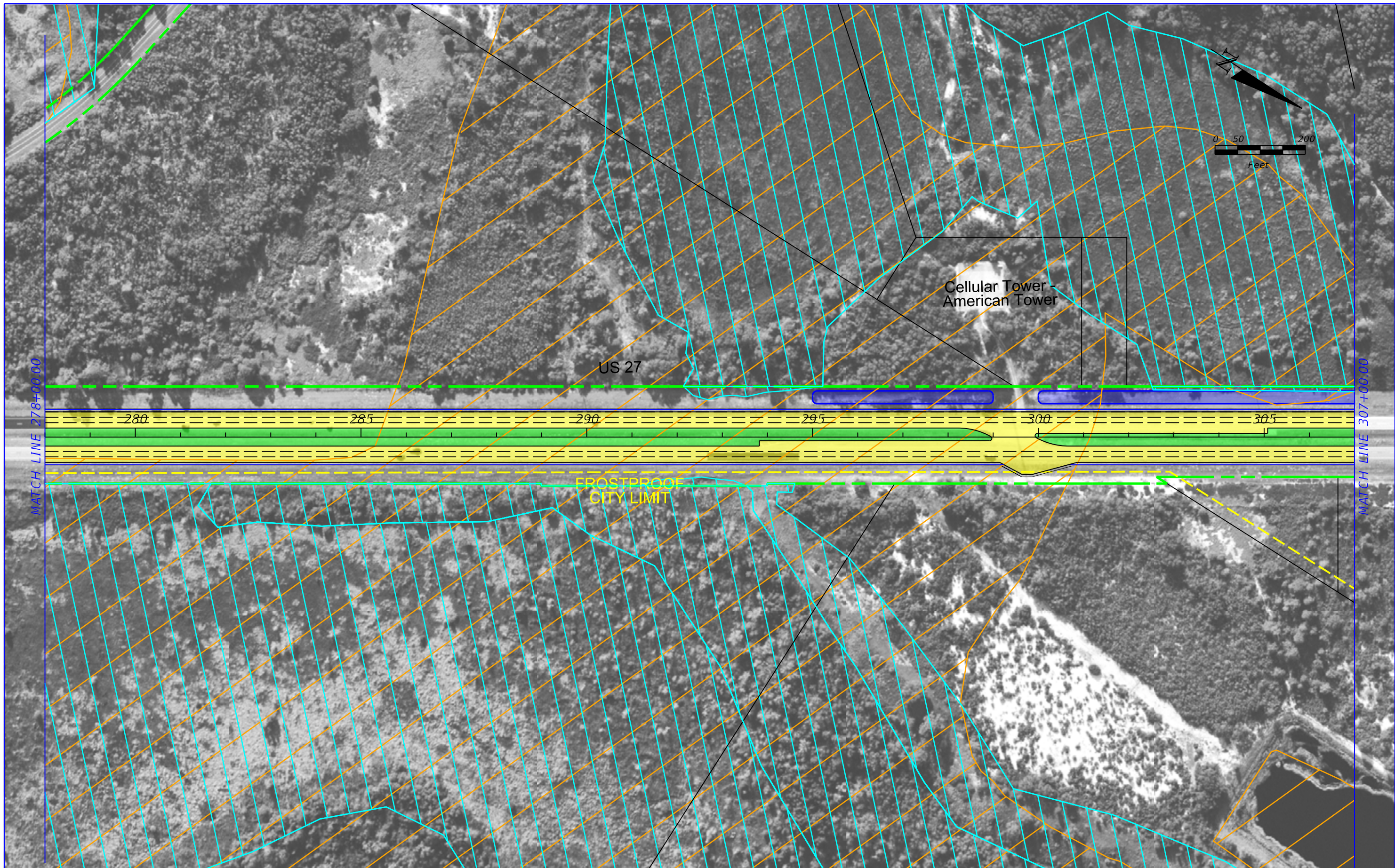
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**CONCEPT PLANS**

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3





REVISIONS	
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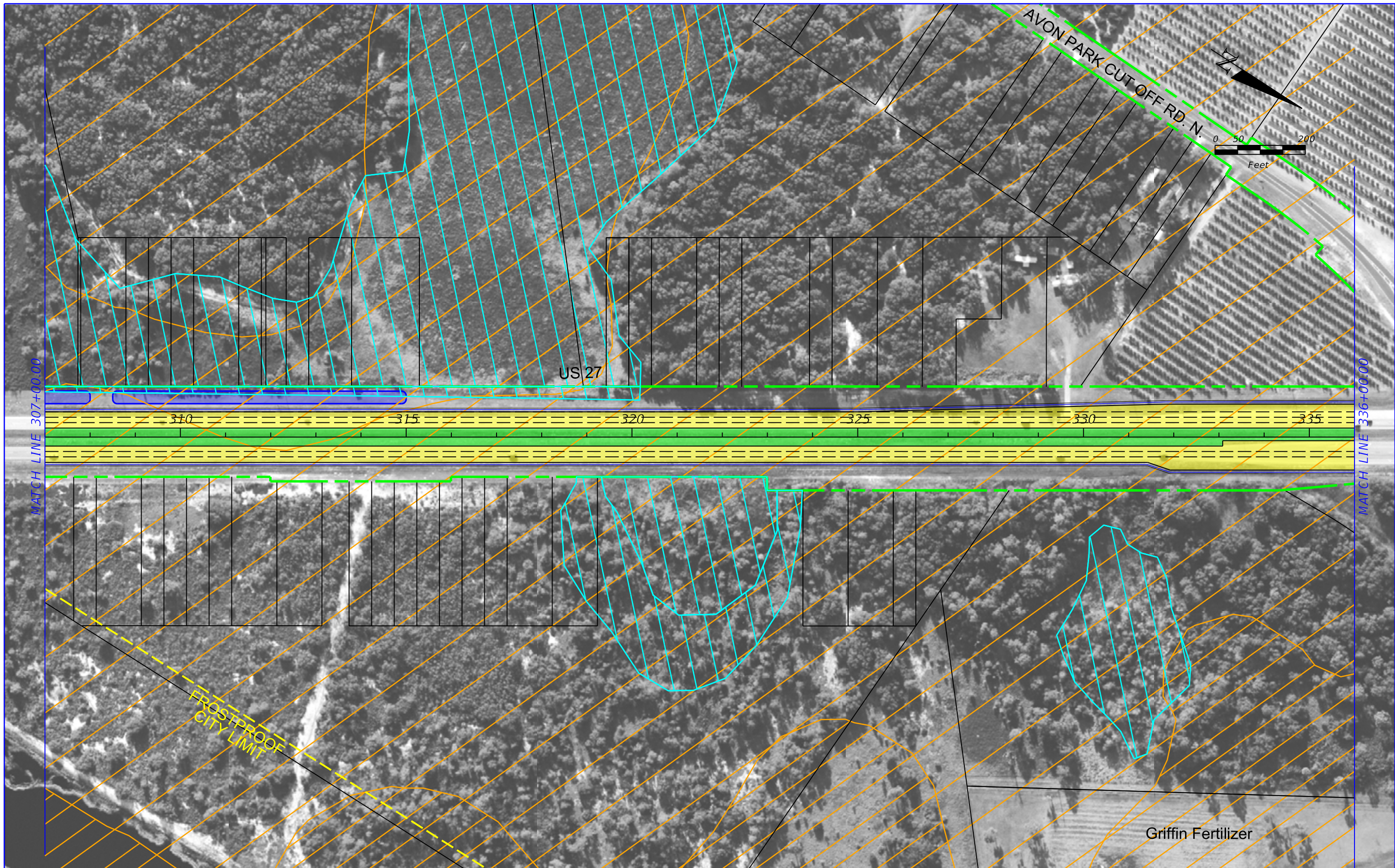
AECOM Technical Services, Inc.  
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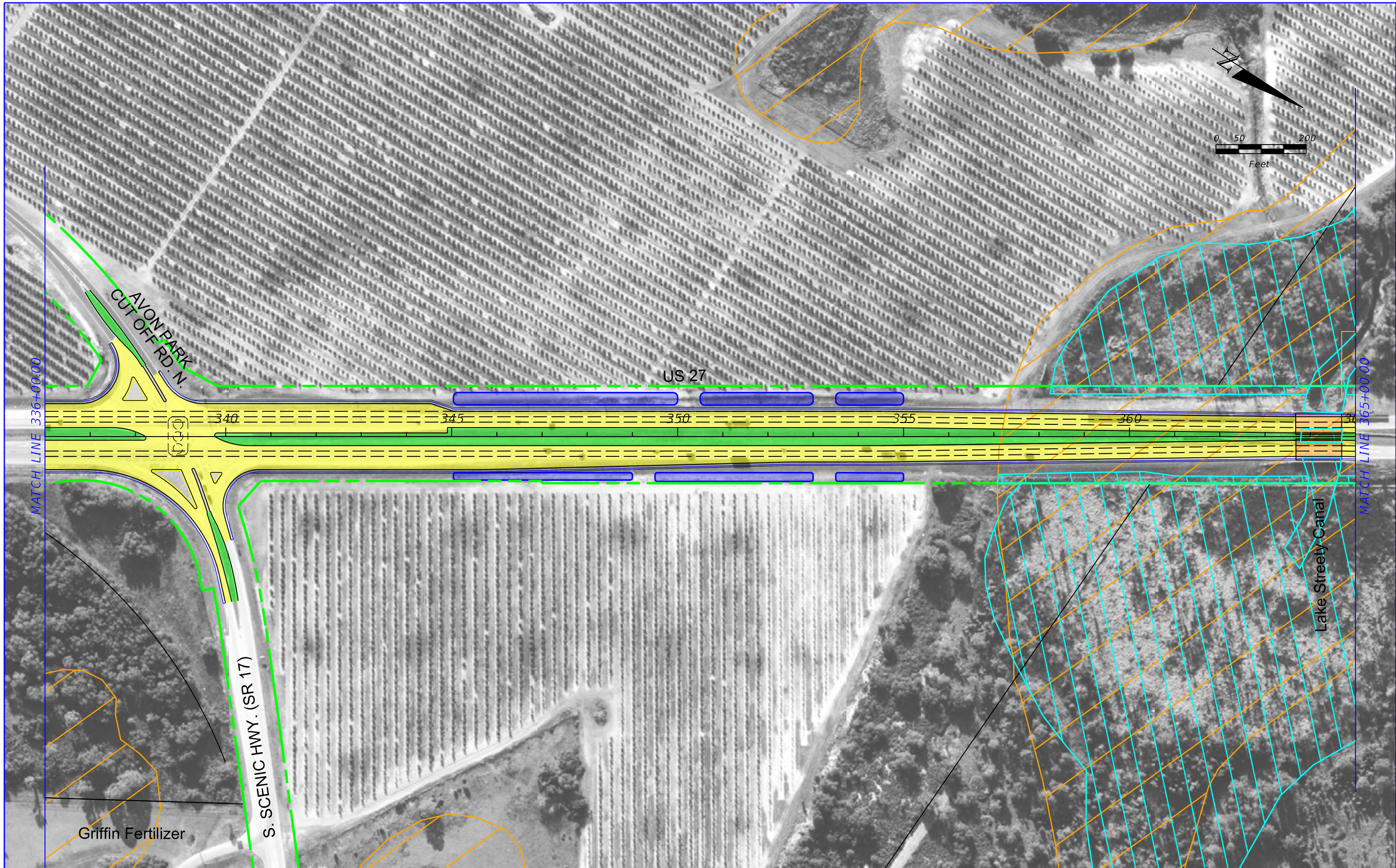
AECOM Technical Services, Inc.  
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SHEET NO.
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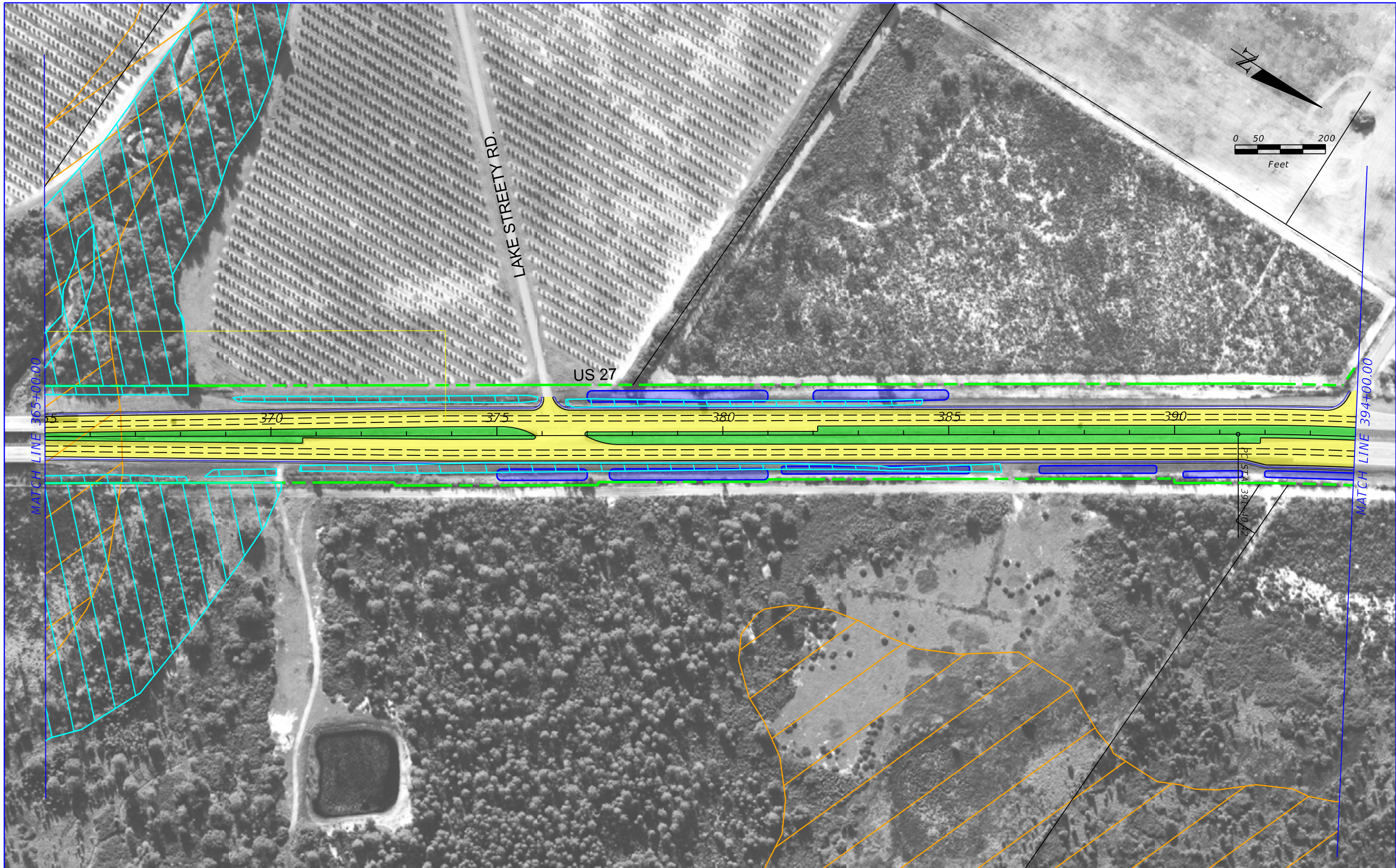
AECOM Technical Services, Inc.  
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**CONCEPT PLANS**

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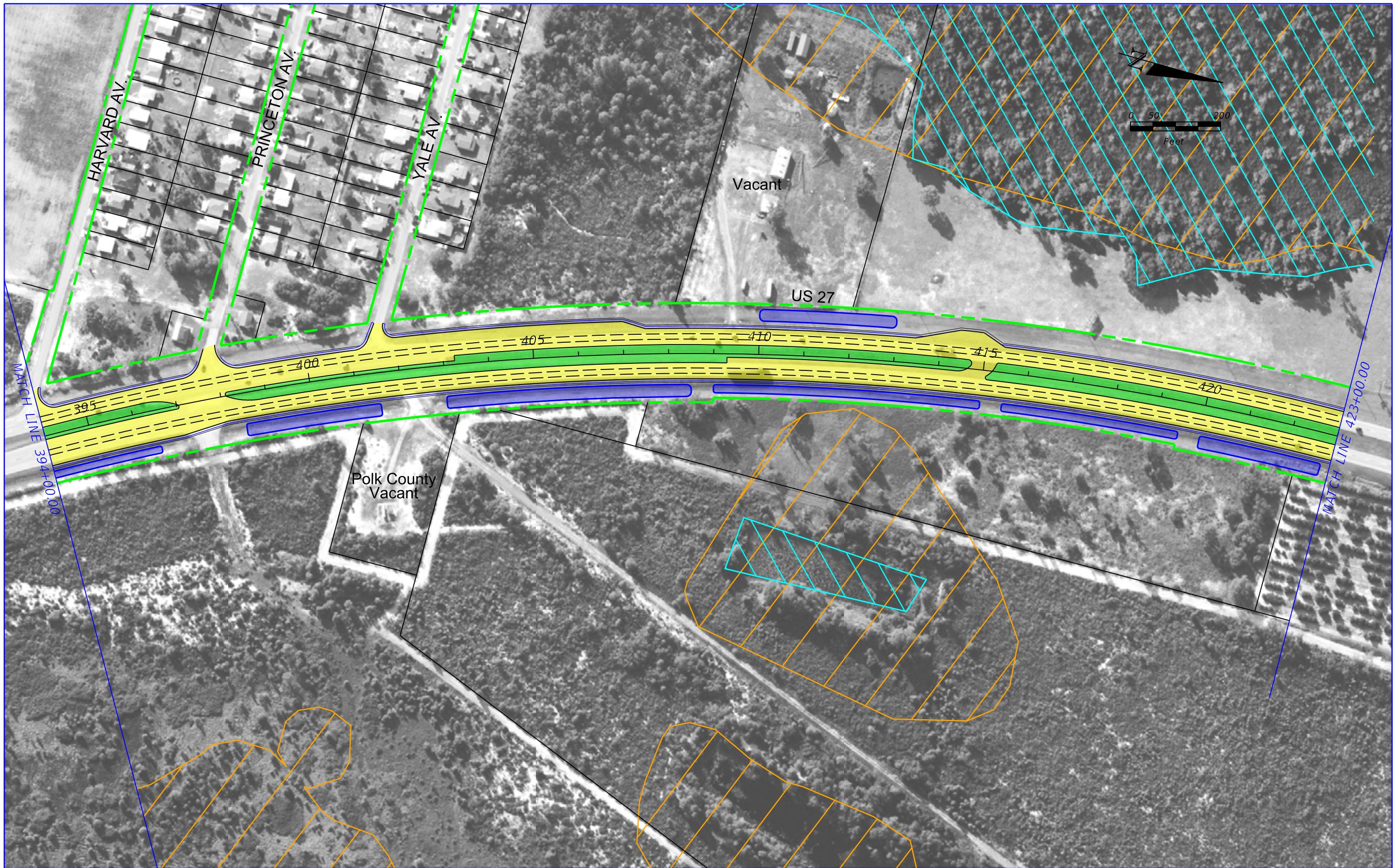
AECOM Technical Services, Inc.  
 7650 West Courtney  
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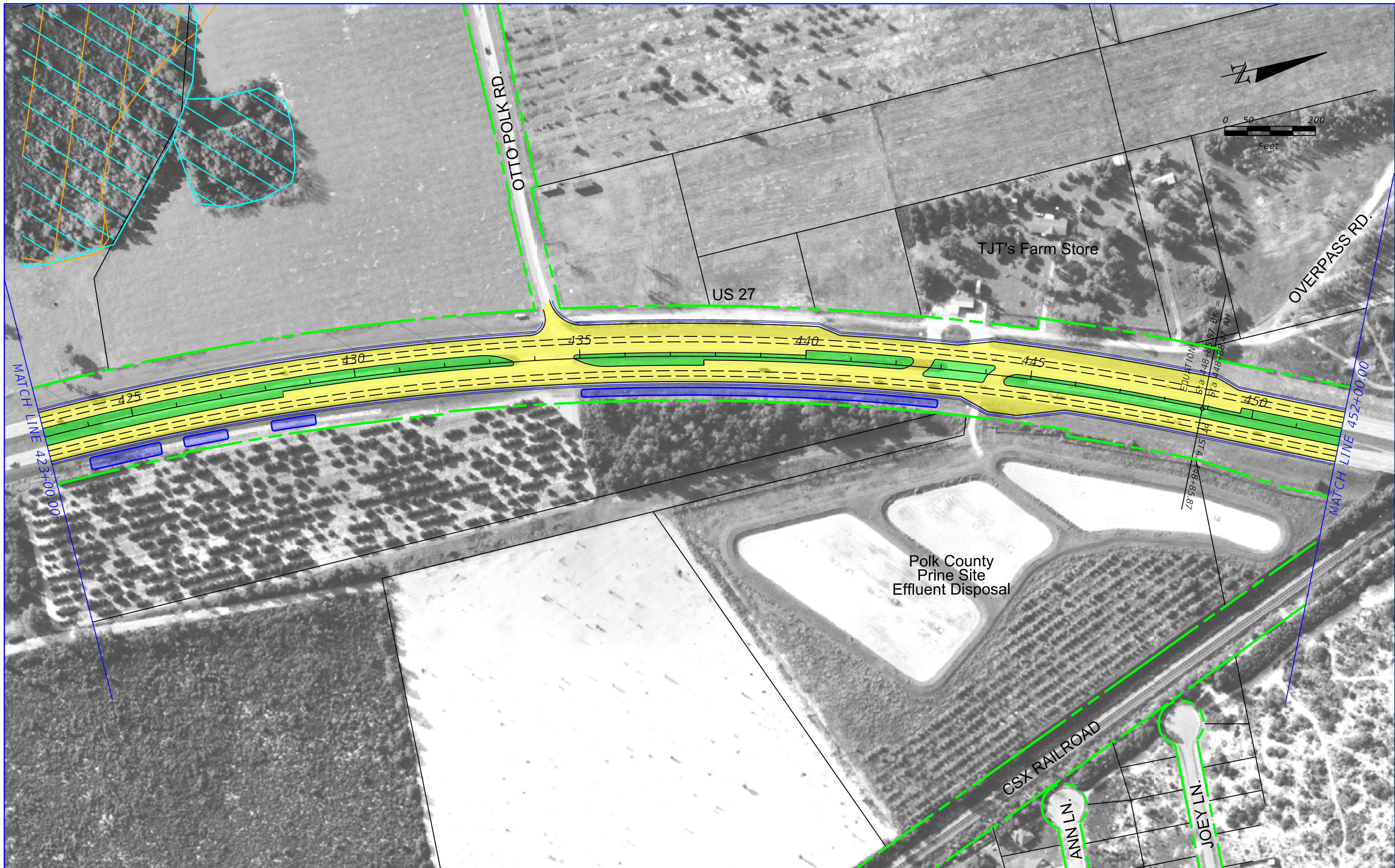
AECOM Technical Services, Inc.  
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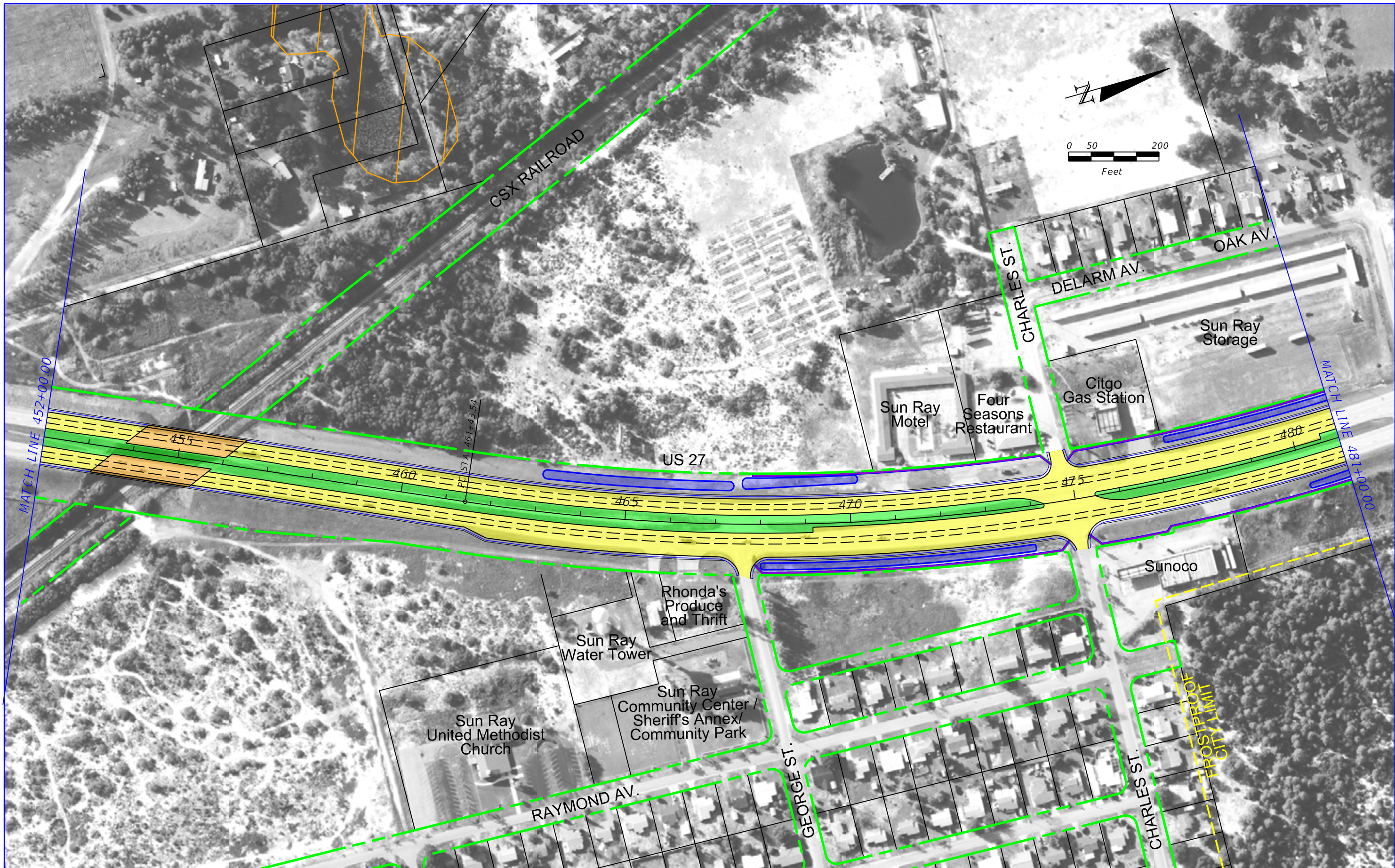
AECOM Technical Services, Inc.  
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**CONCEPT PLANS**

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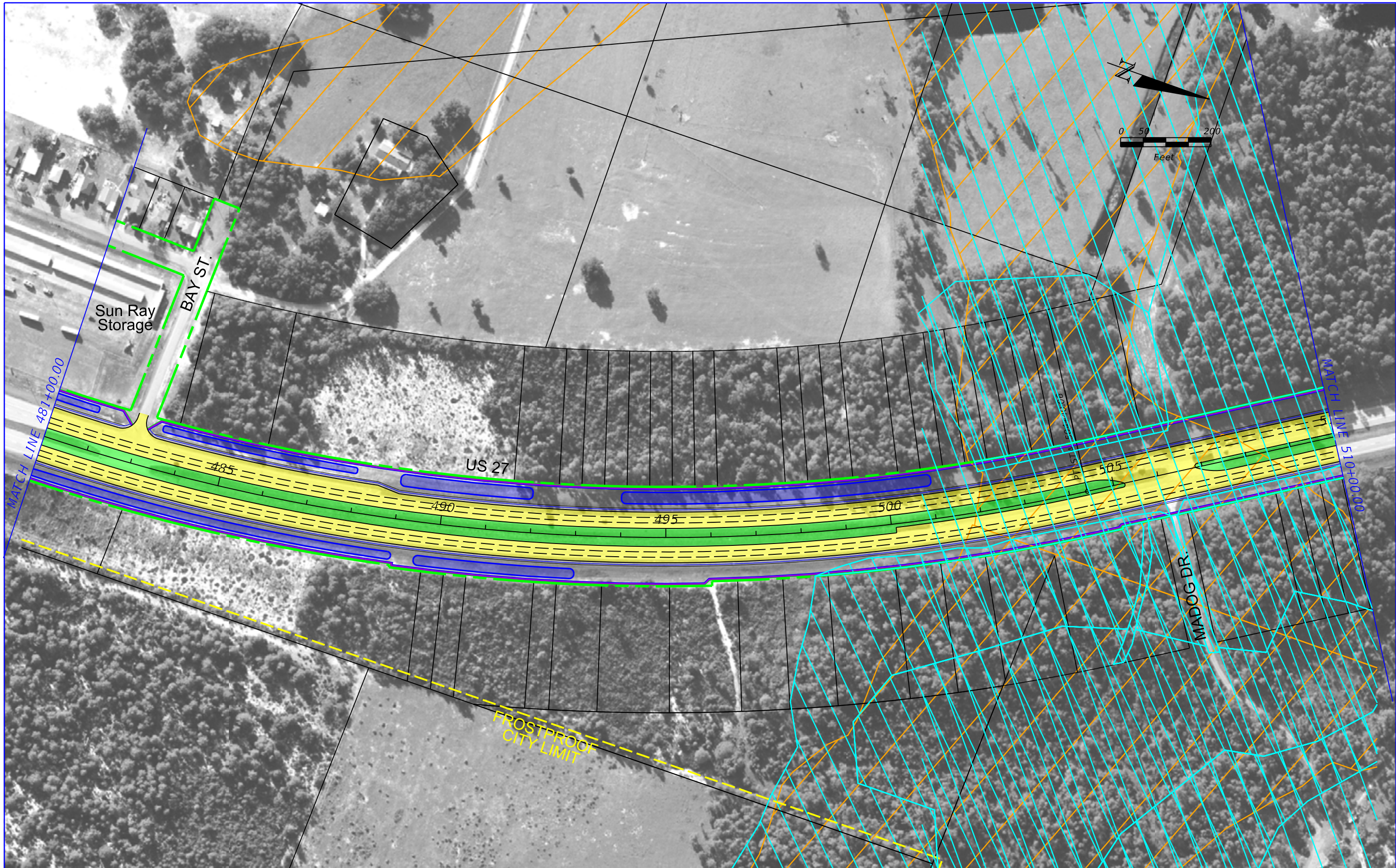
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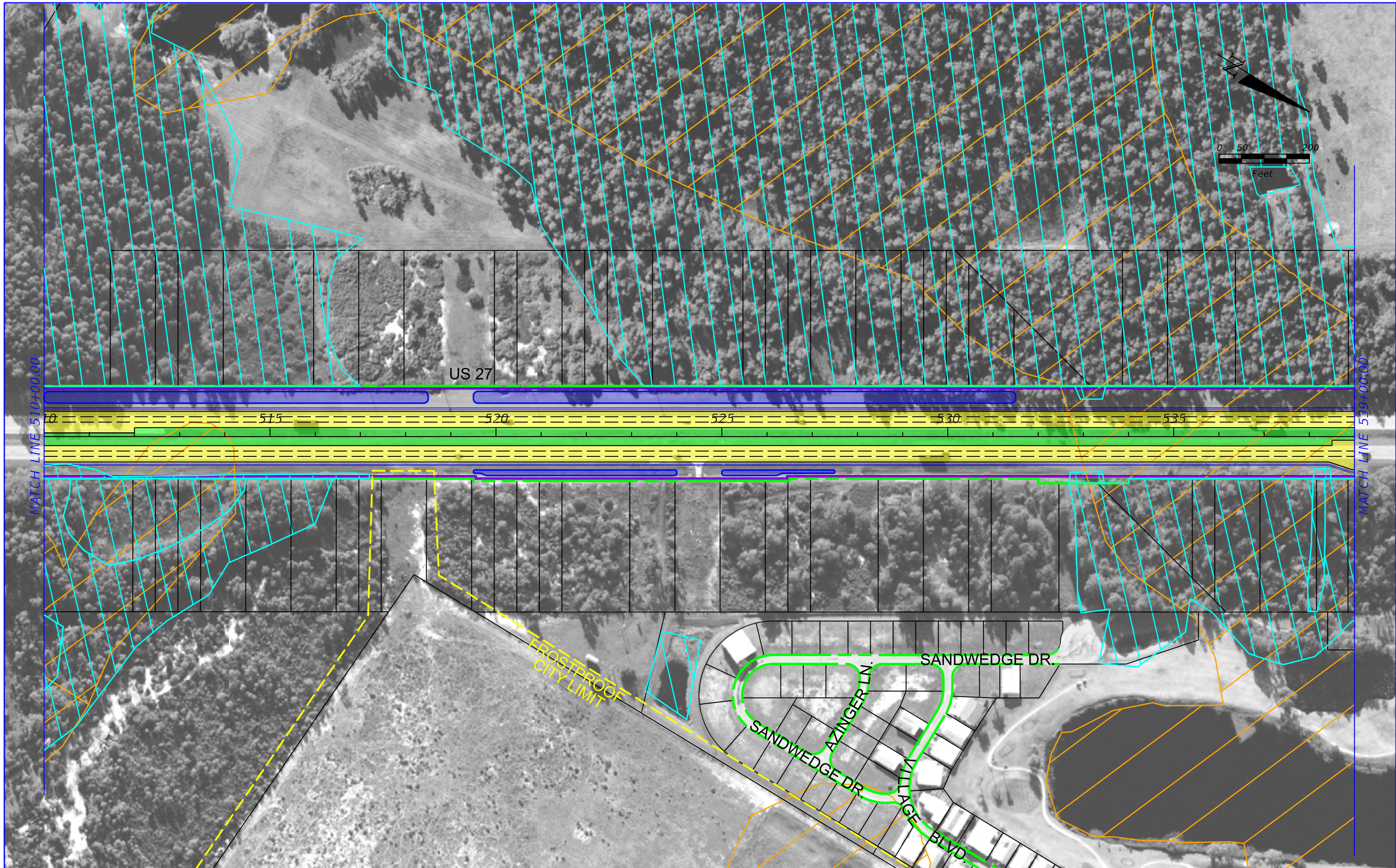
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2/15/2013	FINAL BASE MAPS.

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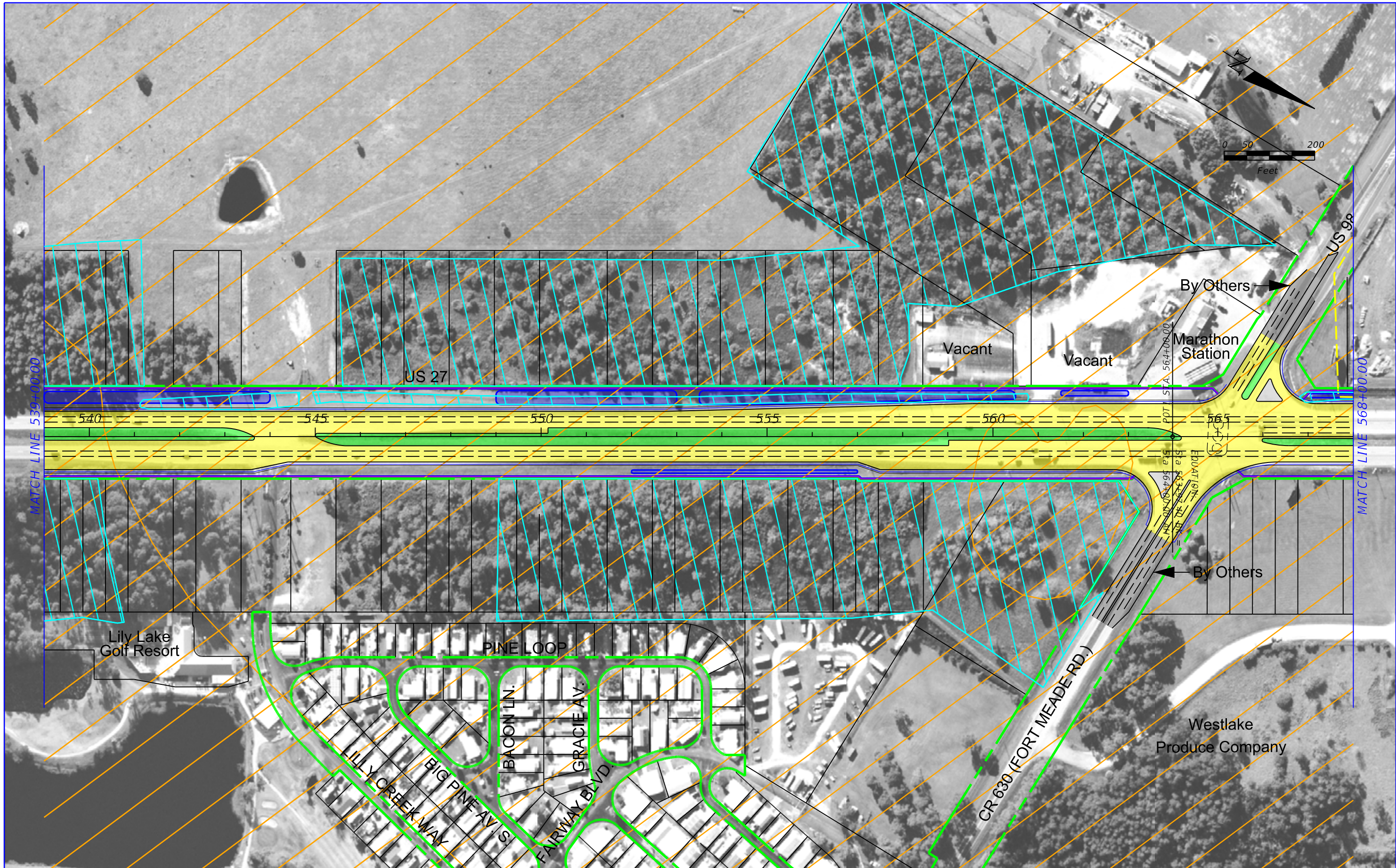
AECOM Technical Services, Inc.  
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**CONCEPT PLANS**

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REVISIONS	
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2/15/2013	FINAL BASE MAPS.

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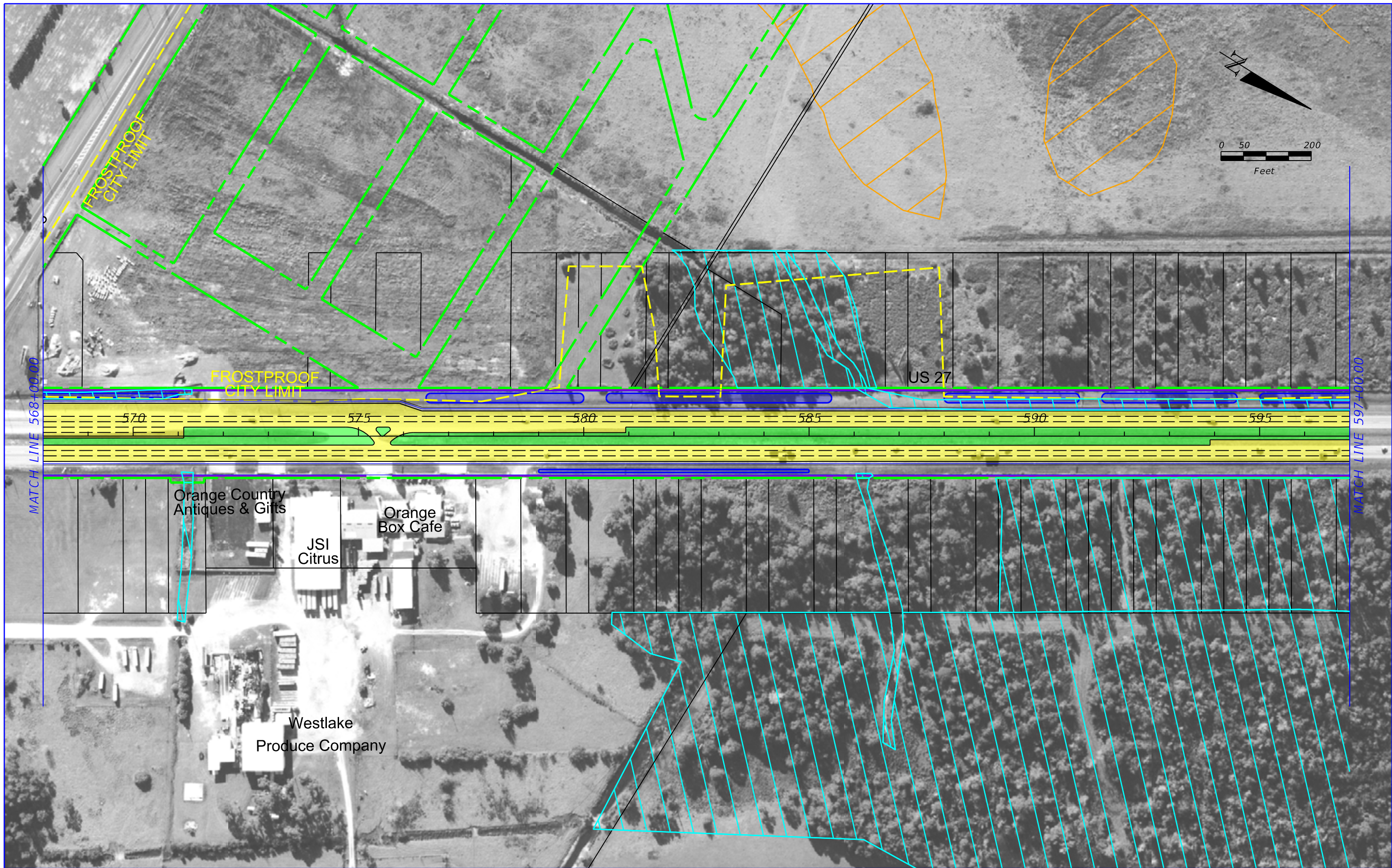
AECOM Technical Services, Inc.  
 7650 West Courtney  
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**CONCEPT PLANS**

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REVISIONS	
DATE	DESCRIPTION
2/15/2013	FINAL BASE MAPS.

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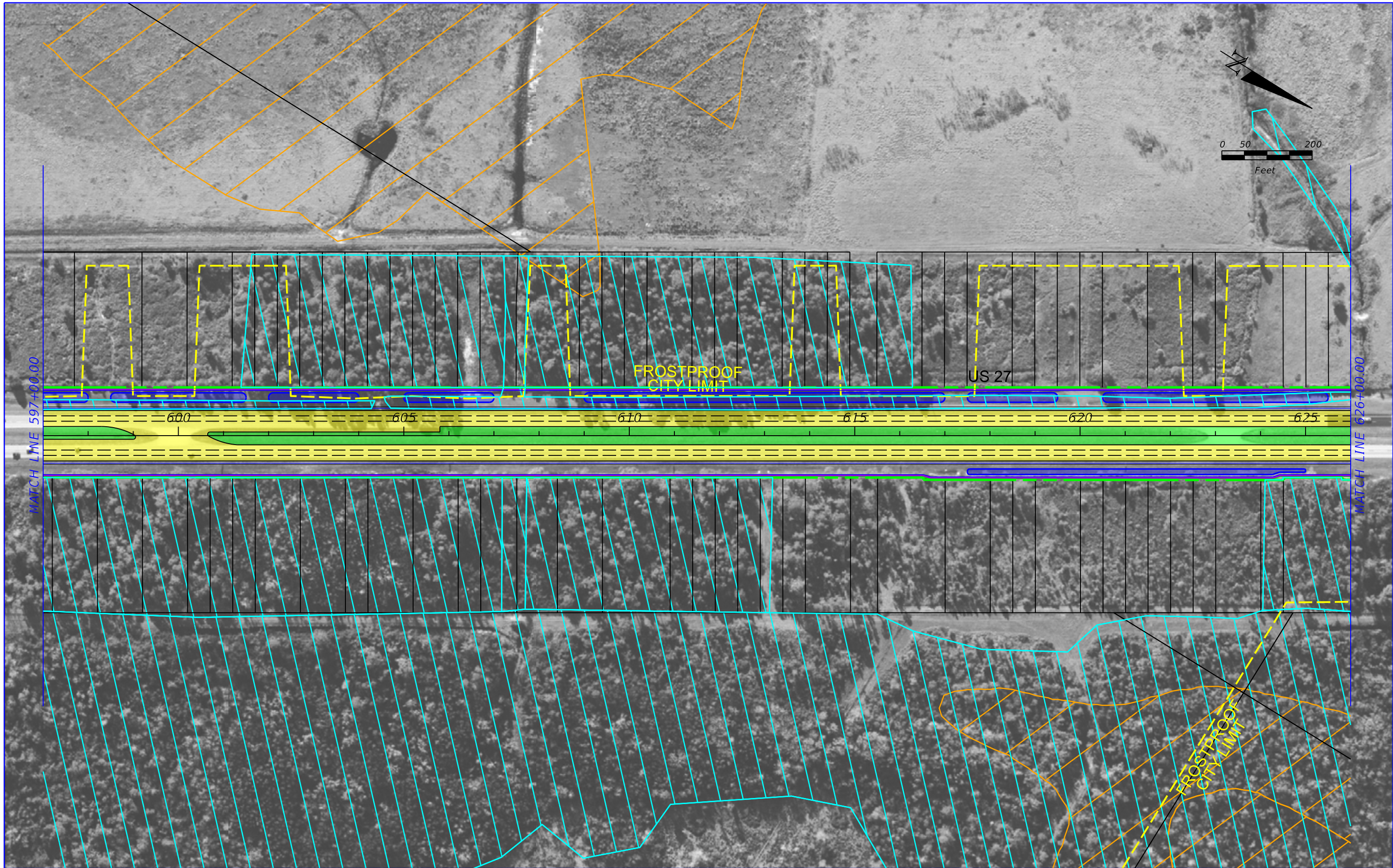
AECOM Technical Services, Inc.  
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**CONCEPT PLANS**

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REVISIONS	
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2/15/2013	FINAL BASE MAPS.

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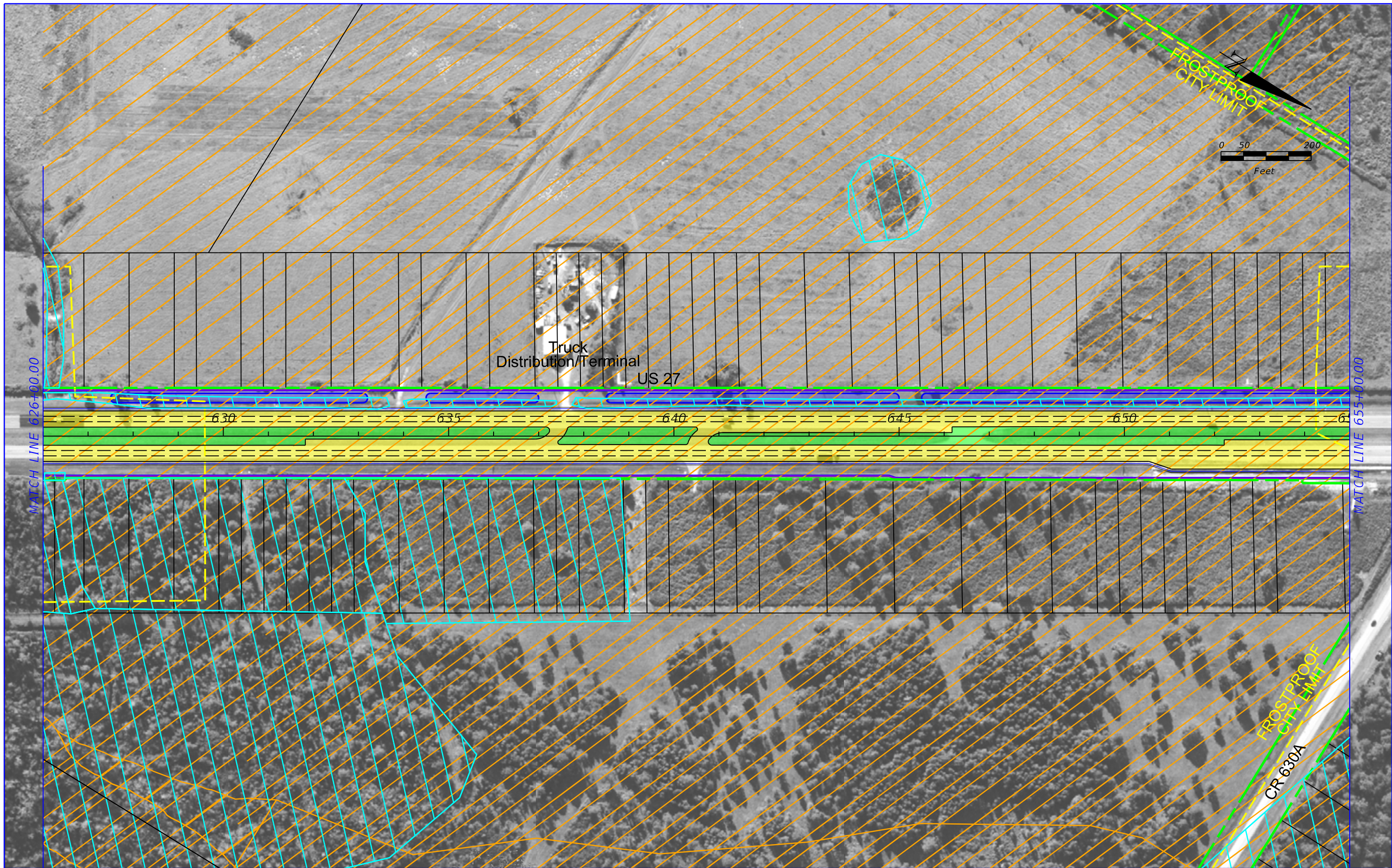
AECOM Technical Services, Inc.  
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**CONCEPT PLANS**

SHEET NO.  
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REVISIONS	
DATE	DESCRIPTION
2/15/2013	FINAL BASE MAPS.

**DRAFT - SUBJECT TO CHANGE - CONCEPTUAL LEVEL**  
 GRAPHIC FOR PLANNING PURPOSES ONLY. NOT  
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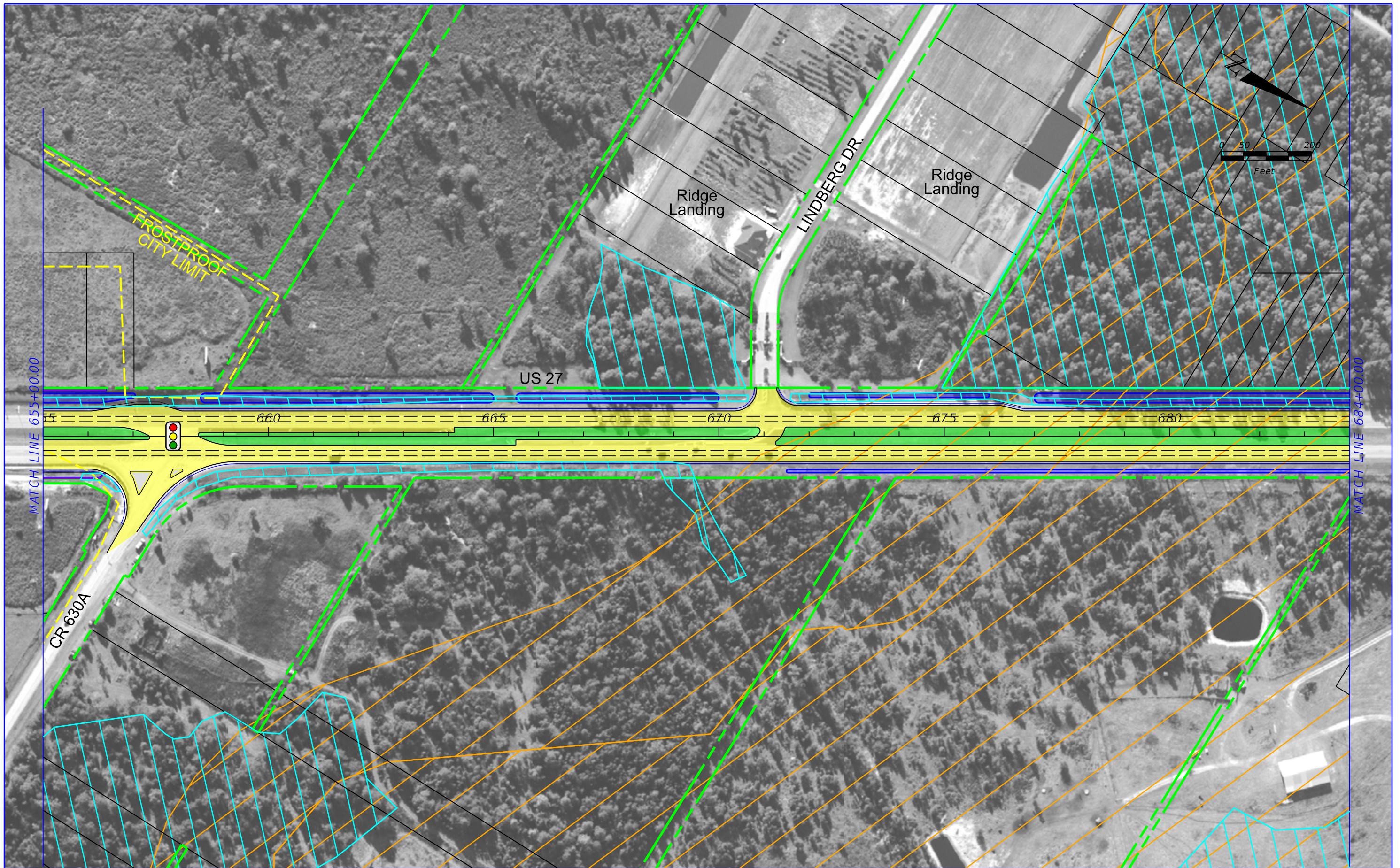
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**CONCEPT PLANS**

SHEET NO.
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REVISIONS	
DATE	DESCRIPTION
2/15/2013	FINAL BASE MAPS.

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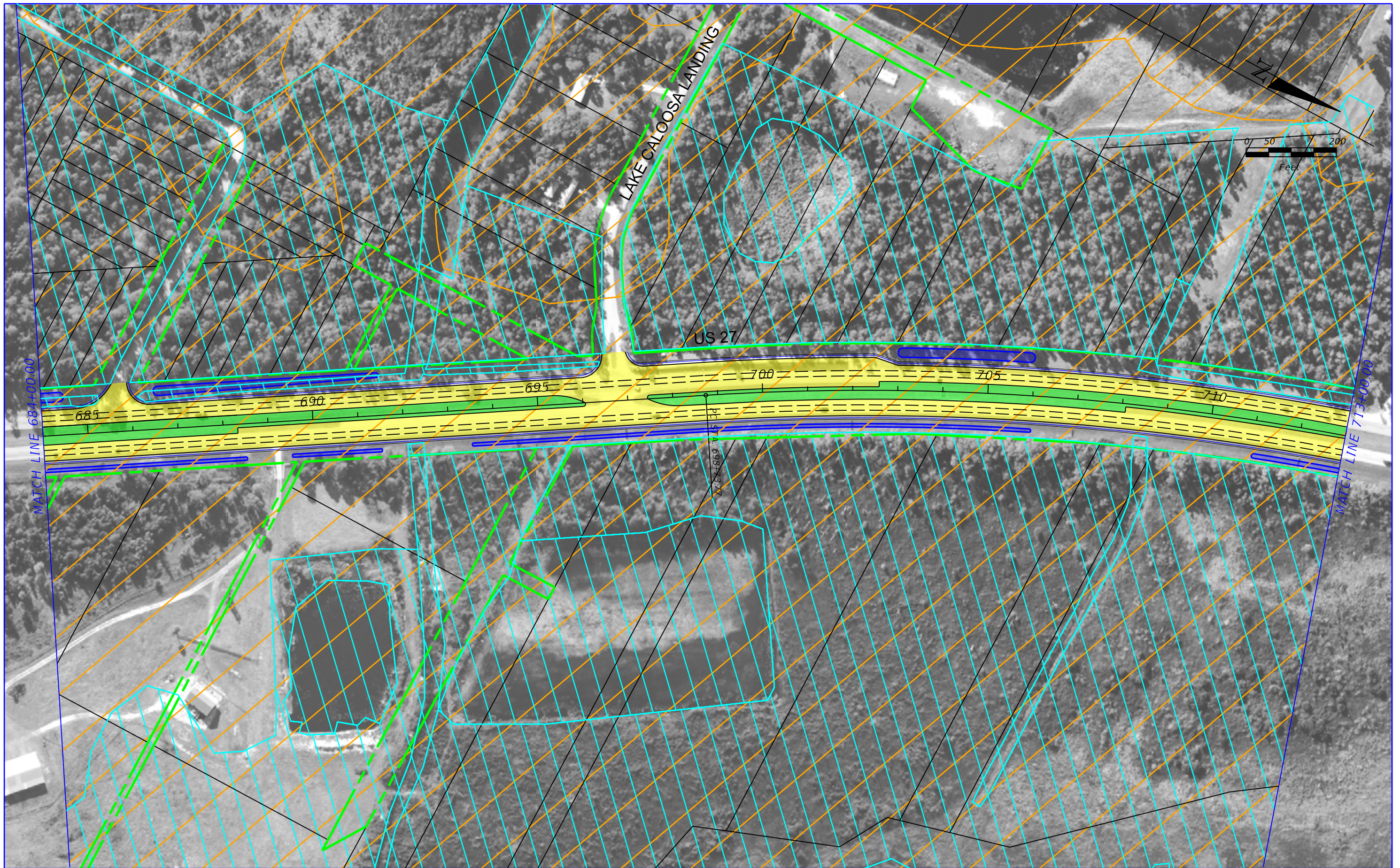
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**CONCEPT PLANS**

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REVISIONS	
DATE	DESCRIPTION
2/15/2013	FINAL BASE MAPS.

**DRAFT - SUBJECT TO CHANGE - CONCEPTUAL LEVEL GRAPHIC FOR PLANNING PURPOSES ONLY. NOT INTENDED FOR DESIGN OR CONSTRUCTION.**

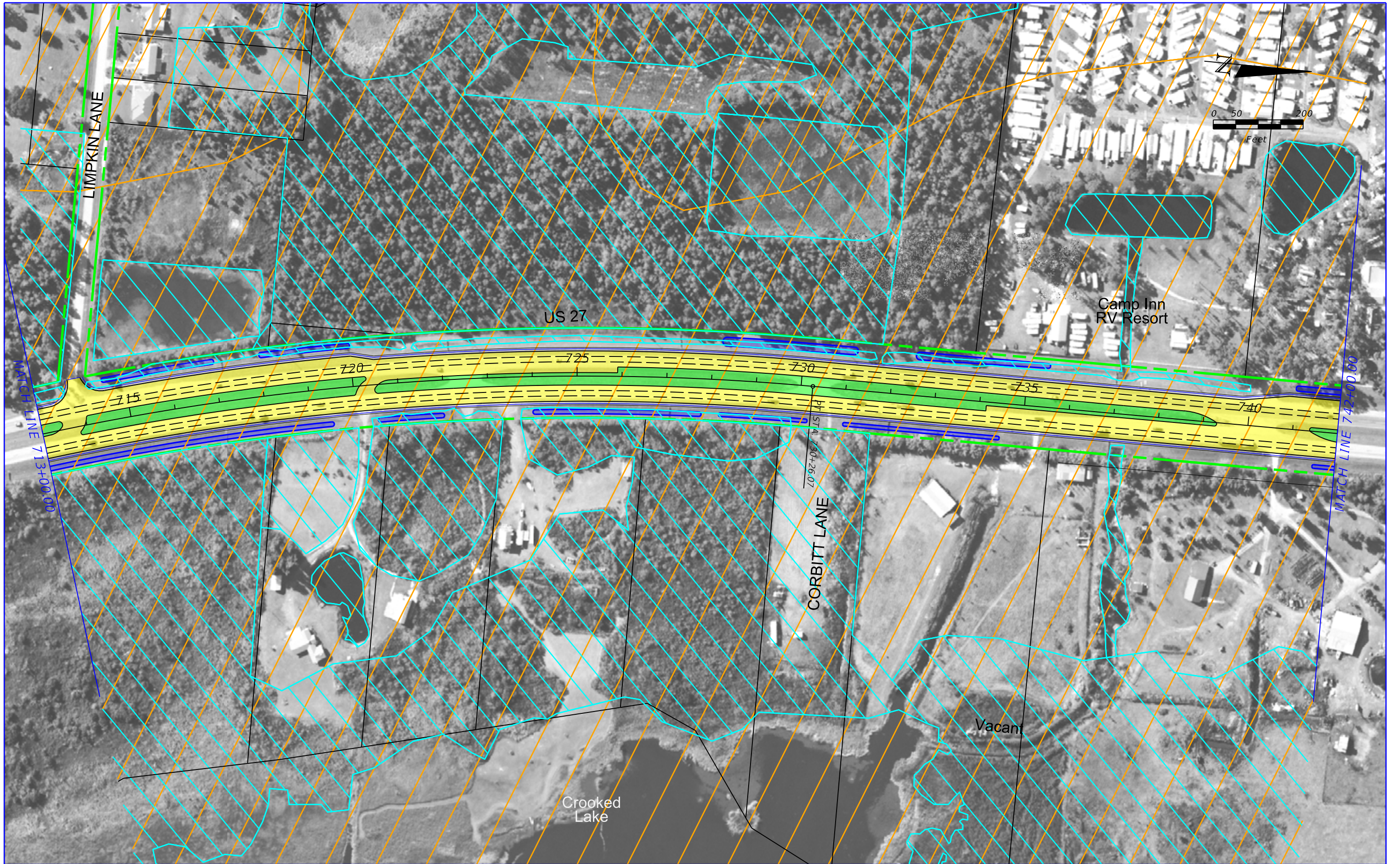
AECOM Technical Services, Inc.  
 7650 West Courtney  
 Campbell Causeway  
 Tampa, FL 33607-1462  
 C.A. No. 8115  
 Jeffrey W. Blazowski, P.E. No. 55527

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 27	POLK	419243-1-22-01

**CONCEPT PLANS**

SHEET NO.  
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REVISIONS	
DATE	DESCRIPTION
2/15/2013	FINAL BASE MAPS.

**DRAFT - SUBJECT TO CHANGE - CONCEPTUAL LEVEL GRAPHIC FOR PLANNING PURPOSES ONLY. NOT INTENDED FOR DESIGN OR CONSTRUCTION.**

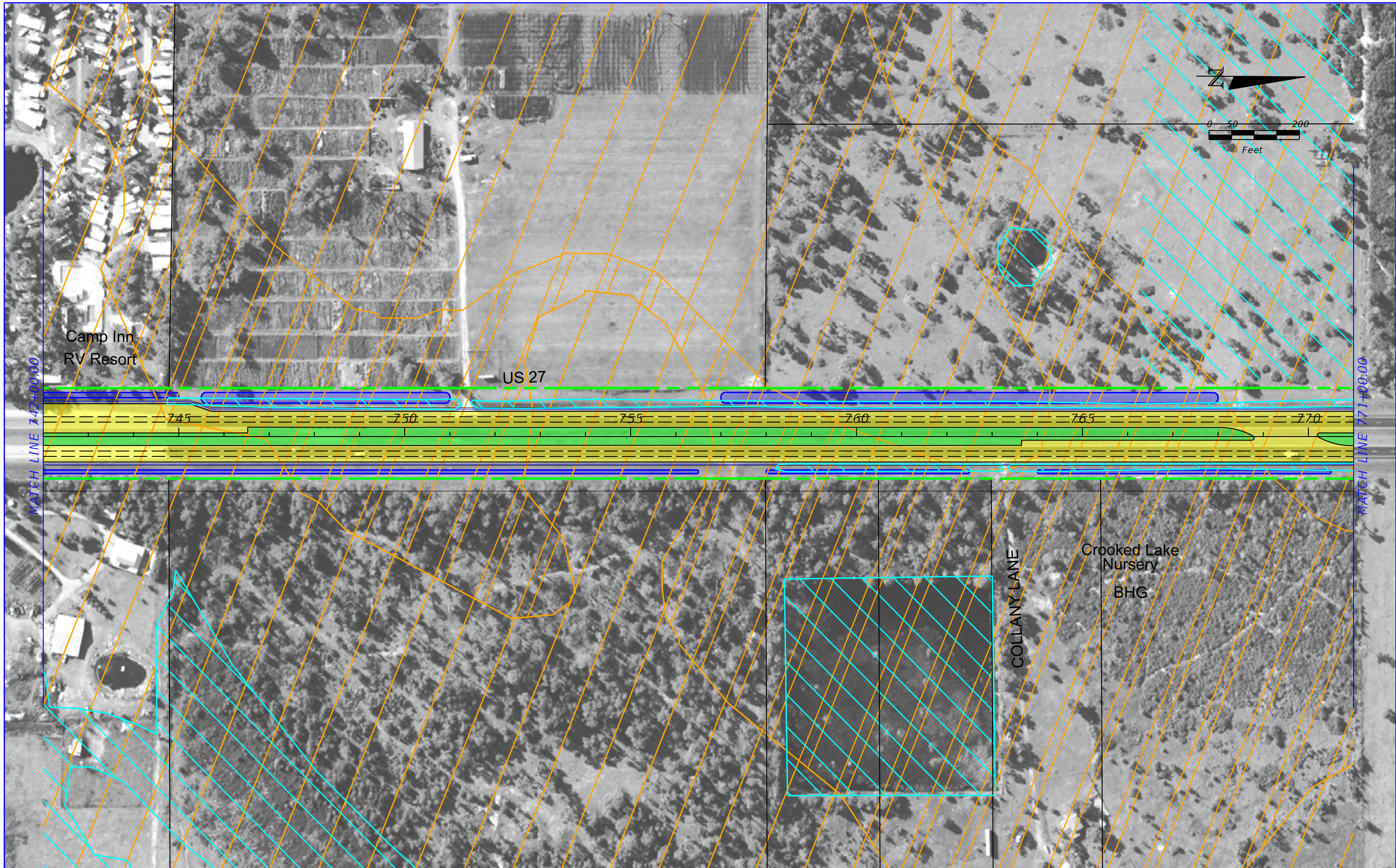
AECOM Technical Services, Inc.  
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 27	POLK	419243-1-22-01

**CONCEPT PLANS**

SHEET NO.
19





REVISIONS	
DATE	DESCRIPTION
2/15/2013	FINAL BASE MAPS.

**DRAFT - SUBJECT TO CHANGE - CONCEPTUAL LEVEL GRAPHIC FOR PLANNING PURPOSES ONLY. NOT INTENDED FOR DESIGN OR CONSTRUCTION.**

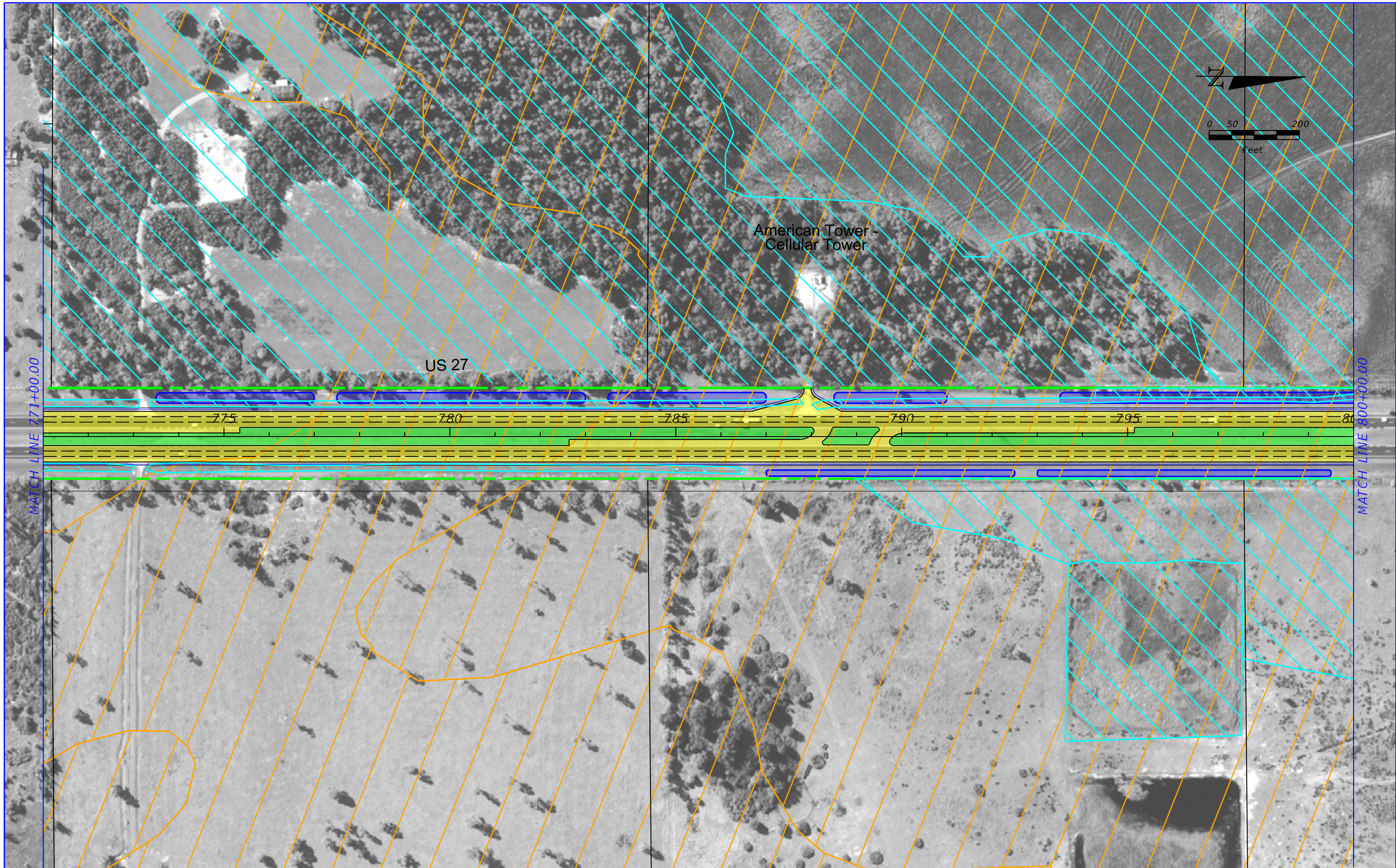
AECOM Technical Services, Inc.  
 7650 West Courtney  
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 Tampa, FL 33607-1462  
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
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**CONCEPT PLANS**

SHEET NO.  
20





REVISIONS	
DATE	DESCRIPTION
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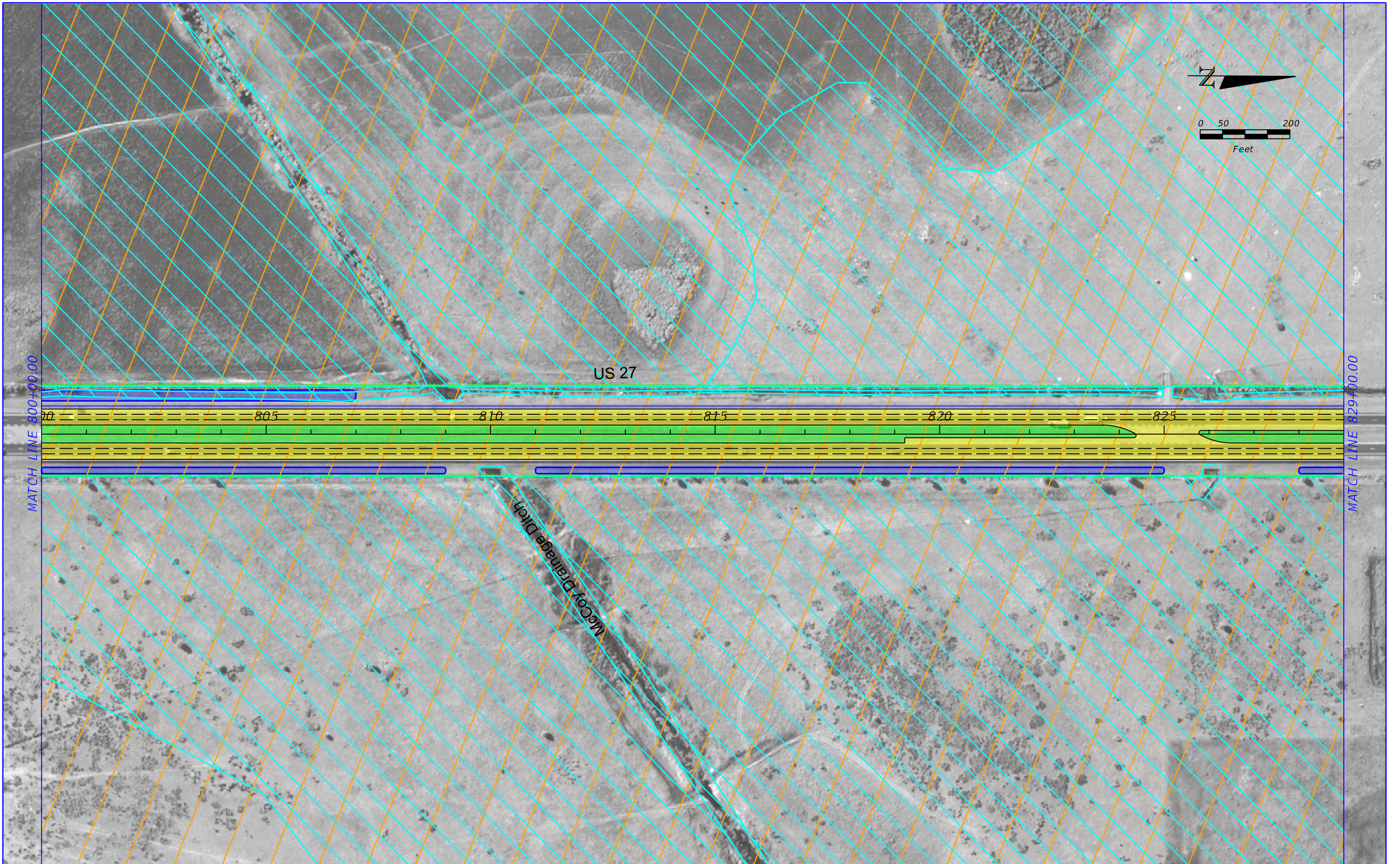
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
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**CONCEPT PLANS**

SHEET NO.  
21





REVISIONS	
DATE	DESCRIPTION
2/15/2013	FINAL BASE MAPS.

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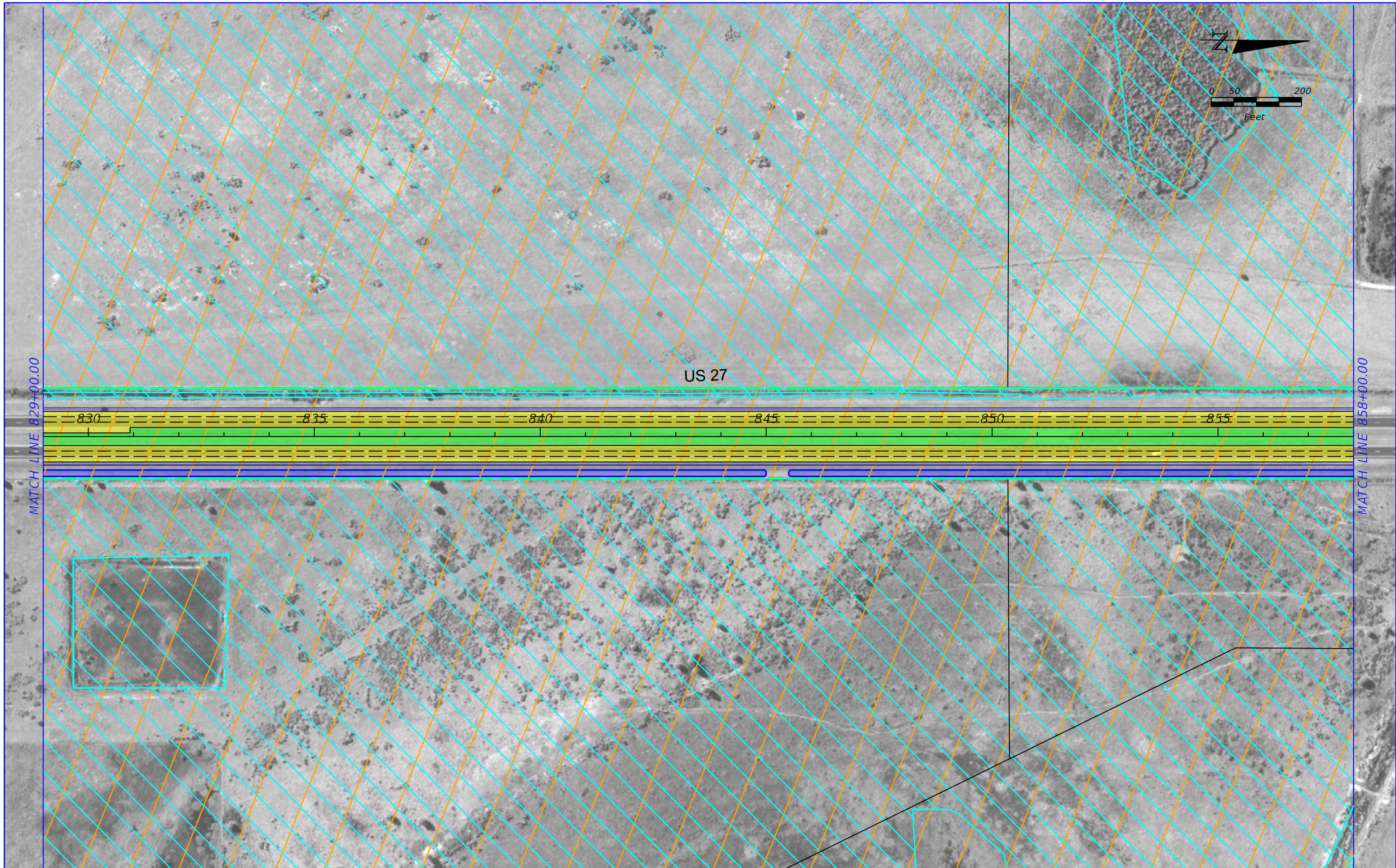
AECOM Technical Services, Inc.  
 7650 West Courtney  
 Campbell Causeway  
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 27	POLK	419243-1-22-01

**CONCEPT PLANS**

SHEET NO.
22





REVISIONS	
DATE	DESCRIPTION
2/15/2013	FINAL BASE MAPS.

**DRAFT - SUBJECT TO CHANGE - CONCEPTUAL LEVEL GRAPHIC FOR PLANNING PURPOSES ONLY. NOT INTENDED FOR DESIGN OR CONSTRUCTION.**

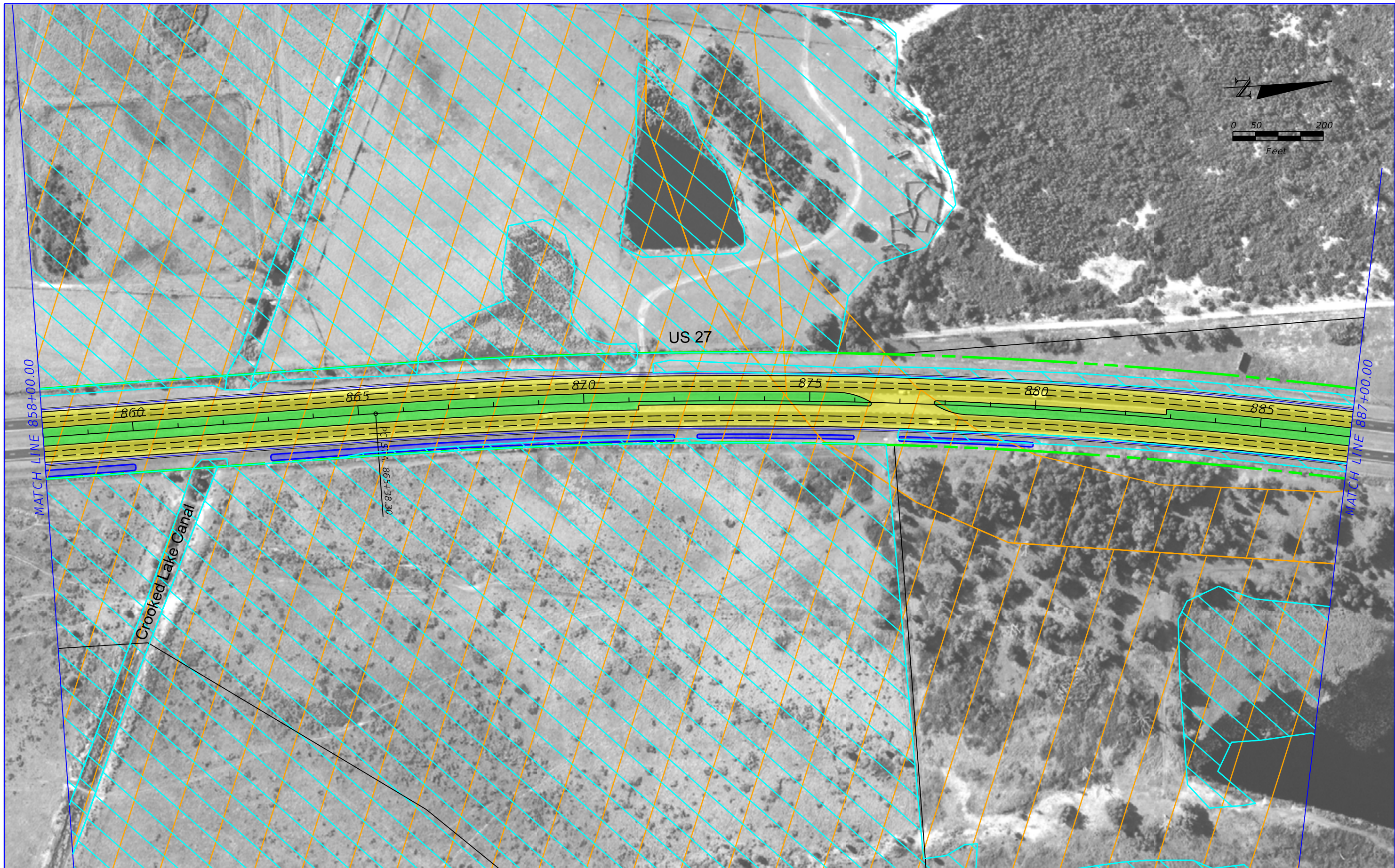
AECOM Technical Services, Inc.  
 7650 West Courtney  
 Campbell Causeway  
 Tampa, FL 33607-1462  
 C.A. No. 8115  
 Jeffrey W. Blazowski, P.E. No. 55527

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 27	POLK	419243-1-22-01

**CONCEPT PLANS**

SHEET NO.  
23





REVISIONS	
DATE	DESCRIPTION
2/15/2013	FINAL BASE MAPS.

**DRAFT - SUBJECT TO CHANGE - CONCEPTUAL LEVEL GRAPHIC FOR PLANNING PURPOSES ONLY. NOT INTENDED FOR DESIGN OR CONSTRUCTION.**

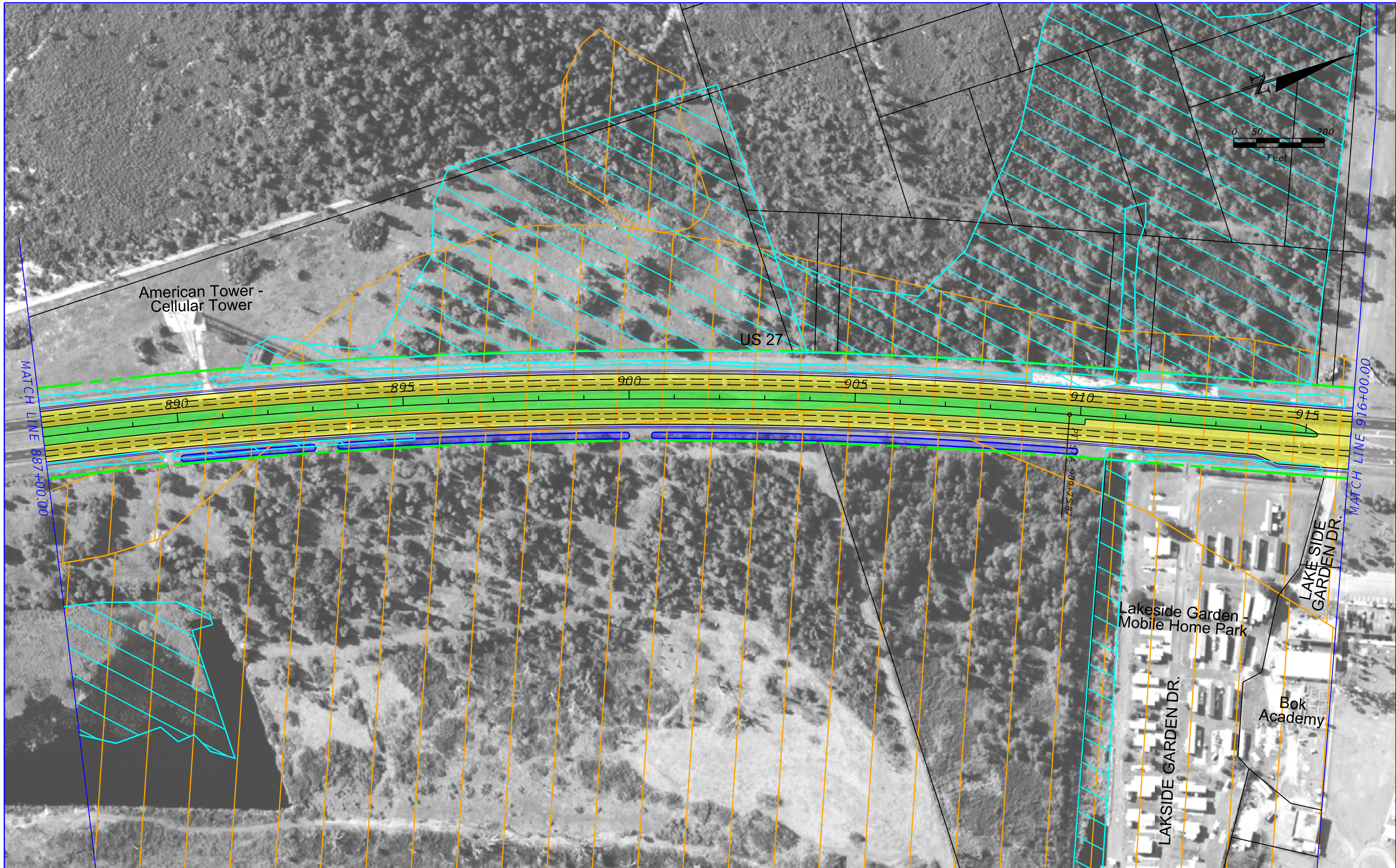
AECOM Technical Services, Inc.  
 7650 West Courtney  
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 27	POLK	419243-1-22-01

**CONCEPT PLANS**

SHEET NO.  
24





REVISIONS	
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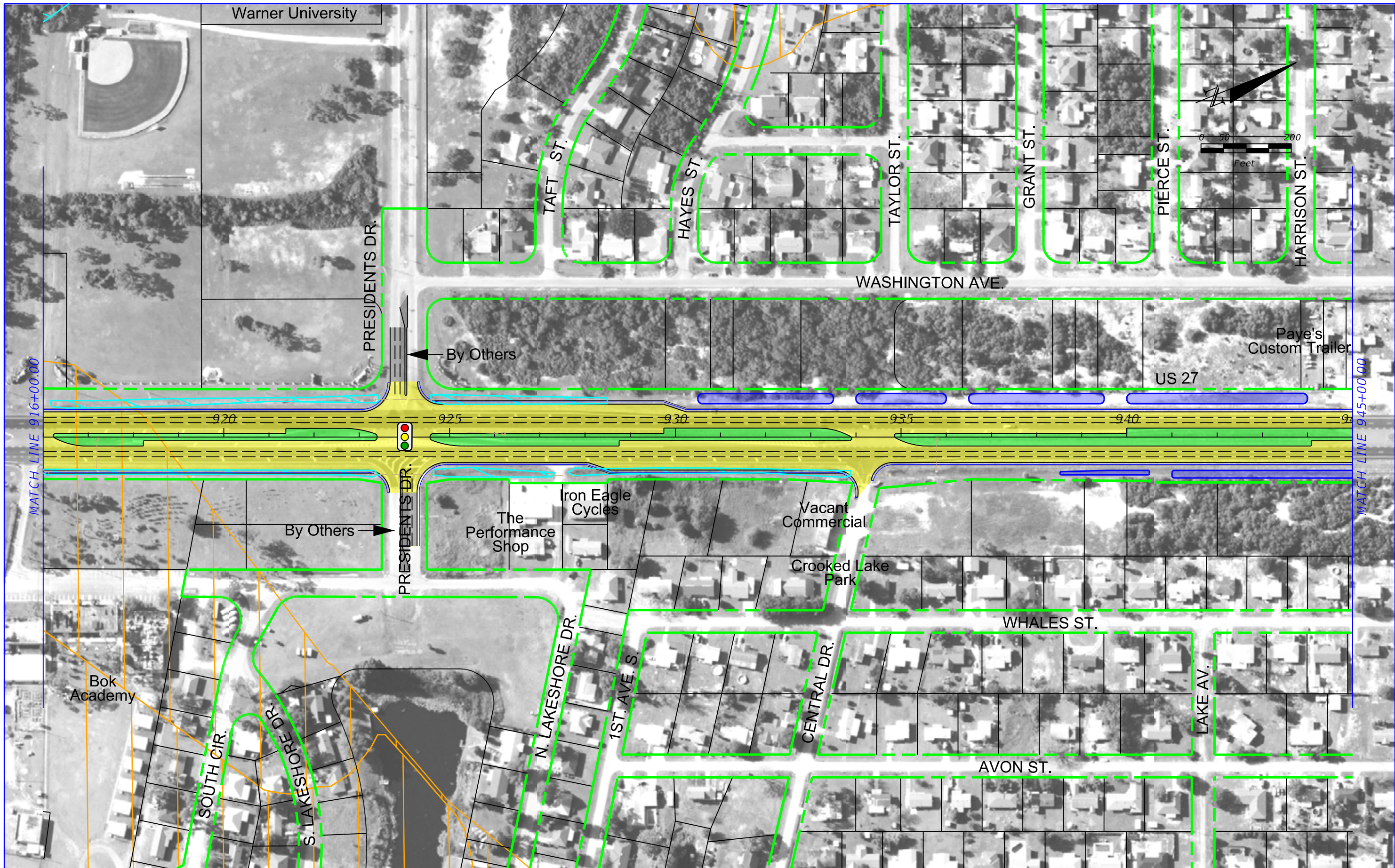
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**CONCEPT PLANS**

SHEET NO.
25





REVISIONS	
DATE	DESCRIPTION
2/15/2013	FINAL BASE MAPS.

**DRAFT - SUBJECT TO CHANGE - CONCEPTUAL LEVEL GRAPHIC FOR PLANNING PURPOSES ONLY. NOT INTENDED FOR DESIGN OR CONSTRUCTION.**

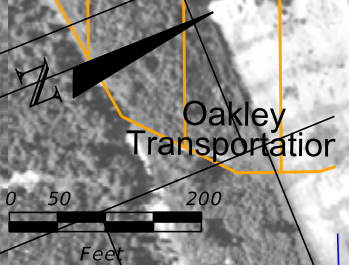
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 27	POLK	419243-1-22-01

**CONCEPT PLANS**

SHEET NO.  
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MATCH LINE 945+00.00

MATCH LINE 975+00.00

EDUCATION:  
STA 971+16.50 BK =  
STA 972+21.68 AH =

REVISIONS	
DATE	DESCRIPTION
2/15/2013	FINAL BASE MAPS.

**DRAFT - SUBJECT TO CHANGE - CONCEPTUAL LEVEL GRAPHIC FOR PLANNING PURPOSES ONLY. NOT INTENDED FOR DESIGN OR CONSTRUCTION.**

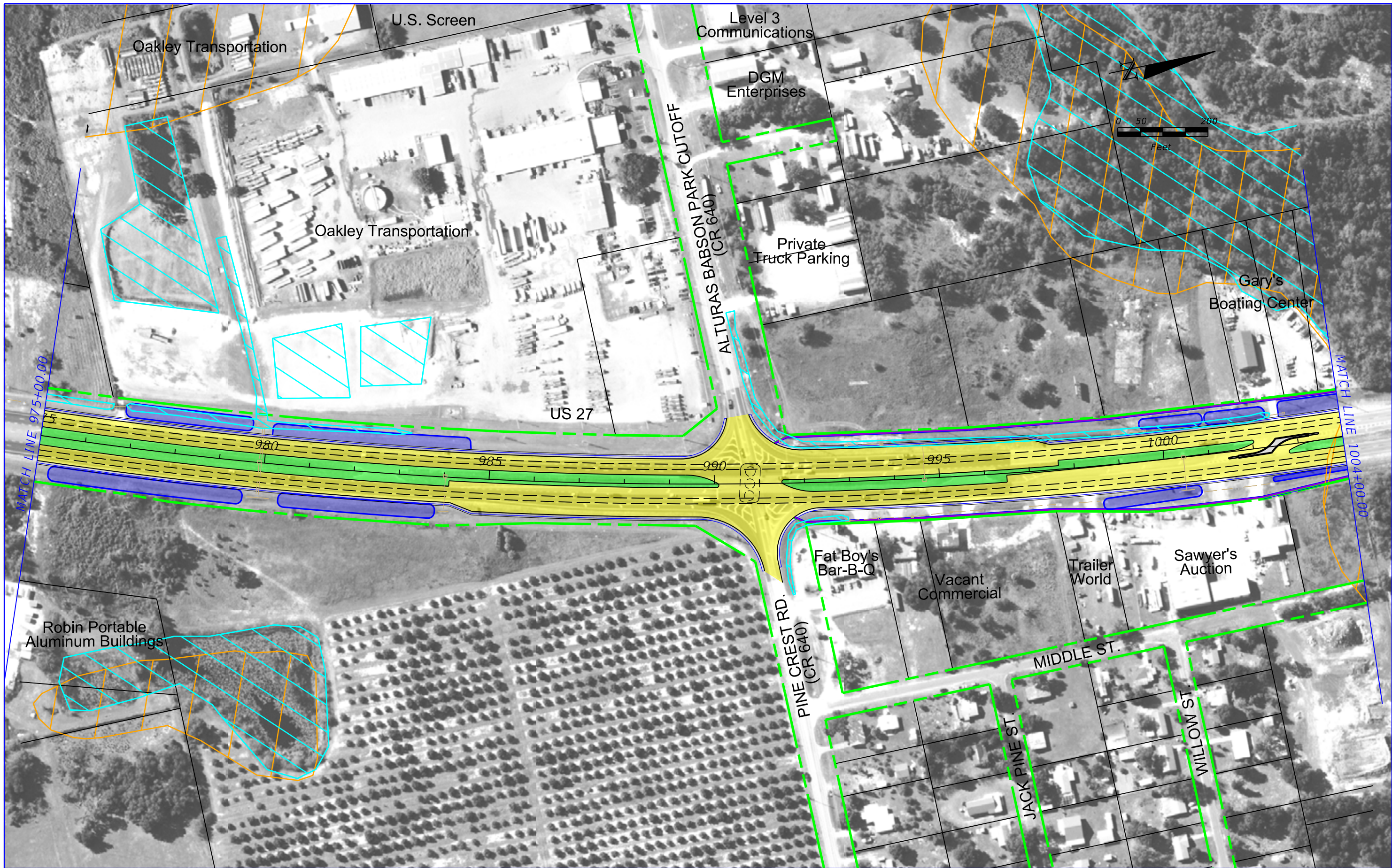
AECOM Technical Services, Inc.  
7650 West Courtney  
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 27	POLK	419243-1-22-01

**CONCEPT PLANS**

SHEET NO.  
**27**





REVISIONS	
DATE	DESCRIPTION
2/15/2013	FINAL BASE MAPS.

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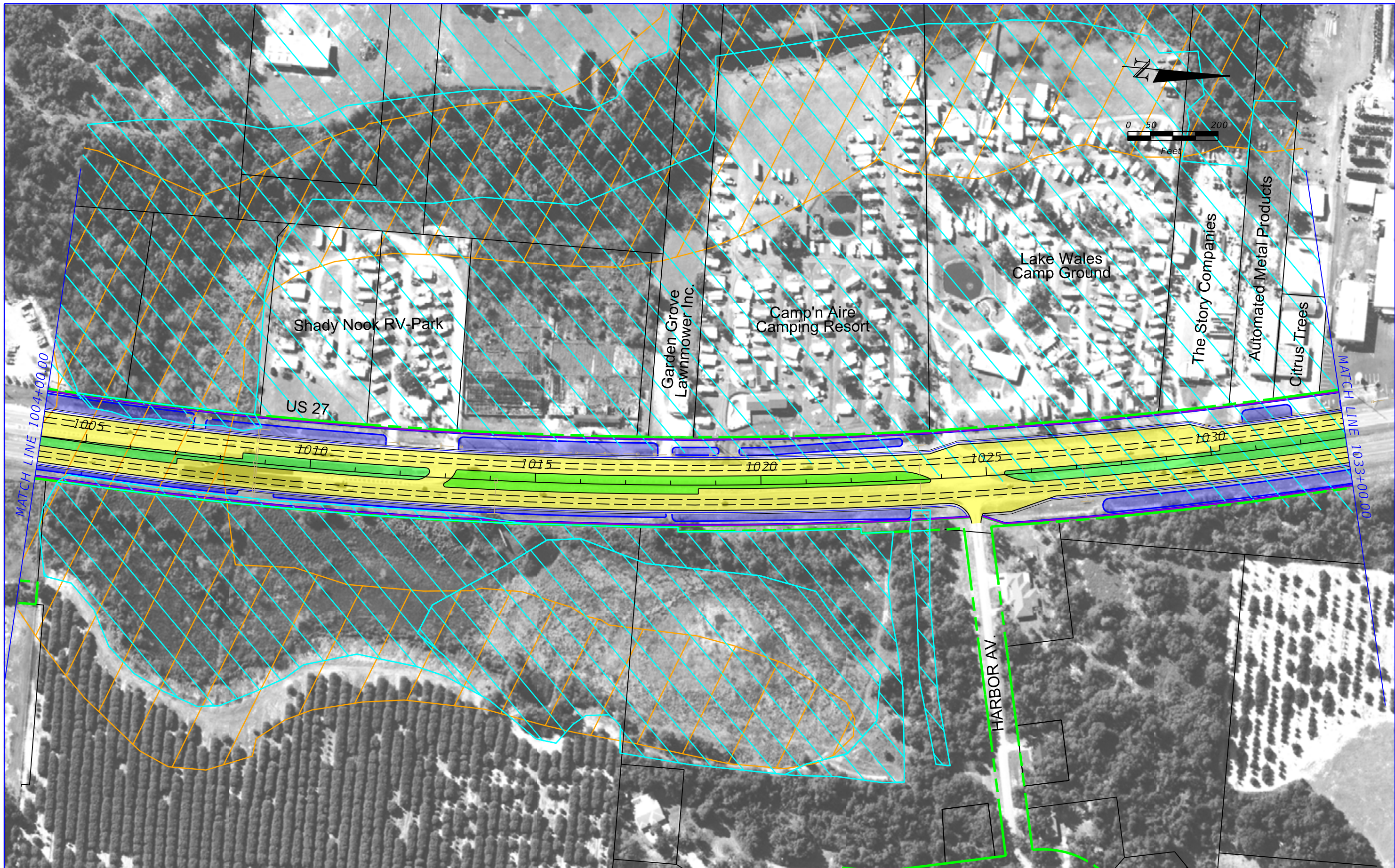
AECOM Technical Services, Inc.  
 7650 West Courtney  
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
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US 27	POLK	419243-1-22-01

**CONCEPT PLANS**

SHEET NO.  
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2/15/2013	FINAL BASE MAPS.

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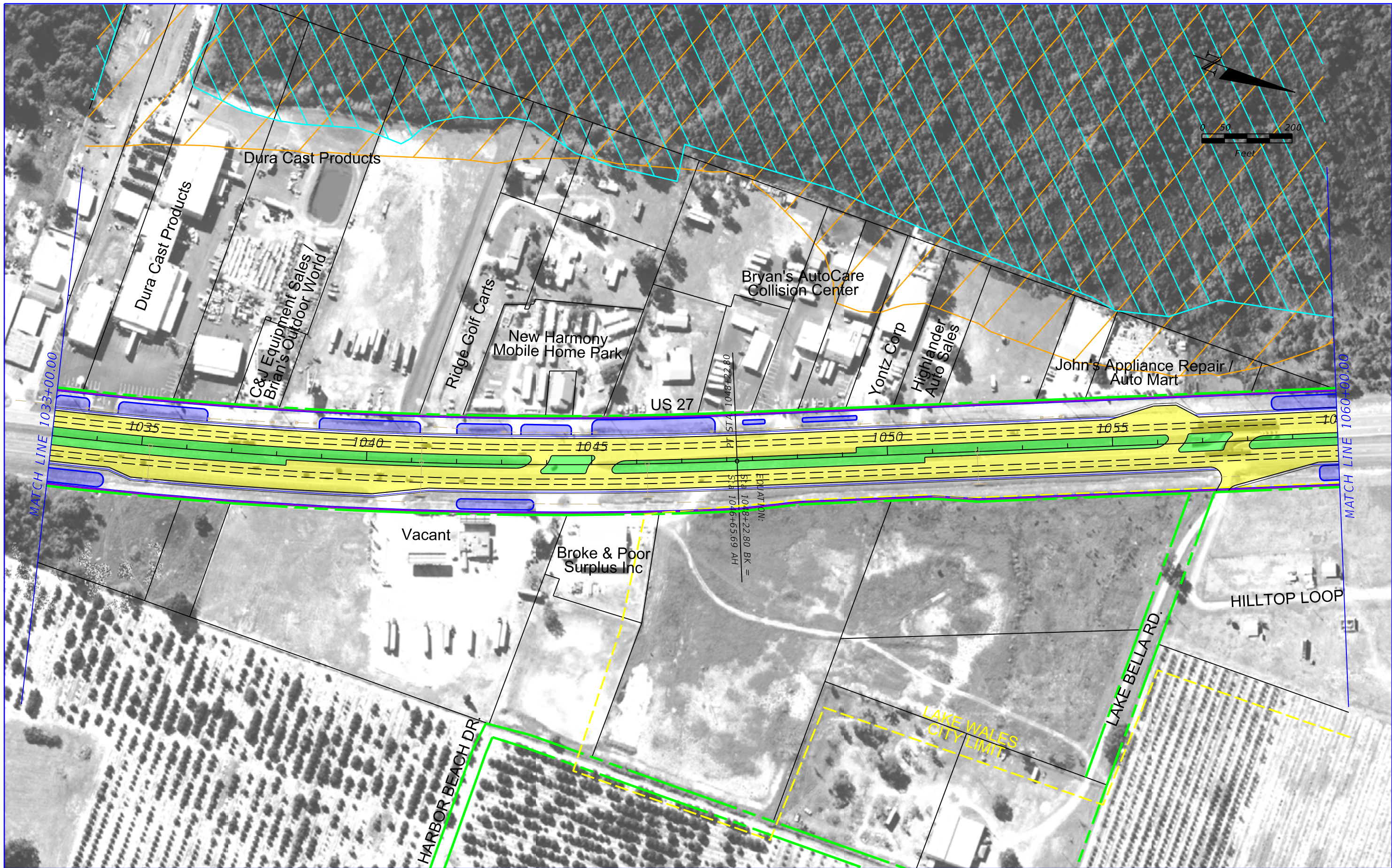
AECOM Technical Services, Inc.  
 7650 West Courtney  
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**CONCEPT PLANS**

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29





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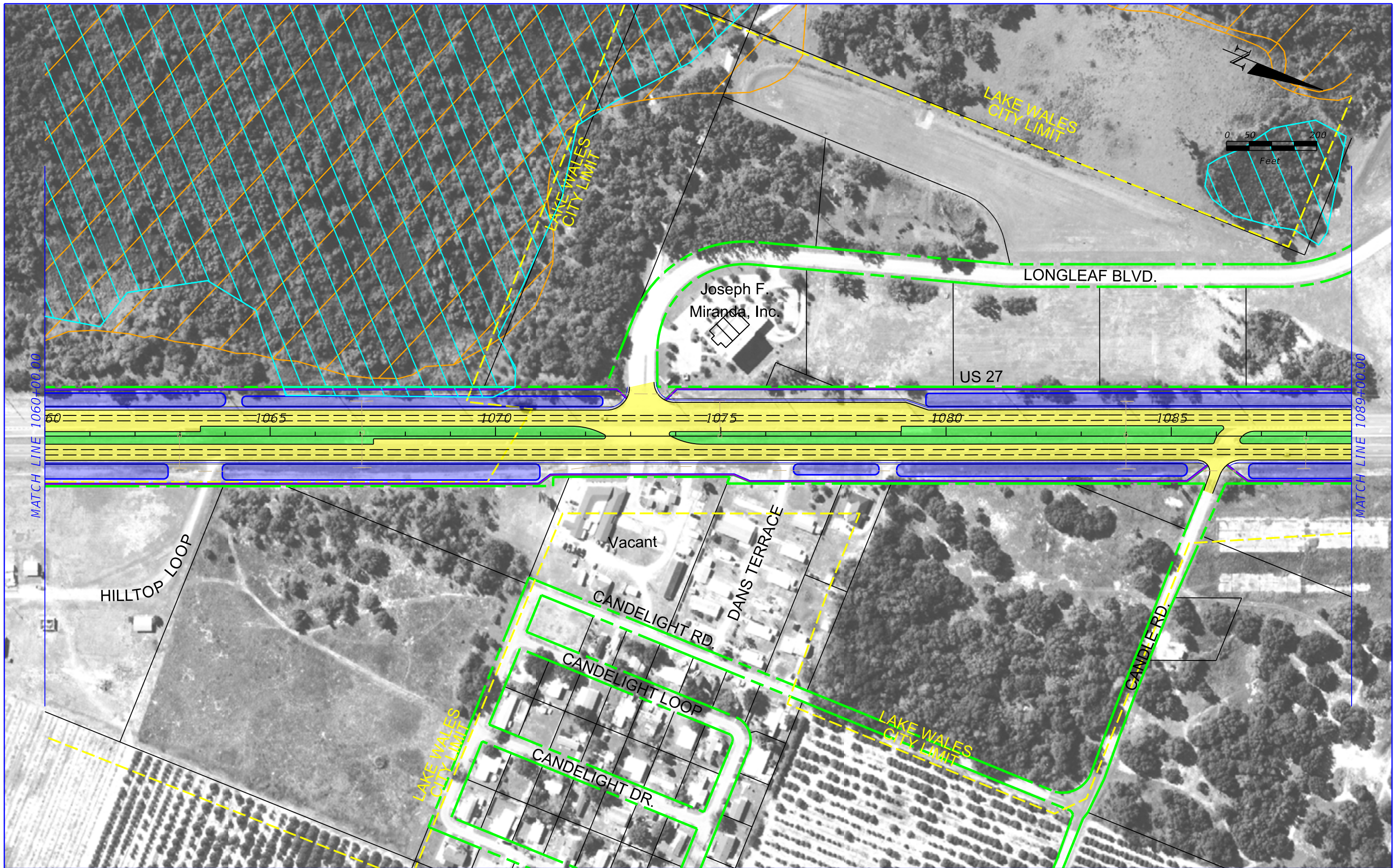
AECOM Technical Services, Inc.  
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**CONCEPT PLANS**

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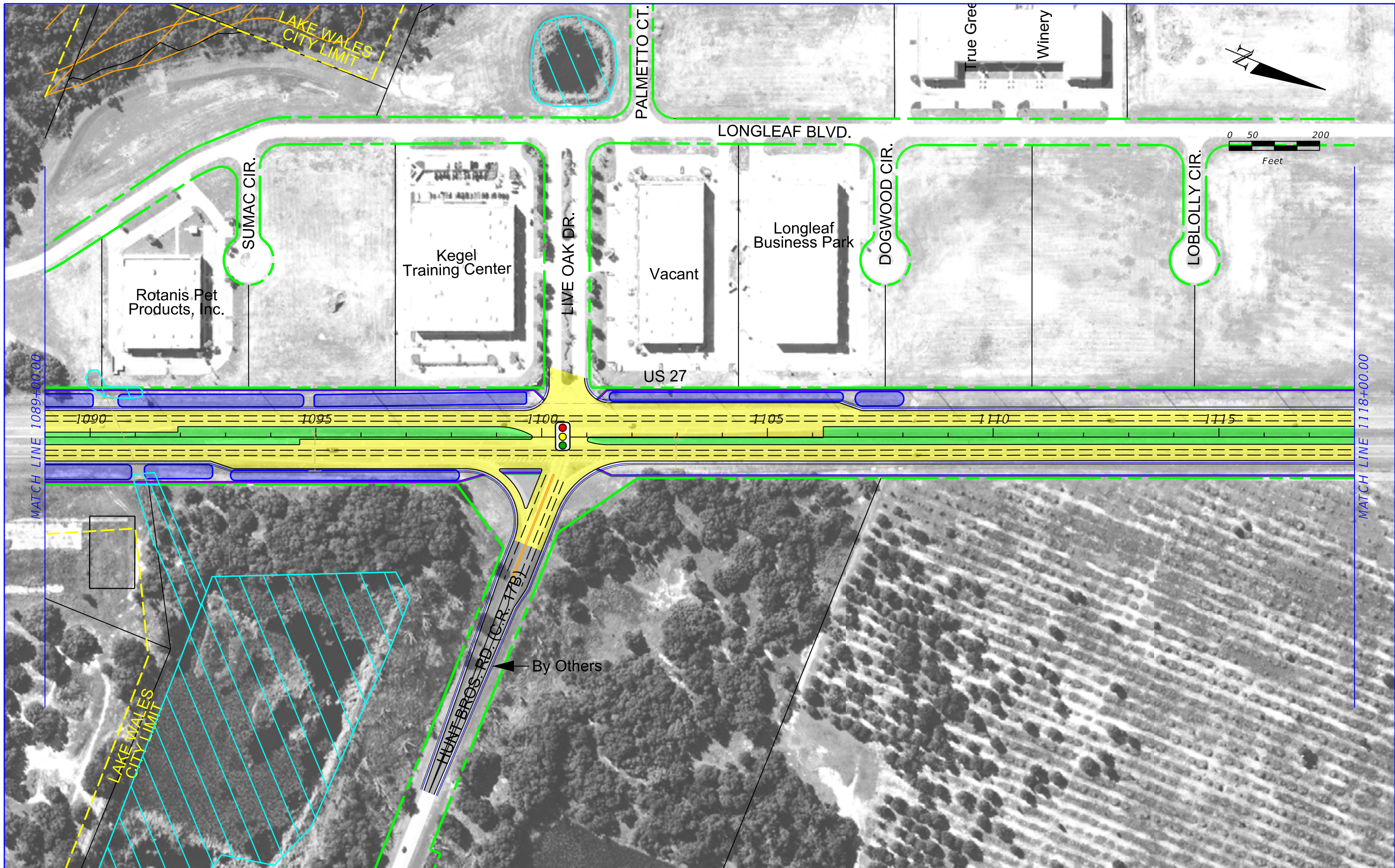
AECOM Technical Services, Inc.  
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 27	POLK	419243-1-22-01

**CONCEPT PLANS**

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31





REVISIONS	
DATE	DESCRIPTION
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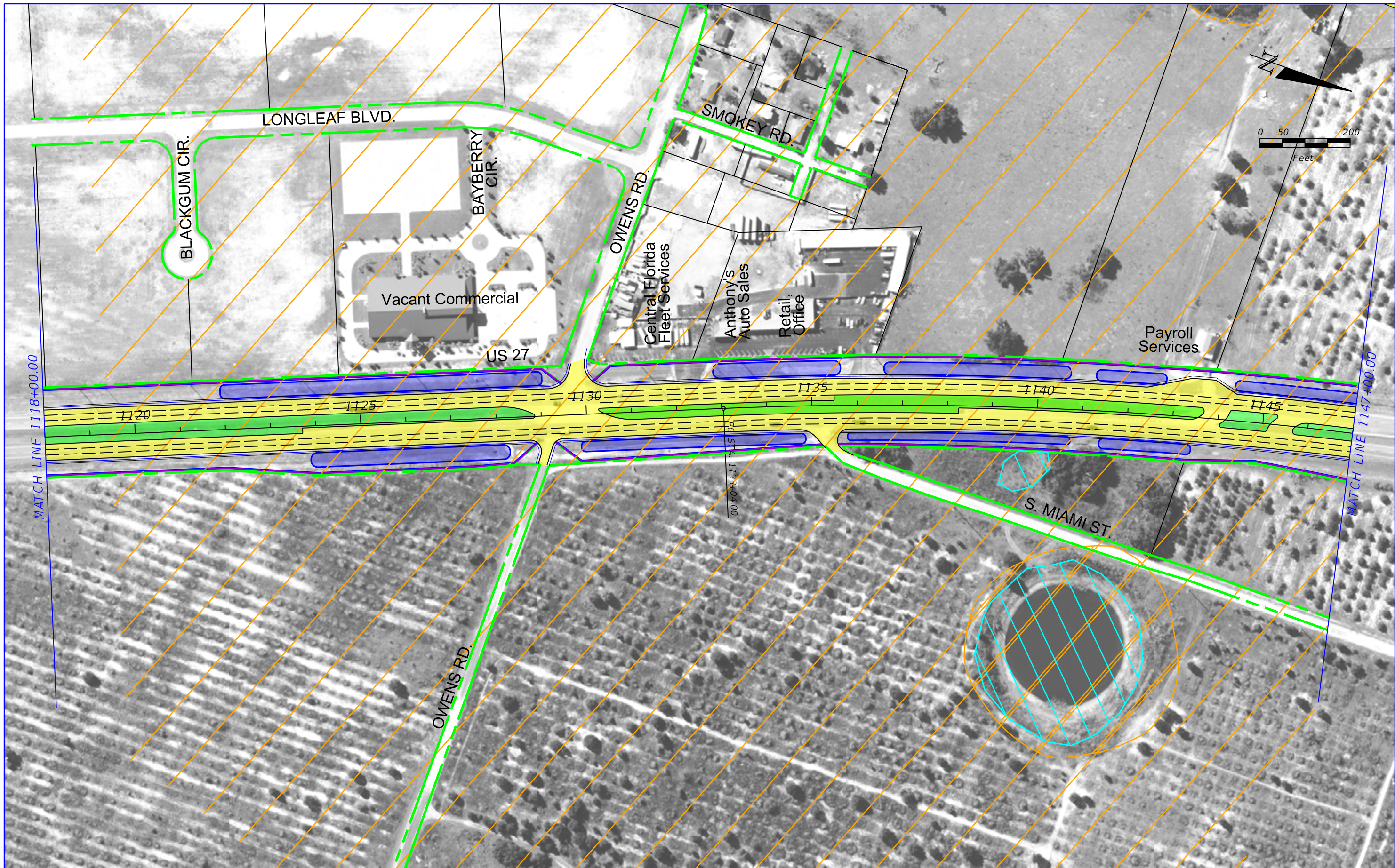
AECOM Technical Services, Inc.  
 7650 West Courtney  
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**CONCEPT PLANS**

SHEET NO.
32





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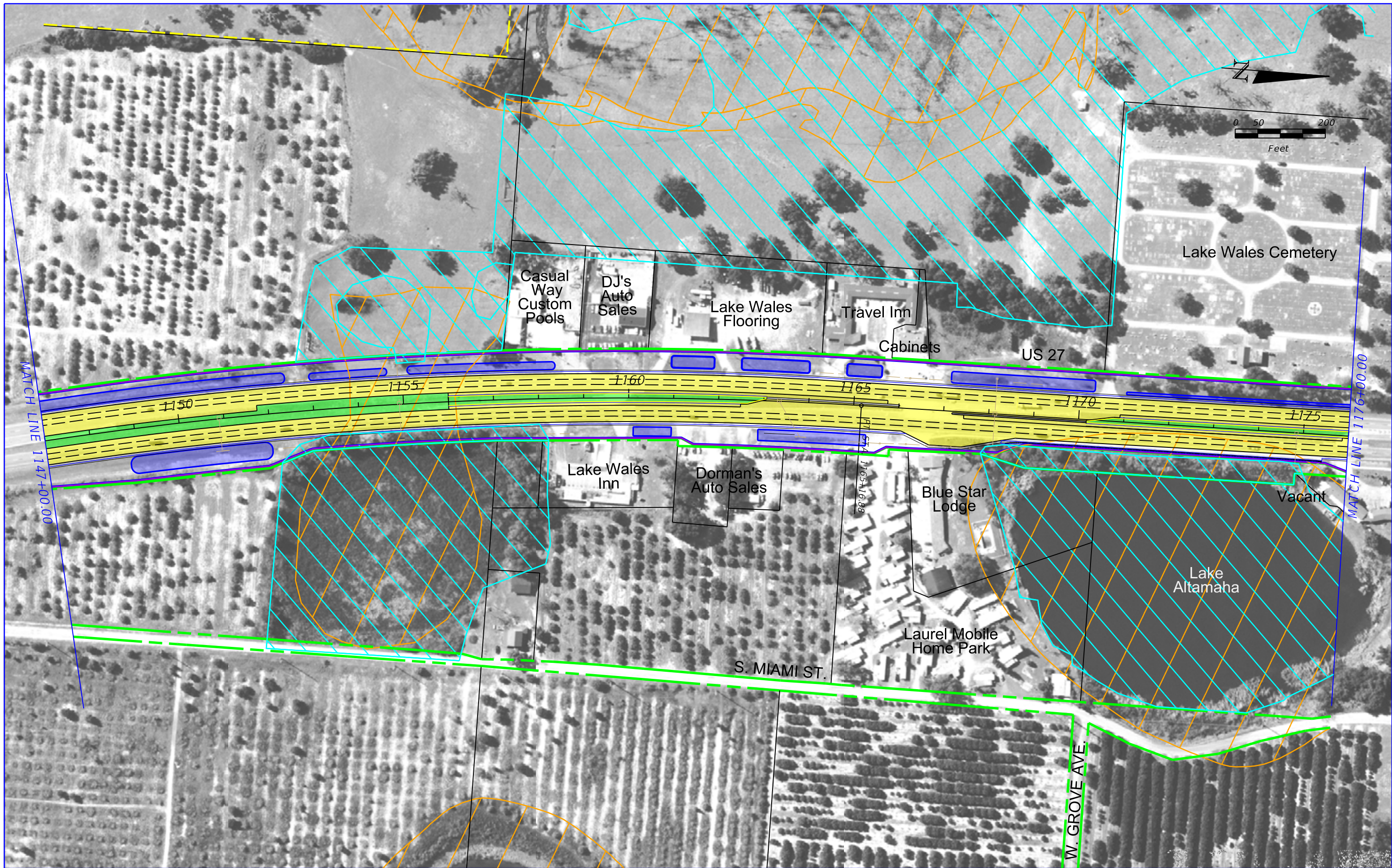
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**CONCEPT PLANS**

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33





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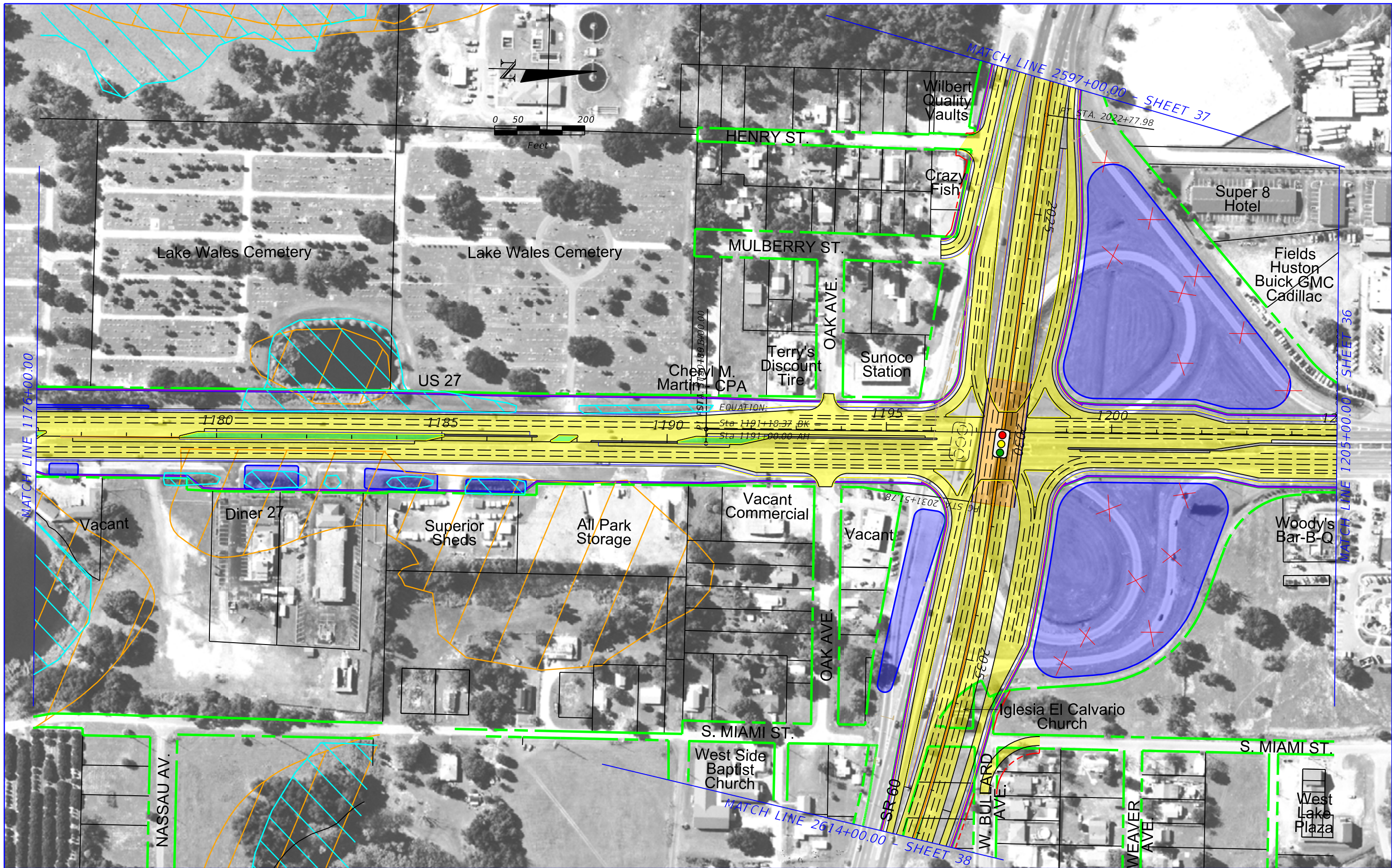
AECOM Technical Services, Inc.  
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 Tampa, FL 33607-1462  
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**CONCEPT PLANS**

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34





REVISIONS	
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2/15/2013	FINAL BASE MAPS.

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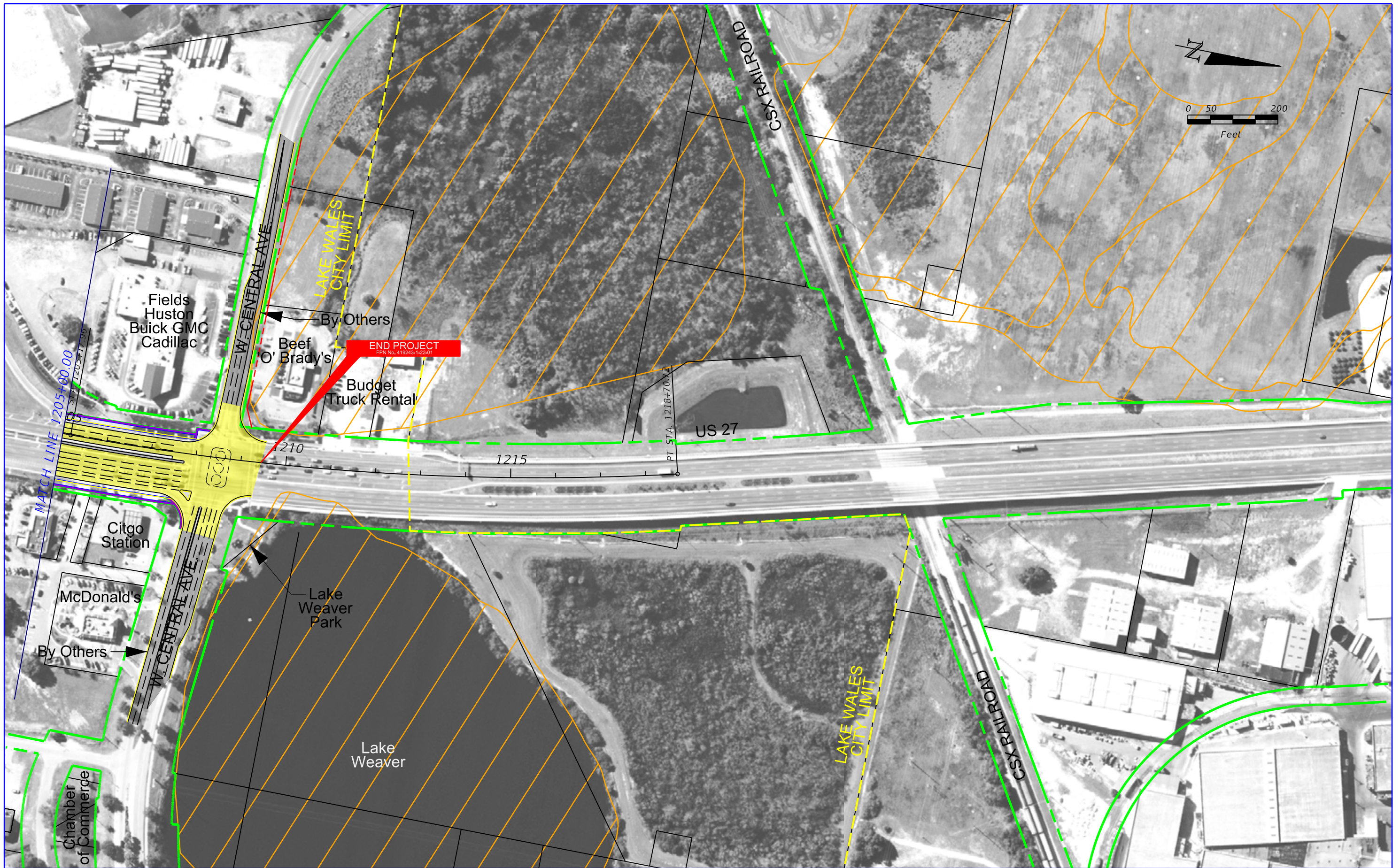
AECOM Technical Services, Inc.  
 7650 West Courtney  
 Campbell Causeway  
 Tampa, FL 33607-1462  
 C.A. No. 8115  
 Jeffrey W. Blazowski, P.E. No. 55527

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**CONCEPT PLANS**

SHEET NO.  
35





REVISIONS	
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2/15/2013	FINAL BASE MAPS.

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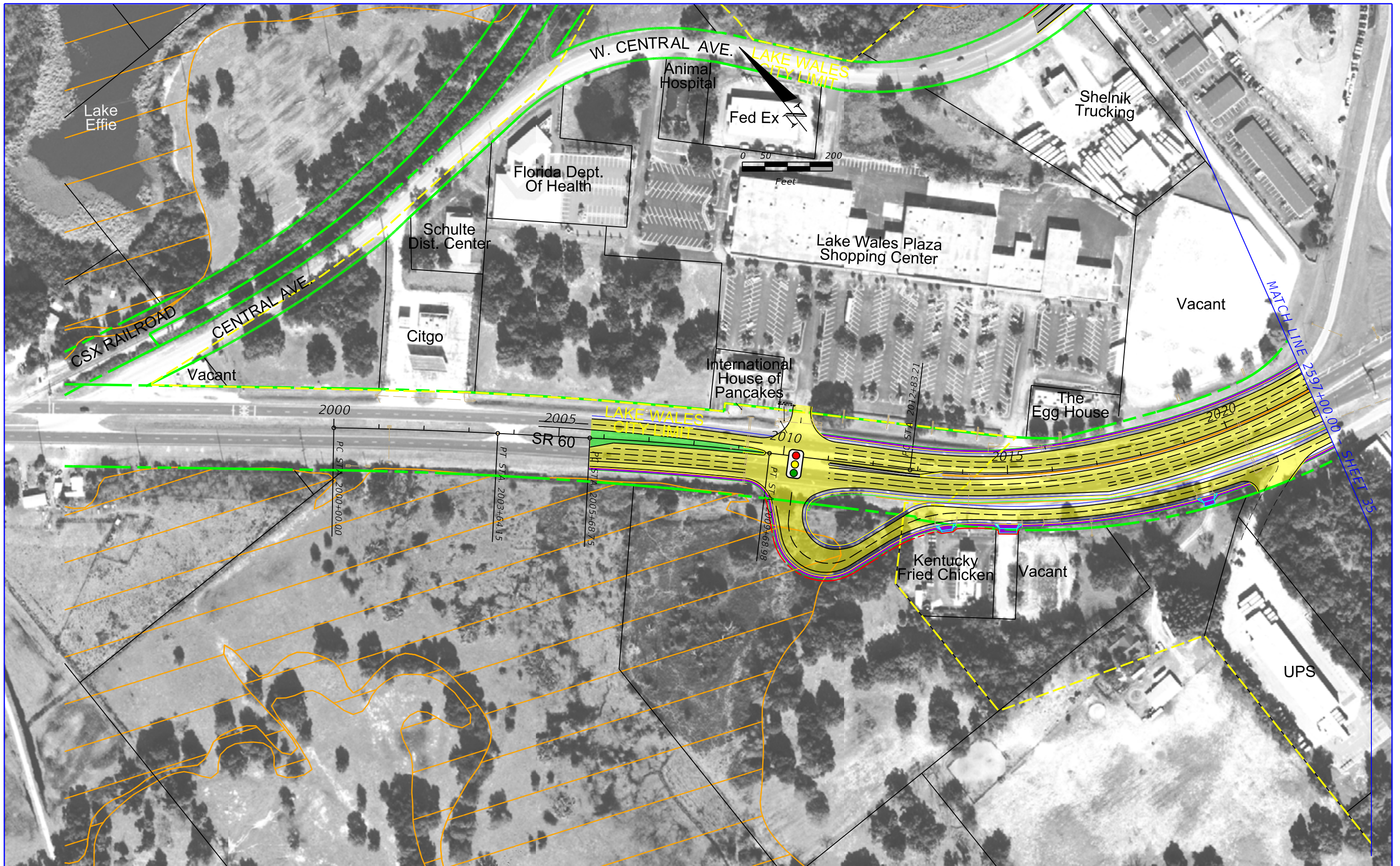
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**CONCEPT PLANS**

SHEET NO.  
36





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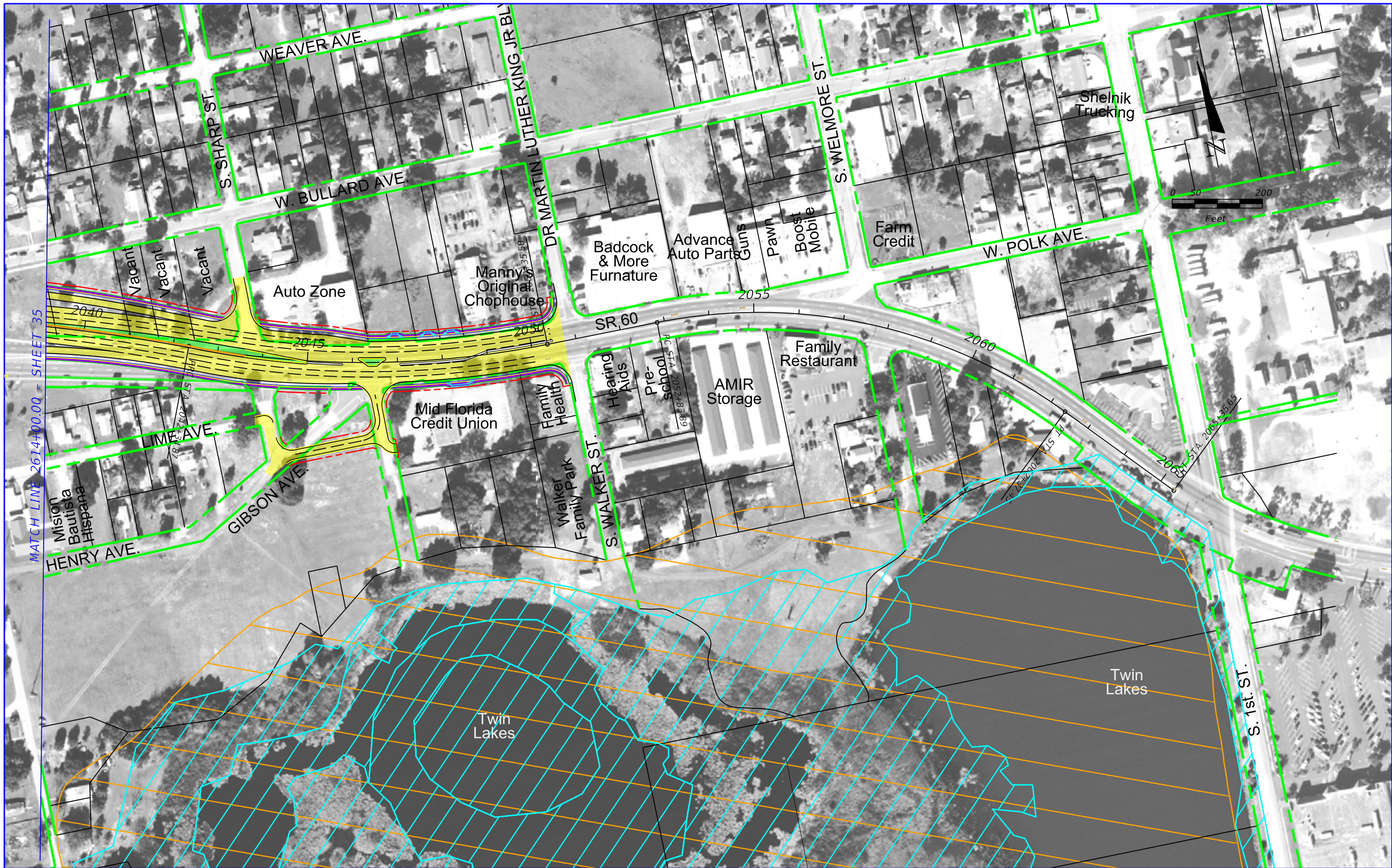
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
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US 27	POLK	419243-1-22-01

**CONCEPT PLANS**

SHEET NO.  
37





REVISIONS	
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**CONCEPT PLANS**

SHEET NO.  
38



***APPENDIX B***

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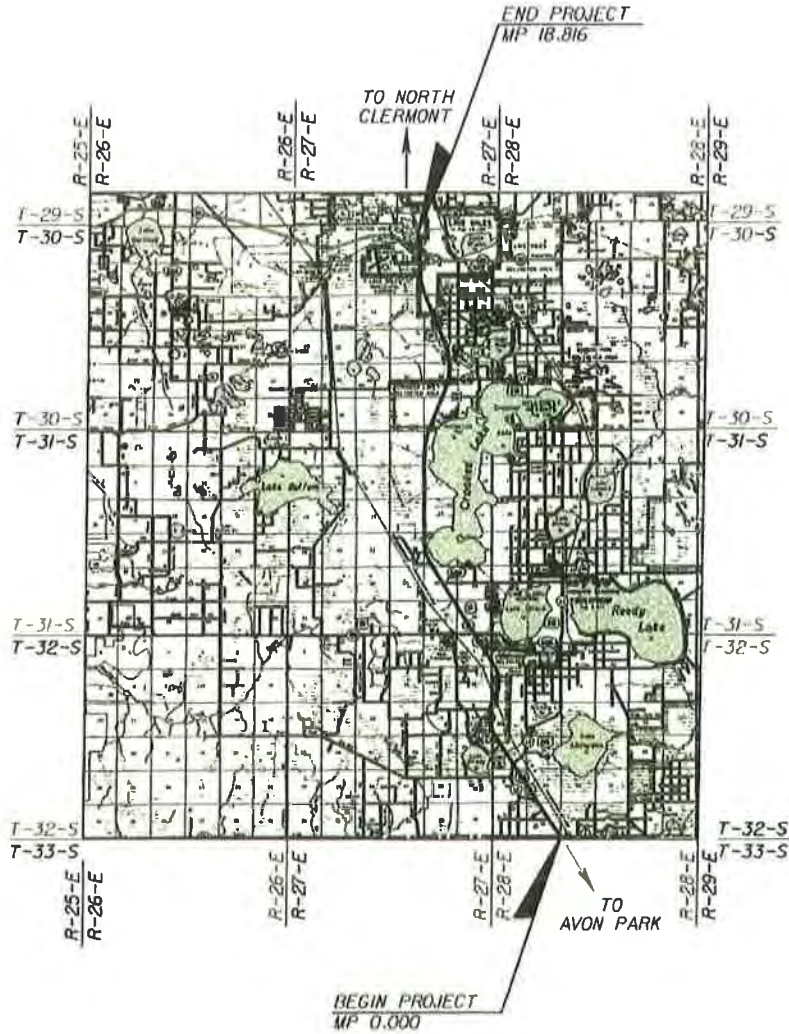
***Typical Section Package***



TYPICAL SECTION PACKAGE

STATE OF FLORIDA  
DEPARTMENT OF TRANSPORTATION  
FINANCIAL PROJECT ID 419243-1-22-01  
POLK COUNTY (16170)

STATE ROAD NO. 25 (US 27)  
FROM HIGHLANDS COUNTY LINE TO NORTH OF STATE ROAD 60



**PREPARED BY**

AECOM TECHNICAL SERVICES  
7650 WEST COURTNEY CAMPBELL CAUSEWAY  
TAMPA, FLORIDA 33607-1462  
CERTIFICATE OF AUTHORIZATION NO.: 00008115  
JEFFREY W. BLAZOWSKI, P.E. NO.: 55527

## PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 419243-1-22-01 COUNTY (SECTION) POLK(16170)  
 PROJECT DESCRIPTION PO&E STUDY FOR WIDENING OF EXISTING FOUR LANE DIVIDED FACILITY TO A SIX LANE DIVIDED FACILITY INTERCHANGE IMPROVEMENTS AT US 27 AND S.R. 60. MP. 0.000 TO 18.816

## PROJECT CONTROLS

FUNCTIONAL CLASSIFICATION	HIGHWAY SYSTEM																																																		
<p>(X) US 27: RURAL MP 0.000 TO 3.405, 9.636 TO 15.166                      (X) US 27: URBAN MP 3.405 TO 9.636, 15.166 TO 18.816                      (X) SR 60: URBAN MP 29.104 TO 29.787                      ( ) FREEWAY/EXPWY. ( ) MAJOR COLL.                      (X) PRINCIPAL ART. ( ) MINOR COLL.                      ( ) MINOR ART. ( ) LOCAL</p>	<p style="text-align: center;">Yes No</p> <p>(X) ( ) NATIONAL HIGHWAY SYSTEM                      ( ) (X) FLORIDA INTRASTATE HIGHWAY SYSTEM                      (X) ( ) STRATEGIC INTERMODAL SYSTEM                      (X) ( ) STATE HIGHWAY SYSTEM                      ( ) (X) OFF STATE HIGHWAY SYSTEM</p>																																																		
ACCESS CLASSIFICATION	TRAFFIC																																																		
<p>( ) 1 - FREEWAY                      ( ) 2 - RESTRICTIVE w/Service Roads                      (X) 3 - RESTRICTIVE w/660 ft. Connection Spacing                      ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing                      ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing                      ( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing                      ( ) 7 - BOTH MEDIAN TYPES</p>	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="text-align: left;">YEAR</th> <th colspan="4" style="text-align: center;">AADT</th> <th rowspan="2" style="text-align: left;">US 27 &amp; SR 60 DISTRIBUTION</th> </tr> <tr> <th style="text-align: center;"><u>US 27</u></th> <th style="text-align: center;"><u>US 27</u></th> <th style="text-align: center;"><u>SR 60</u></th> <th style="text-align: center;"><u>SR 60</u></th> </tr> </thead> <tbody> <tr> <td></td> <td style="text-align: center;">MP 0.000 TO 15.166</td> <td style="text-align: center;">MP 15.166 TO 18.816</td> <td style="text-align: center;">MP 29.104 TO 29.787</td> <td style="text-align: center;">MP 29.104 TO 29.787</td> <td></td> </tr> <tr> <td>CURRENT 2012</td> <td style="text-align: center;"><u>18500</u></td> <td style="text-align: center;"><u>25500</u></td> <td style="text-align: center;"><u>22000</u></td> <td style="text-align: center;"><u>22000</u></td> <td style="text-align: right;">K = 9.5 %</td> </tr> <tr> <td>OPENING 2020</td> <td style="text-align: center;"><u>26400</u></td> <td style="text-align: center;"><u>32000</u></td> <td style="text-align: center;"><u>29200</u></td> <td style="text-align: center;"><u>29200</u></td> <td style="text-align: right;">D = 56.0 %</td> </tr> <tr> <td>DESIGN 2040</td> <td style="text-align: center;"><u>55200</u></td> <td style="text-align: center;"><u>57600</u></td> <td style="text-align: center;"><u>53000</u></td> <td style="text-align: center;"><u>53000</u></td> <td style="text-align: right;">T 24 = 18.0 %</td> </tr> </tbody> </table> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;"><u>US 27</u></th> <th style="text-align: center;"><u>US 27</u></th> <th style="text-align: center;"><u>US 27</u></th> <th style="text-align: center;"><u>SR 60</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">MP 0.000 TO 16.212</td> <td style="text-align: center;">MP 16.212 TO 18.031</td> <td style="text-align: center;">MP 18.031 TO 18.816</td> <td style="text-align: center;">MP 29.104 TO 29.787</td> </tr> <tr> <td>DESIGN SPEED <u>70 MPH</u></td> <td>DESIGN SPEED <u>70 MPH</u></td> <td>DESIGN SPEED <u>50 MPH</u></td> <td>DESIGN SPEED <u>45 MPH</u></td> </tr> <tr> <td>POSTED SPEED <u>65 MPH</u></td> <td>POSTED SPEED <u>60 MPH</u></td> <td>POSTED SPEED <u>50 MPH</u></td> <td>POSTED SPEED <u>45 MPH</u></td> </tr> </tbody> </table>	YEAR	AADT				US 27 & SR 60 DISTRIBUTION	<u>US 27</u>	<u>US 27</u>	<u>SR 60</u>	<u>SR 60</u>		MP 0.000 TO 15.166	MP 15.166 TO 18.816	MP 29.104 TO 29.787	MP 29.104 TO 29.787		CURRENT 2012	<u>18500</u>	<u>25500</u>	<u>22000</u>	<u>22000</u>	K = 9.5 %	OPENING 2020	<u>26400</u>	<u>32000</u>	<u>29200</u>	<u>29200</u>	D = 56.0 %	DESIGN 2040	<u>55200</u>	<u>57600</u>	<u>53000</u>	<u>53000</u>	T 24 = 18.0 %	<u>US 27</u>	<u>US 27</u>	<u>US 27</u>	<u>SR 60</u>	MP 0.000 TO 16.212	MP 16.212 TO 18.031	MP 18.031 TO 18.816	MP 29.104 TO 29.787	DESIGN SPEED <u>70 MPH</u>	DESIGN SPEED <u>70 MPH</u>	DESIGN SPEED <u>50 MPH</u>	DESIGN SPEED <u>45 MPH</u>	POSTED SPEED <u>65 MPH</u>	POSTED SPEED <u>60 MPH</u>	POSTED SPEED <u>50 MPH</u>	POSTED SPEED <u>45 MPH</u>
YEAR	AADT				US 27 & SR 60 DISTRIBUTION																																														
	<u>US 27</u>	<u>US 27</u>	<u>SR 60</u>	<u>SR 60</u>																																															
	MP 0.000 TO 15.166	MP 15.166 TO 18.816	MP 29.104 TO 29.787	MP 29.104 TO 29.787																																															
CURRENT 2012	<u>18500</u>	<u>25500</u>	<u>22000</u>	<u>22000</u>	K = 9.5 %																																														
OPENING 2020	<u>26400</u>	<u>32000</u>	<u>29200</u>	<u>29200</u>	D = 56.0 %																																														
DESIGN 2040	<u>55200</u>	<u>57600</u>	<u>53000</u>	<u>53000</u>	T 24 = 18.0 %																																														
<u>US 27</u>	<u>US 27</u>	<u>US 27</u>	<u>SR 60</u>																																																
MP 0.000 TO 16.212	MP 16.212 TO 18.031	MP 18.031 TO 18.816	MP 29.104 TO 29.787																																																
DESIGN SPEED <u>70 MPH</u>	DESIGN SPEED <u>70 MPH</u>	DESIGN SPEED <u>50 MPH</u>	DESIGN SPEED <u>45 MPH</u>																																																
POSTED SPEED <u>65 MPH</u>	POSTED SPEED <u>60 MPH</u>	POSTED SPEED <u>50 MPH</u>	POSTED SPEED <u>45 MPH</u>																																																
CRITERIA	<p>(X) NEW CONSTRUCTION / RECONSTRUCTION                      ( ) RRR INTERSTATE / FREEWAY                      ( ) RRR NON-INTERSTATE / FREEWAY                      ( ) TDLC / NEW CONSTRUCTION / RECONSTRUCTION                      ( ) TDLC / RRR                      ( ) MANUAL OF UNIFORM MINIMUM STANDARDS (FLORIDA GREENBOOK) (OFF-STATE HIGHWAY SYSTEM ONLY)</p>																																																		

DESIGN SPEED APPROVALS

*B.A. Masing* 2-29-16  
 \_\_\_\_\_ DATE  
 DISTRICT DESIGN ENGINEER

*Henrietta* 02/29/16  
 \_\_\_\_\_ DATE  
 DISTRICT TRAFFIC OPERATIONS ENGINEER

**LIST ANY POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION ELEMENTS:**

DESIGN EXCEPTIONS - NONE  
 DESIGN VARIATIONS - BORDER WIDTH  
 - ROADSIDE SLOPE  
 - BRIDGE WIDTH (LAKE STREET CANAL BRIDGE)  
 - VERTICAL ALIGNMENT

**LIST MAJOR STRUCTURES LOCATION/DESCRIPTION - REQUIRING INDEPENDENT STRUCTURE DESIGN:**

N/A

**LIST MAJOR UTILITIES WITHIN PROJECT CORRIDOR:**

CENTRAL FLORIDA GAS	CENTURYLINK
COMCAST	LEVEL 3
PROGRESS ENERGY	CITY OF LAKE WALES
VERIZON	PARK WATER COMPANY

**LIST OTHER INFORMATION PERTINENT TO DESIGN OF PROJECT:**

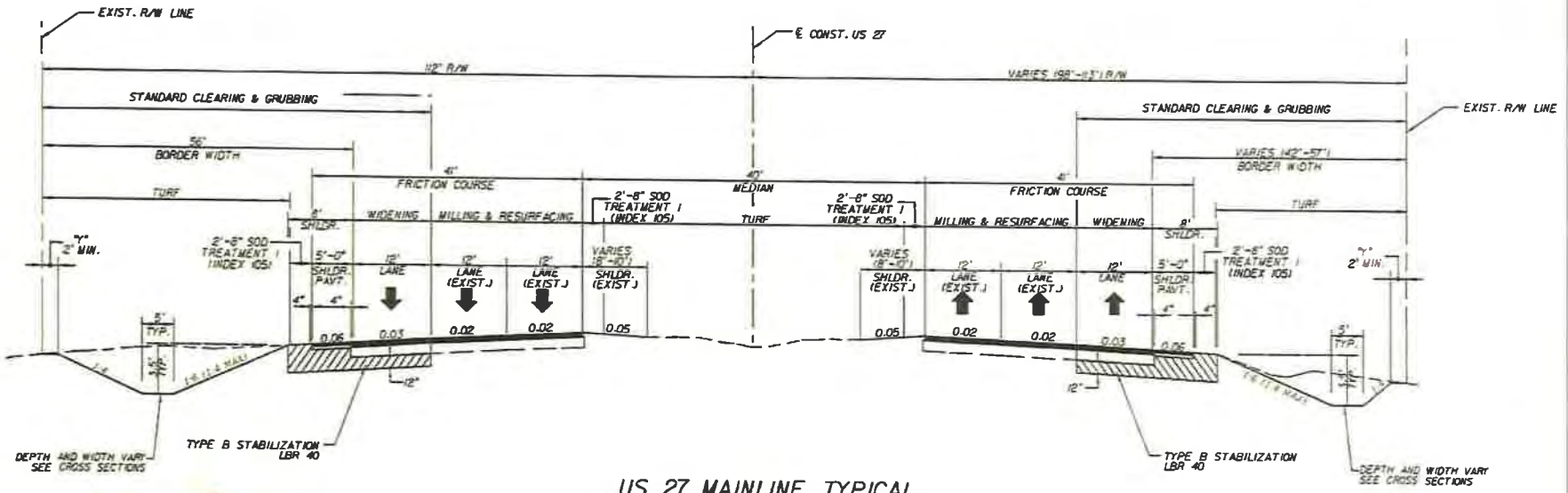
NONE



# PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 419243-1-22-01 FEDERAL AID PROJECT NO. N/A COUNTY NAME POLK  
 SECTION NO. 16170 ROAD DESIGNATION US 27 LIMITS/MILEPOST MP 0.000 TO MP 18.816  
 PROJECT DESCRIPTION PD&E STUDY FOR WIDENING OF EXISTING FOUR LANE DIVIDED FACILITY TO A SIX LANE DIVIDED FACILITY INTERCHANGE IMPROVEMENTS AT US 27 AND S.R. 60

## PROPOSED ROADWAY TYPICAL SECTION



**US 27 MAINLINE TYPICAL**  
 MP. 0.000 TO MP. 5.180  
 MP. 9.636 TO MP. 15.166

3

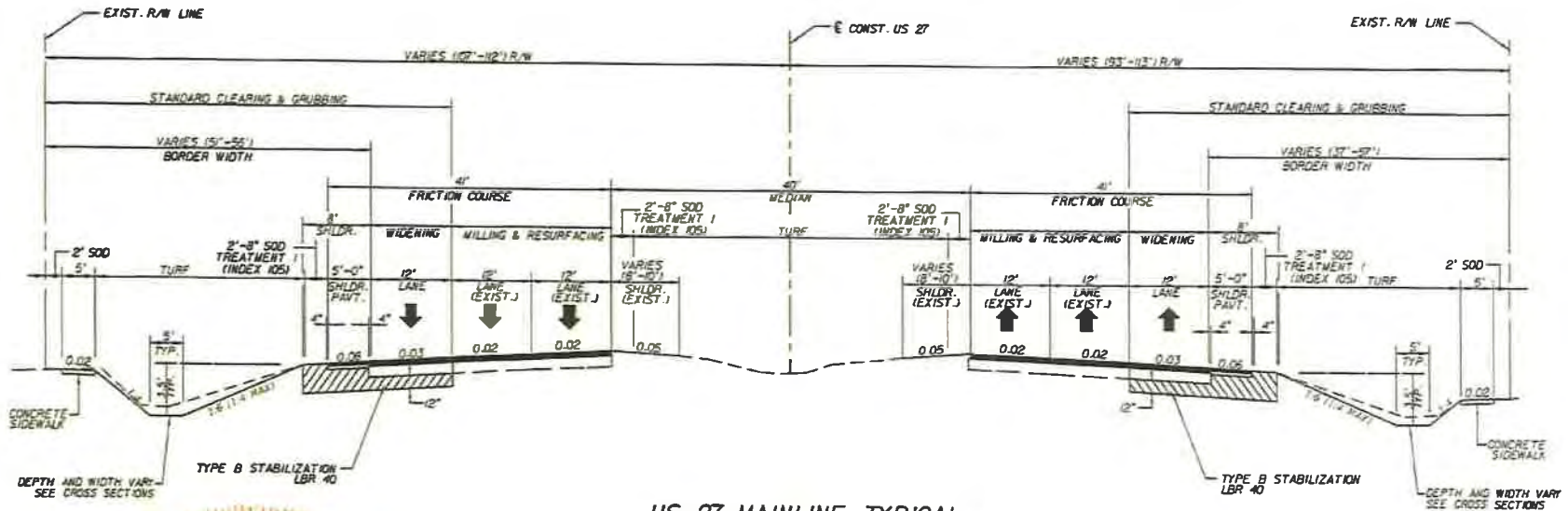
FDOT APPROVAL  WILLIAM HARTMANN, P.E. District Project Development Manager Date <u>2/29/2016</u> <u>3694</u>	FDOT CONCURRENCE  L.K. NANDAM, P.E. FDOT District Traffic Operations Engineer Date <u>02/29/16</u>	FDOT CONCURRENCE  B.A. MASING, P.E. District Design Engineer Date <u>2-29-16</u>
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# PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 419243-1-22-01 FEDERAL AID PROJECT NO. N/A COUNTY NAME POLK  
 SECTION NO. 16170 ROAD DESIGNATION US 27 LIMITS/MILEPOST MP 0.000 TO MP 18.816  
 PROJECT DESCRIPTION PD&E STUDY FOR WIDENING OF EXISTING FOUR LANE DIVIDED FACILITY TO A SIX LANE DIVIDED FACILITY, INTERCHANGE IMPROVEMENTS AT US 27 AND S.R. 60

## PROPOSED ROADWAY TYPICAL SECTION



### US 27 MAINLINE TYPICAL

MP. 5.180 TO MP. 9.636  
 MP. 15.166 TO MP. 18.057

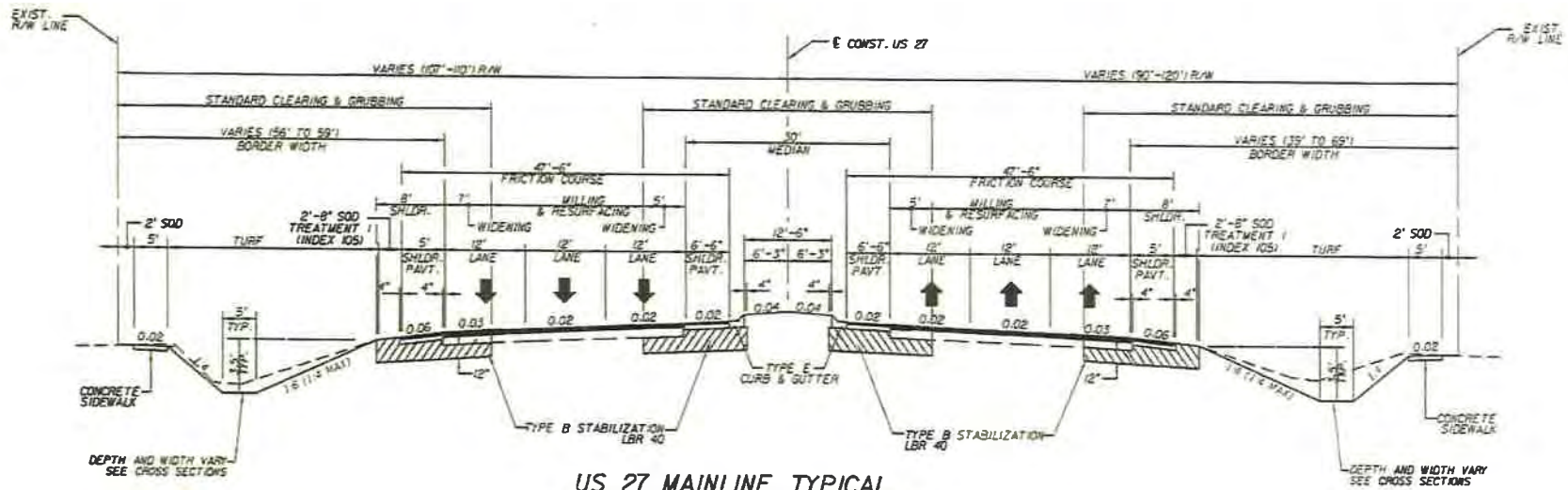


FDOT APPROVAL  WILLIAM HARTMANN, P.E. District Project Development Manager Date <u>2/29/16</u>	FDOT CONCURRENCE  L.K. NANDAM, P.E. FDOT District Traffic Operations Engineer Date <u>02/29/16</u>	FDOT CONCURRENCE  B.A. MASING, P.E. District Design Engineer Date <u>2-29-16</u>
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## PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 419243-1-22-01 FEDERAL AID PROJECT NO. N/A COUNTY NAME POLK  
 SECTION NO. 16170 ROAD DESIGNATION US 27 LIMITS/MILEPOST MP 0.000 TO MP 18.816  
 PROJECT DESCRIPTION PD&E STUDY FOR WIDENING OF EXISTING FOUR LANE DIVIDED FACILITY TO A SIX LANE DIVIDED FACILITY, INTERCHANGE IMPROVEMENTS AT US 27 AND S.R. 60

## PROPOSED ROADWAY TYPICAL SECTION



**US 27 MAINLINE TYPICAL**  
MP. 18.057 TO NORTH OF CENTRAL AVE.

5

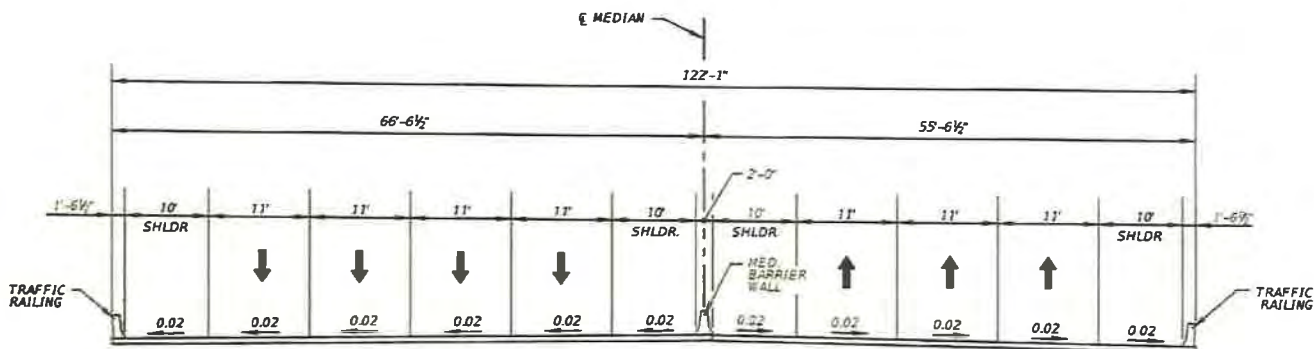
<b>FDOT APPROVAL</b> WILLIAM HARTMANN, P.E. District Project Development Manager	<b>FDOT CONCURRENCE</b> L.K. NANDAN, P.E. FDOT District Traffic Operations Engineer	<b>FDOT CONCURRENCE</b> B.A. MASING, P.E. District Design Engineer
Date <u>2/29/16</u> 36094	Date <u>02/29/16</u>	Date <u>2-29-16</u>



## PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 419243-1-22-01 FEDERAL AID PROJECT NO. N/A COUNTY NAME POLK  
 SECTION NO. 16170 ROAD DESIGNATION US 27 LIMITS/MILEPOST MP 0.000 TO MP 18.816  
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## PROPOSED BRIDGE TYPICAL SECTION



TYPICAL SECTION  
SR 60 BRIDGE OVER US 27



8

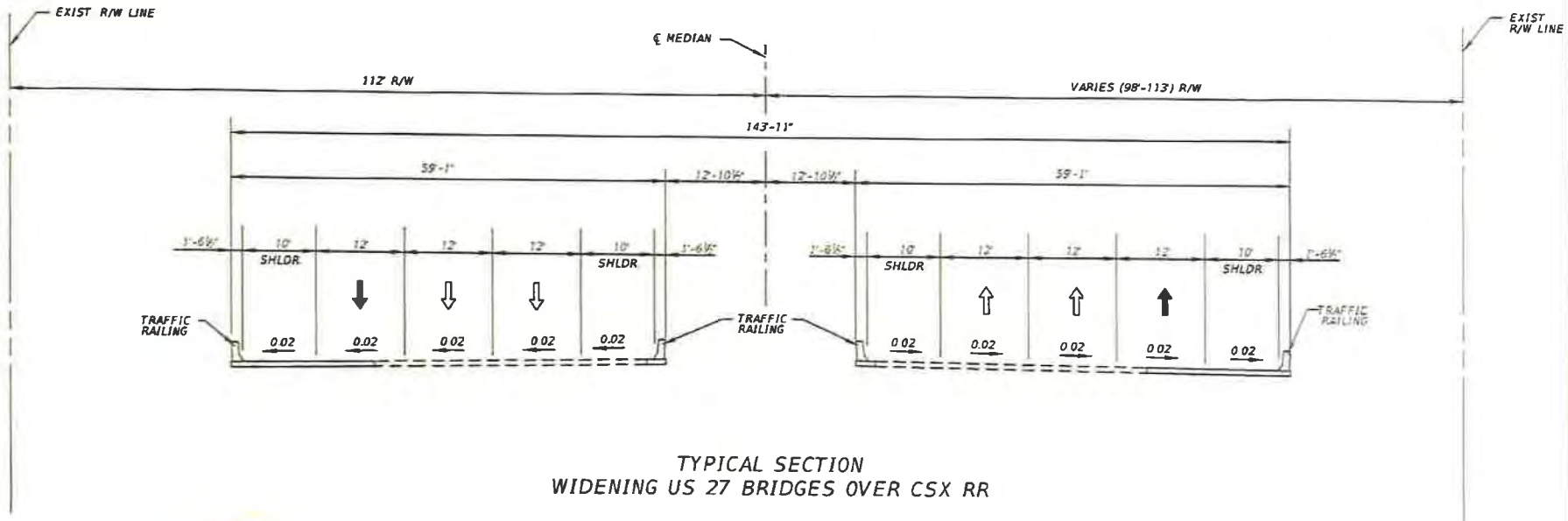
FDOT APPROVAL STATE OF FLORIDA <i>William A. Hartmann</i> WILLIAM HARTMANN, P.E. District Project Development Manager Date: <u>2/29/16</u>	FDOT CONCURRENCE <i>Andra Diggs II</i> ANDRA DIGGS II, P.E. FDOT District Structures Design Engineer Date: <u>2-29-2016</u>	FDOT CONCURRENCE <i>B.A. Masing</i> B.A. MASING, P.E. District Design Engineer Date: <u>2-29-16</u>
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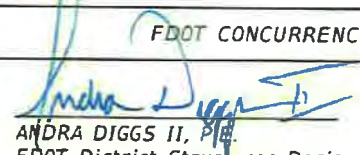
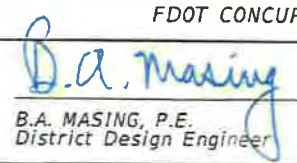
## PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 419243-1-22-01 FEDERAL AID PROJECT NO. N/A COUNTY NAME POLK  
 SECTION NO. 16170 ROAD DESIGNATION US 27 LIMITS/MILEPOST MP 0.000 TO MP 18.816  
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## PROPOSED BRIDGE TYPICAL SECTION



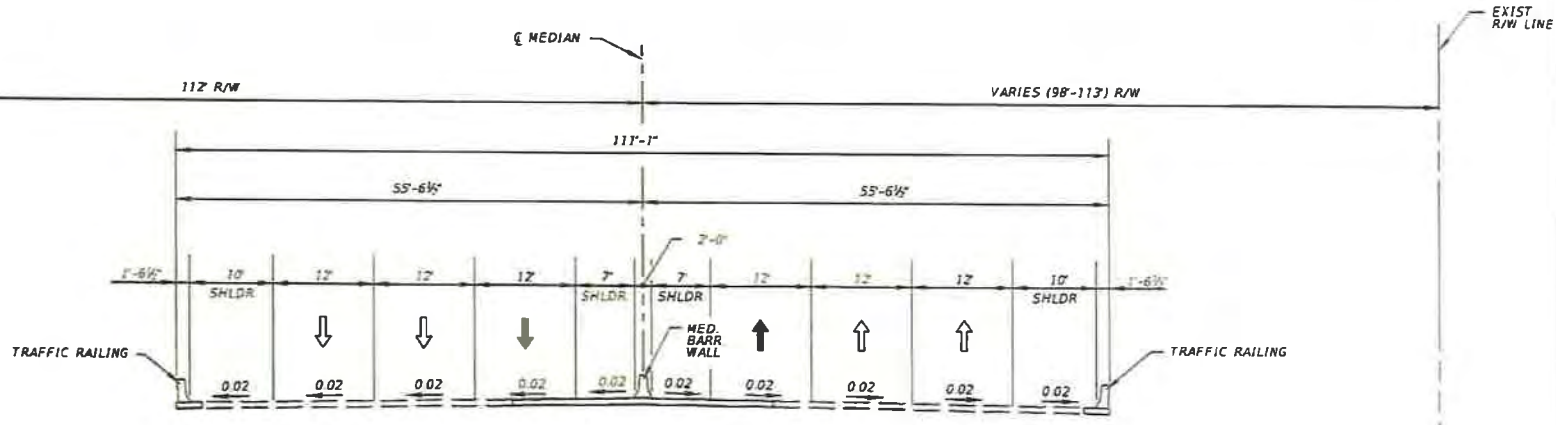
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FDOT APPROVAL  WILLIAM HARTMANN, P.E. District Project Development Manager Date <u>2/29/16</u> 3694	FDOT CONCURRENCE  ANDRA DIGGS II, P.E. FDOT District Structures Design Engineer Date <u>2-29-2016</u>	FDOT CONCURRENCE  B.A. MASING, P.E. District Design Engineer Date <u>2-29-16</u>
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## PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 419243-1-22-01 FEDERAL AID PROJECT NO. N/A COUNTY NAME POLK  
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## PROPOSED BRIDGE TYPICAL SECTION



TYPICAL SECTION  
WIDENING US 27 BRIDGES OVER LAKE STREETY



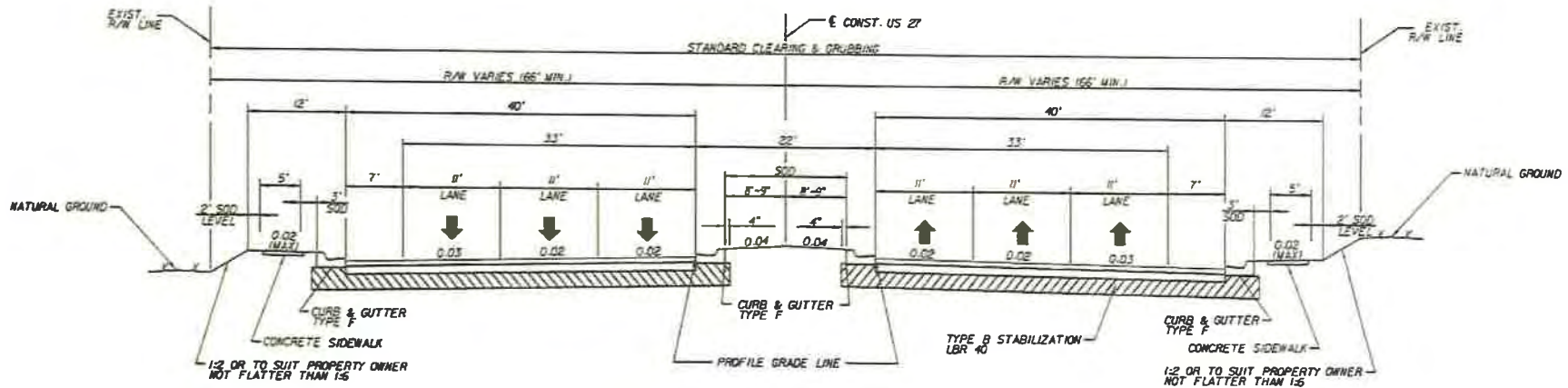
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<b>FDOT APPROVAL</b>	<b>FDOT CONCURRENCE</b>	<b>FDOT CONCURRENCE</b>
WILLIAM HARTMANN, P.E. District Project Development Manager Date <u>2/29/16</u>	ANDRA DIGGS II, P.E. FDOT District Structures Design Engineer Date <u>2-29-2016</u>	B.A. MASING, P.E. District Design Engineer Date <u>2-29-16</u>

## PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 419243-1-22-01 FEDERAL AID PROJECT NO. N/A COUNTY NAME POLK  
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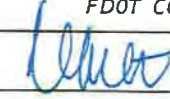
## PROPOSED ROADWAY TYPICAL SECTION



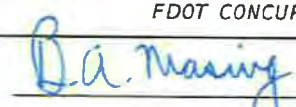
FDOT APPROVAL

  
 WILLIAM HARTMANN, P.E. Date 2/29/16  
 District Project Development Manager

FDOT CONCURRENCE

  
 L.K. NANDAM, P.E. Date 02/29/16  
 FDOT District Traffic Operations Engineer

FDOT CONCURRENCE

  
 B.A. MASING, P.E. Date 2-29-16  
 District Design Engineer



***APPENDIX C***

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***Long Range Estimate***

## **Segment 1 – Long Range Estimate**

Date: 10/13/2016 10:09:24 AM

FDOT Long Range Estimating System - Production  
R3: Project Details by Sequence Report

**Project:** 419243-2-32-01**Letting Date:** 07/2024**Description:** SR25 (US 27) FROM HIGHLANDS COUNTY LINE TO CR 630A**District:** 01      **County:** 16 POLK      **Market Area:** 08      **Units:** English**Contract Class:** 1      **Lump Sum Project:** N      **Design/Build:** N      **Project Length:** 8.610 MI**Project Manager:** CES-REL-DCT**Version 8 Project Grand Total****\$68,161,527.41****Description:** PD&E Unit Cost Update from Version 3 - 10/5/16**Sequence:** 1 WDR - Widen/Resurface, Divided, Rural

**Net** 8.612 MI  
**Length:** 45,471  
LF

**Description:** WIDENING FROM 4 LANES RURAL DIVIDED ROADWAY TO 6  
LANES RURAL DIVIDED ROADWAY

### EARTHWORK COMPONENT

#### User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	40.00 / 40.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	8.612
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %



**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	83.51	AC	\$21,106.08	\$1,762,568.74
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	16,201.28	CY	\$19.62	\$317,869.11
<b>Earthwork Component Total</b>					<b>\$2,080,437.85</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	12.00 / 12.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	303,142.40	SY	\$5.18	\$1,570,277.63
285-709	OPTIONAL BASE, BASE GROUP 09	124,591.53	SY	\$19.41	\$2,418,321.60
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	242,513.92	SY	\$2.95	\$715,416.06
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	26,676.53	TN	\$99.75	\$2,660,983.87
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	20,007.40	TN	\$99.75	\$1,995,738.15
337-7-24	ASPH CONC FC, FC-5, PG 76-22, ARB	9,700.56	TN	\$154.32	\$1,496,990.42
337-7-24	ASPH CONC FC, FC-5, PG 76-22, ARB	4,850.28	TN	\$154.32	\$748,495.21

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
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400-0-11	CONC CLASS NS, GRAVITY WALL	10,894.00 CY	\$604.35	\$6,583,788.90
546-72-53	RUMBLE STRIPS, GROUND-IN, 8" EDGELINE	68.90 GM	\$924.95	\$63,729.06

**Turnouts/Crossovers Subcomponent**

Description	Value
Asphalt Adjustment	20.00
Milling Code	Y
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	60,628.48	SY	\$5.18	\$314,055.53
285-709	OPTIONAL BASE,BASE GROUP 09	24,918.31	SY	\$19.41	\$483,664.40
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	48,502.78	SY	\$2.95	\$143,083.20
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	5,335.31	TN	\$99.75	\$532,197.17
337-7-24	ASPH CONC FC, FC-5, PG 76-22, ARB	1,940.11	TN	\$154.32	\$299,397.78

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	5,813.00	EA	\$3.78	\$21,973.14
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	34.45	NM	\$1,006.44	\$34,671.86
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	34.45	GM	\$390.40	\$13,449.28

711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	34.45 GM	\$5,760.00	\$198,432.00
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	34.45 GM	\$1,201.81	\$41,402.35
711-15-201	THERMOPLASTIC, STD- OP, YELLOW, SOLID, 6"	34.45 GM	\$5,750.00	\$198,087.50
<b>Roadway Component Total</b>				<b>\$20,534,155.11</b>

### SHOULDER COMPONENT

#### User Input Data

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	53,858.30	SY	\$13.14	\$707,698.06
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	50,523.73	SY	\$3.12	\$157,634.04
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	2,778.81	TN	\$99.75	\$277,186.30
337-7-24	ASPH CONC FC, FC-5, PG 76-22, ARB	2,020.95	TN	\$154.32	\$311,873.00
570-1-2	PERFORMANCE TURF, SOD	26,979.67	SY	\$3.50	\$94,428.84

#### Erosion Control

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	104,584.13	LF	\$1.09	\$113,996.70
104-11	FLOATING TURBIDITY BARRIER	861.20	LF	\$9.58	\$8,250.30
104-12	STAKED TURBIDITY	861.20	LF	\$3.96	\$3,410.35



	BARRIER- NYL REINF PVC			
104-15	SOIL TRACKING PREVENTION DEVICE	9.00 EA	\$2,594.90	\$23,354.10
107-1	LITTER REMOVAL	64.74 AC	\$59.86	\$3,875.34
107-2	MOWING	64.74 AC	\$71.88	\$4,653.51
	<b>Shoulder Component Total</b>			<b>\$1,706,360.55</b>

### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	40.00
Performance Turf Width	5.34
New Total Median Shoulder Width L/R	8.00 / 8.00
New Paved Median Shoulder Width L/R	0.00 / 0.00
Existing Total Median Shoulder Width L/R	8.00 / 8.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
570-1-2	PERFORMANCE TURF, SOD	26,979.67	SY	\$3.50	\$94,428.84
	<b>Median Component Total</b>				<b>\$94,428.85</b>

### DRAINAGE COMPONENT

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	342.72	CY	\$1,285.00	\$440,395.20
430-174- 124	PIPE CULV, OPT MATL, ROUND, 24" SD	15,232.00	LF	\$81.23	\$1,237,295.36
430-175- 136	PIPE CULV, OPT MATL, ROUND, 36" S/CD	1,528.00	LF	\$114.92	\$175,597.76
430-984- 129	MITERED END SECT, OPTIONAL RD, 24" SD	762.00	EA	\$1,713.03	\$1,305,328.86

570-1-1	PERFORMANCE TURF	13,404.16 SY	\$1.93	\$25,870.03
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**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-541	INLETS, DT BOT, TYPE D, <10'	300.00 EA	\$2,126.83	\$638,049.00
425-1-543	INLETS, DT BOT, TYPE D, J BOT, <10'	34.00 EA	\$5,213.44	\$177,256.96
425-1-587	INLETS, DT BOT, TYPE H, J BOT, <10', SPL	158.00 EA	\$5,590.00	\$883,220.00
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	4,832.00 LF	\$85.83	\$414,730.56
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	5,408.00 LF	\$88.46	\$478,391.68
430-175-130	PIPE CULV, OPT MATL, ROUND, 30"S/CD	11,416.00 LF	\$95.31	\$1,088,058.96
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	672.00 LF	\$114.92	\$77,226.24
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	280.00 LF	\$163.18	\$45,690.40

**Retention Basin 1**

<b>Description</b>	<b>Value</b>
Size	5 AC
Multiplier	8
Depth	6.00
Description	

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	40.00 AC	\$21,106.08	\$844,243.20
120-1	REGULAR EXCAVATION	387,200.00 CY	\$11.26	\$4,359,872.00
400-2-2	CONC CLASS II, ENDWALLS	240.00 CY	\$1,285.00	\$308,400.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	8.00 EA	\$2,126.83	\$17,014.64
425-2-71	MANHOLES, J-7, <10'	16.00 EA	\$5,711.75	\$91,388.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	400.00 LF	\$137.59	\$55,036.00
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	3,200.00 LF	\$250.98	\$803,136.00
550-10-220	FENCING, TYPE B, 5.1-6.0'	14,880.00 LF	\$10.11	\$150,436.80

	STANDARD			
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	16.00 EA	\$1,918.46	\$30,695.36
570-1-1	PERFORMANCE TURF	193,600.00 SY	\$1.93	\$373,648.00
<b>Drainage Component Total</b>				<b>\$14,020,981.01</b>

### SIGNING COMPONENT

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	18.00 AS	\$263.21	\$4,737.78
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	207.00 AS	\$946.53	\$195,931.71
700-1-50	SINGLE POST SIGN, RELOCATE	18.00 AS	\$151.53	\$2,727.54
700-1-60	SINGLE POST SIGN, REMOVE	207.00 AS	\$21.22	\$4,392.54
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	18.00 AS	\$3,989.84	\$71,817.12
700-2-60	MULTI- POST SIGN, REMOVE	18.00 AS	\$462.37	\$8,322.66
<b>Signing Component Total</b>				<b>\$287,929.35</b>

### SIGNALIZATIONS COMPONENT

#### Signalization 1

<b>Description</b>	<b>Value</b>
Type	6 Lane Strain Pole
Multiplier	1
Description	US 27 & Scenic Highway

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	700.00 LF	\$6.37	\$4,459.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	250.00 LF	\$25.49	\$6,372.50
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00 PI	\$7,132.15	\$7,132.15



634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00 PI	\$2,310.94	\$2,310.94
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	20.00 EA	\$574.66	\$11,493.20
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00 AS	\$1,735.02	\$1,735.02
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00 LF	\$4.70	\$141.00
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	1.00 EA	\$945.05	\$945.05
641-2-17	PREST CNC POLE,F&I,TYP P-VII	4.00 EA	\$8,653.93	\$34,615.72
650-1-14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	20.00 AS	\$965.56	\$19,311.20
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$525.51	\$4,204.08
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	20.00 EA	\$167.43	\$3,348.60
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	20.00 AS	\$977.12	\$19,542.40
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$233.56	\$1,868.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$25,727.76	\$25,727.76
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00 EA	\$202.65	\$810.60

**Signalization 2**

<b>Description</b>	<b>Value</b>
Type	6 Lane Strain Pole
Multiplier	1
Description	US 27 & SR 630

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	700.00	LF	\$6.37	\$4,459.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	250.00	LF	\$25.49	\$6,372.50
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$7,132.15	\$7,132.15
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00	PI	\$2,310.94	\$2,310.94
635-2-11	PULL & SPLICE BOX, F&I,	20.00	EA	\$574.66	\$11,493.20

	13" x 24"			
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00 AS	\$1,735.02	\$1,735.02
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00 LF	\$4.70	\$141.00
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	1.00 EA	\$945.05	\$945.05
641-2-17	PREST CNC POLE,F&I,TYP P-VII	4.00 EA	\$8,653.93	\$34,615.72
650-1-14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	20.00 AS	\$965.56	\$19,311.20
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$525.51	\$4,204.08
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	20.00 EA	\$167.43	\$3,348.60
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	20.00 AS	\$977.12	\$19,542.40
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$233.56	\$1,868.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$25,727.76	\$25,727.76
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00 EA	\$202.65	\$810.60
<b>Signalizations Component Total</b>				<b>\$288,035.40</b>

### LIGHTING COMPONENT

#### Rural Lighting Subcomponent

Description		Value			
Multiplier (Number of Poles)		370			
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	74,000.00	LF	\$6.37	\$471,380.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	370.00	EA	\$574.66	\$212,624.20
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	222,000.00	LF	\$2.41	\$535,020.00
715-4-122	LIGHT POLE COMP, F&I, WS130, 45'	370.00	EA	\$5,198.40	\$1,923,408.00
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	370.00	EA	\$476.28	\$176,223.60

**Subcomponent Total** \$3,318,655.80

**Lighting Component Total** \$3,318,655.80

**BRIDGES COMPONENT**

**Bridge 0193**

<b>Description</b>	<b>Value</b>
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	120.00
Width (LF)	60.00
Type	Low Level
Cost Factor	1.00
Structure No.	160193
Removal of Existing Structures area	4,510.00
Default Cost per SF	\$114.00
Factored Cost per SF	\$114.00
<b>Final Cost per SF</b>	<b>\$123.58</b>
<b>Basic Bridge Cost</b>	<b>\$820,800.00</b>

Description REPLACEMENT OF LAKE STREETY CANAL  
BRIDGES

**Bridge Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	4,510.00	SF	\$33.90	\$152,889.00
400-2-10	CONC CLASS II, APPROACH SLABS	133.33	CY	\$357.85	\$47,712.14
415-1-9	REINF STEEL- APPROACH SLABS	23,332.75	LB	\$0.91	\$21,232.80

**Bridge 0193 Total** \$1,042,633.94

**Bridge 0194**

<b>Description</b>	<b>Value</b>
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	120.00
Width (LF)	60.00
Type	Low Level
Cost Factor	1.00



Structure No.	160194
Removal of Existing Structures area	4,510.00
Default Cost per SF	\$114.00
Factored Cost per SF	\$114.00
<b>Final Cost per SF</b>	<b>\$123.58</b>
<b>Basic Bridge Cost</b>	<b>\$820,800.00</b>
Description	REPLACEMENT OF LAKE STREETY CANAL BRIDGES

**Bridge Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	4,510.00	SF	\$33.90	\$152,889.00
400-2-10	CONC CLASS II, APPROACH SLABS	133.33	CY	\$357.85	\$47,712.14
415-1-9	REINF STEEL- APPROACH SLABS	23,332.75	LB	\$0.91	\$21,232.80
<b>Bridge 0194 Total</b>					<b>\$1,042,633.94</b>

**Bridge 0195**

<b>Description</b>	<b>Value</b>
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	250.00
Width (LF)	60.00
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	160195
Removal of Existing Structures area	9,768.00
Default Cost per SF	\$122.00
Factored Cost per SF	\$122.00
<b>Final Cost per SF</b>	<b>\$126.60</b>
<b>Basic Bridge Cost</b>	<b>\$1,830,000.00</b>
Description	REPLACEMENT OF CSX BRIDGES

**Bridge Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	9,768.00	SF	\$33.90	\$331,135.20
400-2-10	CONC CLASS II, APPROACH SLABS	133.33	CY	\$357.85	\$47,712.14

415-1-9	REINF STEEL- APPROACH SLABS	23,332.75 LB	\$0.91	\$21,232.80
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<b>Bridge 0195 Total</b>				\$2,230,080.14
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**Bridge 0196**

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	250.00
Width (LF)	60.00
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	160196
Removal of Existing Structures area	9,768.00
Default Cost per SF	\$122.00
Factored Cost per SF	\$122.00
<b>Final Cost per SF</b>	<b>\$126.60</b>
<b>Basic Bridge Cost</b>	<b>\$1,830,000.00</b>
Description	REPLACEMENT OF CSX BRIDGES

**Bridge Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	9,768.00	SF	\$33.90	\$331,135.20
400-2-10	CONC CLASS II, APPROACH SLABS	133.33	CY	\$357.85	\$47,712.14
415-1-9	REINF STEEL- APPROACH SLABS	23,332.75	LB	\$0.91	\$21,232.80

<b>Bridge 0196 Total</b>					\$2,230,080.14
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<b>Bridges Component Total</b>					\$6,545,428.16
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<b>Sequence 1 Total</b>					\$48,876,412.08
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Date: 10/13/2016 10:09:25 AM

FDOT Long Range Estimating System - Production  
R3: Project Details by Sequence Report

**Project:** 419243-2-32-01**Letting Date:** 07/2024**Description:** SR25 (US 27) FROM HIGHLANDS COUNTY LINE TO CR 630A**District:** 01      **County:** 16 POLK      **Market Area:** 08      **Units:** English**Contract Class:** 1      **Lump Sum Project:** N      **Design/Build:** N      **Project Length:** 8.610 MI**Project Manager:** CES-REL-DCT**Version 8 Project Grand Total** **\$68,161,527.41****Description:** PD&E Unit Cost Update from Version 3 - 10/5/16

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**Project Sequences Subtotal** **\$48,876,412.08**

102-1      Maintenance of Traffic      15.00 %      \$7,331,461.81

101-1      Mobilization      10.00 %      \$5,620,787.39

**Project Sequences Total** **\$61,828,661.28**

Project Unknowns      10.00 %      \$6,182,866.13

Design/Build      0.00 %      \$0.00

**Non-Bid Components:**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

**Project Non-Bid Subtotal** **\$150,000.00****Version 8 Project Grand Total** **\$68,161,527.41**



## **Segment 2 – Long Range Estimate**

Date: 10/5/2016 1:01:37 PM

FDOT Long Range Estimating System - Production  
R3: Project Details by Sequence Report

**Project:** 419243-3-32-01**Letting Date:** 08/2025**Description:** US 27 FROM CR 630A TO PRESIDENTS DRIVE**District:** 01      **County:** 16 POLK      **Market Area:** 08      **Units:** English**Contract Class:** 1      **Lump Sum Project:** N      **Design/Build:** N      **Project Length:** 5.030 MI**Project Manager:** CES-REL-DCT**Version 8 Project Grand Total****\$50,058,693.21****Description:** PD&E Unit Cost Update from Version 3 - 10/5/16**Sequence:** 1 WDR - Widen/Resurface, Divided, Rural**Net** 5.026 MI  
**Length:** 26,537  
LF**Description:** WIDENING FROM 4 LANES RURAL DIVIDED ROADWAY TO 6  
LANES RURAL DIVIDED ROADWAY**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	40.00 / 40.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	5.026
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	48.74 AC	\$21,106.08	\$1,028,710.34
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	9,455.13 CY	\$19.62	\$185,509.65
<b>Earthwork Component Total</b>				<b>\$1,214,219.99</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	12.00 / 12.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	176,915.20 SY	\$5.18	\$916,420.74
285-709	OPTIONAL BASE,BASE GROUP 09	72,712.15 SY	\$19.41	\$1,411,342.83
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	141,532.16 SY	\$2.95	\$417,519.87
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	15,568.54 TN	\$99.75	\$1,552,961.86
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	11,676.40 TN	\$99.75	\$1,164,720.90
337-7-24	ASPH CONC FC, FC-5, PG 76-22, ARB	5,661.29 TN	\$154.32	\$873,650.27
337-7-24	ASPH CONC FC, FC-5, PG 76-22, ARB	2,830.64 TN	\$154.32	\$436,824.36

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
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400-0-11	CONC CLASS NS, GRAVITY WALL	14,889.00 CY	\$604.35	\$8,998,167.15
546-72-53	RUMBLE STRIPS, GROUND-IN, 8" EDGELINE	40.20 GM	\$924.95	\$37,182.99

**Turnouts/Crossovers Subcomponent**

Description	Value
Asphalt Adjustment	20.00
Milling Code	Y
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	35,383.04	SY	\$5.18	\$183,284.15
285-709	OPTIONAL BASE,BASE GROUP 09	14,542.43	SY	\$19.41	\$282,268.57
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	28,306.43	SY	\$2.95	\$83,503.97
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	3,113.71	TN	\$99.75	\$310,592.57
337-7-24	ASPH CONC FC, FC-5, PG 76-22, ARB	1,132.26	TN	\$154.32	\$174,730.36

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	3,393.00	EA	\$3.78	\$12,825.54
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	20.10	NM	\$1,006.44	\$20,229.44
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	20.10	GM	\$390.40	\$7,847.04

711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	20.10 GM	\$5,760.00	\$115,776.00
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	20.10 GM	\$1,201.81	\$24,156.38
711-15-201	THERMOPLASTIC, STD- OP, YELLOW, SOLID, 6"	20.10 GM	\$5,750.00	\$115,575.00
<b>Roadway Component Total</b>				<b>\$17,139,580.00</b>

### SHOULDER COMPONENT

#### User Input Data

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	31,431.93	SY	\$13.14	\$413,015.56
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	29,485.87	SY	\$3.12	\$91,995.91
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,621.72	TN	\$99.75	\$161,766.57
337-7-24	ASPH CONC FC, FC-5, PG 76-22, ARB	1,179.43	TN	\$154.32	\$182,009.64
570-1-2	PERFORMANCE TURF, SOD	15,745.45	SY	\$3.50	\$55,109.08

#### Erosion Control

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	61,035.74	LF	\$1.09	\$66,528.96
104-11	FLOATING TURBIDITY BARRIER	502.60	LF	\$9.58	\$4,814.91
104-12	STAKED TURBIDITY	502.60	LF	\$3.96	\$1,990.30

	BARRIER- NYL REINF PVC			
104-15	SOIL TRACKING PREVENTION DEVICE	6.00 EA	\$2,594.90	\$15,569.40
107-1	LITTER REMOVAL	64.74 AC	\$59.86	\$3,875.34
107-2	MOWING	64.74 AC	\$71.88	\$4,653.51
	<b>Shoulder Component Total</b>			<b>\$1,001,329.18</b>

### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	40.00
Performance Turf Width	5.34
New Total Median Shoulder Width L/R	8.00 / 8.00
New Paved Median Shoulder Width L/R	0.00 / 0.00
Existing Total Median Shoulder Width L/R	8.00 / 8.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
570-1-2	PERFORMANCE TURF, SOD	15,745.45	SY	\$3.50	\$55,109.08
	<b>Median Component Total</b>				<b>\$55,109.08</b>

### DRAINAGE COMPONENT

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	342.72	CY	\$1,285.00	\$440,395.20
430-174- 124	PIPE CULV, OPT MATL, ROUND, 24" SD	15,232.00	LF	\$81.23	\$1,237,295.36
430-175- 136	PIPE CULV, OPT MATL, ROUND, 36" S/CD	1,528.00	LF	\$114.92	\$175,597.76
430-984- 129	MITERED END SECT, OPTIONAL RD, 24" SD	762.00	EA	\$1,713.03	\$1,305,328.86



570-1-1	PERFORMANCE TURF	13,404.16 SY	\$1.93	\$25,870.03
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**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
425-1-541	INLETS, DT BOT, TYPE D, <10'	160.00 EA	\$2,126.83	\$340,292.80
425-1-543	INLETS, DT BOT, TYPE D, J BOT, <10'	20.00 EA	\$5,213.44	\$104,268.80
425-1-587	INLETS, DT BOT, TYPE H, J BOT, <10', SPL	85.00 EA	\$5,590.00	\$475,150.00
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	2,600.00 LF	\$85.83	\$223,158.00
430-175-130	PIPE CULV, OPT MATL, ROUND, 30"S/CD	6,136.00 LF	\$95.31	\$584,822.16
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	152.00 LF	\$163.18	\$24,803.36

**Retention Basin 1**

<b>Description</b>	<b>Value</b>
Size	5 AC
Multiplier	5
Depth	6.00
Description	

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	25.00 AC	\$21,106.08	\$527,652.00
120-1	REGULAR EXCAVATION	242,000.00 CY	\$11.26	\$2,724,920.00
400-2-2	CONC CLASS II, ENDWALLS	150.00 CY	\$1,285.00	\$192,750.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	5.00 EA	\$2,126.83	\$10,634.15
425-2-71	MANHOLES, J-7, <10'	10.00 EA	\$5,711.75	\$57,117.50
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	280.00 LF	\$137.59	\$38,525.20
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	2,000.00 LF	\$250.98	\$501,960.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	9,300.00 LF	\$10.11	\$94,023.00
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	10.00 EA	\$1,918.46	\$19,184.60
570-1-1	PERFORMANCE TURF	121,000.00 SY	\$1.93	\$233,530.00

**Retention Basin 2**

<b>Description</b>	<b>Value</b>
Size	5 AC
Multiplier	5
Depth	6.00
Description	

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	25.00	AC	\$21,106.08	\$527,652.00
120-1	REGULAR EXCAVATION	242,000.00	CY	\$11.26	\$2,724,920.00
400-2-2	CONC CLASS II, ENDWALLS	150.00	CY	\$1,285.00	\$192,750.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	5.00	EA	\$2,126.83	\$10,634.15
425-2-71	MANHOLES, J-7, <10'	10.00	EA	\$5,711.75	\$57,117.50
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	280.00	LF	\$137.59	\$38,525.20
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	2,000.00	LF	\$250.98	\$501,960.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	9,300.00	LF	\$10.11	\$94,023.00
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	10.00	EA	\$1,918.46	\$19,184.60
570-1-1	PERFORMANCE TURF	121,000.00	SY	\$1.93	\$233,530.00
<b>Drainage Component Total</b>					<b>\$13,737,575.23</b>

**SIGNING COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	11.00	AS	\$263.21	\$2,895.31
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	121.00	AS	\$946.53	\$114,530.13
700-1-50	SINGLE POST SIGN, RELOCATE	11.00	AS	\$151.53	\$1,666.83
700-1-60	SINGLE POST SIGN, REMOVE	121.00	AS	\$21.22	\$2,567.62
700-2-60	MULTI- POST SIGN,	11.00	AS	\$462.37	\$5,086.07

REMOVE

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-2-13	MULTI- POST SIGN, F&I GM, 21-30 SF	11.00	AS	\$3,054.73	\$33,602.03
<b>Signing Component Total</b>					<b>\$160,347.99</b>

**LIGHTING COMPONENT****Rural Lighting Subcomponent**

<b>Description</b>	<b>Value</b>				
Multiplier (Number of Poles)	200				
<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	40,000.00	LF	\$25.49	\$1,019,600.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	200.00	EA	\$574.66	\$114,932.00
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	120,000.00	LF	\$2.41	\$289,200.00
715-4-122	LIGHT POLE COMP, F&I, WS130, 45'	200.00	EA	\$5,198.40	\$1,039,680.00
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	200.00	EA	\$476.28	\$95,256.00
<b>Subcomponent Total</b>					<b>\$2,558,668.00</b>
<b>Lighting Component Total</b>					<b>\$2,558,668.00</b>

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<b>Sequence 1 Total</b>	<b>\$35,866,829.47</b>
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FDOT Long Range Estimating System - Production  
R3: Project Details by Sequence Report

**Project:** 419243-3-32-01**Letting Date:** 08/2025**Description:** US 27 FROM CR 630A TO PRESIDENTS DRIVE**District:** 01      **County:** 16 POLK      **Market Area:** 08      **Units:** English**Contract Class:** 1      **Lump Sum Project:** N      **Design/Build:** N      **Project Length:** 5.030 MI**Project Manager:** CES-REL-DCT**Version 8 Project Grand Total** **\$50,058,693.21****Description:** PD&E Unit Cost Update from Version 3 - 10/5/16

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**Project Sequences Subtotal** **\$35,866,829.47**

102-1      Maintenance of Traffic      15.00 %      \$5,380,024.42

101-1      Mobilization      10.00 %      \$4,124,685.39

**Project Sequences Total** **\$45,371,539.28**

Project Unknowns      10.00 %      \$4,537,153.93

Design/Build      0.00 %      \$0.00

**Non-Bid Components:**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

**Project Non-Bid Subtotal** **\$150,000.00****Version 8 Project Grand Total** **\$50,058,693.21**

**Segment 3 – Operational Improvement  
Long Range Estimate**

Date: 10/13/2016 11:12:07 AM

## FDOT Long Range Estimating System - Production

### R3: Project Details by Sequence Report

Project: 419243-4-32-01

Letting Date: 02/2020

Description: US 27 FROM PRESIDENTS DRIVE TO SR 60

District: 01      County: 16 POLK      Market Area: 08      Units: English  
 Contract Class: 9      Lump Sum Project: N      Design/Build: Y      Project Length: 5.180 MI

Project Manager: CES-KSI-AES

Version 24 Project Grand Total

\$55,640,518.74

Description: PD&amp;E Unit Cost Update from Version 11 - 10/13/16

Sequence: 1 WDR - Widen/Resurface, Divided, Rural

Net Length: 2.574 MI  
13,591 LFDescription: US 27 (SR 25) FROM PRESIDENT'S DRIVE TO SOUTH OF LONGLEAF BOULEVARD (MP  
16.212)

#### EARTHWORK COMPONENT

##### User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	35.00 / 35.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	2.574
Top of Structural Course For Begin Section	103.50
Top of Structural Course For End Section	103.50
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	21.84	AC	\$21,106.08	\$460,956.79
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	17,285.38	CY	\$19.62	\$339,139.16

##### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION <b>Comment:</b> EXCAVATION FOR LINEAR PONDS - 15 Acres total at 2ft deep	48,400.00	CY	\$11.26	\$544,984.00
120-6	EMBANKMENT	42,967.00	CY	\$16.33	\$701,651.11



**Earthwork Component Total**

\$2,046,731.06

**ROADWAY COMPONENT****User Input Data**

Description	Value
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	12.00 / 12.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	84,564.48 SY	\$5.18	\$438,044.01
285-709	OPTIONAL BASE,BASE GROUP 09	37,238.57 SY	\$19.41	\$722,800.64
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	72,483.84 SY	\$2.95	\$213,827.33
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	7,973.22 TN	\$119.17	\$950,168.63
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	5,979.92 TN	\$119.17	\$712,627.07
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	2,899.35 TN	\$143.33	\$415,563.84
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	1,449.68 TN	\$143.33	\$207,782.63

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION <b>Comment:</b> Excavation for sidewalks NB and SB	1,661.12 CY	\$11.26	\$18,704.21
400-0-11	CONC CLASS NS, GRAVITY WALL	3,365.00 CY	\$604.35	\$2,033,637.75
546-72-53	RUMBLE STRIPS, GROUND-IN, 8" EDGELINE	10.30 GM	\$924.95	\$9,526.98

**Turnouts/Crossovers Subcomponent**

Description	Value
Asphalt Adjustment	20.00
Milling Code	Y
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	16,912.90 SY	\$5.18	\$87,608.82
285-709	OPTIONAL BASE,BASE GROUP 09	7,447.71 SY	\$19.41	\$144,560.05
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	14,496.77 SY	\$2.95	\$42,765.47
334-1-23	SUPERPAVE ASPH CONC, TRAF	1,594.64 TN	\$119.17	\$190,033.25

337-7-22	C, PG76-22,PMA ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	579.87 TN	\$143.33	\$83,112.77
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**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	1,737.00 EA	\$3.78	\$6,565.86
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	10.30 NM	\$1,006.44	\$10,366.33
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	10.30 GM	\$390.40	\$4,021.12
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	10.30 GM	\$5,760.00	\$59,328.00
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	10.30 GM	\$1,201.81	\$12,378.64
<b>Roadway Component Total</b>				<b>\$6,363,423.41</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	3.00 / 3.00
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	16,097.45 SY	\$13.14	\$211,520.49
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	15,100.80 SY	\$3.12	\$47,114.50
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	830.54 TN	\$119.17	\$98,975.45
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	604.03 TN	\$143.33	\$86,575.62
570-1-2	PERFORMANCE TURF, SOD	9,060.48 SY	\$3.50	\$31,711.68

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
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522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	15,101.00 SY	\$40.70	\$614,610.70
	<b>Comment:</b> NB and SB Sidewalks			
570-1-2	PERFORMANCE TURF, SOD	199,748.00 SY	\$3.50	\$699,118.00
	<b>Comment:</b> PERFORMANCE SOD FOR BORDERS			

**Erosion Control****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	31,258.66 LF	\$1.09	\$34,071.94
104-11	FLOATING TURBIDITY BARRIER	257.40 LF	\$9.58	\$2,465.89
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	257.40 LF	\$3.96	\$1,019.30
104-15	SOIL TRACKING PREVENTION DEVICE	3.00 EA	\$2,594.90	\$7,784.70
107-1	LITTER REMOVAL	8.75 AC	\$59.86	\$523.78
107-2	MOWING	8.75 AC	\$71.88	\$628.95
<b>Shoulder Component Total</b>				<b>\$1,836,121.00</b>

**MEDIAN COMPONENT****User Input Data**

Description	Value
Total Median Width	40.00
Performance Turf Width	5.34
New Total Median Shoulder Width L/R	8.00 / 8.00
New Paved Median Shoulder Width L/R	0.00 / 0.00
Existing Total Median Shoulder Width L/R	8.00 / 8.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
570-1-2	PERFORMANCE TURF, SOD	8,063.83 SY	\$3.50	\$28,223.40
<b>Median Component Total</b>				<b>\$28,223.41</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	48.82 CY	\$1,285.00	\$62,733.70
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	216.00 LF	\$114.92	\$24,822.72
570-1-2	PERFORMANCE TURF, SOD	1,910.00 SY	\$3.50	\$6,685.00

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-583	INLETS, DT BOT, TYPE H, J	103.00 EA	\$7,402.23	\$762,429.69



	BOTTOM <10'			
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	864.00 LF	\$81.23	\$70,182.72
	<b>Comment:</b> DRIVEWAY SIDEDRAINS			
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	1,496.00 LF	\$85.83	\$128,401.68
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	6,376.00 LF	\$88.46	\$564,020.96
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	680.00 LF	\$114.92	\$78,145.60
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	88.00 LF	\$163.18	\$14,359.84
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	72.00 EA	\$1,713.03	\$123,338.16
	<b>Comment:</b> DRIVEWAY SIDEDRAIN MITERED END SECTIONS.			
<b>Drainage Component Total</b>				<b>\$1,835,120.07</b>

**SIGNING COMPONENT**

<b>Pay Items</b>				
<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	6.00 AS	\$263.21	\$1,579.26
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	62.00 AS	\$946.53	\$58,684.86
700-1-50	SINGLE POST SIGN, RELOCATE	6.00 AS	\$151.53	\$909.18
700-1-60	SINGLE POST SIGN, REMOVE	62.00 AS	\$21.22	\$1,315.64
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	6.00 AS	\$3,989.84	\$23,939.04
700-2-60	MULTI- POST SIGN, REMOVE	6.00 AS	\$462.37	\$2,774.22
<b>Signing Component Total</b>				<b>\$89,202.20</b>

**SIGNALIZATIONS COMPONENT**

**Signalization 1**

<b>Description</b>	<b>Value</b>
Type	6 Lane Strain Pole
Multiplier	1
Description	US 27 AT ALTURAS BABSON PARK CUTOFF ROAD (CR 640)

<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	250.00	LF	\$25.49	\$6,372.50
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$7,132.15	\$7,132.15
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00	PI	\$2,310.94	\$2,310.94
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	20.00	EA	\$574.66	\$11,493.20
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	\$1,735.02	\$1,735.02
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00	LF	\$4.70	\$141.00
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	1.00	EA	\$945.05	\$945.05
641-2-17	PREST CNC POLE,F&I,TYP P-VII	4.00	EA	\$8,653.93	\$34,615.72
650-1-14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	20.00	AS	\$965.56	\$19,311.20
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00	AS	\$525.51	\$4,204.08
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	20.00	EA	\$167.43	\$3,348.60
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	20.00	AS	\$977.12	\$19,542.40
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	\$233.56	\$1,868.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00	AS	\$25,727.76	\$25,727.76
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00	EA	\$202.65	\$810.60
700-5-21	INTERNAL ILLUM SIGN, F&I OM, UP TO 12 SF	4.00	EA	\$3,124.86	\$12,499.44
<b>Signalizations Component Total</b>					<b>\$152,058.14</b>

**LIGHTING COMPONENT****Rural Lighting Subcomponent**

<b>Description</b>					<b>Value</b>
Multiplier (Number of Poles)					116
<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	23,200.00	LF	\$6.37	\$147,784.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	116.00	EA	\$574.66	\$66,660.56
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	69,600.00	LF	\$2.41	\$167,736.00
715-4-122	LIGHT POLE COMP, F&I, WS130, 45'	116.00	EA	\$5,198.40	\$603,014.40
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	116.00	EA	\$476.28	\$55,248.48
<b>Subcomponent Total</b>					<b>\$1,040,443.44</b>
<b>Lighting Component Total</b>					<b>\$1,040,443.44</b>

<b>Sequence 1 Total</b>	<b>\$13,391,322.73</b>
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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	2.828
Top of Structural Course For Begin Section	103.50
Top of Structural Course For End Section	103.50
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	34.28	AC	\$21,106.08	\$723,516.42
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	18,991.09	CY	\$19.62	\$372,605.19
<b>Earthwork Component Total</b>					<b>\$1,096,121.61</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	12.00 / 12.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	92,909.23	SY	\$5.18	\$481,269.81
285-709	OPTIONAL BASE,BASE GROUP 09	40,913.24	SY	\$19.41	\$794,125.99
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	79,636.48	SY	\$2.95	\$234,927.62
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	8,760.01	TN	\$119.17	\$1,043,930.39
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	6,570.01	TN	\$119.17	\$782,948.09
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	3,185.46	TN	\$143.33	\$456,571.98

337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	1,592.73 TN	\$143.33	\$228,285.99
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**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION <b>Comment:</b> Excavation for NB and SB Sidewalks	1,825.02 CY	\$11.26	\$20,549.73
536-1-1	GUARDRAIL- ROADWAY, GEN TL-3	2,500.00 LF	\$18.13	\$45,325.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	2.00 EA	\$2,644.46	\$5,288.92
536-85-25	GUARDRAIL END ANCHORAGE ASSEM- TYPE II	2.00 EA	\$869.58	\$1,739.16
544-75-1	CRASH CUSHION	6.00 EA	\$12,126.00	\$72,756.00
546-72-53	RUMBLE STRIPS, GROUND-IN, 8" EDGELINE	11.31 GM	\$924.95	\$10,461.18

**Turnouts/Crossovers Subcomponent**

Description	Value
Asphalt Adjustment	20.00
Milling Code	Y
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	18,581.85 SY	\$5.18	\$96,253.98
285-709	OPTIONAL BASE,BASE GROUP 09	8,182.65 SY	\$19.41	\$158,825.24
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	15,927.30 SY	\$2.95	\$46,985.54
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	1,752.00 TN	\$119.17	\$208,785.84
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	637.09 TN	\$143.33	\$91,314.11

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	1,909.00 EA	\$3.78	\$7,216.02
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	11.31 NM	\$1,006.44	\$11,382.84
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	11.31 GM	\$390.40	\$4,415.42
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	11.31 GM	\$5,760.00	\$65,145.60

711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	11.31 GM	\$1,201.81	\$13,592.47
<b>Roadway Component Total</b>				<b>\$4,882,096.92</b>

### SHOULDER COMPONENT

#### User Input Data

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	3.00 / 3.00
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	17,685.93	SY	\$13.14	\$232,393.12
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	16,590.93	SY	\$3.12	\$51,763.70
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	912.50	TN	\$119.17	\$108,742.62
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	663.64	TN	\$143.33	\$95,119.52
570-1-2	PERFORMANCE TURF, SOD	9,954.56	SY	\$3.50	\$34,840.96

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	16,591.11	SY	\$40.70	\$675,258.18
	<b>Comment:</b> NB and SB Sidewalks				
570-1-2	PERFORMANCE TURF, SOD	85,560.00	SY	\$3.50	\$299,460.00
	<b>Comment:</b> PERFORMANCE SOD FOR BORDERS				

#### Erosion Control

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	31,671.55	LF	\$1.09	\$34,521.99
104-11	FLOATING TURBIDITY BARRIER	260.80	LF	\$9.58	\$2,498.46
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	260.80	LF	\$3.96	\$1,032.77
104-15	SOIL TRACKING PREVENTION DEVICE	3.00	EA	\$2,594.90	\$7,784.70
107-1	LITTER REMOVAL	8.87	AC	\$59.86	\$530.96
107-2	MOWING	8.87	AC	\$71.88	\$637.58
<b>Shoulder Component Total</b>					<b>\$1,544,584.57</b>

### MEDIAN COMPONENT



**User Input Data**

Description	Value
Total Median Width	30.00
Performance Turf Width	17.00
New Total Median Shoulder Width L/R	8.00 / 8.00
New Paved Median Shoulder Width L/R	6.50 / 6.50
Existing Total Median Shoulder Width L/R	8.00 / 8.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	22,663.21 SY	\$13.14	\$297,794.58
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	1,186.25 TN	\$119.17	\$141,365.41
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	862.73 TN	\$143.33	\$123,655.09
521-1	MEDIAN CONC BARRIER WALL	600.00 LF	\$152.97	\$91,782.00
570-1-2	PERFORMANCE TURF, SOD	28,204.59 SY	\$3.50	\$98,716.06

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	29,864.00 LF	\$28.80	\$860,083.20
	<b>Comment:</b> MEDIAN TYPE E CURB BOTH SIDES.			

**Median Component Total**

\$1,613,396.35

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	46.94 CY	\$1,285.00	\$60,317.90
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	208.00 LF	\$114.92	\$23,903.36
570-1-2	PERFORMANCE TURF, SOD	1,836.00 SY	\$3.50	\$6,426.00

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-583	INLETS, DT BOT, TYPE H, J BOTTOM <10'	107.00 EA	\$7,402.23	\$792,038.61
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	864.00 LF	\$81.23	\$70,182.72
	<b>Comment:</b> DRIVEWAY SIDEDRAINS.			
430-174-130	PIPE CULV, OPT MATL, ROUND,30"SD	1,304.00 LF	\$96.03	\$125,223.12
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-118	PIPE CULV, OPT MATL, ROUND,	1,544.00 LF	\$85.83	\$132,521.52

	18"S/CD			
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	6,584.00 LF	\$88.46	\$582,420.64
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	704.00 LF	\$114.92	\$80,903.68
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	96.00 LF	\$163.18	\$15,665.28
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	72.00 EA	\$1,713.03	\$123,338.16
	<b>Comment:</b> DRIVEWAY SIDEDRAINS.			

**Retention Basin 1**

<b>Description</b>	<b>Value</b>
Size	5 AC
Multiplier	5
Depth	6.00
Description	

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	25.00	AC	\$21,106.08	\$527,652.00
120-1	REGULAR EXCAVATION	242,000.00	CY	\$11.26	\$2,724,920.00
400-2-2	CONC CLASS II, ENDWALLS	150.00	CY	\$1,285.00	\$192,750.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	5.00	EA	\$2,126.83	\$10,634.15
425-2-71	MANHOLES, J-7, <10'	10.00	EA	\$5,711.75	\$57,117.50
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	280.00	LF	\$137.59	\$38,525.20
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	2,000.00	LF	\$250.98	\$501,960.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	9,300.00	LF	\$10.11	\$94,023.00
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	10.00	EA	\$1,918.46	\$19,184.60
570-1-1	PERFORMANCE TURF	121,000.00	SY	\$1.93	\$233,530.00
	<b>Drainage Component Total</b>				\$6,413,237.44

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	6.00	AS	\$263.21	\$1,579.26
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	63.00	AS	\$946.53	\$59,631.39
700-1-50	SINGLE POST SIGN, RELOCATE	6.00	AS	\$151.53	\$909.18
700-1-60	SINGLE POST SIGN, REMOVE	63.00	AS	\$21.22	\$1,336.86

700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	6.00 AS	\$3,989.84	\$23,939.04
700-2-60	MULTI- POST SIGN, REMOVE	6.00 AS	\$462.37	\$2,774.22
<b>Signing Component Total</b>				<b>\$90,169.95</b>

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**LIGHTING COMPONENT**

**Rural Lighting Subcomponent**

<b>Description</b>		<b>Value</b>			
Multiplier (Number of Poles)		120			
<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F&I, OPEN TRENCH	24,000.00	LF	\$6.37	\$152,880.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	120.00	EA	\$574.66	\$68,959.20
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	72,000.00	LF	\$2.41	\$173,520.00
715-4-122	LIGHT POLE COMP, F&I, WS130, 45'	120.00	EA	\$5,198.40	\$623,808.00
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	120.00	EA	\$476.28	\$57,153.60
<b>Subcomponent Total</b>					<b>\$1,076,320.80</b>
<b>Lighting Component Total</b>					<b>\$1,076,320.80</b>

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**RETAINING WALLS COMPONENT**

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
400-2-11	CONC CLASS II, RETAINING WALLS	198.00	CY	\$1,394.00	\$276,012.00
	<b>Comment:</b> LAKE ALTAMAHA & UNNAMED SINK HOLE CONCRETE CAP FOR RETAINING WALLS.				
455-133-3	SHEET PILING STEEL, F&I PERMANENT	35,245.00	SF	\$40.17	\$1,415,791.65
	<b>Comment:</b> LAKE ALTAMAHA & UNNAMED SINKHOLE RETAINING WALLS.				
<b>Retaining Walls Component Total</b>					<b>\$1,691,803.65</b>

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**Sequence 2 Total** **\$18,407,731.29**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	3.00
Alignment Number	1
Distance	1.170
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	14.23	AC	\$21,106.08	\$300,339.52
110-1-1	CLEARING & GRUBBING	3.00	AC	\$21,106.08	\$63,318.24
120-6	EMBANKMENT	58,440.10	CY	\$16.33	\$954,326.83
<b>Earthwork Component Total</b>					<b>\$1,317,984.59</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	1
Roadway Pavement Width L/R	8.00 / 8.00
Structural Spread Rate	275
Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	24,799.10	SY	\$5.18	\$128,459.34
285-709	OPTIONAL BASE,BASE GROUP 09	11,476.47	SY	\$19.41	\$222,758.28
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	1,515.50	TN	\$119.17	\$180,602.14
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	440.87	TN	\$143.33	\$63,189.90

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
546-72-53	RUMBLE STRIPS, GROUND-IN, 8" EDGELINE	2.35	GM	\$924.95	\$2,173.63

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1

Skip Stripe No. of Stripes 0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	2.35	NM	\$1,006.44	\$2,365.13
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	2.35	GM	\$5,760.00	\$13,536.00
<b>Roadway Component Total</b>					<b>\$613,084.42</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	7,343.29	SY	\$13.14	\$96,490.83
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	378.88	TN	\$135.51	\$51,342.03
337-7-74	ASPH CONC FC,TRAF C,FC- 12.5,PG 76-22,ARB	568.31	TN	\$118.66	\$67,435.66
570-1-1	PERFORMANCE TURF	3,678.53	SY	\$1.93	\$7,099.56

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	2,346.00	SY	\$40.70	\$95,482.20
<b>Comment:</b> 8 FOOT SIDEWALK FOR PEDESTRIANS ON WEST SIDE OF US 27.					

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	16,119.42	LF	\$1.09	\$17,570.17
104-11	FLOATING TURBIDITY BARRIER	293.55	LF	\$9.58	\$2,812.21
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	293.55	LF	\$3.96	\$1,162.46
104-15	SOIL TRACKING PREVENTION DEVICE	2.00	EA	\$2,594.90	\$5,189.80
107-1	LITTER REMOVAL	14.23	AC	\$59.86	\$851.81
107-2	MOWING	14.23	AC	\$71.88	\$1,022.85
<b>Shoulder Component Total</b>					<b>\$346,459.58</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	21.14 CY	\$1,285.00	\$27,164.90
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	944.00 LF	\$81.23	\$76,681.12
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	200.00 LF	\$114.92	\$22,984.00
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	47.00 EA	\$1,713.03	\$80,512.41
570-1-1	PERFORMANCE TURF	826.64 SY	\$1.93	\$1,595.42
<b>Drainage Component Total</b>				<b>\$208,937.85</b>

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	3.00 AS	\$263.21	\$789.63
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	24.00 AS	\$946.53	\$22,716.72
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	3.00 AS	\$3,989.84	\$11,969.52
<b>Signing Component Total</b>				<b>\$35,475.87</b>

**SIGNALIZATIONS COMPONENT****Signalization 1**

Description	Value
Type	6 Lane Mast Arm
Multiplier	1
Description	US 27 SOUTH OF SR 60

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	300.00 LF	\$25.49	\$7,647.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00 PI	\$7,132.15	\$7,132.15
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	22.00 EA	\$574.66	\$12,642.52
639-2-1	ELECTRICAL SERVICE WIRE, F&I	60.00 LF	\$4.70	\$282.00
641-2-11	PREST CNC POLE,F&I,TYP P- II,PEDESTAL	1.00 EA	\$945.05	\$945.05
649-1-10	STEEL STRAIN POLE, F&I, PEDESTAL	1.00 EA	\$1,505.77	\$1,505.77
649-31-105	M/ARM,F&I, WS-150,SINGLE ARM,W/O LUM-78	4.00 EA	\$39,757.69	\$159,030.76
650-1-14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	20.00 AS	\$965.56	\$19,311.20
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$525.51	\$4,204.08
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	20.00 EA	\$167.43	\$3,348.60



660-2-106	LOOP ASSEMBLY, F&I, TYPE F	20.00 AS	\$977.12	\$19,542.40
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$233.56	\$1,868.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$25,727.76	\$25,727.76
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00 EA	\$202.65	\$810.60

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
639-1-122	ELECTRICAL POWER SRV,F&I, UG,PUR CONT	1.00 AS	\$2,108.56	\$2,108.56

**Signalization 2**

Description	Value
Type	6 Lane Mast Arm
Multiplier	1
Description	US 27 NORTH OF SR 60

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	300.00 LF	\$25.49	\$7,647.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00 PI	\$7,132.15	\$7,132.15
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	22.00 EA	\$574.66	\$12,642.52
639-2-1	ELECTRICAL SERVICE WIRE, F&I	60.00 LF	\$4.70	\$282.00
641-2-11	PREST CNC POLE,F&I,TYP P- II,PEDESTAL	1.00 EA	\$945.05	\$945.05
649-1-10	STEEL STRAIN POLE, F&I, PEDESTAL	1.00 EA	\$1,505.77	\$1,505.77
649-31-105	M/ARM,F&I, WS-150,SINGLE ARM,W/O LUM-78	4.00 EA	\$39,757.69	\$159,030.76
650-1-14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	20.00 AS	\$965.56	\$19,311.20
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$525.51	\$4,204.08
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	20.00 EA	\$167.43	\$3,348.60
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	20.00 AS	\$977.12	\$19,542.40
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$233.56	\$1,868.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$25,727.76	\$25,727.76
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00 EA	\$202.65	\$810.60

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
639-1-122	ELECTRICAL POWER SRV,F&I, UG,PUR CONT	1.00 AS	\$2,108.56	\$2,108.56

**Interconnect Subcomponent**

Description	Value
Type	U
Length of Fiber Run	900.00
Number of Intersections	2

Percentage of Underpavement Conduit 0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
660-2-102	LOOP ASSEMBLY, F&I, TYPE B	8.00	AS	\$812.03	\$6,496.24
<b>Signalizations Component Total</b>					<b>\$538,710.10</b>

**RETAINING WALLS COMPONENT**

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
451-70	PREST SOIL ANCHORS	50.00	EA	\$7,426.38	\$371,319.00
<b>Comment:</b> TIEBACKS FOR RETAINING WALLS.					

**Retaining Wall 1**

Description	Value
Length	200.00
Begin height	20.00
End Height	20.00
Multiplier	1

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	4,000.00	SF	\$31.83	\$127,320.00

**Retaining Wall 2**

Description	Value
Length	200.00
Begin height	20.00
End Height	20.00
Multiplier	1

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	4,000.00	SF	\$31.83	\$127,320.00

**Retaining Walls Component Total** \$625,959.00

**Sequence 3 Total** \$3,686,611.41

**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	0.00 / 30.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.066
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	0.24	AC	\$21,106.08	\$5,065.46
<b>Earthwork Component Total</b>					<b>\$5,065.46</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	5
Existing Roadway Pavement Width L/R	28.00 / 28.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 12.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	567.10	SY	\$5.18	\$2,937.58
285-709	OPTIONAL BASE,BASE GROUP 09	479.59	SY	\$19.41	\$9,308.84
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	2,178.18	SY	\$2.95	\$6,425.63
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	179.70	TN	\$135.51	\$24,351.15
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	64.18	TN	\$135.51	\$8,697.03
337-7-43	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	87.13	TN	\$111.17	\$9,686.24
337-7-43	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	18.67	TN	\$111.17	\$2,075.54

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y



Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	54.00	EA	\$3.78	\$204.12
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.13	NM	\$1,006.44	\$130.84
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.27	GM	\$390.40	\$105.41
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.13	GM	\$5,760.00	\$748.80
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.27	GM	\$1,201.81	\$324.49
<b>Roadway Component Total</b>					<b>\$64,995.67</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	0.00 / 12.25
New Total Outside Shoulder Width L/R	0.00 / 7.25
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 5.00
Sidewalk Width L/R	0.00 / 0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	350.06	LF	\$23.22	\$8,128.39
570-1-2	PERFORMANCE TURF, SOD	194.48	SY	\$3.50	\$680.68

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	700.13	LF	\$1.09	\$763.14
104-11	FLOATING TURBIDITY BARRIER	6.63	LF	\$9.58	\$63.52
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	6.63	LF	\$3.96	\$26.25
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,594.90	\$2,594.90
104-18	INLET PROTECTION SYSTEM	4.00	EA	\$97.92	\$391.68
107-1	LITTER REMOVAL	0.30	AC	\$59.86	\$17.96
107-2	MOWING	0.30	AC	\$71.88	\$21.56
<b>Shoulder Component Total</b>					<b>\$12,688.08</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	3.00	EA	\$5,196.95	\$15,590.85
425-1-451	INLETS, CURB, TYPE J-5, <10'	1.00	EA	\$6,781.44	\$6,781.44
425-1-521	INLETS, DT BOT, TYPE C, <10'	1.00	EA	\$3,307.19	\$3,307.19
425-2-41	MANHOLES, P-7, <10'	1.00	EA	\$3,432.62	\$3,432.62
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	136.00	LF	\$88.46	\$12,030.56
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	336.00	LF	\$163.18	\$54,828.48
570-1-1	PERFORMANCE TURF	20.16	SY	\$1.93	\$38.91
<b>Drainage Component Total</b>					<b>\$96,010.05</b>

### SIGNING COMPONENT

Pay Items	Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
	700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	2.00	AS	\$263.21	\$526.42
	700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00	AS	\$946.53	\$946.53
	700-1-50	SINGLE POST SIGN, RELOCATE	1.00	AS	\$151.53	\$151.53
	700-1-60	SINGLE POST SIGN, REMOVE	2.00	AS	\$21.22	\$42.44
	700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
	700-2-60	MULTI- POST SIGN, REMOVE	1.00	AS	\$462.37	\$462.37
<b>Signing Component Total</b>						<b>\$6,119.13</b>

### LIGHTING COMPONENT

#### Conventional Lighting Subcomponent

Description	Value				
Spacing	MAX				
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	525.00	LF	\$6.37	\$3,344.25
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	68.52	LF	\$25.49	\$1,746.57
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	3.00	EA	\$574.66	\$1,723.98
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	1,780.85	LF	\$2.41	\$4,291.85
715-4-111	LIGHT POLE COMP, F&I, WS150, 40'	3.00	EA	\$4,869.35	\$14,608.05
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	3.00	EA	\$476.28	\$1,428.84
<b>Subcomponent Total</b>					<b>\$27,143.54</b>
<b>Lighting Component Total</b>					<b>\$27,143.54</b>

**Sequence 4 Total** **\$212,021.93**





**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	0.00 / 40.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.208
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Existing Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	1.01	AC	\$21,106.08	\$21,317.14
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	308.32	CY	\$19.62	\$6,049.24
<b>Earthwork Component Total</b>					<b>\$27,366.38</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	6
Existing Roadway Pavement Width L/R	28.00 / 28.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 22.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	3,003.74	SY	\$5.18	\$15,559.37
285-709	OPTIONAL BASE,BASE GROUP 09	2,728.79	SY	\$19.41	\$52,965.81
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	6,843.35	SY	\$2.95	\$20,187.88
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	564.58	TN	\$135.51	\$76,506.24
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	369.66	TN	\$135.51	\$50,092.63
337-7-43	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	273.73	TN	\$111.17	\$30,430.56
337-7-43	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	107.54	TN	\$111.17	\$11,955.22

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	141.00	EA	\$3.78	\$532.98
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.83	NM	\$1,006.44	\$835.35
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.83	GM	\$390.40	\$324.03
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.83	GM	\$5,760.00	\$4,780.80
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.83	GM	\$1,201.81	\$997.50
<b>Roadway Component Total</b>					<b>\$265,168.37</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	0.00 / 12.25
New Total Outside Shoulder Width L/R	0.00 / 12.25
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 5.00
Sidewalk Width L/R	0.00 / 5.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,099.82	LF	\$23.22	\$25,537.82
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	611.01	SY	\$40.70	\$24,868.11
570-1-2	PERFORMANCE TURF, SOD	611.01	SY	\$3.50	\$2,138.54

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	2,199.65	LF	\$1.09	\$2,397.62
104-11	FLOATING TURBIDITY BARRIER	20.83	LF	\$9.58	\$199.55
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	20.83	LF	\$3.96	\$82.49
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,594.90	\$2,594.90
104-18	INLET PROTECTION SYSTEM	10.00	EA	\$97.92	\$979.20
107-1	LITTER REMOVAL	1.82	AC	\$59.86	\$108.95
107-2	MOWING	1.82	AC	\$71.88	\$130.82

**Shoulder Component Total**

\$59,038.00

**MEDIAN COMPONENT****User Input Data**

Description	Value
Total Median Width	22.00
Performance Turf Width	5.34

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
570-1-1	PERFORMANCE TURF	652.56	SY	\$1.93	\$1,259.44

**Median Component Total**

\$1,259.44

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	3.75	CY	\$1,285.00	\$4,818.75
425-1-351	INLETS, CURB, TYPE P-5, <10'	8.00	EA	\$5,196.95	\$41,575.60
425-1-451	INLETS, CURB, TYPE J-5, <10'	3.00	EA	\$6,781.44	\$20,344.32
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	120.00	LF	\$88.46	\$10,615.20
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	40.00	LF	\$114.92	\$4,596.80
570-1-1	PERFORMANCE TURF	63.32	SY	\$1.93	\$122.21

**Drainage Component Total**

\$82,072.88

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	5.00	AS	\$263.21	\$1,316.05
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00	AS	\$946.53	\$946.53
700-1-50	SINGLE POST SIGN, RELOCATE	1.00	AS	\$151.53	\$151.53
700-1-60	SINGLE POST SIGN, REMOVE	5.00	AS	\$21.22	\$106.10
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
700-2-60	MULTI- POST SIGN, REMOVE	1.00	AS	\$462.37	\$462.37

**Signing Component Total**

\$6,972.42

**SIGNALIZATIONS COMPONENT****Signalization 1**

Description	Value
Type	6 Lane Strain Pole



Multiplier 1  
 Description NE Quadrant of Cental Ave and  
 US 27

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	700.00 LF	\$6.37	\$4,459.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	250.00 LF	\$25.49	\$6,372.50
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00 PI	\$7,132.15	\$7,132.15
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00 PI	\$2,310.94	\$2,310.94
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	20.00 EA	\$574.66	\$11,493.20
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00 AS	\$1,735.02	\$1,735.02
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00 LF	\$4.70	\$141.00
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	1.00 EA	\$945.05	\$945.05
641-2-17	PREST CNC POLE,F&I,TYP P-VII	4.00 EA	\$8,653.93	\$34,615.72
650-1-14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	20.00 AS	\$965.56	\$19,311.20
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$525.51	\$4,204.08
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	20.00 EA	\$167.43	\$3,348.60
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	20.00 AS	\$977.12	\$19,542.40
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$233.56	\$1,868.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$25,727.76	\$25,727.76
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00 EA	\$202.65	\$810.60
<b>Signalizations Component Total</b>				<b>\$144,017.70</b>

**LIGHTING COMPONENT****Conventional Lighting Subcomponent**

Description	Value			
Spacing	MIN			
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,374.77 LF	\$6.37	\$8,757.28
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	272.80 LF	\$25.49	\$6,953.67
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	10.00 EA	\$574.66	\$5,746.60
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	5,021.07 LF	\$2.41	\$12,100.78
715-4-111	LIGHT POLE COMP, F&I, WS150, 40'	10.00 EA	\$4,869.35	\$48,693.50
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	10.00 EA	\$476.28	\$4,762.80
<b>Subcomponent Total</b>				<b>\$87,014.64</b>

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**Lighting Component Total**

\$87,014.63

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**RETAINING WALLS COMPONENT**

**Retaining Wall 1**

<b>Description</b>	<b>Value</b>
Length	1,100.00
Begin height	20.00
End Height	20.00
Multiplier	1

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
548-12	RET WALL SYSTEM, PERM, EX BARRIER	22,000.00	SF	\$31.83	\$700,260.00

**Retaining Walls Component Total**

\$700,260.00

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**Sequence 5 Total**

\$1,373,169.82

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**BRIDGES COMPONENT****Bridge 1**

<b>Description</b>	<b>Value</b>
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	205.00
Width (LF)	52.00
Type	Low Level, Widen
Cost Factor	1.00
Structure No.	160018
Removal of Existing Structures area	615.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
<b>Final Cost per SF</b>	<b>\$125.61</b>
<b>Basic Bridge Cost</b>	<b>\$1,279,200.00</b>
Description	WIDENING WB SR 60 BRIDGE CROSSING US 27

**Bridge Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	615.00 SF	\$33.90	\$20,848.50
400-2-10	CONC CLASS II, APPROACH SLABS	115.56 CY	\$357.85	\$41,353.15
415-1-9	REINF STEEL- APPROACH SLABS	20,223.00 LB	\$0.91	\$18,402.93
<b>Bridge 1 Total</b>				<b>\$1,359,804.58</b>

**Bridge 2**

<b>Description</b>	<b>Value</b>
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	221.00
Width (LF)	40.00
Type	Low Level, Widen
Cost Factor	1.00
Structure No.	160134
Removal of Existing Structures area	663.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
<b>Final Cost per SF</b>	<b>\$125.20</b>
<b>Basic Bridge Cost</b>	<b>\$1,060,800.00</b>
Description	WIDENING EB SR 60 BRIDGE CROSSING US 27

**Bridge Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	663.00 SF	\$33.90	\$22,475.70
400-2-10	CONC CLASS II, APPROACH SLABS	88.89 CY	\$357.85	\$31,809.29
415-1-9	REINF STEEL- APPROACH SLABS	15,555.75 LB	\$0.91	\$14,155.73
<b>Bridge 2 Total</b>				<b>\$1,129,240.72</b>



**Bridges Component Total**

\$2,489,045.30

**RETAINING WALLS COMPONENT****Retaining Wall 1**

<b>Description</b>	<b>Value</b>
Length	1,000.00
Begin height	10.00
End Height	10.00
Multiplier	1

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
548-12	RET WALL SYSTEM, PERM, EX BARRIER	10,000.00 SF	\$31.83	\$318,300.00
<b>Retaining Walls Component Total</b>				<b>\$318,300.00</b>

**Sequence 6 Total**

\$2,807,345.30

Date: 10/13/2016 11:12:10 AM

## FDOT Long Range Estimating System - Production

### R3: Project Details by Sequence Report

Project: 419243-4-32-01

Letting Date: 02/2020

Description: US 27 FROM PRESIDENTS DRIVE TO SR 60

District: 01

County: 16 POLK

Market Area: 08

Units: English

Contract Class: 9 Lump Sum Project: N

Design/Build: Y

Project Length: 5.180 MI

Project Manager: CES-KSI-AES

Version 24 Project Grand Total

\$55,640,518.74

Description: PD&amp;E Unit Cost Update from Version 11 - 10/13/16

**Project Sequences Subtotal****\$39,878,202.48**

102-1	Maintenance of Traffic	15.00 %	\$5,981,730.37
101-1	Mobilization	10.00 %	\$4,585,993.28

**Project Sequences Total****\$50,445,926.13**

Project Unknowns	10.00 %	\$5,044,592.61
Design/Build	0.00 %	\$0.00

**Non-Bid Components:**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

**Project Non-Bid Subtotal****\$150,000.00****Version 24 Project Grand Total****\$55,640,518.74**

## **Segment 3 – SPUI Long Range Estimate**



Date: 10/13/2016 10:43:14 AM

## FDOT Long Range Estimating System - Production

### R3: Project Details by Sequence Report

Project: 419243-4-32-01

Letting Date: 02/2020

Description: US 27 FROM PRESIDENTS DRIVE TO SR 60

District: 01      County: 16 POLK      Market Area: 08      Units: English  
 Contract Class: 9      Lump Sum Project: N      Design/Build: Y      Project Length: 5.180 MI

Project Manager: CES-KSI-AES

Version 23 Project Grand Total

\$69,625,708.72

Description: PD&amp;E Unit Cost Update from Version 10 - 10/5/16

Sequence: 1 WDR - Widen/Resurface, Divided, Rural

Net Length: 2.574 MI  
13,591 LFDescription: US 27 (SR 25) FROM PRESIDENT'S DRIVE TO SOUTH OF LONGLEAF BOULEVARD (MP  
16.212)

#### EARTHWORK COMPONENT

##### User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	35.00 / 35.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	2.574
Top of Structural Course For Begin Section	103.50
Top of Structural Course For End Section	103.50
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

##### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	21.84 AC	\$21,106.08	\$460,956.79

##### X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION <b>Comment:</b> EXCAVATION FOR LINEAR PONDS - 15 Acres total at 2ft deep	48,400.00 CY	\$11.26	\$544,984.00
120-6	EMBANKMENT	42,967.00 CY	\$16.33	\$701,651.11

**Earthwork Component Total**

**\$1,707,591.90**

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**ROADWAY COMPONENT**
**User Input Data**

Description	Value
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	12.00 / 12.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	84,564.48 SY	\$5.18	\$438,044.01
285-709	OPTIONAL BASE,BASE GROUP 09	37,238.57 SY	\$19.41	\$722,800.64
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	72,483.84 SY	\$2.95	\$213,827.33
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	7,973.22 TN	\$119.17	\$950,168.63
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	5,979.92 TN	\$119.17	\$712,627.07
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	2,899.35 TN	\$143.33	\$415,563.84
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	1,449.68 TN	\$143.33	\$207,782.63

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION <b>Comment:</b> Excavation for Sidewalk	1,661.12 CY	\$11.26	\$18,704.21
400-0-11	CONC CLASS NS, GRAVITY WALL	3,365.00 CY	\$604.35	\$2,033,637.75
546-72-53	RUMBLE STRIPS, GROUND-IN, 8" EDGELINE	10.30 GM	\$924.95	\$9,526.98

**Turnouts/Crossovers Subcomponent**

Description	Value
Asphalt Adjustment	20.00
Milling Code	Y
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	16,912.90 SY	\$5.18	\$87,608.82
285-709	OPTIONAL BASE,BASE GROUP 09	7,447.71 SY	\$19.41	\$144,560.05
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	14,496.77 SY	\$2.95	\$42,765.47
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	1,594.64 TN	\$119.17	\$190,033.25
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	579.87 TN	\$143.33	\$83,112.77

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	1,737.00 EA	\$3.78	\$6,565.86
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	10.30 NM	\$1,006.44	\$10,366.33
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	10.30 GM	\$390.40	\$4,021.12
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	10.30 GM	\$5,760.00	\$59,328.00
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	10.30 GM	\$1,201.81	\$12,378.64
<b>Roadway Component Total</b>				<b>\$6,363,423.41</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	3.00 / 3.00
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	16,097.45 SY	\$13.14	\$211,520.49
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	15,100.80 SY	\$3.12	\$47,114.50
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	830.54 TN	\$119.17	\$98,975.45
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	604.03 TN	\$143.33	\$86,575.62
570-1-2	PERFORMANCE TURF, SOD	9,060.48 SY	\$3.50	\$31,711.68

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	15,101.11 SY	\$40.70	\$614,615.18
570-1-2	PERFORMANCE TURF, SOD	199,748.00 SY	\$3.50	\$699,118.00



**Comment: PERFORMANCE SOD FOR BORDERS****Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	31,258.66	LF	\$1.09	\$34,071.94
104-11	FLOATING TURBIDITY BARRIER	257.40	LF	\$9.58	\$2,465.89
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	257.40	LF	\$3.96	\$1,019.30
104-15	SOIL TRACKING PREVENTION DEVICE	3.00	EA	\$2,594.90	\$7,784.70
107-1	LITTER REMOVAL	8.75	AC	\$59.86	\$523.78
107-2	MOWING	8.75	AC	\$71.88	\$628.95
<b>Shoulder Component Total</b>					<b>\$1,836,125.48</b>

**MEDIAN COMPONENT****User Input Data**

Description	Value
Total Median Width	40.00
Performance Turf Width	5.34
New Total Median Shoulder Width L/R	8.00 / 8.00
New Paved Median Shoulder Width L/R	0.00 / 0.00
Existing Total Median Shoulder Width L/R	8.00 / 8.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
570-1-2	PERFORMANCE TURF, SOD	8,063.83	SY	\$3.50	\$28,223.40
<b>Median Component Total</b>					<b>\$28,223.41</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	48.82	CY	\$1,285.00	\$62,733.70
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	216.00	LF	\$114.92	\$24,822.72
570-1-2	PERFORMANCE TURF, SOD	1,910.00	SY	\$3.50	\$6,685.00

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
425-1-583	INLETS, DT BOT, TYPE H, J BOTTOM <10'	103.00	EA	\$7,402.23	\$762,429.69
<b>Comment: ADDITIONAL DRAINAGE FOR LINEAR PONDS.</b>					
430-174-124	PIPE CULV, OPT MATL,	864.00	LF	\$81.23	\$70,182.72

	ROUND,24"SD			
	<b>Comment:</b> DRIVEWAY SIDEDRAINS			
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	1,496.00 LF	\$85.83	\$128,401.68
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	6,376.00 LF	\$88.46	\$564,020.96
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	680.00 LF	\$114.92	\$78,145.60
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	88.00 LF	\$163.18	\$14,359.84
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	72.00 EA	\$1,713.03	\$123,338.16
	<b>Comment:</b> DRIVEWAY SIDEDRAIN MITERED END SECTIONS.			
<b>Drainage Component Total</b>				\$1,835,120.07

**SIGNING COMPONENT**

<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	6.00	AS	\$263.21	\$1,579.26
700-1-12	SINGLE POST SIGN, F&I GM, 12- 20 SF	62.00	AS	\$946.53	\$58,684.86
700-1-50	SINGLE POST SIGN, RELOCATE	6.00	AS	\$151.53	\$909.18
700-1-60	SINGLE POST SIGN, REMOVE	62.00	AS	\$21.22	\$1,315.64
700-2-60	MULTI- POST SIGN, REMOVE	6.00	AS	\$462.37	\$2,774.22
<b>X-Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-2-13	MULTI- POST SIGN, F&I GM, 21-30 SF	6.00	AS	\$3,054.73	\$18,328.38
<b>Signing Component Total</b>					\$83,591.54

**SIGNALIZATIONS COMPONENT**

<b>Signalization 1</b>	
<b>Description</b>	<b>Value</b>
Type	6 Lane Strain Pole
Multiplier	1
Description	US 27 AT ALTURAS BABSON PARK CUTOFF ROAD (CR 640)

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	250.00	LF	\$25.49	\$6,372.50
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$7,132.15	\$7,132.15
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00	PI	\$2,310.94	\$2,310.94
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	20.00	EA	\$574.66	\$11,493.20
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	\$1,735.02	\$1,735.02
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00	LF	\$4.70	\$141.00
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	1.00	EA	\$945.05	\$945.05
641-2-17	PREST CNC POLE,F&I,TYP P-VII	4.00	EA	\$8,653.93	\$34,615.72
650-1-14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	20.00	AS	\$965.56	\$19,311.20
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00	AS	\$525.51	\$4,204.08
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	20.00	EA	\$167.43	\$3,348.60
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	20.00	AS	\$977.12	\$19,542.40
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	\$233.56	\$1,868.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00	AS	\$25,727.76	\$25,727.76
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00	EA	\$202.65	\$810.60
700-5-21	INTERNAL ILLUM SIGN, F&I OM, UP TO 12 SF	4.00	EA	\$3,124.86	\$12,499.44
<b>Signalizations Component Total</b>					<b>\$152,058.14</b>

### LIGHTING COMPONENT

#### Rural Lighting Subcomponent

Description					Value
Multiplier (Number of Poles)					116
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	23,200.00	LF	\$6.37	\$147,784.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	116.00	EA	\$574.66	\$66,660.56
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	69,600.00	LF	\$2.41	\$167,736.00
715-4-122	LIGHT POLE COMP, F&I, WS130, 45'	116.00	EA	\$5,198.40	\$603,014.40
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	116.00	EA	\$476.28	\$55,248.48
<b>Subcomponent Total</b>					<b>\$1,040,443.44</b>
<b>Lighting Component Total</b>					<b>\$1,040,443.44</b>

**Sequence 1 Total** **\$13,046,577.39**



**Sequence:** 2WDR - Widen/Resurface, Divided, Rural**Net Length:** 2.828 MI  
14,932 LF**Description:** US 27 (SR 25) FROM SOUTH OF LONGLEAF BOULEVARD (MP 16.212) TO CENTRAL AVENUE**Special Conditions:** This sequence was modified for a Suburban/curb on the inside typical**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	2.828
Top of Structural Course For Begin Section	103.50
Top of Structural Course For End Section	103.50
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	34.28	AC	\$21,106.08	\$723,516.42
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	18,991.09	CY	\$19.62	\$372,605.19
<b>Earthwork Component Total</b>					<b>\$1,096,121.61</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	12.00 / 12.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	92,909.23	SY	\$5.18	\$481,269.81
285-709	OPTIONAL BASE,BASE GROUP 09	40,913.24	SY	\$19.41	\$794,125.99
327-70-5	MILLING EXIST ASPH PAVT, 2"	79,636.48	SY	\$2.95	\$234,927.62

	AVG DEPTH				
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	8,760.01 TN	\$119.17	\$1,043,930.39	
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	6,570.01 TN	\$119.17	\$782,948.09	
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	3,185.46 TN	\$143.33	\$456,571.98	
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	1,592.73 TN	\$143.33	\$228,285.99	

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION <b>Comment:</b> sidewalks to both NB and SB for the length of the sequence	1,825.02 CY	\$11.26	\$20,549.73
536-1-1	GUARDRAIL- ROADWAY, GEN TL- 3	2,500.00 LF	\$18.13	\$45,325.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	2.00 EA	\$2,644.46	\$5,288.92
536-85-25	GUARDRAIL END ANCHORAGE ASSEM- TYPE II	2.00 EA	\$869.58	\$1,739.16
544-75-1	CRASH CUSHION	6.00 EA	\$12,126.00	\$72,756.00
546-72-53	RUMBLE STRIPS, GROUND-IN, 8" EDGE LINE	11.31 GM	\$924.95	\$10,461.18

**Turnouts/Crossovers Subcomponent**

Description	Value
Asphalt Adjustment	20.00
Milling Code	Y
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	18,581.85 SY	\$5.18	\$96,253.98
285-709	OPTIONAL BASE,BASE GROUP 09	8,182.65 SY	\$19.41	\$158,825.24
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	15,927.30 SY	\$2.95	\$46,985.54
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	1,752.00 TN	\$119.17	\$208,785.84
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	637.09 TN	\$143.33	\$91,314.11

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
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706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	1,909.00 EA	\$3.78	\$7,216.02
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	11.31 NM	\$1,006.44	\$11,382.84
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	11.31 GM	\$390.40	\$4,415.42
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	11.31 GM	\$5,760.00	\$65,145.60
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	11.31 GM	\$1,201.81	\$13,592.47
<b>Roadway Component Total</b>				<b>\$4,882,096.92</b>

### SHOULDER COMPONENT

#### User Input Data

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	3.00 / 3.00
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	17,685.93	SY	\$13.14	\$232,393.12
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	16,590.93	SY	\$3.12	\$51,763.70
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	912.50	TN	\$119.17	\$108,742.62
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	663.64	TN	\$143.33	\$95,119.52
570-1-2	PERFORMANCE TURF, SOD	9,954.56	SY	\$3.50	\$34,840.96

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
521-72-11	SHLDR CONC BARRIER WALL,RIGID SHLDR 54" <b>Comment:</b> protect outside and median piers along US 27 under SR 60 bridge structure	600.00	LF	\$307.58	\$184,548.00
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" <b>Comment:</b> sidewalks to both NB and SB for the length of the sequence	16,591.00	SY	\$40.70	\$675,253.70
570-1-2	PERFORMANCE TURF, SOD <b>Comment:</b> PERFORMANCE SOD FOR BORDERS	85,560.00	SY	\$3.50	\$299,460.00

#### Erosion Control

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	31,671.55	LF	\$1.09	\$34,521.99



104-11	FLOATING TURBIDITY BARRIER	260.80 LF	\$9.58	\$2,498.46
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	260.80 LF	\$3.96	\$1,032.77
104-15	SOIL TRACKING PREVENTION DEVICE	3.00 EA	\$2,594.90	\$7,784.70
107-1	LITTER REMOVAL	8.87 AC	\$59.86	\$530.96
107-2	MOWING	8.87 AC	\$71.88	\$637.58
<b>Shoulder Component Total</b>				<b>\$1,729,128.09</b>

### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	30.00
Performance Turf Width	17.00
New Total Median Shoulder Width L/R	8.00 / 8.00
New Paved Median Shoulder Width L/R	6.50 / 6.50
Existing Total Median Shoulder Width L/R	8.00 / 8.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	22,663.21	SY	\$13.14	\$297,794.58
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	1,186.25	TN	\$119.17	\$141,365.41
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	862.73	TN	\$143.33	\$123,655.09
570-1-2	PERFORMANCE TURF, SOD	28,204.59	SY	\$3.50	\$98,716.06

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	29,864.00	LF	\$28.80	\$860,083.20

**Comment:** MEDIAN TYPE E CURB BOTH SIDES.

**Median Component Total** \$1,521,614.35

### DRAINAGE COMPONENT

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	46.94	CY	\$1,285.00	\$60,317.90
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	208.00	LF	\$114.92	\$23,903.36
570-1-2	PERFORMANCE TURF, SOD	1,836.00	SY	\$3.50	\$6,426.00

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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425-1-583	INLETS, DT BOT, TYPE H, J BOTTOM <10'	107.00 EA	\$7,402.23	\$792,038.61
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	864.00 LF	\$81.23	\$70,182.72
	<b>Comment:</b> DRIVEWAY SIDEDRAINS.			
430-174-130	PIPE CULV, OPT MATL, ROUND,30"SD	1,304.00 LF	\$96.03	\$125,223.12
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	1,544.00 LF	\$85.83	\$132,521.52
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	6,584.00 LF	\$88.46	\$582,420.64
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	704.00 LF	\$114.92	\$80,903.68
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	96.00 LF	\$163.18	\$15,665.28
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	72.00 EA	\$1,713.03	\$123,338.16
	<b>Comment:</b> DRIVEWAY SIDEDRAINS.			

**Retention Basin 1**

Description	Value
Size	5 AC
Multiplier	5
Depth	6.00
Description	

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	25.00	AC	\$21,106.08	\$527,652.00
120-1	REGULAR EXCAVATION	242,000.00	CY	\$11.26	\$2,724,920.00
400-2-2	CONC CLASS II, ENDWALLS	150.00	CY	\$1,285.00	\$192,750.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	5.00	EA	\$2,126.83	\$10,634.15
425-2-71	MANHOLES, J-7, <10'	10.00	EA	\$5,711.75	\$57,117.50
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	280.00	LF	\$137.59	\$38,525.20
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	2,000.00	LF	\$250.98	\$501,960.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	9,300.00	LF	\$10.11	\$94,023.00
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	10.00	EA	\$1,918.46	\$19,184.60
570-1-1	PERFORMANCE TURF	121,000.00	SY	\$1.93	\$233,530.00
	<b>Drainage Component Total</b>				\$6,413,237.44

**SIGNING COMPONENT**

<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	6.00	AS	\$263.21	\$1,579.26
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	63.00	AS	\$946.53	\$59,631.39
700-1-50	SINGLE POST SIGN, RELOCATE	6.00	AS	\$151.53	\$909.18
700-1-60	SINGLE POST SIGN, REMOVE	63.00	AS	\$21.22	\$1,336.86
700-2-60	MULTI- POST SIGN, REMOVE	6.00	AS	\$462.37	\$2,774.22
<b>X-Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-2-13	MULTI- POST SIGN, F&I GM, 21-30 SF	6.00	AS	\$3,054.73	\$18,328.38
<b>Signing Component Total</b>					<b>\$84,559.29</b>

**SIGNALIZATIONS COMPONENT****Signalization 1**

<b>Description</b>	<b>Value</b>
Type	6 Lane Strain Pole
Multiplier	2
Description	single point urban interchange signal at US 27 and SR 60

<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,400.00	LF	\$6.37	\$8,918.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$25.49	\$12,745.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$7,132.15	\$14,264.30
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	2.00	PI	\$2,310.94	\$4,621.88
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	40.00	EA	\$574.66	\$22,986.40
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$1,735.02	\$3,470.04
639-2-1	ELECTRICAL SERVICE WIRE, F&I	60.00	LF	\$4.70	\$282.00
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	2.00	EA	\$945.05	\$1,890.10
641-2-17	PREST CNC POLE,F&I,TYP P-VII	8.00	EA	\$8,653.93	\$69,231.44
650-1-14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	40.00	AS	\$965.56	\$38,622.40
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$525.51	\$8,408.16
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	40.00	EA	\$167.43	\$6,697.20
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	40.00	AS	\$977.12	\$39,084.80
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$233.56	\$3,736.96



670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00 AS	\$25,727.76	\$51,455.52
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$202.65	\$1,621.20
<b>Signalizations Component Total</b>				<b>\$288,035.40</b>

### LIGHTING COMPONENT

#### Rural Lighting Subcomponent

Description		Value		
Multiplier (Number of Poles)		120		
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F&I, OPEN TRENCH	24,000.00 LF	\$6.37	\$152,880.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	120.00 EA	\$574.66	\$68,959.20
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	72,000.00 LF	\$2.41	\$173,520.00
715-4-122	LIGHT POLE COMP, F&I, WS130, 45'	120.00 EA	\$5,198.40	\$623,808.00
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	120.00 EA	\$476.28	\$57,153.60
<b>Subcomponent Total</b>				<b>\$1,076,320.80</b>
<b>Lighting Component Total</b>				<b>\$1,076,320.80</b>

### RETAINING WALLS COMPONENT

#### X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-11	CONC CLASS II, RETAINING WALLS <b>Comment:</b> LAKE ALTAMAHA & UNNAMED SINK HOLE CONCRETE CAP FOR RETAINING WALLS.	198.00 CY	\$1,394.00	\$276,012.00
455-133-3	SHEET PILING STEEL, F&I PERMANENT <b>Comment:</b> LAKE ALTAMAHA & UNNAMED SINKHOLE RETAINING WALLS.	35,245.00 SF	\$40.17	\$1,415,791.65
<b>Retaining Walls Component Total</b>				<b>\$1,691,803.65</b>

<b>Sequence 2 Total</b>	<b>\$18,782,917.55</b>
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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	100.00 / 100.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.772
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	110.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	4 to 1 / 4 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	18.72	AC	\$21,106.08	\$395,105.82
120-6	EMBANKMENT	132,185.34	CY	\$16.33	\$2,158,586.60
<b>Earthwork Component Total</b>					<b>\$2,553,692.42</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	4
Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	330
Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	26,406.67	SY	\$5.18	\$136,786.55
285-710	OPTIONAL BASE,BASE GROUP 10	21,733.89	SY	\$18.16	\$394,687.44
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	3,586.09	TN	\$119.17	\$427,354.35
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	869.36	TN	\$143.33	\$124,605.37

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE PAVEMENT	313.00	EA	\$3.78	\$1,183.14

	MARKERS			
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	3.09 NM	\$1,006.44	\$3,109.90
711-12-131	THERMOPLASTIC, REFURB, WHITE, SKIP, 6"	1.54 GM	\$585.37	\$901.47
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	3.09 GM	\$5,760.00	\$17,798.40
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	1.54 GM	\$1,201.81	\$1,850.79
<b>Roadway Component Total</b>				<b>\$1,108,277.41</b>

### SHOULDER COMPONENT

#### User Input Data

Description	Value
Total Outside Shoulder Width L/R	9.62 / 9.62
Total Outside Shoulder Perf. Turf Width L/R	2.37 / 2.37
Sidewalk Width L/R	5.00 / 5.00

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	4,075.10	LF	\$23.22	\$94,623.82
520-1-10	CONCRETE CURB & GUTTER, TYPE F	4,075.10	LF	\$23.22	\$94,623.82
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	4,527.89	SY	\$40.70	\$184,285.12
570-1-2	PERFORMANCE TURF, SOD	2,146.22	SY	\$3.50	\$7,511.77

#### Erosion Control

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	10,595.27	LF	\$1.09	\$11,548.84
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	192.95	LF	\$3.96	\$764.08
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,594.90	\$2,594.90
104-18	INLET PROTECTION SYSTEM	5.00	EA	\$97.92	\$489.60
107-1	LITTER REMOVAL	18.71	AC	\$59.86	\$1,119.98
107-2	MOWING	18.71	AC	\$71.88	\$1,344.87

#### Shoulder Component Total

\$398,906.80

### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	20.00
Performance Turf Width	0.00

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER,	8,150.21	LF	\$28.80	\$234,726.05



	TYPE E			
521-1	MEDIAN CONC BARRIER WALL	4,075.00 LF	\$152.97	\$623,352.75
<b>Median Component Total</b>				<b>\$858,078.80</b>

**DRAINAGE COMPONENT**

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	13.89 CY	\$1,285.00	\$17,848.65
425-1-351	INLETS, CURB, TYPE P-5, <10'	28.00 EA	\$5,196.95	\$145,514.60
425-1-451	INLETS, CURB, TYPE J-5, <10'	8.00 EA	\$6,781.44	\$54,251.52
425-1-521	INLETS, DT BOT, TYPE C, <10'	4.00 EA	\$3,307.19	\$13,228.76
425-2-41	MANHOLES, P-7, <10'	4.00 EA	\$3,432.62	\$13,730.48
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	2,048.00 LF	\$88.46	\$181,166.08
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	184.00 LF	\$114.92	\$21,145.28
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	3,864.00 LF	\$163.18	\$630,527.52
570-1-1	PERFORMANCE TURF	234.63 SY	\$1.93	\$452.84

**Retention Basin 1**

<b>Description</b>	<b>Value</b>
Size	2 AC
Multiplier	3
Depth	6.00
Description	

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	6.00 AC	\$21,106.08	\$126,636.48
120-1	REGULAR EXCAVATION	58,080.00 CY	\$11.26	\$653,980.80
400-2-2	CONC CLASS II, ENDWALLS	54.00 CY	\$1,285.00	\$69,390.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	3.00 EA	\$2,126.83	\$6,380.49
425-2-71	MANHOLES, J-7, <10'	3.00 EA	\$5,711.75	\$17,135.25
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	168.00 LF	\$137.59	\$23,115.12
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	600.00 LF	\$250.98	\$150,588.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	3,540.00 LF	\$10.11	\$35,789.40
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	3.00 EA	\$1,918.46	\$5,755.38
570-1-1	PERFORMANCE TURF	29,040.00 SY	\$1.93	\$56,047.20

**Retention Basin 2**

<b>Description</b>	<b>Value</b>
Size	1 AC
Multiplier	1
Depth	6.00
Description	

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.00	AC	\$21,106.08	\$21,106.08
120-1	REGULAR EXCAVATION	9,680.00	CY	\$11.26	\$108,996.80
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,285.00	\$23,130.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$2,126.83	\$2,126.83
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,711.75	\$5,711.75
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$137.59	\$7,705.04
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$250.98	\$50,196.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	840.00	LF	\$10.11	\$8,492.40
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	1.00	EA	\$1,918.46	\$1,918.46
570-1-1	PERFORMANCE TURF	4,840.00	SY	\$1.93	\$9,341.20
<b>Drainage Component Total</b>					<b>\$2,461,408.41</b>

### SIGNING COMPONENT

Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	2.00	AS	\$263.21	\$526.42
700-1-12	SINGLE POST SIGN, F&I GM, 12- 20 SF	19.00	AS	\$946.53	\$17,984.07
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	5.00	AS	\$5,624.17	\$28,120.85
X-Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	2.00	AS	\$3,989.84	\$7,979.68
<b>Signing Component Total</b>					<b>\$54,611.02</b>

### LIGHTING COMPONENT

#### Conventional Lighting Subcomponent

Description					Value
Spacing					MIN
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	4,075.10	LF	\$6.37	\$25,958.39
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	808.85	LF	\$25.49	\$20,617.59
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	28.00	EA	\$574.66	\$16,090.48
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	14,883.39	LF	\$2.41	\$35,868.97
715-4-111	LIGHT POLE COMP, F&I, WS150, 40'	28.00	EA	\$4,869.35	\$136,341.80
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	28.00	EA	\$476.28	\$13,335.84

**Subcomponent Total** \$248,213.06

**Lighting Component Total** \$248,213.07

**BRIDGES COMPONENT**

**Bridge NEW**

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	205.00
Width (LF)	60.00
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	6,150.00
Default Cost per SF	\$122.00
Factored Cost per SF	\$122.00
<b>Final Cost per SF</b>	<b>\$127.61</b>
<b>Basic Bridge Cost</b>	<b>\$1,500,600.00</b>

Description NEW WEST BOUND BRIDGE ON SR 60 CROSSING US 27

**Bridge Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	6,150.00	SF	\$33.90	\$208,485.00
400-2-10	CONC CLASS II, APPROACH SLABS	133.33	CY	\$357.85	\$47,712.14
415-1-9	REINF STEEL- APPROACH SLABS	23,332.75	LB	\$0.91	\$21,232.80

**Bridge NEW Total** \$1,778,029.94

**Bridge NEW**

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	221.00
Width (LF)	60.00
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	6,630.00
Default Cost per SF	\$122.00
Factored Cost per SF	\$122.00
<b>Final Cost per SF</b>	<b>\$127.20</b>
<b>Basic Bridge Cost</b>	<b>\$1,617,720.00</b>

Description NEW EAST BOUND BRIDGE ON SR 60 CROSSING OVER US 27

**Bridge Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	6,630.00	SF	\$33.90	\$224,757.00
400-2-10	CONC CLASS II, APPROACH SLABS	133.33	CY	\$357.85	\$47,712.14



415-1-9	REINF STEEL- APPROACH SLABS	23,332.75 LB	\$0.91	\$21,232.80
<b>Bridge NEW Total</b>				\$1,911,421.94
<b>Bridges Component Total</b>				\$3,689,451.88

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#### RETAINING WALLS COMPONENT

##### Retaining Wall 1

Description	Value
Length	1,460.00
Begin height	10.00
End Height	10.00
Multiplier	4

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	58,400.00	SF	\$31.83	\$1,858,872.00
<b>Retaining Walls Component Total</b>					\$1,858,872.00

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**Sequence 3 Total** \$13,231,511.81

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	0.00 / 25.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.095
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Existing Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	0.29	AC	\$21,106.08	\$6,120.76
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	388.65	CY	\$19.62	\$7,625.31
<b>Earthwork Component Total</b>					<b>\$13,746.07</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	5
Existing Roadway Pavement Width L/R	24.00 / 35.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 12.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	810.03	SY	\$5.18	\$4,195.96
285-709	OPTIONAL BASE,BASE GROUP 09	685.02	SY	\$19.41	\$13,296.24
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	3,277.88	SY	\$2.95	\$9,669.75
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	270.43	TN	\$135.51	\$36,645.97
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	91.67	TN	\$135.51	\$12,422.20
337-7-74	ASPH CONC FC,TRAF C,FC-12.5,PG 76-22,ARB	131.12	TN	\$118.66	\$15,558.70
337-7-74	ASPH CONC FC,TRAF C,FC-12.5,PG 76-22,ARB	26.67	TN	\$118.66	\$3,164.66

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	3

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	51.00	EA	\$3.78	\$192.78
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.76	NM	\$1,006.44	\$764.89
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.57	GM	\$390.40	\$222.53

**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	7.00	TN	\$227.45	\$1,592.15
536-1-1	GUARDRAIL- ROADWAY, GEN TL-3	200.00	LF	\$18.13	\$3,626.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00	EA	\$2,644.46	\$2,644.46
536-85-25	GUARDRAIL END ANCHORAGE ASSEM- TYPE II	1.00	EA	\$869.58	\$869.58

**Roadway Component Total**

\$104,865.87

**SHOULDER COMPONENT****User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	12.25 / 12.25
New Total Outside Shoulder Width L/R	7.25 / 7.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	0.00 / 0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	500.02	LF	\$23.22	\$11,610.46



570-1-2	PERFORMANCE TURF, SOD	555.57 SY	\$3.50	\$1,944.50
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**Erosion Control****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,000.03 LF	\$1.09	\$1,090.03
104-11	FLOATING TURBIDITY BARRIER	9.47 LF	\$9.58	\$90.72
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	9.47 LF	\$3.96	\$37.50
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,594.90	\$2,594.90
104-18	INLET PROTECTION SYSTEM	5.00 EA	\$97.92	\$489.60
107-1	LITTER REMOVAL	0.83 AC	\$59.86	\$49.68
107-2	MOWING	0.83 AC	\$71.88	\$59.66
<b>Shoulder Component Total</b>				<b>\$17,967.05</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	1.70 CY	\$1,285.00	\$2,184.50
425-1-351	INLETS, CURB, TYPE P-5, <10'	4.00 EA	\$5,196.95	\$20,787.80
425-1-451	INLETS, CURB, TYPE J-5, <10'	1.00 EA	\$6,781.44	\$6,781.44
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	56.00 LF	\$88.46	\$4,953.76
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	16.00 LF	\$114.92	\$1,838.72
570-1-1	PERFORMANCE TURF	28.79 SY	\$1.93	\$55.56
<b>Drainage Component Total</b>				<b>\$36,601.78</b>

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	3.00 AS	\$263.21	\$789.63
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$946.53	\$946.53
700-1-50	SINGLE POST SIGN, RELOCATE	1.00 AS	\$151.53	\$151.53
700-1-60	SINGLE POST SIGN, REMOVE	3.00 AS	\$21.22	\$63.66
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$3,989.84	\$3,989.84
700-2-60	MULTI- POST SIGN, REMOVE	1.00 AS	\$462.37	\$462.37
<b>Signing Component Total</b>				<b>\$6,403.56</b>

<b>Sequence 4 Total</b>	<b>\$179,584.33</b>
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**Sequence:** 5WDU - Widen/Resurface, Divided, Urban

**Net Length:** 0.208 MI  
1,100 LF

**Description:** Add receive/drop lane on NB US 27 north of Central Ave.

### EARTHWORK COMPONENT

#### User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.208
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Existing Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.26	AC	\$21,106.08	\$26,593.66
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	2,659.37	CY	\$19.62	\$52,176.84
<b>Earthwork Component Total</b>					<b>\$78,770.50</b>

### ROADWAY COMPONENT

#### User Input Data

Description	Value
Number of Lanes	7
Existing Roadway Pavement Width L/R	36.00 / 36.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 22.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	80

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	3,003.74	SY	\$5.18	\$15,559.37
285-709	OPTIONAL BASE,BASE GROUP 09	2,728.79	SY	\$19.41	\$52,965.81
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	8,798.59	SY	\$2.95	\$25,955.84
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	725.88	TN	\$119.17	\$86,503.12
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	369.66	TN	\$119.17	\$44,052.38
337-7-74	ASPH CONC FC,TRAF C,FC-12.5,PG 76-22,ARB	351.94	TN	\$118.66	\$41,761.20

337-7-74	ASPH CONC FC,TRAF C,FC-12.5,PG 76-22,ARB	107.54 TN	\$118.66	\$12,760.70
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**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	5

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	169.00	EA	\$3.78	\$638.82
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.83	NM	\$1,006.44	\$835.35
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.04	GM	\$390.40	\$406.02
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.83	GM	\$5,760.00	\$4,780.80
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	1.04	GM	\$1,201.81	\$1,249.88
<b>Roadway Component Total</b>					<b>\$287,469.29</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	0.00 / 12.25
New Total Outside Shoulder Width L/R	7.25 / 7.25
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 5.00
Sidewalk Width L/R	5.00 / 0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,099.82	LF	\$23.22	\$25,537.82
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	611.01	SY	\$40.70	\$24,868.11
570-1-2	PERFORMANCE TURF, SOD	611.01	SY	\$3.50	\$2,138.54

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	2,199.65	LF	\$1.09	\$2,397.62
104-11	FLOATING TURBIDITY BARRIER	20.83	LF	\$9.58	\$199.55
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	20.83	LF	\$3.96	\$82.49
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,594.90	\$2,594.90
104-18	INLET PROTECTION SYSTEM	10.00	EA	\$97.92	\$979.20



107-1	LITTER REMOVAL	1.82 AC	\$59.86	\$108.95
107-2	MOWING	1.82 AC	\$71.88	\$130.82
<b>Shoulder Component Total</b>				<b>\$59,038.00</b>

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#### MEDIAN COMPONENT

##### User Input Data

Description	Value
Total Median Width	22.00
Performance Turf Width	5.34

##### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
570-1-1	PERFORMANCE TURF	652.56 SY	\$1.93	\$1,259.44
<b>Median Component Total</b>				<b>\$1,259.44</b>

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#### DRAINAGE COMPONENT

##### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	3.75 CY	\$1,285.00	\$4,818.75
425-1-351	INLETS, CURB, TYPE P-5, <10'	8.00 EA	\$5,196.95	\$41,575.60
425-1-451	INLETS, CURB, TYPE J-5, <10'	3.00 EA	\$6,781.44	\$20,344.32
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	120.00 LF	\$88.46	\$10,615.20
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	40.00 LF	\$114.92	\$4,596.80
570-1-1	PERFORMANCE TURF	63.32 SY	\$1.93	\$122.21
<b>Drainage Component Total</b>				<b>\$82,072.88</b>

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#### SIGNING COMPONENT

##### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	5.00 AS	\$263.21	\$1,316.05
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$946.53	\$946.53
700-1-50	SINGLE POST SIGN, RELOCATE	1.00 AS	\$151.53	\$151.53
700-1-60	SINGLE POST SIGN, REMOVE	5.00 AS	\$21.22	\$106.10
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$3,989.84	\$3,989.84
700-2-60	MULTI- POST SIGN, REMOVE	1.00 AS	\$462.37	\$462.37
<b>Signing Component Total</b>				<b>\$6,972.42</b>

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#### LIGHTING COMPONENT

##### Conventional Lighting Subcomponent

<b>Description</b>		<b>Value</b>			
Spacing		MIN			
<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,099.82	LF	\$6.37	\$7,005.85
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	218.30	LF	\$25.49	\$5,564.47
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	10.00	EA	\$574.66	\$5,746.60
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	4,016.86	LF	\$2.41	\$9,680.63
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	10.00	EA	\$476.28	\$4,762.80
<b>Subcomponent Total</b>					<b>\$32,760.35</b>
<b>X-Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
715-516-145	LIGHT POLE COMP,F&I,POLE TOP MNT, AL,45'	10.00	EA	\$6,990.00	\$69,900.00
<b>Lighting Component Total</b>					<b>\$102,660.35</b>

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### RETAINING WALLS COMPONENT

**Retaining Wall 1**

<b>Description</b>	<b>Value</b>
Length	1,100.00
Begin height	20.00
End Height	20.00
Multiplier	1

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
548-12	RET WALL SYSTEM, PERM, EX BARRIER	22,000.00	SF	\$31.83	\$700,260.00
<b>Retaining Walls Component Total</b>					<b>\$700,260.00</b>

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**Sequence 5 Total** **\$1,318,502.88**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.90
Alignment Number	1
Distance	0.114
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	1.38	AC	\$21,106.08	\$29,126.39
110-1-1	CLEARING & GRUBBING	0.90	AC	\$21,106.08	\$18,995.47
120-6	EMBANKMENT	5,345.94	CY	\$16.33	\$87,299.20
<b>Earthwork Component Total</b>					<b>\$135,421.06</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	1
Roadway Pavement Width L/R	7.50 / 7.50
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	2,066.01	SY	\$5.18	\$10,701.93
285-709	OPTIONAL BASE,BASE GROUP 09	1,043.67	SY	\$19.41	\$20,257.63
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	164.95	TN	\$119.17	\$19,657.09
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	82.47	TN	\$111.17	\$9,168.19

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
710-11-111	PAINTED PAVT	0.23	NM	\$1,006.44	\$231.48



711-15-101	MARK,STD,WHITE,SOLID,6" THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.23 GM	\$5,760.00	\$1,324.80
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**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	10.33 TN	\$227.45	\$2,349.56
536-1-1	GUARDRAIL- ROADWAY, GEN TL- 3	300.00 LF	\$18.13	\$5,439.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00 EA	\$2,644.46	\$2,644.46
536-85-25	GUARDRAIL END ANCHORAGE ASSEM- TYPE II	1.00 EA	\$869.58	\$869.58
<b>Roadway Component Total</b>				<b>\$72,643.72</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	220
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	710.44 SY	\$13.14	\$9,335.18
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	73.31 TN	\$119.17	\$8,736.35
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	54.98 TN	\$111.17	\$6,112.13
570-1-2	PERFORMANCE TURF, SOD	355.89 SY	\$3.50	\$1,245.62

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	979.00 LF	\$26.18	\$25,630.22

**Erosion Control****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
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104-10-3	SEDIMENT BARRIER	1,559.50 LF	\$1.09	\$1,699.86
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	28.40 LF	\$3.96	\$112.46
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,594.90	\$2,594.90
107-1	LITTER REMOVAL	1.38 AC	\$59.86	\$82.61
107-2	MOWING	1.38 AC	\$71.88	\$99.19
<b>Shoulder Component Total</b>				<b>\$55,648.52</b>

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**DRAINAGE COMPONENT**

<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
400-2-2	CONC CLASS II, ENDWALLS	2.04	CY	\$1,285.00	\$2,621.40
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	96.00	LF	\$81.23	\$7,798.08
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	24.00	LF	\$114.92	\$2,758.08
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	5.00	EA	\$1,713.03	\$8,565.15
570-1-1	PERFORMANCE TURF	79.97	SY	\$1.93	\$154.34
<b>Drainage Component Total</b>					<b>\$21,897.05</b>

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**SIGNING COMPONENT**

<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	3.00	AS	\$946.53	\$2,839.59
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$7,092.64</b>

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**Sequence 6 Total** **\$292,702.99**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.071
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	0.86	AC	\$21,106.08	\$18,151.23
120-6	EMBANKMENT	3,856.54	CY	\$16.33	\$62,977.30
<b>Earthwork Component Total</b>					<b>\$81,128.53</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	1,832.75	SY	\$5.18	\$9,493.64
285-709	OPTIONAL BASE,BASE GROUP 09	1,027.17	SY	\$19.41	\$19,937.37
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	164.95	TN	\$119.17	\$19,657.09
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	82.47	TN	\$111.17	\$9,168.19

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	10.00	EA	\$3.78	\$37.80



710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.14 NM	\$1,006.44	\$140.90
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.07 GM	\$390.40	\$27.33
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.14 GM	\$5,760.00	\$806.40
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.07 GM	\$1,201.81	\$84.13
<b>Roadway Component Total</b>				<b>\$59,352.86</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	220
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	444.02	SY	\$13.14	\$5,834.42
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	45.82	TN	\$119.17	\$5,460.37
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	34.36	TN	\$111.17	\$3,819.80
570-1-2	PERFORMANCE TURF, SOD	222.43	SY	\$3.50	\$778.50

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	339.00	LF	\$26.18	\$8,875.02

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	974.69	LF	\$1.09	\$1,062.41
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	17.75	LF	\$3.96	\$70.29
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,594.90	\$2,594.90
107-1	LITTER REMOVAL	0.86	AC	\$59.86	\$51.48
107-2	MOWING	0.86	AC	\$71.88	\$61.82

**Shoulder Component Total**

\$28,609.02

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	1.28	CY	\$1,285.00	\$1,644.80

430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	56.00 LF	\$81.23	\$4,548.88
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	16.00 LF	\$114.92	\$1,838.72
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	3.00 EA	\$1,713.03	\$5,139.09
570-1-1	PERFORMANCE TURF	49.98 SY	\$1.93	\$96.46
<b>Drainage Component Total</b>				<b>\$13,267.95</b>

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**SIGNING COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	2.00	AS	\$946.53	\$1,893.06
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$6,146.11</b>

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**Sequence 7 Total** **\$188,504.47**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.90
Alignment Number	1
Distance	0.142
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	1.72	AC	\$21,106.08	\$36,302.46
110-1-1	CLEARING & GRUBBING	0.90	AC	\$21,106.08	\$18,995.47
120-6	EMBANKMENT	6,687.30	CY	\$16.33	\$109,203.61
<b>Earthwork Component Total</b>					<b>\$164,501.54</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	1
Roadway Pavement Width L/R	7.50 / 7.50
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	2,582.51	SY	\$5.18	\$13,377.40
285-709	OPTIONAL BASE,BASE GROUP 09	1,304.58	SY	\$19.41	\$25,321.90
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	206.18	TN	\$119.17	\$24,570.47
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	103.09	TN	\$111.17	\$11,460.52

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
710-11-111	PAINTED PAVT	0.28	NM	\$1,006.44	\$281.80

711-15-101	MARK,STD,WHITE,SOLID,6" THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.28 GM	\$5,760.00	\$1,612.80
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**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	10.33 TN	\$227.45	\$2,349.56
536-1-1	GUARDRAIL- ROADWAY, GEN TL- 3	300.00 LF	\$18.13	\$5,439.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00 EA	\$2,644.46	\$2,644.46
536-85-25	GUARDRAIL END ANCHORAGE ASSEM- TYPE II	1.00 EA	\$869.58	\$869.58
<b>Roadway Component Total</b>				<b>\$87,927.49</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	4.00 / 4.00
Structural Spread Rate	220
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	721.44 SY	\$13.14	\$9,479.72
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	73.31 TN	\$119.17	\$8,736.35
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	54.98 TN	\$111.17	\$6,112.13
570-1-2	PERFORMANCE TURF, SOD	444.86 SY	\$3.50	\$1,557.01

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	979.00 LF	\$26.18	\$25,630.22

**Erosion Control****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
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104-10-3	SEDIMENT BARRIER	1,949.38 LF	\$1.09	\$2,124.82
104-11	FLOATING TURBIDITY BARRIER	35.50 LF	\$9.58	\$340.09
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	35.50 LF	\$3.96	\$140.58
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,594.90	\$2,594.90
107-1	LITTER REMOVAL	1.72 AC	\$59.86	\$102.96
107-2	MOWING	1.72 AC	\$71.88	\$123.63
<b>Shoulder Component Total</b>				<b>\$56,942.41</b>

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**DRAINAGE COMPONENT**

<b>Pay Items</b>				
<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
400-2-2	CONC CLASS II, ENDWALLS	2.56 CY	\$1,285.00	\$3,289.60
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	120.00 LF	\$81.23	\$9,747.60
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	24.00 LF	\$114.92	\$2,758.08
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	6.00 EA	\$1,713.03	\$10,278.18
570-1-1	PERFORMANCE TURF	99.97 SY	\$1.93	\$192.94
<b>Drainage Component Total</b>				<b>\$26,266.40</b>

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**SIGNING COMPONENT**

<b>Pay Items</b>				
<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00 AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	3.00 AS	\$946.53	\$2,839.59
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>				<b>\$7,092.64</b>

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<b>Sequence 8 Total</b>	<b>\$342,730.48</b>
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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.185
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	2.24	AC	\$21,106.08	\$47,277.62
120-6	EMBANKMENT	9,658.02	CY	\$16.33	\$157,715.47
<b>Earthwork Component Total</b>					<b>\$204,993.09</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	4,334.29	SY	\$5.18	\$22,451.62
285-709	OPTIONAL BASE,BASE GROUP 09	2,672.09	SY	\$19.41	\$51,865.27
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	429.10	TN	\$119.17	\$51,135.85
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	214.55	TN	\$111.17	\$23,851.52

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	25.00	EA	\$3.78	\$94.50

710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.37 NM	\$1,006.44	\$372.38
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.18 GM	\$390.40	\$70.27
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.37 GM	\$5,760.00	\$2,131.20
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.18 GM	\$1,201.81	\$216.33
<b>Roadway Component Total</b>				<b>\$152,188.94</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	220
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	1,155.09	SY	\$13.14	\$15,177.88
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	119.19	TN	\$119.17	\$14,203.87
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	89.39	TN	\$111.17	\$9,937.49
570-1-2	PERFORMANCE TURF, SOD	578.63	SY	\$3.50	\$2,025.21

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	339.00	LF	\$26.18	\$8,875.02

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	2,535.56	LF	\$1.09	\$2,763.76
104-11	FLOATING TURBIDITY BARRIER	46.18	LF	\$9.58	\$442.40
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	46.18	LF	\$3.96	\$182.87
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,594.90	\$2,594.90
107-1	LITTER REMOVAL	2.24	AC	\$59.86	\$134.09
107-2	MOWING	2.24	AC	\$71.88	\$161.01

**Shoulder Component Total** **\$56,498.50**

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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400-2-2	CONC CLASS II, ENDWALLS	3.32 CY	\$1,285.00	\$4,266.20
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	152.00 LF	\$81.23	\$12,346.96
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	32.00 LF	\$114.92	\$3,677.44
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	8.00 EA	\$1,713.03	\$13,704.24
570-1-1	PERFORMANCE TURF	130.03 SY	\$1.93	\$250.96
<b>Drainage Component Total</b>				<b>\$34,245.80</b>

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**SIGNING COMPONENT**

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	4.00	AS	\$946.53	\$3,786.12
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$8,039.17</b>

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**Sequence 9 Total** **\$455,965.50**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.90
Alignment Number	1
Distance	0.188
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	0.90	AC	\$21,106.08	\$18,995.47
120-6	EMBANKMENT	8,474.20	CY	\$16.33	\$138,383.69
<b>Earthwork Component Total</b>					<b>\$157,379.16</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	1
Roadway Pavement Width L/R	7.50 / 7.50
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	2,849.62	SY	\$5.18	\$14,761.03
285-709	OPTIONAL BASE,BASE GROUP 09	1,652.78	SY	\$19.41	\$32,080.46
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	261.21	TN	\$119.17	\$31,128.40
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	130.61	TN	\$111.17	\$14,519.91

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.36	NM	\$1,006.44	\$362.32

711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.36 GM	\$5,760.00	\$2,073.60
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**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	10.33	TN	\$227.45	\$2,349.56
536-1-1	GUARDRAIL- ROADWAY, GEN TL- 3	300.00	LF	\$18.13	\$5,439.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00	EA	\$2,644.46	\$2,644.46
536-85-25	GUARDRAIL END ANCHORAGE ASSEM- TYPE II	1.00	EA	\$869.58	\$869.58
<b>Roadway Component Total</b>					<b>\$106,228.32</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	6.00 / 6.00
Total Outside Shoulder Perf. Turf Width L/R	4.00 / 2.00
Paved Outside Shoulder Width L/R	2.00 / 4.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	702.91	SY	\$13.14	\$9,236.24
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	69.66	TN	\$119.17	\$8,301.38
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	25.33	TN	\$143.33	\$3,630.55
570-1-1	PERFORMANCE TURF	633.25	SY	\$1.93	\$1,222.17

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	979.00	LF	\$26.18	\$25,630.22

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	2,469.67	LF	\$1.09	\$2,691.94

104-11	FLOATING TURBIDITY BARRIER	44.98 LF	\$9.58	\$430.91
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	44.98 LF	\$3.96	\$178.12
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,594.90	\$2,594.90
107-1	LITTER REMOVAL	2.18 AC	\$59.86	\$130.49
107-2	MOWING	2.18 AC	\$71.88	\$156.70
<b>Shoulder Component Total</b>				<b>\$54,203.62</b>

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**DRAINAGE COMPONENT**

<b>Pay Items</b>				
<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
400-2-2	CONC CLASS II, ENDWALLS	3.24 CY	\$1,285.00	\$4,163.40
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	144.00 LF	\$81.23	\$11,697.12
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	32.00 LF	\$114.92	\$3,677.44
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	8.00 EA	\$1,713.03	\$13,704.24
570-1-1	PERFORMANCE TURF	126.65 SY	\$1.93	\$244.43
<b>Drainage Component Total</b>				<b>\$33,486.63</b>

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**SIGNING COMPONENT**

<b>Pay Items</b>				
<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00 AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	4.00 AS	\$946.53	\$3,786.12
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>				<b>\$8,039.17</b>

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**Sequence 10 Total** **\$359,336.90**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.142
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	1.72	AC	\$21,106.08	\$36,302.46
120-6	EMBANKMENT	7,413.18	CY	\$16.33	\$121,057.23
<b>Earthwork Component Total</b>					<b>\$157,359.69</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	3,332.27	SY	\$5.18	\$17,261.16
285-709	OPTIONAL BASE,BASE GROUP 09	2,054.34	SY	\$19.41	\$39,874.74
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	329.89	TN	\$119.17	\$39,312.99
337-7-43	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	164.95	TN	\$111.17	\$18,337.49

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	19.00	EA	\$3.78	\$71.82



710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.28 NM	\$1,006.44	\$281.80
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.14 GM	\$390.40	\$54.66
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.28 GM	\$5,760.00	\$1,612.80
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.14 GM	\$1,201.81	\$168.25
<b>Roadway Component Total</b>				<b>\$116,975.71</b>

### SHOULDER COMPONENT

#### User Input Data

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	220
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	888.05	SY	\$13.14	\$11,668.98
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	91.64	TN	\$119.17	\$10,920.74
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	68.73	TN	\$111.17	\$7,640.71
570-1-2	PERFORMANCE TURF, SOD	444.86	SY	\$3.50	\$1,557.01

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	339.00	LF	\$26.18	\$8,875.02

#### Erosion Control

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,949.38	LF	\$1.09	\$2,124.82
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	35.50	LF	\$3.96	\$140.58
107-1	LITTER REMOVAL	1.72	AC	\$59.86	\$102.96
107-2	MOWING	1.72	AC	\$71.88	\$123.63

#### Shoulder Component Total

\$43,154.45

### DRAINAGE COMPONENT

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	2.56	CY	\$1,285.00	\$3,289.60
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	120.00	LF	\$81.23	\$9,747.60

430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	24.00 LF	\$114.92	\$2,758.08
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	6.00 EA	\$1,713.03	\$10,278.18
570-1-1	PERFORMANCE TURF	99.97 SY	\$1.93	\$192.94
<b>Drainage Component Total</b>				<b>\$26,266.40</b>

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**SIGNING COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	3.00	AS	\$946.53	\$2,839.59
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$7,092.64</b>

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**Sequence 11 Total** **\$350,848.89**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	0.00 / 30.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.189
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	0.69	AC	\$21,106.08	\$14,563.20
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	177.78	CY	\$19.62	\$3,488.04
<b>Earthwork Component Total</b>					<b>\$18,051.24</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	5
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	12.00 / 0.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	2,444.52	SY	\$5.18	\$12,662.61
285-709	OPTIONAL BASE,BASE GROUP 09	1,370.04	SY	\$19.41	\$26,592.48
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	5,333.50	SY	\$2.95	\$15,733.82
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	586.69	TN	\$135.51	\$79,502.36
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	220.01	TN	\$135.51	\$29,813.56
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	213.34	TN	\$143.33	\$30,578.02

337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	53.34 TN	\$143.33	\$7,645.22
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**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	3

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	102.00 EA	\$3.78	\$385.56
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.76 NM	\$1,006.44	\$764.89
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.57 GM	\$390.40	\$222.53
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.76 GM	\$5,760.00	\$4,377.60
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.57 GM	\$1,201.81	\$685.03
<b>Roadway Component Total</b>				<b>\$208,963.69</b>

**SHOULDER COMPONENT**

**User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	10.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 0.00
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	5.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	592.24 SY	\$13.14	\$7,782.03
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	1,111.15 SY	\$3.12	\$3,466.79
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	30.56 TN	\$135.51	\$4,141.19
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	22.22 TN	\$143.33	\$3,184.79
570-1-2	PERFORMANCE TURF, SOD	296.68 SY	\$3.50	\$1,038.38

**Erosion Control**

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
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104-10-3	SEDIMENT BARRIER	2,300.07 LF	\$1.09	\$2,507.08
104-11	FLOATING TURBIDITY BARRIER	18.94 LF	\$9.58	\$181.45
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	18.94 LF	\$3.96	\$75.00
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,594.90	\$2,594.90
107-1	LITTER REMOVAL	1.38 AC	\$59.86	\$82.61
107-2	MOWING	1.38 AC	\$71.88	\$99.19
<b>Shoulder Component Total</b>				<b>\$25,153.41</b>

### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	30.00
Performance Turf Width	5.34
New Total Median Shoulder Width L/R	0.00 / 0.00
New Paved Median Shoulder Width L/R	0.00 / 0.00
Existing Total Median Shoulder Width L/R	10.00 / 10.00
Existing Paved Median Shoulder Width L/R	8.00 / 8.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	1,777.83	SY	\$3.12	\$5,546.83
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	97.78	TN	\$135.51	\$13,250.17
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	71.11	TN	\$143.33	\$10,192.20
570-1-1	PERFORMANCE TURF	593.35	SY	\$1.93	\$1,145.17
<b>Median Component Total</b>					<b>\$30,134.37</b>

### DRAINAGE COMPONENT

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	3.41	CY	\$1,285.00	\$4,381.85
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	152.00	LF	\$81.23	\$12,346.96
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	16.00	LF	\$114.92	\$1,838.72
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	8.00	EA	\$1,713.03	\$13,704.24
570-1-1	PERFORMANCE TURF	133.34	SY	\$1.93	\$257.35
<b>Drainage Component Total</b>					<b>\$32,529.12</b>

**SIGNING COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	5.00	AS	\$946.53	\$4,732.65
700-1-50	SINGLE POST SIGN, RELOCATE	1.00	AS	\$151.53	\$151.53
700-1-60	SINGLE POST SIGN, REMOVE	5.00	AS	\$21.22	\$106.10
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
700-2-60	MULTI- POST SIGN, REMOVE	1.00	AS	\$462.37	\$462.37
<b>Signing Component Total</b>					<b>\$9,705.70</b>

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<b>Sequence 12 Total</b>	<b>\$324,537.53</b>
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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.90
Alignment Number	1
Distance	0.322
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	3.90	AC	\$21,106.08	\$82,313.71
110-1-1	CLEARING & GRUBBING	0.90	AC	\$21,106.08	\$18,995.47
120-6	EMBANKMENT	15,099.94	CY	\$16.33	\$246,582.02
<b>Earthwork Component Total</b>					<b>\$347,891.20</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	1
Roadway Pavement Width L/R	7.50 / 7.50
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	5,856.11	SY	\$5.18	\$30,334.65
285-709	OPTIONAL BASE,BASE GROUP 09	2,958.28	SY	\$19.41	\$57,420.21
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	467.54	TN	\$119.17	\$55,716.74
337-7-43	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	233.77	TN	\$111.17	\$25,988.21

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
710-11-111	PAINTED PAVT	0.64	NM	\$1,006.44	\$644.12

711-15-101	MARK,STD,WHITE,SOLID,6" THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.64 GM	\$5,760.00	\$3,686.40
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**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	10.33 TN	\$227.45	\$2,349.56
536-1-1	GUARDRAIL- ROADWAY, GEN TL- 3	300.00 LF	\$18.13	\$5,439.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00 EA	\$2,644.46	\$2,644.46
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00 EA	\$2,644.46	\$2,644.46
<b>Roadway Component Total</b>				<b>\$186,867.81</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	2,013.75 SY	\$13.14	\$26,460.68
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	207.80 TN	\$119.17	\$24,763.53
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	75.56 TN	\$111.17	\$8,400.01
570-1-2	PERFORMANCE TURF, SOD	1,008.76 SY	\$3.50	\$3,530.66

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	979.00 LF	\$26.18	\$25,630.22

**Erosion Control****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
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104-10-3	SEDIMENT BARRIER	4,420.42 LF	\$1.09	\$4,818.26
104-11	FLOATING TURBIDITY BARRIER	80.50 LF	\$9.58	\$771.19
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	80.50 LF	\$3.96	\$318.78
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,594.90	\$2,594.90
107-1	LITTER REMOVAL	3.90 AC	\$59.86	\$233.45
107-2	MOWING	3.90 AC	\$71.88	\$280.33
<b>Shoulder Component Total</b>				<b>\$97,802.01</b>

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**DRAINAGE COMPONENT**

<b>Pay Items</b>				
<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
400-2-2	CONC CLASS II, ENDWALLS	5.80 CY	\$1,285.00	\$7,453.00
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	264.00 LF	\$81.23	\$21,444.72
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	56.00 LF	\$114.92	\$6,435.52
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	13.00 EA	\$1,713.03	\$22,269.39
570-1-1	PERFORMANCE TURF	226.69 SY	\$1.93	\$437.51
<b>Drainage Component Total</b>				<b>\$58,040.14</b>

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**SIGNING COMPONENT**

<b>Pay Items</b>				
<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00 AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	7.00 AS	\$946.53	\$6,625.71
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>				<b>\$10,878.76</b>

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**Sequence 13 Total** **\$701,479.92**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.142
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	1.72	AC	\$21,106.08	\$36,302.46
120-6	EMBANKMENT	7,413.18	CY	\$16.33	\$121,057.23
<b>Earthwork Component Total</b>					<b>\$157,359.69</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	3,332.27	SY	\$5.18	\$17,261.16
285-709	OPTIONAL BASE,BASE GROUP 09	2,054.34	SY	\$19.41	\$39,874.74
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	329.89	TN	\$119.17	\$39,312.99
337-7-43	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	164.95	TN	\$111.17	\$18,337.49

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	19.00	EA	\$3.78	\$71.82

710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.28 NM	\$1,006.44	\$281.80
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.14 GM	\$390.40	\$54.66
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.28 GM	\$5,760.00	\$1,612.80
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.14 GM	\$1,201.81	\$168.25
<b>Roadway Component Total</b>				<b>\$116,975.71</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	220
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	888.05	SY	\$13.14	\$11,668.98
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	91.64	TN	\$119.17	\$10,920.74
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	68.73	TN	\$111.17	\$7,640.71
570-1-2	PERFORMANCE TURF, SOD	444.86	SY	\$3.50	\$1,557.01

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	339.00	LF	\$26.18	\$8,875.02

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,949.38	LF	\$1.09	\$2,124.82
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	35.50	LF	\$3.96	\$140.58
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,594.90	\$2,594.90
107-1	LITTER REMOVAL	1.72	AC	\$59.86	\$102.96
107-2	MOWING	1.72	AC	\$71.88	\$123.63

**Shoulder Component Total****\$45,749.35****DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	2.56	CY	\$1,285.00	\$3,289.60

430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	120.00 LF	\$81.23	\$9,747.60
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	24.00 LF	\$114.92	\$2,758.08
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	6.00 EA	\$1,713.03	\$10,278.18
570-1-1	PERFORMANCE TURF	99.97 SY	\$1.93	\$192.94
<b>Drainage Component Total</b>				<b>\$26,266.40</b>

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**SIGNING COMPONENT**

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	3.00	AS	\$946.53	\$2,839.59
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$7,092.64</b>

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**Sequence 14 Total** **\$353,443.79**

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Date: 10/13/2016 10:43:31 AM

## FDOT Long Range Estimating System - Production

### R3: Project Details by Sequence Report

Project: 419243-4-32-01

Letting Date: 02/2020

Description: US 27 FROM PRESIDENTS DRIVE TO SR 60

District: 01

County: 16 POLK

Market Area: 08

Units: English

Contract Class: 9 Lump Sum Project: N

Design/Build: Y

Project Length: 5.180 MI

Project Manager: CES-KSI-AES

Version 23 Project Grand Total

**\$69,625,708.72**

Description: PD&amp;E Unit Cost Update from Version 10 - 10/5/16

**Project Sequences Subtotal****\$49,928,644.43**

102-1	Maintenance of Traffic	15.00 %	\$7,489,296.66
101-1	Mobilization	10.00 %	\$5,741,794.11

**Project Sequences Total****\$63,159,735.20**

Project Unknowns	10.00 %	\$6,315,973.52
Design/Build	0.00 %	\$0.00

**Non-Bid Components:**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

**Project Non-Bid Subtotal****\$150,000.00****Version 23 Project Grand Total****\$69,625,708.72**

## **Segment 3 – Tight Diamond Long Range Estimate**

Date: 10/13/2016 9:57:24 AM

## FDOT Long Range Estimating System - Production

### R3: Project Details by Sequence Report

Project: 419243-4-32-01

Letting Date: 02/2020

Description: US 27 FROM PRESIDENTS DRIVE TO SR 60

District: 01      County: 16 POLK      Market Area: 08      Units: English  
 Contract Class: 9      Lump Sum Project: N      Design/Build: Y      Project Length: 5.180 MI

Project Manager: CES-KSI-AES

Version 22 Project Grand Total

\$67,917,217.03

Description: PD&amp;E Unit Cost Update from Version 9 - 10/5/16

Sequence: 1 WDR - Widen/Resurface, Divided, Rural

Net Length: 2.574 MI  
13,591 LFDescription: US 27 (SR 25) FROM PRESIDENT'S DRIVE TO SOUTH OF LONGLEAF BOULEVARD (MP  
16.212)

#### EARTHWORK COMPONENT

##### User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	35.00 / 35.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	2.574
Top of Structural Course For Begin Section	103.50
Top of Structural Course For End Section	103.50
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

##### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	21.84 AC	\$21,106.08	\$460,956.79

##### X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION <b>Comment:</b> EXCAVATION FOR LINEAR PONDS - 15 Acres total at 2ft deep	48,400.00 CY	\$11.26	\$544,984.00
120-6	EMBANKMENT	42,967.00 CY	\$16.33	\$701,651.11

**Earthwork Component Total**

\$1,707,591.90

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**ROADWAY COMPONENT**
**User Input Data**

Description	Value
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	12.00 / 12.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	84,564.48	SY	\$5.18	\$438,044.01
285-709	OPTIONAL BASE,BASE GROUP 09	37,238.57	SY	\$19.41	\$722,800.64
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	72,483.84	SY	\$2.95	\$213,827.33
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	7,973.22	TN	\$119.17	\$950,168.63
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	5,979.92	TN	\$119.17	\$712,627.07
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	2,899.35	TN	\$143.33	\$415,563.84
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	1,449.68	TN	\$143.33	\$207,782.63

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-0-11	CONC CLASS NS, GRAVITY WALL	3,365.00	CY	\$604.35	\$2,033,637.75
546-72-53	RUMBLE STRIPS, GROUND-IN, 8" EDGE LINE	10.30	GM	\$924.95	\$9,526.98

**Turnouts/Crossovers Subcomponent**

Description	Value
Asphalt Adjustment	20.00
Milling Code	Y
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	16,912.90	SY	\$5.18	\$87,608.82
285-709	OPTIONAL BASE,BASE GROUP 09	7,447.71	SY	\$19.41	\$144,560.05
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	14,496.77	SY	\$2.95	\$42,765.47
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	1,594.64	TN	\$119.17	\$190,033.25
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	579.87	TN	\$143.33	\$83,112.77

**Pavement Marking Subcomponent**



Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	1,737.00 EA	\$3.78	\$6,565.86
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	10.30 NM	\$1,006.44	\$10,366.33
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	10.30 GM	\$390.40	\$4,021.12
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	10.30 GM	\$5,760.00	\$59,328.00
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	10.30 GM	\$1,201.81	\$12,378.64
<b>Roadway Component Total</b>				<b>\$6,344,719.20</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	3.00 / 3.00
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	16,097.45 SY	\$13.14	\$211,520.49
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	15,100.80 SY	\$3.12	\$47,114.50
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	830.54 TN	\$119.17	\$98,975.45
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	604.03 TN	\$143.33	\$86,575.62
570-1-2	PERFORMANCE TURF, SOD	9,060.48 SY	\$3.50	\$31,711.68

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" <b>Comment:</b> 5' sidewalks to both NB and SB for the length of this sequence	15,101.00 SY	\$40.70	\$614,610.70
570-1-2	PERFORMANCE TURF, SOD	199,748.00 SY	\$3.50	\$699,118.00

**Comment: PERFORMANCE SOD FOR BORDERS****Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	31,258.66	LF	\$1.09	\$34,071.94
104-11	FLOATING TURBIDITY BARRIER	257.40	LF	\$9.58	\$2,465.89
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	257.40	LF	\$3.96	\$1,019.30
104-15	SOIL TRACKING PREVENTION DEVICE	3.00	EA	\$2,594.90	\$7,784.70
107-1	LITTER REMOVAL	8.75	AC	\$59.86	\$523.78
107-2	MOWING	8.75	AC	\$71.88	\$628.95
<b>Shoulder Component Total</b>					<b>\$1,836,121.00</b>

**MEDIAN COMPONENT****User Input Data**

Description	Value
Total Median Width	40.00
Performance Turf Width	5.34
New Total Median Shoulder Width L/R	8.00 / 8.00
New Paved Median Shoulder Width L/R	0.00 / 0.00
Existing Total Median Shoulder Width L/R	8.00 / 8.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
570-1-2	PERFORMANCE TURF, SOD	8,063.83	SY	\$3.50	\$28,223.40
<b>Median Component Total</b>					<b>\$28,223.41</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	48.82	CY	\$1,285.00	\$62,733.70
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	216.00	LF	\$114.92	\$24,822.72
570-1-2	PERFORMANCE TURF, SOD	1,910.00	SY	\$3.50	\$6,685.00

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
425-1-583	INLETS, DT BOT, TYPE H, J BOTTOM <10'	103.00	EA	\$7,402.23	\$762,429.69
<b>Comment: ADDITIONAL DRAINAGE FOR LINEAR PONDS.</b>					
430-174-124	PIPE CULV, OPT MATL,	864.00	LF	\$81.23	\$70,182.72

	ROUND,24"SD			
	<b>Comment:</b> DRIVEWAY SIDEDRAINS			
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	1,496.00 LF	\$85.83	\$128,401.68
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	6,376.00 LF	\$88.46	\$564,020.96
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	680.00 LF	\$114.92	\$78,145.60
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	88.00 LF	\$163.18	\$14,359.84
	<b>Comment:</b> ADDITIONAL DRAINAGE FOR LINEAR PONDS.			
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	72.00 EA	\$1,713.03	\$123,338.16
	<b>Comment:</b> DRIVEWAY SIDEDRAIN MITERED END SECTIONS.			
<b>Drainage Component Total</b>				\$1,835,120.07

**SIGNING COMPONENT**

<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	6.00	AS	\$263.21	\$1,579.26
700-1-12	SINGLE POST SIGN, F&I GM, 12- 20 SF	62.00	AS	\$946.53	\$58,684.86
700-1-50	SINGLE POST SIGN, RELOCATE	6.00	AS	\$151.53	\$909.18
700-1-60	SINGLE POST SIGN, REMOVE	62.00	AS	\$21.22	\$1,315.64
700-2-60	MULTI- POST SIGN, REMOVE	6.00	AS	\$462.37	\$2,774.22
<b>X-Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-2-13	MULTI- POST SIGN, F&I GM, 21-30 SF	6.00	AS	\$3,054.73	\$18,328.38
<b>Signing Component Total</b>					\$83,591.54

**SIGNALIZATIONS COMPONENT**

<b>Signalization 1</b>	
<b>Description</b>	<b>Value</b>
Type	6 Lane Strain Pole
Multiplier	1
Description	US 27 AT ALTURAS BABSON PARK CUTOFF ROAD (CR 640)

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	250.00	LF	\$25.49	\$6,372.50
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$7,132.15	\$7,132.15
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00	PI	\$2,310.94	\$2,310.94
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	20.00	EA	\$574.66	\$11,493.20
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	\$1,735.02	\$1,735.02
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00	LF	\$4.70	\$141.00
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	1.00	EA	\$945.05	\$945.05
641-2-17	PREST CNC POLE,F&I,TYP P-VII	4.00	EA	\$8,653.93	\$34,615.72
650-1-14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	20.00	AS	\$965.56	\$19,311.20
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00	AS	\$525.51	\$4,204.08
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	20.00	EA	\$167.43	\$3,348.60
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	20.00	AS	\$977.12	\$19,542.40
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	\$233.56	\$1,868.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00	AS	\$25,727.76	\$25,727.76
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00	EA	\$202.65	\$810.60
700-5-21	INTERNAL ILLUM SIGN, F&I OM, UP TO 12 SF	4.00	EA	\$3,124.86	\$12,499.44
<b>Signalizations Component Total</b>					<b>\$152,058.14</b>

### LIGHTING COMPONENT

#### Rural Lighting Subcomponent

##### Description

Multiplier (Number of Poles)

Value

116

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	23,200.00	LF	\$6.37	\$147,784.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	116.00	EA	\$574.66	\$66,660.56
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	69,600.00	LF	\$2.41	\$167,736.00
715-4-122	LIGHT POLE COMP, F&I, WS130, 45'	116.00	EA	\$5,198.40	\$603,014.40
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	116.00	EA	\$476.28	\$55,248.48
<b>Subcomponent Total</b>					<b>\$1,040,443.44</b>
<b>Lighting Component Total</b>					<b>\$1,040,443.44</b>

#### Sequence 1 Total

\$13,027,868.70



**Sequence:** 2WDR - Widen/Resurface, Divided, Rural**Net Length:** 2.828 MI  
14,932 LF**Description:** US 27 (SR 25) FROM SOUTH OF LONGLEAF BOULEVARD (MP 16.212) TO CENTRAL AVENUE**Special Conditions:** This sequence was modified for a Suburban/curb on the inside typical**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	2.828
Top of Structural Course For Begin Section	103.50
Top of Structural Course For End Section	103.50
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	34.28	AC	\$21,106.08	\$723,516.42
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	18,991.09	CY	\$19.62	\$372,605.19
<b>Earthwork Component Total</b>					<b>\$1,096,121.61</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	12.00 / 12.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	92,909.23	SY	\$5.18	\$481,269.81
285-709	OPTIONAL BASE,BASE GROUP 09	40,913.24	SY	\$19.41	\$794,125.99
327-70-5	MILLING EXIST ASPH PAVT, 2"	79,636.48	SY	\$2.95	\$234,927.62

	AVG DEPTH			
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	8,760.01 TN	\$119.17	\$1,043,930.39
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	6,570.01 TN	\$119.17	\$782,948.09
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	3,185.46 TN	\$143.33	\$456,571.98
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	1,592.73 TN	\$143.33	\$228,285.99

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
546-72-53	RUMBLE STRIPS, GROUND-IN, 8" EDGELINE	11.31 GM	\$924.95	\$10,461.18

**Turnouts/Crossovers Subcomponent**

Description	Value
Asphalt Adjustment	20.00
Milling Code	Y
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	18,581.85 SY	\$5.18	\$96,253.98
285-709	OPTIONAL BASE,BASE GROUP 09	8,182.65 SY	\$19.41	\$158,825.24
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	15,927.30 SY	\$2.95	\$46,985.54
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	1,752.00 TN	\$119.17	\$208,785.84
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	637.09 TN	\$143.33	\$91,314.11

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	1,909.00 EA	\$3.78	\$7,216.02
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	11.31 NM	\$1,006.44	\$11,382.84
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	11.31 GM	\$390.40	\$4,415.42
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	11.31 GM	\$5,760.00	\$65,145.60
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	11.31 GM	\$1,201.81	\$13,592.47

**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	84.00	TN	\$227.45	\$19,105.80
521-72-3	SHLDR CONC BARRIER WALL, RIGID-SHLDR	600.00	LF	\$202.64	\$121,584.00
536-1-1	GUARDRAIL- ROADWAY, GEN TL-3	2,500.00	LF	\$18.13	\$45,325.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	2.00	EA	\$2,644.46	\$5,288.92
536-85-25	GUARDRAIL END ANCHORAGE ASSEM- TYPE II	2.00	EA	\$869.58	\$1,739.16
544-75-1	CRASH CUSHION	6.00	EA	\$12,126.00	\$72,756.00
<b>Roadway Component Total</b>					<b>\$5,002,236.99</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	3.00 / 3.00
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	17,685.93	SY	\$13.14	\$232,393.12
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	16,590.93	SY	\$3.12	\$51,763.70
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	912.50	TN	\$119.17	\$108,742.62
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	663.64	TN	\$143.33	\$95,119.52
570-1-2	PERFORMANCE TURF, SOD	9,954.56	SY	\$3.50	\$34,840.96

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	16,591.11	SY	\$40.70	\$675,258.18

	<b>Comment:</b> 5' sidewalks to both NB and SB for the length of this sequence			
570-1-2	PERFORMANCE TURF, SOD	85,560.00 SY	\$3.50	\$299,460.00
	<b>Comment:</b> PERFORMANCE SOD FOR BORDERS			

**Erosion Control****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	34,343.23 LF	\$1.09	\$37,434.12
104-11	FLOATING TURBIDITY BARRIER	282.80 LF	\$9.58	\$2,709.22
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	282.80 LF	\$3.96	\$1,119.89
104-15	SOIL TRACKING PREVENTION DEVICE	3.00 EA	\$2,594.90	\$7,784.70
107-1	LITTER REMOVAL	20.56 AC	\$59.86	\$1,230.72
107-2	MOWING	20.56 AC	\$71.88	\$1,477.85
<b>Shoulder Component Total</b>				<b>\$1,549,334.61</b>

**MEDIAN COMPONENT****User Input Data**

Description	Value
Total Median Width	30.00
Performance Turf Width	17.00
New Total Median Shoulder Width L/R	8.00 / 8.00
New Paved Median Shoulder Width L/R	6.50 / 6.50
Existing Total Median Shoulder Width L/R	8.00 / 8.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	22,663.21 SY	\$13.14	\$297,794.58
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	1,186.25 TN	\$119.17	\$141,365.41
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	862.73 TN	\$143.33	\$123,655.09
570-1-2	PERFORMANCE TURF, SOD	28,204.59 SY	\$3.50	\$98,716.06

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	29,864.00 LF	\$28.80	\$860,083.20
	<b>Comment:</b> MEDIAN TYPE E CURB BOTH SIDES.			

**Median Component Total** **\$1,521,614.35**

**DRAINAGE COMPONENT**



**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	50.90 CY	\$1,285.00	\$65,406.50
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	2,264.00 LF	\$81.23	\$183,904.72
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	232.00 LF	\$114.92	\$26,661.44
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	114.00 EA	\$1,713.03	\$195,285.42
570-1-1	PERFORMANCE TURF	1,990.91 SY	\$1.93	\$3,842.46

**Retention Basin 1**

Description	Value
Size	5 AC
Multiplier	5
Depth	6.00
Description	

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	25.00 AC	\$21,106.08	\$527,652.00
120-1	REGULAR EXCAVATION	242,000.00 CY	\$11.26	\$2,724,920.00
400-2-2	CONC CLASS II, ENDWALLS	150.00 CY	\$1,285.00	\$192,750.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	5.00 EA	\$2,126.83	\$10,634.15
425-2-71	MANHOLES, J-7, <10'	10.00 EA	\$5,711.75	\$57,117.50
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	280.00 LF	\$137.59	\$38,525.20
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	2,000.00 LF	\$250.98	\$501,960.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	9,300.00 LF	\$10.11	\$94,023.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	10.00 EA	\$1,918.46	\$19,184.60
570-1-1	PERFORMANCE TURF	121,000.00 SY	\$1.93	\$233,530.00
<b>Drainage Component Total</b>				<b>\$4,875,396.99</b>

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	6.00 AS	\$263.21	\$1,579.26
700-1-12	SINGLE POST SIGN, F&I GM, 12- 20 SF	68.00 AS	\$946.53	\$64,364.04
700-1-50	SINGLE POST SIGN, RELOCATE	6.00 AS	\$151.53	\$909.18
700-1-60	SINGLE POST SIGN, REMOVE	68.00 AS	\$21.22	\$1,442.96
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	6.00 AS	\$3,989.84	\$23,939.04
700-2-60	MULTI- POST SIGN, REMOVE	6.00 AS	\$462.37	\$2,774.22
<b>Signing Component Total</b>				<b>\$95,008.70</b>

**SIGNALIZATIONS COMPONENT****Signalization 1**

<b>Description</b>	<b>Value</b>
Type	6 Lane Strain Pole
Multiplier	1
Description	SR 60/US 27 ramps south of the interchange

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	700.00	LF	\$6.37	\$4,459.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	250.00	LF	\$25.49	\$6,372.50
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$7,132.15	\$7,132.15
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00	PI	\$2,310.94	\$2,310.94
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	20.00	EA	\$574.66	\$11,493.20
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	\$1,735.02	\$1,735.02
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00	LF	\$4.70	\$141.00
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	1.00	EA	\$945.05	\$945.05
641-2-17	PREST CNC POLE,F&I,TYP P-VII	4.00	EA	\$8,653.93	\$34,615.72
650-1-14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	20.00	AS	\$965.56	\$19,311.20
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	20.00	EA	\$167.43	\$3,348.60
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	20.00	AS	\$977.12	\$19,542.40
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	\$233.56	\$1,868.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00	AS	\$25,727.76	\$25,727.76
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00	EA	\$202.65	\$810.60

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
650-1-11	TRAFFIC SIGNAL,F&I ALUMINUM, 1 S 1 W	8.00	AS	\$488.75	\$3,910.00

**Signalization 2**

<b>Description</b>	<b>Value</b>
Type	6 Lane Strain Pole
Multiplier	1
Description	SR 60/US 27 ramps north of the interchange

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	700.00	LF	\$6.37	\$4,459.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	250.00	LF	\$25.49	\$6,372.50
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$7,132.15	\$7,132.15

634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00 PI	\$2,310.94	\$2,310.94
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	20.00 EA	\$574.66	\$11,493.20
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00 AS	\$1,735.02	\$1,735.02
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00 LF	\$4.70	\$141.00
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	1.00 EA	\$945.05	\$945.05
641-2-17	PREST CNC POLE,F&I,TYP P-VII	4.00 EA	\$8,653.93	\$34,615.72
650-1-14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	20.00 AS	\$965.56	\$19,311.20
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	20.00 EA	\$167.43	\$3,348.60
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	20.00 AS	\$977.12	\$19,542.40
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$233.56	\$1,868.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$25,727.76	\$25,727.76
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00 EA	\$202.65	\$810.60

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
650-1-11	TRAFFIC SIGNAL,F&I ALUMINUM, 1 S 1 W	8.00 AS	\$488.75	\$3,910.00
<b>Signalizations Component Total</b>				<b>\$287,447.24</b>

**LIGHTING COMPONENT**

**Rural Lighting Subcomponent**

Description	Value			
Multiplier (Number of Poles)	120			
<b>Pay Items</b>				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	24,000.00 LF	\$6.37	\$152,880.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	120.00 EA	\$574.66	\$68,959.20
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	72,000.00 LF	\$2.41	\$173,520.00
715-4-122	LIGHT POLE COMP, F&I, WS130, 45'	120.00 EA	\$5,198.40	\$623,808.00
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	120.00 EA	\$476.28	\$57,153.60
<b>Subcomponent Total</b>				<b>\$1,076,320.80</b>
<b>Lighting Component Total</b>				<b>\$1,076,320.80</b>

**RETAINING WALLS COMPONENT**

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-11	CONC CLASS II, RETAINING WALLS	198.00 CY	\$1,394.00	\$276,012.00
<b>Comment:</b> LAKE ALTAMAHA & UNNAMED SINK HOLE				

455-133-3	CONCRETE CAP FOR RETAINING WALLS. SHEET PILING STEEL, F&I PERMANENT	35,245.00 SF	\$40.17	\$1,415,791.65
	<b>Comment:</b> LAKE ALTAMAHA & UNNAMED SINKHOLE RETAINING WALLS.			
	<b>Retaining Walls Component Total</b>			\$1,691,803.65
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	<b>Sequence 2 Total</b>			\$17,195,284.94
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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	105.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.772
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	110.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	19.65	AC	\$21,106.08	\$414,734.47
120-6	EMBANKMENT	167,537.72	CY	\$16.33	\$2,735,890.97
<b>Earthwork Component Total</b>					<b>\$3,150,625.44</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	4
Roadway Pavement Width L/R	28.00 / 28.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	30,028.99	SY	\$5.18	\$155,550.17
285-709	OPTIONAL BASE,BASE GROUP 09	25,356.20	SY	\$19.41	\$492,163.84
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	4,183.77	TN	\$135.51	\$566,942.67
337-7-74	ASPH CONC FC,TRAF C,FC- 12.5,PG 76-22,ARB	2,091.89	TN	\$118.66	\$248,223.67

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE PAVEMENT	313.00	EA	\$3.78	\$1,183.14

710-11-111	MARKERS PAINTED PAVT MARK,STD,WHITE,SOLID,6"	3.09 NM	\$1,006.44	\$3,109.90
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.54 GM	\$390.40	\$601.22
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	3.09 GM	\$5,760.00	\$17,798.40
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	1.54 GM	\$1,201.81	\$1,850.79

**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	34.67 TN	\$227.45	\$7,885.69
536-1-1	GUARDRAIL- ROADWAY, GEN TL- 3	1,000.00 LF	\$18.13	\$18,130.00
536-8	GUARDRAIL- BRIDGE ANCHORAGE ASSEM, F&I	4.00 EA	\$3,091.95	\$12,367.80
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	4.00 EA	\$2,644.46	\$10,577.84
<b>Roadway Component Total</b>				<b>\$1,536,385.13</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	12.25 / 12.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	5.00 / 5.00

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	4,075.10 LF	\$23.22	\$94,623.82
520-1-10	CONCRETE CURB & GUTTER, TYPE F	4,075.10 LF	\$23.22	\$94,623.82
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	4,527.89 SY	\$40.70	\$184,285.12
570-1-2	PERFORMANCE TURF, SOD	4,527.89 SY	\$3.50	\$15,847.62

**Erosion Control****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	8,150.21 LF	\$1.09	\$8,883.73
104-11	FLOATING TURBIDITY BARRIER	192.95 LF	\$9.58	\$1,848.46

104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	192.95 LF	\$3.96	\$764.08
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,594.90	\$2,594.90
104-18	INLET PROTECTION SYSTEM	40.00 EA	\$97.92	\$3,916.80
107-1	LITTER REMOVAL	19.64 AC	\$59.86	\$1,175.65
107-2	MOWING	19.64 AC	\$71.88	\$1,411.72
<b>Shoulder Component Total</b>				<b>\$409,975.72</b>

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#### MEDIAN COMPONENT

##### User Input Data

Description	Value
Total Median Width	20.00
Performance Turf Width	0.00

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	8,150.21	LF	\$28.80	\$234,726.05

##### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
521-1	MEDIAN CONC BARRIER WALL	4,075.00	LF	\$152.97	\$623,352.75

**Median Component Total** **\$858,078.80**

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#### DRAINAGE COMPONENT

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	13.89	CY	\$1,285.00	\$17,848.65
425-1-351	INLETS, CURB, TYPE P-5, <10'	28.00	EA	\$5,196.95	\$145,514.60
425-1-451	INLETS, CURB, TYPE J-5, <10'	8.00	EA	\$6,781.44	\$54,251.52
425-1-521	INLETS, DT BOT, TYPE C, <10'	4.00	EA	\$3,307.19	\$13,228.76
425-2-41	MANHOLES, P-7, <10'	4.00	EA	\$3,432.62	\$13,730.48
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	2,048.00	LF	\$88.46	\$181,166.08
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	184.00	LF	\$114.92	\$21,145.28
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	3,864.00	LF	\$163.18	\$630,527.52
570-1-1	PERFORMANCE TURF	234.63	SY	\$1.93	\$452.84

**Drainage Component Total** **\$1,077,865.73**

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#### SIGNING COMPONENT

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	19.00	AS	\$263.21	\$5,000.99

700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	2.00 AS	\$946.53	\$1,893.06
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	2.00 AS	\$5,624.17	\$11,248.34
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	2.00 AS	\$6,207.38	\$12,414.76
<b>Signing Component Total</b>				<b>\$30,557.15</b>

### LIGHTING COMPONENT

#### Conventional Lighting Subcomponent

Description		Value		
Spacing		MIN		
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	4,075.10 LF	\$6.37	\$25,958.39
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	808.85 LF	\$25.49	\$20,617.59
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	28.00 EA	\$574.66	\$16,090.48
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	14,883.39 LF	\$2.41	\$35,868.97
715-4-111	LIGHT POLE COMP, F&I, WS150, 40'	28.00 EA	\$4,869.35	\$136,341.80
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	28.00 EA	\$476.28	\$13,335.84
<b>Subcomponent Total</b>				<b>\$248,213.06</b>
<b>Lighting Component Total</b>				<b>\$248,213.07</b>

### BRIDGES COMPONENT

#### Bridge 160018

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	205.00
Width (LF)	60.00
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	160018
Removal of Existing Structures area	6,150.00
Default Cost per SF	\$122.00
Factored Cost per SF	\$122.00
<b>Final Cost per SF</b>	<b>\$127.61</b>
<b>Basic Bridge Cost</b>	<b>\$1,500,600.00</b>
Description	NEW WEST BOUND BRIDGE ON SR 60 CROSSING OVER US 27

#### Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	6,150.00 SF	\$33.40	\$205,410.00
400-2-10	CONC CLASS II, APPROACH	133.33 CY	\$357.85	\$47,712.14



415-1-9	SLABS REINF STEEL- APPROACH SLABS	23,332.75 LB	\$0.91	\$21,232.80
<b>Bridge 160018 Total</b>				<b>\$1,774,954.94</b>

**Bridge 160134**

<b>Description</b>	<b>Value</b>
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	221.00
Width (LF)	60.00
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	160134
Removal of Existing Structures area	6,630.00
Default Cost per SF	\$122.00
Factored Cost per SF	\$122.00
<b>Final Cost per SF</b>	<b>\$127.20</b>
<b>Basic Bridge Cost</b>	<b>\$1,617,720.00</b>
Description	NEW EAST BOUND BRIDGE ON SR 60 CROSSING OVER US 27

**Bridge Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	6,630.00	SF	\$33.40	\$221,442.00
400-2-10	CONC CLASS II, APPROACH SLABS	133.33	CY	\$357.85	\$47,712.14
415-1-9	REINF STEEL- APPROACH SLABS	23,332.75	LB	\$0.91	\$21,232.80
<b>Bridge 160134 Total</b>					<b>\$1,908,106.94</b>
<b>Bridges Component Total</b>					<b>\$3,683,061.88</b>

**RETAINING WALLS COMPONENT**

**Retaining Wall 1**

<b>Description</b>	<b>Value</b>
Length	1,460.00
Begin height	10.00
End Height	10.00
Multiplier	4

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	58,400.00	SF	\$31.83	\$1,858,872.00
<b>Retaining Walls Component Total</b>					<b>\$1,858,872.00</b>

<b>Sequence 3 Total</b>	<b>\$12,853,634.92</b>
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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	0.00 / 25.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.066
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	0.20	AC	\$21,106.08	\$4,221.22
120-6	EMBANKMENT	2,168.06	CY	\$16.33	\$35,404.42
<b>Earthwork Component Total</b>					<b>\$39,625.64</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	1
Roadway Pavement Width L/R	0.00 / 12.00
Structural Spread Rate	275
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	567.10	SY	\$5.18	\$2,937.58
285-709	OPTIONAL BASE,BASE GROUP 09	466.75	SY	\$19.41	\$9,059.62
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	64.18	TN	\$135.51	\$8,697.03
337-7-74	ASPH CONC FC,TRAF C,FC- 12.5,PG 76-22,ARB	38.51	TN	\$118.66	\$4,569.60

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.13	NM	\$1,006.44	\$130.84

711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.13 GM	\$5,760.00	\$748.80
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**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	6.67	TN	\$227.45	\$1,517.09
536-1-1	GUARDRAIL- ROADWAY, GEN TL- 3	200.00	LF	\$18.13	\$3,626.00
<b>Roadway Component Total</b>					<b>\$31,286.56</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	7.25 / 7.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	0.00 / 0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	350.06	LF	\$23.22	\$8,128.39
570-1-2	PERFORMANCE TURF, SOD	388.96	SY	\$3.50	\$1,361.36
<b>Shoulder Component Total</b>					<b>\$9,489.75</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	1.19	CY	\$1,285.00	\$1,529.15
425-1-351	INLETS, CURB, TYPE P-5, <10'	3.00	EA	\$5,196.95	\$15,590.85
425-1-451	INLETS, CURB, TYPE J-5, <10'	1.00	EA	\$6,781.44	\$6,781.44
425-1-521	INLETS, DT BOT, TYPE C, <10'	1.00	EA	\$3,307.19	\$3,307.19
425-2-41	MANHOLES, P-7, <10'	1.00	EA	\$3,432.62	\$3,432.62
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	160.00	LF	\$88.46	\$14,153.60
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	16.00	LF	\$114.92	\$1,838.72
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	336.00	LF	\$163.18	\$54,828.48
570-1-1	PERFORMANCE TURF	20.16	SY	\$1.93	\$38.91



**Drainage Component Total**

\$101,500.96

**SIGNING COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	2.00	AS	\$263.21	\$526.42
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00	AS	\$946.53	\$946.53
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	1.00	AS	\$5,624.17	\$5,624.17
<b>Signing Component Total</b>					<b>\$7,097.12</b>

**LIGHTING COMPONENT****Conventional Lighting Subcomponent****Description**

Spacing

**Value**

MAX

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	350.06	LF	\$6.37	\$2,229.88
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	45.68	LF	\$25.49	\$1,164.38
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	3.00	EA	\$574.66	\$1,723.98
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	1,187.23	LF	\$2.41	\$2,861.22
715-4-111	LIGHT POLE COMP, F&I, WS150, 40'	3.00	EA	\$4,869.35	\$14,608.05
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	3.00	EA	\$476.28	\$1,428.84
<b>Subcomponent Total</b>					<b>\$24,016.36</b>
<b>Lighting Component Total</b>					<b>\$24,016.35</b>

**Sequence 4 Total**

\$213,016.38

**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	0.00 / 30.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.208
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	0.76	AC	\$21,106.08	\$16,040.62
120-6	EMBANKMENT	8,064.74	CY	\$16.33	\$131,697.20
<b>Earthwork Component Total</b>					<b>\$147,737.82</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	1
Roadway Pavement Width L/R	0.00 / 12.00
Structural Spread Rate	275
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	1,781.71	SY	\$5.18	\$9,229.26
285-709	OPTIONAL BASE,BASE GROUP 09	1,466.43	SY	\$19.41	\$28,463.41
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	201.63	TN	\$135.51	\$27,322.88
337-7-74	ASPH CONC FC,TRAF C,FC- 12.5,PG 76-22,ARB	120.98	TN	\$118.66	\$14,355.49

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
515-2-212	PED/BICYCLE RAILING,STL, 42" TYPE 2	1,000.00	LF	\$93.53	\$93,530.00

**Comment:** for retaining wall**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1

Skip Stripe No. of Stripes 0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.42	NM	\$1,006.44	\$422.70
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.42	GM	\$5,760.00	\$2,419.20

**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
521-72-3	SHLDR CONC BARRIER WALL, RIGID-SHLDR	1,100.00	LF	\$202.64	\$222,904.00

**Roadway Component Total**

\$398,646.94

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	0.00 / 12.25
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 5.00
Sidewalk Width L/R	0.00 / 5.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	611.01	SY	\$40.70	\$24,868.11
570-1-2	PERFORMANCE TURF, SOD	611.01	SY	\$3.50	\$2,138.54

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	2,199.65	LF	\$1.09	\$2,397.62
104-11	FLOATING TURBIDITY BARRIER	52.08	LF	\$9.58	\$498.93
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	52.08	LF	\$3.96	\$206.24
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,594.90	\$2,594.90
104-18	INLET PROTECTION SYSTEM	11.00	EA	\$97.92	\$1,077.12
107-1	LITTER REMOVAL	2.52	AC	\$59.86	\$150.85
107-2	MOWING	2.52	AC	\$71.88	\$181.14

**Shoulder Component Total**

\$34,113.45

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	3.75	CY	\$1,285.00	\$4,818.75
425-1-351	INLETS, CURB, TYPE P-5, <10'	8.00	EA	\$5,196.95	\$41,575.60
425-1-451	INLETS, CURB, TYPE J-5, <10'	3.00	EA	\$6,781.44	\$20,344.32
425-1-521	INLETS, DT BOT, TYPE C, <10'	2.00	EA	\$3,307.19	\$6,614.38
425-2-41	MANHOLES, P-7, <10'	2.00	EA	\$3,432.62	\$6,865.24
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	488.00	LF	\$88.46	\$43,168.48
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	48.00	LF	\$114.92	\$5,516.16
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	1,048.00	LF	\$163.18	\$171,012.64
570-1-1	PERFORMANCE TURF	63.32	SY	\$1.93	\$122.21
<b>Drainage Component Total</b>					<b>\$300,037.78</b>

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	5.00	AS	\$263.21	\$1,316.05
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00	AS	\$946.53	\$946.53
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	1.00	AS	\$5,624.17	\$5,624.17
<b>Signing Component Total</b>					<b>\$7,886.75</b>

**SIGNALIZATIONS COMPONENT****Signalization 1**

Description	Value
Type	6 Lane Mast Arm
Multiplier	1
Description	replacement of mast arm signal on NE quadrant of interchange

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	700.00	LF	\$6.37	\$4,459.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	300.00	LF	\$25.49	\$7,647.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$7,132.15	\$7,132.15
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	22.00	EA	\$574.66	\$12,642.52
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	\$1,735.02	\$1,735.02
639-2-1	ELECTRICAL SERVICE WIRE, F&I	60.00	LF	\$4.70	\$282.00
641-2-11	PREST CNC POLE,F&I,TYP P-	1.00	EA	\$945.05	\$945.05



649-1-10	II,PEDESTAL STEEL STRAIN POLE, F&I, PEDESTAL	1.00 EA	\$1,505.77	\$1,505.77
649-31-105	M/ARM,F&I, WS-150,SINGLE ARM,W/O LUM-78	4.00 EA	\$39,757.69	\$159,030.76
650-1-14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	20.00 AS	\$965.56	\$19,311.20
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$525.51	\$4,204.08
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	20.00 EA	\$167.43	\$3,348.60
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	20.00 AS	\$977.12	\$19,542.40
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$233.56	\$1,868.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$25,727.76	\$25,727.76
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00 EA	\$202.65	\$810.60
<b>Signalizations Component Total</b>				<b>\$270,192.39</b>

**LIGHTING COMPONENT**

**Conventional Lighting Subcomponent**

<b>Description</b>				<b>Value</b>
Spacing				MAX
<b>Pay Items</b>				
<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,099.82 LF	\$6.37	\$7,005.85
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	143.52 LF	\$25.49	\$3,658.32
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	10.00 EA	\$574.66	\$5,746.60
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	3,730.03 LF	\$2.41	\$8,989.37
715-4-111	LIGHT POLE COMP, F&I, WS150, 40'	10.00 EA	\$4,869.35	\$48,693.50
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	10.00 EA	\$476.28	\$4,762.80
<b>Subcomponent Total</b>				<b>\$78,856.45</b>
<b>Lighting Component Total</b>				<b>\$78,856.44</b>

**RETAINING WALLS COMPONENT**

**Retaining Wall 1**

<b>Description</b>		<b>Value</b>
Length		1,100.00
Begin height		20.00
End Height		20.00
Multiplier		1
<b>Pay Items</b>		
<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit Unit Price Extended Amount</b>
548-12	RET WALL SYSTEM, PERM, EX	22,000.00 SF \$31.83 \$700,260.00

BARRIER

**Retaining Walls Component Total**

\$700,260.00

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**Sequence 5 Total**

\$1,937,731.57

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.251
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	3.04	AC	\$21,106.08	\$64,162.48
120-6	EMBANKMENT	11,313.96	CY	\$16.33	\$184,756.97
<b>Earthwork Component Total</b>					<b>\$248,919.45</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	1
Roadway Pavement Width L/R	7.50 / 7.50
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	3,974.26	SY	\$5.18	\$20,586.67
285-709	OPTIONAL BASE,BASE GROUP 09	2,305.07	SY	\$19.41	\$44,741.41
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	364.31	TN	\$119.17	\$43,414.82
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	182.15	TN	\$111.17	\$20,249.62

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.50	NM	\$1,006.44	\$503.22

711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.50 GM	\$5,760.00	\$2,880.00
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**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	10.33 TN	\$227.45	\$2,349.56
536-1-1	GUARDRAIL- ROADWAY, GEN TL- 3	300.00 LF	\$18.13	\$5,439.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00 EA	\$2,644.46	\$2,644.46
<b>Roadway Component Total</b>				<b>\$142,808.76</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	6.00 / 6.00
Total Outside Shoulder Perf. Turf Width L/R	4.00 / 2.00
Paved Outside Shoulder Width L/R	2.00 / 4.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	980.32 SY	\$13.14	\$12,881.40
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	97.15 TN	\$119.17	\$11,577.37
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	35.33 TN	\$143.33	\$5,063.85
570-1-2	PERFORMANCE TURF, SOD	883.17 SY	\$3.50	\$3,091.10

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	979.00 LF	\$26.18	\$25,630.22

**Erosion Control****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	3,444.36 LF	\$1.09	\$3,754.35
104-11	FLOATING TURBIDITY BARRIER	62.72 LF	\$9.58	\$600.86
104-12	STAKED TURBIDITY BARRIER-	62.72 LF	\$3.96	\$248.37



104-15	NYL REINF PVC SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,594.90	\$2,594.90
107-1	LITTER REMOVAL	3.04 AC	\$59.86	\$181.97
107-2	MOWING	3.04 AC	\$71.88	\$218.52
<b>Shoulder Component Total</b>				<b>\$65,842.91</b>

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**DRAINAGE COMPONENT**

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	4.52 CY	\$1,285.00	\$5,808.20
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	200.00 LF	\$81.23	\$16,246.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	48.00 LF	\$114.92	\$5,516.16
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	11.00 EA	\$1,713.03	\$18,843.33
570-1-1	PERFORMANCE TURF	176.63 SY	\$1.93	\$340.90
<b>Drainage Component Total</b>				<b>\$46,754.59</b>

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**SIGNING COMPONENT**

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00 AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	6.00 AS	\$946.53	\$5,679.18
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>				<b>\$9,932.23</b>

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**Sequence 6 Total** **\$514,257.94**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.090
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	1.12	AC	\$21,106.08	\$23,638.81
120-6	EMBANKMENT	4,888.58	CY	\$16.33	\$79,830.51
<b>Earthwork Component Total</b>					<b>\$103,469.32</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	2,385.15	SY	\$5.18	\$12,355.08
285-709	OPTIONAL BASE,BASE GROUP 09	1,336.77	SY	\$19.41	\$25,946.71
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	214.66	TN	\$119.17	\$25,581.03
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	107.33	TN	\$111.17	\$11,931.88

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	12.00	EA	\$3.78	\$45.36

710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.18 NM	\$1,006.44	\$181.16
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.09 GM	\$390.40	\$35.14
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.18 GM	\$5,760.00	\$1,036.80
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.09 GM	\$1,201.81	\$108.16
<b>Roadway Component Total</b>				<b>\$77,221.32</b>

### SHOULDER COMPONENT

#### User Input Data

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.00 / 2.00
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	220
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	577.86	SY	\$13.14	\$7,593.08
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	59.63	TN	\$119.17	\$7,106.11
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	44.72	TN	\$111.17	\$4,971.52
570-1-2	PERFORMANCE TURF, SOD	216.83	SY	\$3.50	\$758.91

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	489.00	LF	\$26.18	\$12,802.02

#### Erosion Control

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,268.47	LF	\$1.09	\$1,382.63
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	23.10	LF	\$3.96	\$91.48
107-1	LITTER REMOVAL	1.12	AC	\$59.86	\$67.04
107-2	MOWING	1.12	AC	\$71.88	\$80.51

#### Shoulder Component Total

\$34,853.30

### DRAINAGE COMPONENT

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	1.66	CY	\$1,285.00	\$2,133.10
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	80.00	LF	\$81.23	\$6,498.40

430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	16.00 LF	\$114.92	\$1,838.72
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	4.00 EA	\$1,713.03	\$6,852.12
570-1-1	PERFORMANCE TURF	65.05 SY	\$1.93	\$125.55
<b>Drainage Component Total</b>				<b>\$17,447.89</b>

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**SIGNING COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	2.00	AS	\$946.53	\$1,893.06
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$6,146.11</b>

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**Sequence 7 Total** **\$239,137.94**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.125
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	1.53	AC	\$21,106.08	\$32,292.30
120-6	EMBANKMENT	5,861.78	CY	\$16.33	\$95,722.87
<b>Earthwork Component Total</b>					<b>\$128,015.17</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	1
Roadway Pavement Width L/R	7.50 / 7.50
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	2,284.25	SY	\$5.18	\$11,832.42
285-709	OPTIONAL BASE,BASE GROUP 09	1,153.91	SY	\$19.41	\$22,397.39
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	182.37	TN	\$119.17	\$21,733.03
337-7-43	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	91.19	TN	\$111.17	\$10,137.59

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.25	NM	\$1,006.44	\$251.61

711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.25 GM	\$5,760.00	\$1,440.00
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**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	10.33 TN	\$227.45	\$2,349.56
536-1-1	GUARDRAIL- ROADWAY, GEN TL- 3	300.00 LF	\$18.13	\$5,439.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00 EA	\$2,644.46	\$2,644.46
536-85-25	GUARDRAIL END ANCHORAGE ASSEM- TYPE II	1.00 EA	\$869.58	\$869.58
<b>Roadway Component Total</b>				<b>\$79,094.64</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	220
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	785.49 SY	\$13.14	\$10,321.34
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	81.05 TN	\$119.17	\$9,658.73
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	60.79 TN	\$111.17	\$6,758.02
570-1-2	PERFORMANCE TURF, SOD	393.48 SY	\$3.50	\$1,377.18

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	979.00 LF	\$26.18	\$25,630.22

**Erosion Control****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,724.24 LF	\$1.09	\$1,879.42

104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	31.40 LF	\$3.96	\$124.34
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,594.90	\$2,594.90
107-1	LITTER REMOVAL	1.52 AC	\$59.86	\$90.99
107-2	MOWING	1.52 AC	\$71.88	\$109.26
<b>Shoulder Component Total</b>				<b>\$58,544.40</b>

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**DRAINAGE COMPONENT**

<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
400-2-2	CONC CLASS II, ENDWALLS	2.26	CY	\$1,285.00	\$2,904.10
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	104.00	LF	\$81.23	\$8,447.92
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	24.00	LF	\$114.92	\$2,758.08
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	6.00	EA	\$1,713.03	\$10,278.18
570-1-1	PERFORMANCE TURF	88.42	SY	\$1.93	\$170.65
<b>Drainage Component Total</b>					<b>\$24,558.93</b>

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**SIGNING COMPONENT**

<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	3.00	AS	\$946.53	\$2,839.59
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$7,092.64</b>

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**Sequence 8 Total** **\$297,305.78**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.237
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	2.87	AC	\$21,106.08	\$60,574.45
120-6	EMBANKMENT	12,372.71	CY	\$16.33	\$202,046.35
<b>Earthwork Component Total</b>					<b>\$262,620.80</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	5,554.56	SY	\$5.18	\$28,772.62
285-709	OPTIONAL BASE,BASE GROUP 09	3,424.39	SY	\$19.41	\$66,467.41
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	549.90	TN	\$119.17	\$65,531.58
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	274.95	TN	\$111.17	\$30,566.19

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	32.00	EA	\$3.78	\$120.96



710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.47 NM	\$1,006.44	\$473.03
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.24 GM	\$390.40	\$93.70
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.47 GM	\$5,760.00	\$2,707.20
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.24 GM	\$1,201.81	\$288.43
<b>Roadway Component Total</b>				<b>\$195,021.12</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	220
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	1,480.29	SY	\$13.14	\$19,451.01
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	152.75	TN	\$119.17	\$18,203.22
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	114.56	TN	\$111.17	\$12,735.64
570-1-2	PERFORMANCE TURF, SOD	741.53	SY	\$3.50	\$2,595.36

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	489.00	LF	\$26.18	\$12,802.02

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	3,249.42	LF	\$1.09	\$3,541.87
104-11	FLOATING TURBIDITY BARRIER	59.18	LF	\$9.58	\$566.94
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	59.18	LF	\$3.96	\$234.35
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,594.90	\$2,594.90
107-1	LITTER REMOVAL	2.87	AC	\$59.86	\$171.80
107-2	MOWING	2.87	AC	\$71.88	\$206.30

**Shoulder Component Total****\$73,103.41****DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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400-2-2	CONC CLASS II, ENDWALLS	4.26 CY	\$1,285.00	\$5,474.10
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	192.00 LF	\$81.23	\$15,596.16
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	40.00 LF	\$114.92	\$4,596.80
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	10.00 EA	\$1,713.03	\$17,130.30
570-1-1	PERFORMANCE TURF	166.64 SY	\$1.93	\$321.62
<b>Drainage Component Total</b>				<b>\$43,118.98</b>

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**SIGNING COMPONENT**

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	5.00	AS	\$946.53	\$4,732.65
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$8,985.70</b>

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**Sequence 9 Total** **\$582,850.01**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.114
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	1.38	AC	\$21,106.08	\$29,126.39
120-6	EMBANKMENT	5,951.43	CY	\$16.33	\$97,186.85
<b>Earthwork Component Total</b>					<b>\$126,313.24</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	2,665.81	SY	\$5.18	\$13,808.90
285-709	OPTIONAL BASE,BASE GROUP 09	1,643.47	SY	\$19.41	\$31,899.75
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	263.92	TN	\$119.17	\$31,451.35
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	131.96	TN	\$111.17	\$14,669.99

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	15.00	EA	\$3.78	\$56.70

710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.23 NM	\$1,006.44	\$231.48
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.11 GM	\$390.40	\$42.94
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.23 GM	\$5,760.00	\$1,324.80
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.11 GM	\$1,201.81	\$132.20

**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	10.33	TN	\$227.45	\$2,349.56
536-1-1	GUARDRAIL- ROADWAY, GEN TL- 3	300.00	LF	\$18.13	\$5,439.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00	EA	\$2,644.46	\$2,644.46
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00	EA	\$2,644.46	\$2,644.46
<b>Roadway Component Total</b>					<b>\$106,695.59</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.65 / 2.65
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	220
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	710.44	SY	\$13.14	\$9,335.18
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	73.31	TN	\$119.17	\$8,736.35
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	54.98	TN	\$111.17	\$6,112.13
570-1-2	PERFORMANCE TURF, SOD	353.22	SY	\$3.50	\$1,236.27

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	979.00	LF	\$26.18	\$25,630.22



**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,559.50	LF	\$1.09	\$1,699.86
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	28.40	LF	\$3.96	\$112.46
107-1	LITTER REMOVAL	1.38	AC	\$59.86	\$82.61
107-2	MOWING	1.38	AC	\$71.88	\$99.19
<b>Shoulder Component Total</b>					<b>\$53,044.27</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	2.04	CY	\$1,285.00	\$2,621.40
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	96.00	LF	\$81.23	\$7,798.08
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	24.00	LF	\$114.92	\$2,758.08
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	5.00	EA	\$1,713.03	\$8,565.15
570-1-1	PERFORMANCE TURF	79.97	SY	\$1.93	\$154.34
<b>Drainage Component Total</b>					<b>\$21,897.05</b>

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	3.00	AS	\$946.53	\$2,839.59
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$7,092.64</b>

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**Sequence 10 Total** **\$315,042.79**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.179
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	2.18	AC	\$21,106.08	\$46,011.25
120-6	EMBANKMENT	8,551.24	CY	\$16.33	\$139,641.75
<b>Earthwork Component Total</b>					<b>\$185,653.00</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	1
Roadway Pavement Width L/R	7.50 / 7.50
Structural Spread Rate	330
Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	3,482.86	SY	\$5.18	\$18,041.21
285-709	OPTIONAL BASE,BASE GROUP 09	1,652.78	SY	\$19.41	\$32,080.46
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	261.21	TN	\$119.17	\$31,128.40
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	63.32	TN	\$111.17	\$7,039.28

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.36	NM	\$1,006.44	\$362.32

711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.36 GM	\$5,760.00	\$2,073.60
<b>Roadway Component Total</b>				<b>\$90,725.27</b>

### SHOULDER COMPONENT

#### User Input Data

Description	Value
Total Outside Shoulder Width L/R	8.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	4.00 / 2.00
Paved Outside Shoulder Width L/R	4.00 / 8.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	1,336.15	SY	\$13.14	\$17,557.01
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	139.31	TN	\$119.17	\$16,601.57
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	50.66	TN	\$143.33	\$7,261.10
570-1-2	PERFORMANCE TURF, SOD	633.25	SY	\$3.50	\$2,216.38

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	489.00	LF	\$26.18	\$12,802.02

#### Erosion Control

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	2,469.67	LF	\$1.09	\$2,691.94
104-11	FLOATING TURBIDITY BARRIER	44.98	LF	\$9.58	\$430.91
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	44.98	LF	\$3.96	\$178.12
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,594.90	\$2,594.90
107-1	LITTER REMOVAL	2.18	AC	\$59.86	\$130.49
107-2	MOWING	2.18	AC	\$71.88	\$156.70

#### Shoulder Component Total

\$62,621.14

### DRAINAGE COMPONENT

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	3.24	CY	\$1,285.00	\$4,163.40
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	144.00	LF	\$81.23	\$11,697.12
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	32.00	LF	\$114.92	\$3,677.44

430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	8.00 EA	\$1,713.03	\$13,704.24
570-1-1	PERFORMANCE TURF	126.65 SY	\$1.93	\$244.43
<b>Drainage Component Total</b>				<b>\$33,486.63</b>

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**SIGNING COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	4.00	AS	\$946.53	\$3,786.12
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$8,039.17</b>

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**Sequence 11 Total** **\$380,525.21**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	0.00 / 25.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.189
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	0.57	AC	\$21,106.08	\$12,030.47
120-6	EMBANKMENT	5,168.12	CY	\$16.33	\$84,395.40
<b>Earthwork Component Total</b>					<b>\$96,425.87</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	1
Roadway Pavement Width L/R	0.00 / 12.00
Structural Spread Rate	275
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	2,444.52	SY	\$5.18	\$12,662.61
285-709	OPTIONAL BASE,BASE GROUP 09	1,370.04	SY	\$19.41	\$26,592.48
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	183.34	TN	\$135.51	\$24,844.40
337-7-74	ASPH CONC FC,TRAF C,FC- 12.5,PG 76-22,ARB	110.00	TN	\$118.66	\$13,052.60

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.38	NM	\$1,006.44	\$382.45

711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.38 GM	\$5,760.00	\$2,188.80
<b>Roadway Component Total</b>				<b>\$79,723.34</b>

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### SHOULDER COMPONENT

#### User Input Data

Description	Value
Total Outside Shoulder Width L/R	0.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 2.67
Paved Outside Shoulder Width L/R	0.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	592.24	SY	\$13.14	\$7,782.03
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	30.56	TN	\$135.51	\$4,141.19
337-7-74	ASPH CONC FC,TRAF C,FC- 12.5,PG 76-22,ARB	45.83	TN	\$118.66	\$5,438.19
570-1-1	PERFORMANCE TURF	296.68	SY	\$1.93	\$572.59

#### Erosion Control

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,000.00	LF	\$1.09	\$1,090.00
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,594.90	\$2,594.90
107-1	LITTER REMOVAL	2.30	AC	\$59.86	\$137.68
107-2	MOWING	2.30	AC	\$71.88	\$165.32

**Shoulder Component Total** **\$21,921.90**

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### DRAINAGE COMPONENT

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	3.41	CY	\$1,285.00	\$4,381.85
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	152.00	LF	\$81.23	\$12,346.96
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	32.00	LF	\$114.92	\$3,677.44
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	8.00	EA	\$1,713.03	\$13,704.24
570-1-1	PERFORMANCE TURF	133.34	SY	\$1.93	\$257.35

**Drainage Component Total** **\$34,367.84**

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**SIGNING COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	4.00	AS	\$946.53	\$3,786.12
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$8,039.17</b>
<hr/>					
<b>Sequence 12 Total</b>					<b>\$240,478.12</b>
<hr/>					

**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.083
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	1.01	AC	\$21,106.08	\$21,317.14
120-6	EMBANKMENT	4,333.06	CY	\$16.33	\$70,758.87
<b>Earthwork Component Total</b>					<b>\$92,076.01</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	1,947.73	SY	\$5.18	\$10,089.24
285-709	OPTIONAL BASE,BASE GROUP 09	1,200.78	SY	\$19.41	\$23,307.14
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	192.83	TN	\$119.17	\$22,979.55
337-7-43	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	96.41	TN	\$111.17	\$10,717.90

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	11.00	EA	\$3.78	\$41.58



710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.17 NM	\$1,006.44	\$171.09
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.08 GM	\$390.40	\$31.23

**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	10.33 TN	\$227.45	\$2,349.56
536-1-1	GUARDRAIL- ROADWAY, GEN TL- 3	300.00 LF	\$18.13	\$5,439.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00 EA	\$2,644.46	\$2,644.46
<b>Roadway Component Total</b>				<b>\$77,770.75</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	220
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	519.07 SY	\$13.14	\$6,820.58
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	53.56 TN	\$119.17	\$6,382.75
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	40.17 TN	\$111.17	\$4,465.70
570-1-2	PERFORMANCE TURF, SOD	260.02 SY	\$3.50	\$910.07

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	979.00 LF	\$26.18	\$25,630.22

**Erosion Control****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,139.42 LF	\$1.09	\$1,241.97

104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	20.75 LF	\$3.96	\$82.17
107-1	LITTER REMOVAL	1.01 AC	\$59.86	\$60.46
107-2	MOWING	1.01 AC	\$71.88	\$72.60
<b>Shoulder Component Total</b>				<b>\$45,666.52</b>

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**DRAINAGE COMPONENT**

<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
400-2-2	CONC CLASS II, ENDWALLS	1.49	CY	\$1,285.00	\$1,914.65
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	72.00	LF	\$81.23	\$5,848.56
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	16.00	LF	\$114.92	\$1,838.72
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	4.00	EA	\$1,713.03	\$6,852.12
570-1-1	PERFORMANCE TURF	58.43	SY	\$1.93	\$112.77
<b>Drainage Component Total</b>					<b>\$16,566.82</b>

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**SIGNING COMPONENT**

<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	2.00	AS	\$946.53	\$1,893.06
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$6,146.11</b>

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**Sequence 13 Total** **\$238,226.21**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.322
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	3.90	AC	\$21,106.08	\$82,313.71
120-6	EMBANKMENT	15,099.94	CY	\$16.33	\$246,582.02
<b>Earthwork Component Total</b>					<b>\$328,895.73</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	1
Roadway Pavement Width L/R	7.50 / 7.50
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	5,856.11	SY	\$5.18	\$30,334.65
285-709	OPTIONAL BASE,BASE GROUP 09	2,958.28	SY	\$19.41	\$57,420.21
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	467.54	TN	\$119.17	\$55,716.74
337-7-43	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	233.77	TN	\$111.17	\$25,988.21

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.64	NM	\$1,006.44	\$644.12

711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.64 GM	\$5,760.00	\$3,686.40
<b>Roadway Component Total</b>				<b>\$173,790.33</b>

### SHOULDER COMPONENT

#### User Input Data

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.65 / 2.65
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	220
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	2,013.75	SY	\$13.14	\$26,460.68
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	207.80	TN	\$119.17	\$24,763.53
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	155.85	TN	\$111.17	\$17,325.84
570-1-2	PERFORMANCE TURF, SOD	1,001.21	SY	\$3.50	\$3,504.24

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	489.00	LF	\$26.18	\$12,802.02

#### Erosion Control

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	4,420.42	LF	\$1.09	\$4,818.26
104-11	FLOATING TURBIDITY BARRIER	80.50	LF	\$9.58	\$771.19
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	80.50	LF	\$3.96	\$318.78
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,594.90	\$2,594.90
107-1	LITTER REMOVAL	3.90	AC	\$59.86	\$233.45
107-2	MOWING	3.90	AC	\$71.88	\$280.33

#### Shoulder Component Total

\$93,873.22

### DRAINAGE COMPONENT

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	5.80	CY	\$1,285.00	\$7,453.00
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	264.00	LF	\$81.23	\$21,444.72
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	56.00	LF	\$114.92	\$6,435.52



430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	13.00 EA	\$1,713.03	\$22,269.39
570-1-1	PERFORMANCE TURF	226.69 SY	\$1.93	\$437.51
<b>Drainage Component Total</b>				<b>\$58,040.14</b>

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**SIGNING COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	7.00	AS	\$946.53	\$6,625.71
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$10,878.76</b>

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**Sequence 14 Total** **\$665,478.18**

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Date: 10/13/2016 9:57:29 AM

## FDOT Long Range Estimating System - Production

### R3: Project Details by Sequence Report

Project: 419243-4-32-01

Letting Date: 02/2020

Description: US 27 FROM PRESIDENTS DRIVE TO SR 60

District: 01

County: 16 POLK

Market Area: 08

Units: English

Contract Class: 9 Lump Sum Project: N

Design/Build: Y

Project Length: 5.180 MI

Project Manager: CES-KSI-AES

Version 22 Project Grand Total

\$67,917,217.03

Description: PD&amp;E Unit Cost Update from Version 9 - 10/5/16

**Project Sequences Subtotal****\$48,700,838.69**

102-1	Maintenance of Traffic	15.00 %	\$7,305,125.80
101-1	Mobilization	10.00 %	\$5,600,596.45

**Project Sequences Total****\$61,606,560.94**

Project Unknowns	10.00 %	\$6,160,656.09
Design/Build	0.00 %	\$0.00

**Non-Bid Components:**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

**Project Non-Bid Subtotal****\$150,000.00****Version 22 Project Grand Total****\$67,917,217.03**

## **Segment 3 – Refined SPUI Long Range Estimate**

Date: 10/13/2016 10:11:42 AM

## FDOT Long Range Estimating System - Production

### R3: Project Details by Sequence Report

Project: 419243-4-52-01

Letting Date: 02/2020

Description: US 27 AT SR 60

District: 01

County: 16 POLK

Market Area: 08

Units: English

Contract Class: 1 Lump Sum Project: N

Design/Build: N

Project Length: 5.180 MI

Project Manager: CES-REL-DCT

Version 19 Project Grand Total

**\$75,365,646.64**

Description: PD&amp;E Unit Cost Update from Version 6 - 10/5/16

Sequence: 1 WDR - Widen/Resurface, Divided, Rural

Net Length: 3.795 MI  
20,038 LF

Description: US 27 (SR 25) FROM PRESIDENT'S Dr., Sta. 924+00.00 (MP 13.638) to north of Owen's Rd., Sta. 1156+54.00 (MP 18.057). This sequence includes a rural typical section with inside/outside widening.

Special Conditions: Exempt station limits are from Sta. 974+79.34 (MP 14.581) to Sta. 1006+95.34 (MP 15.191). Net sequence length is 20038 FT. These station limits are included in Sequence 15. The intersection of US 27 and CR 640 will be reconstructed with concrete pavement.

#### EARTHWORK COMPONENT

##### User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	35.00 / 35.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	4.419
Top of Structural Course For Begin Section	103.50
Top of Structural Course For End Section	103.50
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	32.20	AC	\$21,106.08	\$679,615.78

##### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	48,400.00	CY	\$11.26	\$544,984.00
	<b>Comment:</b> EXCAVATION FOR LINEAR PONDS - 15 Acres total at 2ft deep				



120-6	EMBANKMENT	42,967.00 CY	\$16.33	\$701,651.11
<b>Earthwork Component Total</b>				<b>\$1,926,250.89</b>

### ROADWAY COMPONENT

#### User Input Data

Description	Value
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	12.00 / 12.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	129,134.60 SY	\$5.18	\$668,917.23
285-709	OPTIONAL BASE,BASE GROUP 09	54,904.47 SY	\$19.41	\$1,065,695.76
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	106,870.02 SY	\$2.95	\$315,266.56
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	11,755.70 TN	\$119.17	\$1,400,926.77
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	8,816.78 TN	\$119.17	\$1,050,695.67
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	4,274.80 TN	\$143.33	\$612,707.08
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	2,137.40 TN	\$143.33	\$306,353.54

#### X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION <b>Comment:</b> Excavation for Sidewalk	3,456.59 CY	\$11.26	\$38,921.20
400-0-11	CONC CLASS NS, GRAVITY WALL	3,365.00 CY	\$604.35	\$2,033,637.75
546-72-53	RUMBLE STRIPS, GROUND-IN, 8" EDGE LINE	15.18 GM	\$924.95	\$14,040.74

#### Turnouts/Crossovers Subcomponent

Description	Value
Asphalt Adjustment	20.00
Milling Code	Y
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	25,826.92 SY	\$5.18	\$133,783.45
285-709	OPTIONAL BASE,BASE GROUP 09	10,980.89 SY	\$19.41	\$213,139.07
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	21,374.00 SY	\$2.95	\$63,053.30

334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	2,351.14 TN	\$119.17	\$280,185.35
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	854.96 TN	\$143.33	\$122,541.42

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	2,562.00 EA	\$3.78	\$9,684.36
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	15.18 NM	\$1,006.44	\$15,277.76
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	15.18 GM	\$390.40	\$5,926.27
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	15.18 GM	\$5,760.00	\$87,436.80
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	15.18 GM	\$1,201.81	\$18,243.48

**Roadway Component Total**

\$8,456,433.56

**SHOULDER COMPONENT****User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	9.00 / 9.00
Total Outside Shoulder Perf. Turf Width L/R	2.00 / 2.00
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	7.00 / 7.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	32,639.88 SY	\$13.14	\$428,888.02
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	22,264.59 SY	\$3.12	\$69,465.52
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	1,714.37 TN	\$119.17	\$204,301.47
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	1,246.82 TN	\$143.33	\$178,706.71
570-1-2	PERFORMANCE TURF, SOD	8,905.83 SY	\$3.50	\$31,170.40

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	16,961.00 SY	\$40.70	\$690,312.70
570-1-2	PERFORMANCE TURF, SOD <b>Comment:</b> PERFORMANCE SOD FOR BORDERS	199,748.00 SY	\$3.50	\$699,118.00

**Erosion Control****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	46,087.69 LF	\$1.09	\$50,235.58
104-11	FLOATING TURBIDITY BARRIER	379.51 LF	\$9.58	\$3,635.71
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	379.51 LF	\$3.96	\$1,502.86
104-15	SOIL TRACKING PREVENTION DEVICE	4.00 EA	\$2,594.90	\$10,379.60
107-1	LITTER REMOVAL	27.59 AC	\$59.86	\$1,651.54
107-2	MOWING	27.59 AC	\$71.88	\$1,983.17
<b>Shoulder Component Total</b>				<b>\$2,371,351.29</b>

**MEDIAN COMPONENT****User Input Data**

Description	Value
Total Median Width	40.00
Performance Turf Width	5.34
New Total Median Shoulder Width L/R	8.00 / 8.00
New Paved Median Shoulder Width L/R	0.00 / 0.00
Existing Total Median Shoulder Width L/R	8.00 / 8.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
570-1-2	PERFORMANCE TURF, SOD	11,889.29 SY	\$3.50	\$41,612.52
<b>Median Component Total</b>				<b>\$41,612.52</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	68.31 CY	\$1,285.00	\$87,778.35
430-174-124	PIPE CULV, OPT MATL, ROUND, 24"SD	3,040.00 LF	\$81.23	\$246,939.20
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	304.00 LF	\$114.92	\$34,935.68
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	152.00 EA	\$1,713.03	\$260,380.56
570-1-1	PERFORMANCE TURF	2,671.75 SY	\$1.93	\$5,156.48

**Drainage Component Total**

\$635,190.27

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	8.00	AS	\$263.21	\$2,105.68
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	92.00	AS	\$946.53	\$87,080.76
700-1-50	SINGLE POST SIGN, RELOCATE	8.00	AS	\$151.53	\$1,212.24
700-1-60	SINGLE POST SIGN, REMOVE	92.00	AS	\$21.22	\$1,952.24
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	8.00	AS	\$3,989.84	\$31,918.72
700-2-60	MULTI- POST SIGN, REMOVE	8.00	AS	\$462.37	\$3,698.96
<b>Signing Component Total</b>					<b>\$127,968.60</b>

**SIGNALIZATIONS COMPONENT****Signalization 1****Description**

Type  
Multiplier  
Description

**Value**

6 Lane Strain Pole  
1

US 27 AT ALTURAS BABSON  
PARK CUTOFF ROAD (CR  
640)

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	250.00	LF	\$25.49	\$6,372.50
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$7,132.15	\$7,132.15
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00	PI	\$2,310.94	\$2,310.94
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	20.00	EA	\$574.66	\$11,493.20
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	\$1,735.02	\$1,735.02
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00	LF	\$4.70	\$141.00
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	1.00	EA	\$945.05	\$945.05
641-2-17	PREST CNC POLE,F&I,TYP P-VII	4.00	EA	\$8,653.93	\$34,615.72
650-1-14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	20.00	AS	\$965.56	\$19,311.20
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00	AS	\$525.51	\$4,204.08
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	20.00	EA	\$167.43	\$3,348.60
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	20.00	AS	\$977.12	\$19,542.40
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	\$233.56	\$1,868.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00	AS	\$25,727.76	\$25,727.76



700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00 EA	\$202.65	\$810.60
700-5-21	INTERNAL ILLUM SIGN, F&I OM, UP TO 12 SF	4.00 EA	\$3,124.86	\$12,499.44
<b>Signalizations Component Total</b>				<b>\$152,058.14</b>

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**LIGHTING COMPONENT**

**Rural Lighting Subcomponent**

<b>Description</b>				<b>Value</b>	
Multiplier (Number of Poles)				116	
<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	23,200.00	LF	\$6.37	\$147,784.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	116.00	EA	\$574.66	\$66,660.56
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	69,600.00	LF	\$2.41	\$167,736.00
715-4-122	LIGHT POLE COMP, F&I, WS130, 45'	116.00	EA	\$5,198.40	\$603,014.40
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	116.00	EA	\$476.28	\$55,248.48
<b>Subcomponent Total</b>					<b>\$1,040,443.44</b>
<b>Lighting Component Total</b>					<b>\$1,040,443.44</b>

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**Sequence 1 Total** **\$14,751,308.71**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.980
Top of Structural Course For Begin Section	103.50
Top of Structural Course For End Section	103.50
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	8.85	AC	\$21,106.08	\$186,788.81
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	6,933.70	CY	\$19.62	\$136,039.19
<b>Earthwork Component Total</b>					<b>\$322,828.00</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	12.00 / 12.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	24,856.48	SY	\$5.18	\$128,756.57
285-709	OPTIONAL BASE,BASE GROUP 09	10,568.29	SY	\$19.41	\$205,130.51
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	20,570.88	SY	\$2.95	\$60,684.10
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	2,262.80	TN	\$119.17	\$269,657.88
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	1,697.10	TN	\$119.17	\$202,243.41
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	822.84	TN	\$143.33	\$117,937.66

337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	411.42 TN	\$143.33	\$58,968.83
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**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION <b>Comment:</b> sidewalks to both NB and SB for the length of the sequence	1,825.02 CY	\$11.26	\$20,549.73
536-1-1	GUARDRAIL- ROADWAY, GEN TL-3	2,500.00 LF	\$18.13	\$45,325.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	2.00 EA	\$2,644.46	\$5,288.92
536-85-25	GUARDRAIL END ANCHORAGE ASSEM- TYPE II	2.00 EA	\$869.58	\$1,739.16
544-75-1	CRASH CUSHION	6.00 EA	\$12,126.00	\$72,756.00
546-72-53	RUMBLE STRIPS, GROUND-IN, 8" EDGELINE	2.92 GM	\$924.95	\$2,700.85

**Turnouts/Crossovers Subcomponent**

Description	Value
Asphalt Adjustment	20.00
Milling Code	Y
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	4,971.30 SY	\$5.18	\$25,751.33
285-709	OPTIONAL BASE,BASE GROUP 09	2,113.66 SY	\$19.41	\$41,026.14
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	4,114.18 SY	\$2.95	\$12,136.83
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	452.56 TN	\$119.17	\$53,931.58
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	164.57 TN	\$143.33	\$23,587.82

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	493.00 EA	\$3.78	\$1,863.54
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	2.92 NM	\$1,006.44	\$2,938.80
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	2.92 GM	\$390.40	\$1,139.97
711-15-101	THERMOPLASTIC, STD-OP,	2.92 GM	\$5,760.00	\$16,819.20

711-15-131	WHITE, SOLID, 6" THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	2.92 GM	\$1,201.81	\$3,509.29
<b>Roadway Component Total</b>				<b>\$1,374,443.12</b>

### SHOULDER COMPONENT

#### User Input Data

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	9.00 / 9.00
Total Outside Shoulder Perf. Turf Width L/R	2.00 / 2.00
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	7.00 / 7.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	6,282.69	SY	\$13.14	\$82,554.55
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	4,285.60	SY	\$3.12	\$13,371.07
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	329.99	TN	\$119.17	\$39,324.91
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	239.99	TN	\$143.33	\$34,397.77
570-1-2	PERFORMANCE TURF, SOD	1,714.24	SY	\$3.50	\$5,999.84

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" <b>Comment:</b> sidewalks to both NB and SB for the length of the sequence	16,591.00	SY	\$40.70	\$675,253.70
570-1-2	PERFORMANCE TURF, SOD <b>Comment:</b> PERFORMANCE SOD FOR BORDERS	85,560.00	SY	\$3.50	\$299,460.00

#### Erosion Control

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	8,871.19	LF	\$1.09	\$9,669.60
104-11	FLOATING TURBIDITY BARRIER	73.05	LF	\$9.58	\$699.82
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	73.05	LF	\$3.96	\$289.28
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,594.90	\$2,594.90
107-1	LITTER REMOVAL	5.31	AC	\$59.86	\$317.86
107-2	MOWING	5.31	AC	\$71.88	\$381.68

**Shoulder Component Total** **\$1,164,314.98**



**MEDIAN COMPONENT****User Input Data**

Description	Value
Total Median Width	30.00
Performance Turf Width	17.00
New Total Median Shoulder Width L/R	8.00 / 8.00
New Paved Median Shoulder Width L/R	6.50 / 6.50
Existing Total Median Shoulder Width L/R	8.00 / 8.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	5,854.13	SY	\$13.14	\$76,923.27
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	306.42	TN	\$119.17	\$36,516.07
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	222.85	TN	\$143.33	\$31,941.09
570-1-2	PERFORMANCE TURF, SOD	7,285.52	SY	\$3.50	\$25,499.32

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	29,864.00	LF	\$28.80	\$860,083.20
	<b>Comment:</b> MEDIAN TYPE E CURB BOTH SIDES.				

**Median Component Total**

\$1,030,962.95

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	13.15	CY	\$1,285.00	\$16,897.75
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	592.00	LF	\$81.23	\$48,088.16
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	64.00	LF	\$114.92	\$7,354.88
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	30.00	EA	\$1,713.03	\$51,390.90
570-1-1	PERFORMANCE TURF	514.27	SY	\$1.93	\$992.54

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
425-1-583	INLETS, DT BOT, TYPE H, J BOTTOM <10'	107.00	EA	\$7,402.23	\$792,038.61
	<b>Comment:</b> <10', SPL Additional Drainage for linear ponds.				
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	864.00	LF	\$81.23	\$70,182.72
	<b>Comment:</b> Driveway Sidedrains				

430-174-130	PIPE CULV, OPT MATL, ROUND,30"SD <b>Comment:</b> Additional drainage for linear ponds	1,304.00 LF	\$96.03	\$125,223.12
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD <b>Comment:</b> Additional drainage for linear ponds	1,544.00 LF	\$85.83	\$132,521.52
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD <b>Comment:</b> Additional drainage for linear ponds	6,584.00 LF	\$88.46	\$582,420.64
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD <b>Comment:</b> Additional drainage for linear ponds	704.00 LF	\$114.92	\$80,903.68
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD <b>Comment:</b> Additional drainage for linear ponds	96.00 LF	\$163.18	\$15,665.28
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD <b>Comment:</b> Driveway sidedrains	72.00 EA	\$1,713.03	\$123,338.16
<b>Drainage Component Total</b>				\$2,047,017.96

**SIGNING COMPONENT**

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	2.00 AS	\$263.21	\$526.42
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	18.00 AS	\$946.53	\$17,037.54
700-1-50	SINGLE POST SIGN, RELOCATE	2.00 AS	\$151.53	\$303.06
700-1-60	SINGLE POST SIGN, REMOVE	18.00 AS	\$21.22	\$381.96
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	2.00 AS	\$3,989.84	\$7,979.68
700-2-60	MULTI- POST SIGN, REMOVE	2.00 AS	\$462.37	\$924.74
<b>Signing Component Total</b>				\$27,153.40

**SIGNALIZATIONS COMPONENT**

**Signalization 1**

Description	Value
Type	6 Lane Strain Pole
Multiplier	2
Description	single point urban interchange signal at US 27 and SR 60

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,400.00 LF	\$6.37	\$8,918.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00 LF	\$25.49	\$12,745.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00 PI	\$7,132.15	\$14,264.30
634-4-143	SPAN WIRE ASSEMBLY, F&I,	2.00 PI	\$2,310.94	\$4,621.88

	SINGLE PT, BOX			
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	40.00 EA	\$574.66	\$22,986.40
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00 AS	\$1,735.02	\$3,470.04
639-2-1	ELECTRICAL SERVICE WIRE, F&I	60.00 LF	\$4.70	\$282.00
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	2.00 EA	\$945.05	\$1,890.10
641-2-17	PREST CNC POLE,F&I,TYP P-VII	8.00 EA	\$8,653.93	\$69,231.44
650-1-14	TRAFFIC SIGNAL,F&I ALUMINUM, 3 S 1 W	40.00 AS	\$965.56	\$38,622.40
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00 AS	\$525.51	\$8,408.16
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	40.00 EA	\$167.43	\$6,697.20
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	40.00 AS	\$977.12	\$39,084.80
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00 EA	\$233.56	\$3,736.96
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00 AS	\$25,727.76	\$51,455.52
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$202.65	\$1,621.20
	<b>Signalizations Component Total</b>			<b>\$288,035.40</b>

### LIGHTING COMPONENT

#### Rural Lighting Subcomponent

Description		Value			
Multiplier (Number of Poles)		120			
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	24,000.00	LF	\$6.37	\$152,880.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	120.00	EA	\$574.66	\$68,959.20
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	72,000.00	LF	\$2.41	\$173,520.00
715-4-122	LIGHT POLE COMP, F&I, WS130, 45'	120.00	EA	\$5,198.40	\$623,808.00
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	120.00	EA	\$476.28	\$57,153.60
	<b>Subcomponent Total</b>				<b>\$1,076,320.80</b>
	<b>Lighting Component Total</b>				<b>\$1,076,320.80</b>

### RETAINING WALLS COMPONENT

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-11	CONC CLASS II, RETAINING WALLS	198.00	CY	\$1,394.00	\$276,012.00
	<b>Comment:</b> LAKE ALTAMAHA & UNNAMED SINK HOLE CONCRETE CAP FOR RETAINING WALLS.				
455-133-3	SHEET PILING STEEL, F&I PERMANENT	35,245.00	SF	\$40.17	\$1,415,791.65
	<b>Comment:</b> LAKE ALTAMAHA & UNNAMED SINKHOLE RETAINING WALLS.				

<b>Retaining Walls Component Total</b>	\$1,691,803.65
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<b>Sequence 2 Total</b>	\$9,022,880.26
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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	100.00 / 100.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.772
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	110.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	4 to 1 / 4 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	18.72	AC	\$21,106.08	\$395,105.82
120-6	EMBANKMENT	160,405.95	CY	\$16.33	\$2,619,429.16
<b>Earthwork Component Total</b>					<b>\$3,014,534.98</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	6
Roadway Pavement Width L/R	43.00 / 43.00
Structural Spread Rate	330
Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	43,612.67	SY	\$5.18	\$225,913.63
285-710	OPTIONAL BASE,BASE GROUP 10	38,939.88	SY	\$18.16	\$707,148.22
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	6,425.08	TN	\$119.17	\$765,676.78
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	1,557.60	TN	\$143.33	\$223,250.81

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE PAVEMENT	521.00	EA	\$3.78	\$1,969.38

	MARKERS			
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	3.09 NM	\$1,006.44	\$3,109.90
711-12-131	THERMOPLASTIC, REFURB, WHITE, SKIP, 6"	3.09 GM	\$585.37	\$1,808.79
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	3.09 GM	\$5,760.00	\$17,798.40
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	3.09 GM	\$1,201.81	\$3,713.59
<b>Roadway Component Total</b>				<b>\$1,950,389.50</b>

### SHOULDER COMPONENT

#### User Input Data

Description	Value
Total Outside Shoulder Width L/R	9.62 / 9.62
Total Outside Shoulder Perf. Turf Width L/R	2.37 / 2.37
Sidewalk Width L/R	5.00 / 5.00

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	4,075.10 LF	\$23.22	\$94,623.82
520-1-10	CONCRETE CURB & GUTTER, TYPE F	4,075.10 LF	\$23.22	\$94,623.82
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	4,527.89 SY	\$40.70	\$184,285.12
570-1-2	PERFORMANCE TURF, SOD	2,146.22 SY	\$3.50	\$7,511.77

#### Erosion Control

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	10,595.27 LF	\$1.09	\$11,548.84
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	192.95 LF	\$3.96	\$764.08
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,594.90	\$2,594.90
104-18	INLET PROTECTION SYSTEM	5.00 EA	\$97.92	\$489.60
107-1	LITTER REMOVAL	18.71 AC	\$59.86	\$1,119.98
107-2	MOWING	18.71 AC	\$71.88	\$1,344.87

#### Shoulder Component Total

\$398,906.80

### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	20.00
Performance Turf Width	0.00

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER,	8,150.21 LF	\$28.80	\$234,726.05

521-1	TYPE E MEDIAN CONC BARRIER WALL	4,075.00 LF	\$152.97	\$623,352.75
<b>Median Component Total</b>				<b>\$858,078.80</b>

**DRAINAGE COMPONENT**

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
400-2-2	CONC CLASS II, ENDWALLS	13.89 CY	\$1,285.00	\$17,848.65
425-1-351	INLETS, CURB, TYPE P-5, <10'	28.00 EA	\$5,196.95	\$145,514.60
425-1-451	INLETS, CURB, TYPE J-5, <10'	8.00 EA	\$6,781.44	\$54,251.52
425-1-521	INLETS, DT BOT, TYPE C, <10'	4.00 EA	\$3,307.19	\$13,228.76
425-2-41	MANHOLES, P-7, <10'	4.00 EA	\$3,432.62	\$13,730.48
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	2,048.00 LF	\$88.46	\$181,166.08
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	184.00 LF	\$114.92	\$21,145.28
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	3,864.00 LF	\$163.18	\$630,527.52
570-1-1	PERFORMANCE TURF	234.63 SY	\$1.93	\$452.84

**Retention Basin 1**

<b>Description</b>	<b>Value</b>
Size	2 AC
Multiplier	3
Depth	6.00
Description	

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	6.00 AC	\$21,106.08	\$126,636.48
120-1	REGULAR EXCAVATION	58,080.00 CY	\$11.26	\$653,980.80
400-2-2	CONC CLASS II, ENDWALLS	54.00 CY	\$1,285.00	\$69,390.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	3.00 EA	\$2,126.83	\$6,380.49
425-2-71	MANHOLES, J-7, <10'	3.00 EA	\$5,711.75	\$17,135.25
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	168.00 LF	\$137.59	\$23,115.12
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	600.00 LF	\$250.98	\$150,588.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	3,540.00 LF	\$10.11	\$35,789.40
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	3.00 EA	\$1,918.46	\$5,755.38
570-1-1	PERFORMANCE TURF	29,040.00 SY	\$1.93	\$56,047.20

**Retention Basin 2**

<b>Description</b>	<b>Value</b>
Size	1 AC
Multiplier	1
Depth	6.00
Description	

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.00	AC	\$21,106.08	\$21,106.08
120-1	REGULAR EXCAVATION	9,680.00	CY	\$11.26	\$108,996.80
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,285.00	\$23,130.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$2,126.83	\$2,126.83
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,711.75	\$5,711.75
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$137.59	\$7,705.04
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$250.98	\$50,196.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	840.00	LF	\$10.11	\$8,492.40
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	1.00	EA	\$1,918.46	\$1,918.46
570-1-1	PERFORMANCE TURF	4,840.00	SY	\$1.93	\$9,341.20
<b>Drainage Component Total</b>					<b>\$2,461,408.41</b>

### SIGNING COMPONENT

Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	2.00	AS	\$263.21	\$526.42
700-1-12	SINGLE POST SIGN, F&I GM, 12- 20 SF	19.00	AS	\$946.53	\$17,984.07
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	5.00	AS	\$5,624.17	\$28,120.85
X-Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	2.00	AS	\$3,989.84	\$7,979.68
<b>Signing Component Total</b>					<b>\$54,611.02</b>

### LIGHTING COMPONENT

#### Conventional Lighting Subcomponent

Description					Value
Spacing					MIN
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	4,075.10	LF	\$6.37	\$25,958.39
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	808.85	LF	\$25.49	\$20,617.59
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	28.00	EA	\$574.66	\$16,090.48
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	14,883.39	LF	\$2.41	\$35,868.97
715-4-111	LIGHT POLE COMP, F&I, WS150, 40'	28.00	EA	\$4,869.35	\$136,341.80
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	28.00	EA	\$476.28	\$13,335.84



<b>Subcomponent Total</b>	\$248,213.06
<b>Lighting Component Total</b>	\$248,213.07

**BRIDGES COMPONENT**

**Bridge NEW**

<b>Description</b>	<b>Value</b>
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	275.00
Width (LF)	49.50
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	6,150.00
Default Cost per SF	\$122.00
Factored Cost per SF	\$122.00
<b>Final Cost per SF</b>	<b>\$126.18</b>
<b>Basic Bridge Cost</b>	<b>\$1,660,725.00</b>
Description	NEW WEST BOUND BRIDGE ON SR 60 CROSSING US 27

**Bridge Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	6,150.00	SF	\$33.90	\$208,485.00
400-2-10	CONC CLASS II, APPROACH SLABS	110.00	CY	\$357.85	\$39,363.50
415-1-9	REINF STEEL- APPROACH SLABS	19,250.00	LB	\$0.91	\$17,517.50
<b>Bridge NEW Total</b>					<b>\$1,926,091.00</b>

**Bridge NEW**

<b>Description</b>	<b>Value</b>
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	275.00
Width (LF)	49.50
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	6,630.00
Default Cost per SF	\$122.00
Factored Cost per SF	\$122.00
<b>Final Cost per SF</b>	<b>\$126.18</b>
<b>Basic Bridge Cost</b>	<b>\$1,660,725.00</b>
Description	NEW EAST BOUND BRIDGE ON SR 60 CROSSING OVER US 27

**Bridge Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	6,630.00	SF	\$33.90	\$224,757.00
400-2-10	CONC CLASS II, APPROACH SLABS	110.00	CY	\$357.85	\$39,363.50

415-1-9	REINF STEEL- APPROACH SLABS	19,250.00 LB	\$0.91	\$17,517.50
<b>Bridge NEW Total</b>				\$1,942,363.00
<b>Bridges Component Total</b>				\$3,868,454.00

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### RETAINING WALLS COMPONENT

#### Retaining Wall 1

Description	Value
Length	1,460.00
Begin height	10.00
End Height	10.00
Multiplier	4

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	58,400.00	SF	\$31.83	\$1,858,872.00
<b>Retaining Walls Component Total</b>					\$1,858,872.00

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**Sequence 3 Total** \$14,713,468.58

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	0.00 / 25.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.095
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Existing Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	0.29	AC	\$21,106.08	\$6,120.76
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	388.65	CY	\$19.62	\$7,625.31
<b>Earthwork Component Total</b>					<b>\$13,746.07</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	5
Existing Roadway Pavement Width L/R	24.00 / 35.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 12.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	810.03	SY	\$5.18	\$4,195.96
285-709	OPTIONAL BASE,BASE GROUP 09	685.02	SY	\$19.41	\$13,296.24
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	3,277.88	SY	\$2.95	\$9,669.75
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	270.43	TN	\$135.51	\$36,645.97
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	91.67	TN	\$135.51	\$12,422.20
337-7-74	ASPH CONC FC,TRAF C,FC-12.5,PG 76-22,ARB	131.12	TN	\$118.66	\$15,558.70
337-7-74	ASPH CONC FC,TRAF C,FC-12.5,PG 76-22,ARB	26.67	TN	\$118.66	\$3,164.66

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	3

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	51.00	EA	\$3.78	\$192.78
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.76	NM	\$1,006.44	\$764.89
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.57	GM	\$390.40	\$222.53

**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	7.00	TN	\$227.45	\$1,592.15
536-1-1	GUARDRAIL- ROADWAY, GEN TL-3	200.00	LF	\$18.13	\$3,626.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00	EA	\$2,644.46	\$2,644.46
536-85-25	GUARDRAIL END ANCHORAGE ASSEM- TYPE II	1.00	EA	\$869.58	\$869.58

**Roadway Component Total**

\$104,865.87

**SHOULDER COMPONENT****User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	12.25 / 12.25
New Total Outside Shoulder Width L/R	7.25 / 7.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	0.00 / 0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	500.02	LF	\$23.22	\$11,610.46



570-1-2	PERFORMANCE TURF, SOD	555.57 SY	\$3.50	\$1,944.50
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**Erosion Control****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,000.03 LF	\$1.09	\$1,090.03
104-11	FLOATING TURBIDITY BARRIER	9.47 LF	\$9.58	\$90.72
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	9.47 LF	\$3.96	\$37.50
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,594.90	\$2,594.90
104-18	INLET PROTECTION SYSTEM	5.00 EA	\$97.92	\$489.60
107-1	LITTER REMOVAL	0.83 AC	\$59.86	\$49.68
107-2	MOWING	0.83 AC	\$71.88	\$59.66
<b>Shoulder Component Total</b>				<b>\$17,967.05</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	1.70 CY	\$1,285.00	\$2,184.50
425-1-351	INLETS, CURB, TYPE P-5, <10'	4.00 EA	\$5,196.95	\$20,787.80
425-1-451	INLETS, CURB, TYPE J-5, <10'	1.00 EA	\$6,781.44	\$6,781.44
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	56.00 LF	\$88.46	\$4,953.76
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	16.00 LF	\$114.92	\$1,838.72
570-1-1	PERFORMANCE TURF	28.79 SY	\$1.93	\$55.56
<b>Drainage Component Total</b>				<b>\$36,601.78</b>

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	3.00 AS	\$263.21	\$789.63
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$946.53	\$946.53
700-1-50	SINGLE POST SIGN, RELOCATE	1.00 AS	\$151.53	\$151.53
700-1-60	SINGLE POST SIGN, REMOVE	3.00 AS	\$21.22	\$63.66
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$3,989.84	\$3,989.84
700-2-60	MULTI- POST SIGN, REMOVE	1.00 AS	\$462.37	\$462.37
<b>Signing Component Total</b>				<b>\$6,403.56</b>

<b>Sequence 4 Total</b>	<b>\$179,584.33</b>
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**Sequence:** 5WDU - Widen/Resurface, Divided, Urban

**Net Length:** 0.142 MI  
750 LF

**Description:** Add Right Turn Lane from EB Central to SB US 27

### EARTHWORK COMPONENT

#### User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 25.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.142
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Existing Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.43	AC	\$21,106.08	\$9,075.61
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	580.93	CY	\$19.62	\$11,397.85
<b>Earthwork Component Total</b>					<b>\$20,473.46</b>

### ROADWAY COMPONENT

#### User Input Data

Description	Value
Number of Lanes	5
Existing Roadway Pavement Width L/R	24.00 / 35.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 12.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	80

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	1,214.61	SY	\$5.18	\$6,291.68
285-709	OPTIONAL BASE,BASE GROUP 09	1,027.17	SY	\$19.41	\$19,937.37
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	4,915.09	SY	\$2.95	\$14,499.52
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	405.50	TN	\$135.51	\$54,949.30
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	137.46	TN	\$135.51	\$18,627.20
337-7-74	ASPH CONC FC,TRAF C,FC-12.5,PG 76-22,ARB	196.60	TN	\$118.66	\$23,328.56

337-7-74	ASPH CONC FC,TRAF C,FC-12.5,PG 76-22,ARB	39.99 TN	\$118.66	\$4,745.21
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**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	3

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	77.00	EA	\$3.78	\$291.06
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	1.14	NM	\$1,006.44	\$1,147.34
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.85	GM	\$390.40	\$331.84

**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	7.00	TN	\$227.45	\$1,592.15
536-1-1	GUARDRAIL- ROADWAY, GEN TL-3	200.00	LF	\$18.13	\$3,626.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00	EA	\$2,644.46	\$2,644.46
536-85-25	GUARDRAIL END ANCHORAGE ASSEM- TYPE II	1.00	EA	\$869.58	\$869.58

<b>Roadway Component Total</b>					\$152,881.28
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**SHOULDER COMPONENT****User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	12.25 / 12.25
New Total Outside Shoulder Width L/R	7.25 / 7.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	0.00 / 0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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520-1-10	CONCRETE CURB & GUTTER, TYPE F	749.76 LF	\$23.22	\$17,409.43
570-1-2	PERFORMANCE TURF, SOD	833.07 SY	\$3.50	\$2,915.75

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,499.52	LF	\$1.09	\$1,634.48
104-11	FLOATING TURBIDITY BARRIER	14.20	LF	\$9.58	\$136.04
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	14.20	LF	\$3.96	\$56.23
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,594.90	\$2,594.90
104-18	INLET PROTECTION SYSTEM	7.00	EA	\$97.92	\$685.44
107-1	LITTER REMOVAL	1.24	AC	\$59.86	\$74.23
107-2	MOWING	1.24	AC	\$71.88	\$89.13
<b>Shoulder Component Total</b>					<b>\$25,595.63</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	2.56	CY	\$1,285.00	\$3,289.60
425-1-351	INLETS, CURB, TYPE P-5, <10'	6.00	EA	\$5,196.95	\$31,181.70
425-1-451	INLETS, CURB, TYPE J-5, <10'	2.00	EA	\$6,781.44	\$13,562.88
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	80.00	LF	\$88.46	\$7,076.80
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	24.00	LF	\$114.92	\$2,758.08
570-1-1	PERFORMANCE TURF	43.17	SY	\$1.93	\$83.32
<b>Drainage Component Total</b>					<b>\$57,952.38</b>

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00	AS	\$263.21	\$1,052.84
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00	AS	\$946.53	\$946.53
700-1-50	SINGLE POST SIGN, RELOCATE	1.00	AS	\$151.53	\$151.53
700-1-60	SINGLE POST SIGN, REMOVE	4.00	AS	\$21.22	\$84.88
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
700-2-60	MULTI- POST SIGN, REMOVE	1.00	AS	\$462.37	\$462.37
<b>Signing Component Total</b>					<b>\$6,687.99</b>

**Sequence 5 Total****\$263,590.74**

**Sequence:** 6NUR - New Construction, Undivided, Rural**Net Length:** 0.114 MI  
600 LF**Description:** Ramp A - One lane off-ramp; SR 60 onto US 27 East Bound**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.90
Alignment Number	1
Distance	0.114
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	1.38	AC	\$21,106.08	\$29,126.39
110-1-1	CLEARING & GRUBBING	0.90	AC	\$21,106.08	\$18,995.47
120-6	EMBANKMENT	3,451.23	CY	\$16.33	\$56,358.59
<b>Earthwork Component Total</b>					<b>\$104,480.45</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	1
Roadway Pavement Width L/R	0.00 / 19.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	2,332.59	SY	\$5.18	\$12,082.82
285-709	OPTIONAL BASE,BASE GROUP 09	1,288.25	SY	\$19.41	\$25,004.93
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	208.93	TN	\$119.17	\$24,898.19
337-7-43	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	104.47	TN	\$111.17	\$11,613.93

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0



**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.23	NM	\$1,006.44	\$231.48
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.23	GM	\$5,760.00	\$1,324.80

**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	10.33	TN	\$227.45	\$2,349.56
536-1-1	GUARDRAIL- ROADWAY, GEN TL- 3	300.00	LF	\$18.13	\$5,439.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00	EA	\$2,644.46	\$2,644.46
536-85-25	GUARDRAIL END ANCHORAGE ASSEM- TYPE II	1.00	EA	\$869.58	\$869.58
<b>Roadway Component Total</b>					<b>\$86,458.75</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	0
Friction Course Spread Rate	0
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	979.00	LF	\$26.18	\$25,630.22
<b>Shoulder Component Total</b>					<b>\$25,630.22</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	2.04	CY	\$1,285.00	\$2,621.40
430-174-124	PIPE CULV, OPT MATL,	96.00	LF	\$81.23	\$7,798.08

430-175-136	ROUND,24"SD PIPE CULV, OPT MATL, ROUND, 36"S/CD	24.00 LF	\$114.92	\$2,758.08
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	5.00 EA	\$1,713.03	\$8,565.15
570-1-1	PERFORMANCE TURF	79.97 SY	\$1.93	\$154.34
<b>Drainage Component Total</b>				<b>\$21,897.05</b>

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**SIGNING COMPONENT**

<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	3.00	AS	\$946.53	\$2,839.59
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$7,092.64</b>

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**Sequence 6 Total** **\$245,559.11**

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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.071
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	0.86	AC	\$21,106.08	\$18,151.23
120-6	EMBANKMENT	4,906.62	CY	\$16.33	\$80,125.10
<b>Earthwork Component Total</b>					<b>\$98,276.33</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	2
Roadway Pavement Width L/R	24.00 / 26.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	2,915.73	SY	\$5.18	\$15,103.48
285-709	OPTIONAL BASE,BASE GROUP 09	2,110.16	SY	\$19.41	\$40,958.21
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	343.64	TN	\$119.17	\$40,951.58
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	171.82	TN	\$111.17	\$19,101.23

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	10.00	EA	\$3.78	\$37.80

710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.14 NM	\$1,006.44	\$140.90
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.07 GM	\$390.40	\$27.33
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.14 GM	\$5,760.00	\$806.40
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.07 GM	\$1,201.81	\$84.13
<b>Roadway Component Total</b>				<b>\$117,211.06</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	0
Friction Course Spread Rate	0
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	750.00	LF	\$23.22	\$17,415.00
520-6	SHOULDER GUTTER- CONCRETE	339.00	LF	\$26.18	\$8,875.02
<b>Shoulder Component Total</b>					<b>\$26,290.02</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	1.28	CY	\$1,285.00	\$1,644.80
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	56.00	LF	\$81.23	\$4,548.88
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	16.00	LF	\$114.92	\$1,838.72
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	3.00	EA	\$1,713.03	\$5,139.09
570-1-1	PERFORMANCE TURF	49.98	SY	\$1.93	\$96.46
<b>Drainage Component Total</b>					<b>\$13,267.95</b>

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	2.00	AS	\$946.53	\$1,893.06

700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>				\$6,146.11
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<b>Sequence 7 Total</b>				\$261,191.47
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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.90
Alignment Number	1
Distance	0.142
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	1.72	AC	\$21,106.08	\$36,302.46
110-1-1	CLEARING & GRUBBING	0.90	AC	\$21,106.08	\$18,995.47
120-6	EMBANKMENT	4,308.07	CY	\$16.33	\$70,350.78
<b>Earthwork Component Total</b>					<b>\$125,648.71</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	1
Roadway Pavement Width L/R	0.00 / 19.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	2,915.73	SY	\$5.18	\$15,103.48
285-709	OPTIONAL BASE,BASE GROUP 09	1,610.32	SY	\$19.41	\$31,256.31
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	261.17	TN	\$119.17	\$31,123.63
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	130.58	TN	\$111.17	\$14,516.58

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
710-11-111	PAINTED PAVT	0.28	NM	\$1,006.44	\$281.80

711-15-101	MARK,STD,WHITE,SOLID,6" THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.28 GM	\$5,760.00	\$1,612.80
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**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	10.33 TN	\$227.45	\$2,349.56
536-1-1	GUARDRAIL- ROADWAY, GEN TL- 3	300.00 LF	\$18.13	\$5,439.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00 EA	\$2,644.46	\$2,644.46
536-85-25	GUARDRAIL END ANCHORAGE ASSEM- TYPE II	1.00 EA	\$869.58	\$869.58
<b>Roadway Component Total</b>				<b>\$105,197.20</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	4.00 / 4.00
Structural Spread Rate	0
Friction Course Spread Rate	0
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	979.00 LF	\$26.18	\$25,630.22
<b>Shoulder Component Total</b>				<b>\$25,630.22</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	2.56 CY	\$1,285.00	\$3,289.60
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	120.00 LF	\$81.23	\$9,747.60
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	24.00 LF	\$114.92	\$2,758.08
430-984-129	MITERED END SECT, OPTIONAL	6.00 EA	\$1,713.03	\$10,278.18

570-1-1	RD, 24" SD PERFORMANCE TURF	99.97 SY	\$1.93	\$192.94
<b>Drainage Component Total</b>				<b>\$26,266.40</b>

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**SIGNING COMPONENT**

<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	3.00	AS	\$946.53	\$2,839.59
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$7,092.64</b>

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<b>Sequence 8 Total</b>					<b>\$289,835.17</b>
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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.185
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	2.24	AC	\$21,106.08	\$47,277.62
120-6	EMBANKMENT	12,418.02	CY	\$16.33	\$202,786.27
<b>Earthwork Component Total</b>					<b>\$250,063.89</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	2
Roadway Pavement Width L/R	24.00 / 26.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	7,151.58	SY	\$5.18	\$37,045.18
285-709	OPTIONAL BASE,BASE GROUP 09	5,489.38	SY	\$19.41	\$106,548.87
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	893.95	TN	\$119.17	\$106,532.02
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	446.97	TN	\$111.17	\$49,689.65

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	25.00	EA	\$3.78	\$94.50

710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.37 NM	\$1,006.44	\$372.38
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.18 GM	\$390.40	\$70.27
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.37 GM	\$5,760.00	\$2,131.20
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.18 GM	\$1,201.81	\$216.33
<b>Roadway Component Total</b>				<b>\$302,700.40</b>

### SHOULDER COMPONENT

#### User Input Data

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	0
Friction Course Spread Rate	0
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,950.00	LF	\$23.22	\$45,279.00
520-6	SHOULDER GUTTER- CONCRETE	339.00	LF	\$26.18	\$8,875.02
<b>Shoulder Component Total</b>					<b>\$54,154.02</b>

### DRAINAGE COMPONENT

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	3.32	CY	\$1,285.00	\$4,266.20
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	152.00	LF	\$81.23	\$12,346.96
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	32.00	LF	\$114.92	\$3,677.44
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	8.00	EA	\$1,713.03	\$13,704.24
570-1-1	PERFORMANCE TURF	130.03	SY	\$1.93	\$250.96
<b>Drainage Component Total</b>					<b>\$34,245.80</b>

### SIGNING COMPONENT

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	4.00	AS	\$946.53	\$3,786.12



700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>				<b>\$8,039.17</b>
<hr/>				
<b>Sequence 9 Total</b>				<b>\$649,203.28</b>
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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.90
Alignment Number	1
Distance	0.188
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	0.90	AC	\$21,106.08	\$18,995.47
120-6	EMBANKMENT	5,505.84	CY	\$16.33	\$89,910.37
<b>Earthwork Component Total</b>					<b>\$108,905.84</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	1
Roadway Pavement Width L/R	0.00 / 19.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	3,271.78	SY	\$5.18	\$16,947.82
285-709	OPTIONAL BASE,BASE GROUP 09	2,040.11	SY	\$19.41	\$39,598.54
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	330.87	TN	\$119.17	\$39,429.78
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	165.44	TN	\$111.17	\$18,391.96

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.36	NM	\$1,006.44	\$362.32

711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.36 GM	\$5,760.00	\$2,073.60
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**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	10.33 TN	\$227.45	\$2,349.56
536-1-1	GUARDRAIL- ROADWAY, GEN TL- 3	300.00 LF	\$18.13	\$5,439.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00 EA	\$2,644.46	\$2,644.46
536-85-25	GUARDRAIL END ANCHORAGE ASSEM- TYPE II	1.00 EA	\$869.58	\$869.58
<b>Roadway Component Total</b>				<b>\$128,106.62</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	6.00 / 6.00
Total Outside Shoulder Perf. Turf Width L/R	4.00 / 2.00
Paved Outside Shoulder Width L/R	2.00 / 4.00
Structural Spread Rate	0
Friction Course Spread Rate	0
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	979.00 LF	\$26.18	\$25,630.22
<b>Shoulder Component Total</b>				<b>\$25,630.22</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	3.24 CY	\$1,285.00	\$4,163.40
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	144.00 LF	\$81.23	\$11,697.12
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	32.00 LF	\$114.92	\$3,677.44
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	8.00 EA	\$1,713.03	\$13,704.24

570-1-1	PERFORMANCE TURF	126.65 SY	\$1.93	\$244.43
<b>Drainage Component Total</b>				<b>\$33,486.63</b>

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**SIGNING COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	4.00	AS	\$946.53	\$3,786.12
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$8,039.17</b>

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<b>Sequence 10 Total</b>				<b>\$304,168.48</b>
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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.142
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	1.72	AC	\$21,106.08	\$36,302.46
120-6	EMBANKMENT	9,531.67	CY	\$16.33	\$155,652.17
<b>Earthwork Component Total</b>					<b>\$191,954.63</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	2
Roadway Pavement Width L/R	24.00 / 26.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	5,498.24	SY	\$5.18	\$28,480.88
285-709	OPTIONAL BASE,BASE GROUP 09	4,220.32	SY	\$19.41	\$81,916.41
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	687.28	TN	\$119.17	\$81,903.16
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	343.64	TN	\$111.17	\$38,202.46

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	19.00	EA	\$3.78	\$71.82



710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.28 NM	\$1,006.44	\$281.80
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.14 GM	\$390.40	\$54.66
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.28 GM	\$5,760.00	\$1,612.80
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.14 GM	\$1,201.81	\$168.25
<b>Roadway Component Total</b>				<b>\$232,692.24</b>

### SHOULDER COMPONENT

#### User Input Data

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	0
Friction Course Spread Rate	0
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,500.00	LF	\$23.22	\$34,830.00
520-6	SHOULDER GUTTER- CONCRETE	339.00	LF	\$26.18	\$8,875.02
<b>Shoulder Component Total</b>					<b>\$43,705.02</b>

### DRAINAGE COMPONENT

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	2.56	CY	\$1,285.00	\$3,289.60
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	120.00	LF	\$81.23	\$9,747.60
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	24.00	LF	\$114.92	\$2,758.08
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	6.00	EA	\$1,713.03	\$10,278.18
570-1-1	PERFORMANCE TURF	99.97	SY	\$1.93	\$192.94
<b>Drainage Component Total</b>					<b>\$26,266.40</b>

### SIGNING COMPONENT

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	3.00	AS	\$946.53	\$2,839.59

700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>				\$7,092.64
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<b>Sequence 11 Total</b>				\$501,710.93
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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	0.00 / 30.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.189
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	0.69	AC	\$21,106.08	\$14,563.20
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	177.78	CY	\$19.62	\$3,488.04
<b>Earthwork Component Total</b>					<b>\$18,051.24</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	5
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	12.00 / 0.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	2,444.52	SY	\$5.18	\$12,662.61
285-709	OPTIONAL BASE,BASE GROUP 09	1,370.04	SY	\$19.41	\$26,592.48
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	5,333.50	SY	\$2.95	\$15,733.82
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	586.69	TN	\$135.51	\$79,502.36
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	220.01	TN	\$135.51	\$29,813.56
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	213.34	TN	\$143.33	\$30,578.02

337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	53.34 TN	\$143.33	\$7,645.22
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**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	3

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	102.00 EA	\$3.78	\$385.56
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.76 NM	\$1,006.44	\$764.89
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.57 GM	\$390.40	\$222.53
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.76 GM	\$5,760.00	\$4,377.60
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.57 GM	\$1,201.81	\$685.03
<b>Roadway Component Total</b>				<b>\$208,963.69</b>

**SHOULDER COMPONENT**

**User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	10.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 0.00
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	5.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	592.24 SY	\$13.14	\$7,782.03
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	1,111.15 SY	\$3.12	\$3,466.79
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	30.56 TN	\$135.51	\$4,141.19
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	22.22 TN	\$143.33	\$3,184.79
570-1-2	PERFORMANCE TURF, SOD	296.68 SY	\$3.50	\$1,038.38

**Erosion Control**

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
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104-10-3	SEDIMENT BARRIER	2,300.07 LF	\$1.09	\$2,507.08
104-11	FLOATING TURBIDITY BARRIER	18.94 LF	\$9.58	\$181.45
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	18.94 LF	\$3.96	\$75.00
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,594.90	\$2,594.90
107-1	LITTER REMOVAL	1.38 AC	\$59.86	\$82.61
107-2	MOWING	1.38 AC	\$71.88	\$99.19
<b>Shoulder Component Total</b>				<b>\$25,153.41</b>

### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	30.00
Performance Turf Width	5.34
New Total Median Shoulder Width L/R	0.00 / 0.00
New Paved Median Shoulder Width L/R	0.00 / 0.00
Existing Total Median Shoulder Width L/R	10.00 / 10.00
Existing Paved Median Shoulder Width L/R	8.00 / 8.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	1,777.83	SY	\$3.12	\$5,546.83
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	97.78	TN	\$135.51	\$13,250.17
337-7-22	ASPH CONC FC,INC BIT,FC- 5,PG76-22,PMA	71.11	TN	\$143.33	\$10,192.20
570-1-1	PERFORMANCE TURF	593.35	SY	\$1.93	\$1,145.17
<b>Median Component Total</b>					<b>\$30,134.37</b>

### DRAINAGE COMPONENT

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	3.41	CY	\$1,285.00	\$4,381.85
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	152.00	LF	\$81.23	\$12,346.96
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	16.00	LF	\$114.92	\$1,838.72
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	8.00	EA	\$1,713.03	\$13,704.24
570-1-1	PERFORMANCE TURF	133.34	SY	\$1.93	\$257.35
<b>Drainage Component Total</b>					<b>\$32,529.12</b>



**SIGNING COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	5.00	AS	\$946.53	\$4,732.65
700-1-50	SINGLE POST SIGN, RELOCATE	1.00	AS	\$151.53	\$151.53
700-1-60	SINGLE POST SIGN, REMOVE	5.00	AS	\$21.22	\$106.10
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
700-2-60	MULTI- POST SIGN, REMOVE	1.00	AS	\$462.37	\$462.37
<b>Signing Component Total</b>					<b>\$9,705.70</b>

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<b>Sequence 12 Total</b>	<b>\$324,537.53</b>
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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.90
Alignment Number	1
Distance	0.322
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	3.90	AC	\$21,106.08	\$82,313.71
110-1-1	CLEARING & GRUBBING	0.90	AC	\$21,106.08	\$18,995.47
120-6	EMBANKMENT	9,748.21	CY	\$16.33	\$159,188.27
<b>Earthwork Component Total</b>					<b>\$260,497.45</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	1
Roadway Pavement Width L/R	0.00 / 19.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	6,611.73	SY	\$5.18	\$34,248.76
285-709	OPTIONAL BASE,BASE GROUP 09	3,651.57	SY	\$19.41	\$70,876.97
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	592.22	TN	\$119.17	\$70,574.86
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	296.11	TN	\$111.17	\$32,918.55

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
710-11-111	PAINTED PAVT	0.64	NM	\$1,006.44	\$644.12

711-15-101	MARK,STD,WHITE,SOLID,6" THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.64 GM	\$5,760.00	\$3,686.40
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**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	10.33 TN	\$227.45	\$2,349.56
536-1-1	GUARDRAIL- ROADWAY, GEN TL- 3	300.00 LF	\$18.13	\$5,439.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00 EA	\$2,644.46	\$2,644.46
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	1.00 EA	\$2,644.46	\$2,644.46
<b>Roadway Component Total</b>				<b>\$226,027.14</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	0
Friction Course Spread Rate	0
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-6	SHOULDER GUTTER- CONCRETE	979.00 LF	\$26.18	\$25,630.22
<b>Shoulder Component Total</b>				<b>\$25,630.22</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	5.80 CY	\$1,285.00	\$7,453.00
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	264.00 LF	\$81.23	\$21,444.72
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	56.00 LF	\$114.92	\$6,435.52
430-984-129	MITERED END SECT, OPTIONAL	13.00 EA	\$1,713.03	\$22,269.39

570-1-1	RD, 24" SD PERFORMANCE TURF	226.69 SY	\$1.93	\$437.51
<b>Drainage Component Total</b>				<b>\$58,040.14</b>

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**SIGNING COMPONENT**

<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	7.00	AS	\$946.53	\$6,625.71
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>					<b>\$10,878.76</b>

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<b>Sequence 13 Total</b>	<b>\$581,073.71</b>
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**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.142
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	1.72	AC	\$21,106.08	\$36,302.46
120-6	EMBANKMENT	9,531.67	CY	\$16.33	\$155,652.17
<b>Earthwork Component Total</b>					<b>\$191,954.63</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	2
Roadway Pavement Width L/R	24.00 / 26.00
Structural Spread Rate	330
Friction Course Spread Rate	165

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	5,498.24	SY	\$5.18	\$28,480.88
285-709	OPTIONAL BASE,BASE GROUP 09	4,220.32	SY	\$19.41	\$81,916.41
334-1-23	SUPERPAVE ASPH CONC, TRAF C, PG76-22,PMA	687.28	TN	\$119.17	\$81,903.16
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	343.64	TN	\$111.17	\$38,202.46

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	19.00	EA	\$3.78	\$71.82



710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.28 NM	\$1,006.44	\$281.80
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.14 GM	\$390.40	\$54.66
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.28 GM	\$5,760.00	\$1,612.80
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.14 GM	\$1,201.81	\$168.25
<b>Roadway Component Total</b>				<b>\$232,692.24</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	0
Friction Course Spread Rate	0
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,500.00	LF	\$23.22	\$34,830.00
520-6	SHOULDER GUTTER- CONCRETE	339.00	LF	\$26.18	\$8,875.02
<b>Shoulder Component Total</b>					<b>\$43,705.02</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	2.56	CY	\$1,285.00	\$3,289.60
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	120.00	LF	\$81.23	\$9,747.60
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	24.00	LF	\$114.92	\$2,758.08
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	6.00	EA	\$1,713.03	\$10,278.18
570-1-1	PERFORMANCE TURF	99.97	SY	\$1.93	\$192.94
<b>Drainage Component Total</b>					<b>\$26,266.40</b>

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$263.21	\$263.21
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	3.00	AS	\$946.53	\$2,839.59

700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$3,989.84	\$3,989.84
<b>Signing Component Total</b>				\$7,092.64
<hr/>				
<b>Sequence 14 Total</b>				\$501,710.93
<hr/>				

**ROADWAY COMPONENT****User Input Data**

Description	Value
Number of Lanes	1
Roadway Pavement Width L/R	0.00 / 12.00
Structural Spread Rate	0
Friction Course Spread Rate	80

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	101,685.76 SY	\$5.18	\$526,732.24
285-709	OPTIONAL BASE,BASE GROUP 09	26,819.62 SY	\$19.41	\$520,568.82
350-3-13	PLAIN CEMENT CONC PAVT, 12"	25,421.44 SY	\$104.76	\$2,663,150.05

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
350-5	CLEANING & SEALING JOINTS - CONC PVMT	7,128.00 LF	\$3.25	\$23,166.00
352-70	GRINDING CONCRETE PAVT	25,421.44 SY	\$6.00	\$152,528.64
446-71-1	EDGEDRAIN OUTLET PIPE, 4"	10,000.00 LF	\$34.30	\$343,000.00

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	14.44 GM	\$5,760.00	\$83,174.40

**Roadway Component Total**

\$4,312,320.15

**Sequence 15 Total**

\$4,312,320.15

**ROADWAY COMPONENT****User Input Data**

Description	Value
Number of Lanes	1
Roadway Pavement Width L/R	0.00 / 12.00
Structural Spread Rate	0
Friction Course Spread Rate	80

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	113,225.73 SY	\$5.18	\$586,509.28
285-709	OPTIONAL BASE,BASE GROUP 09	29,863.29 SY	\$19.41	\$579,646.46
350-3-13	PLAIN CEMENT CONC PAVT, 12"	28,306.43 SY	\$104.76	\$2,965,381.61

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
350-5	CLEANING & SEALING JOINTS - CONC PVMT	6,336.00 LF	\$3.25	\$20,592.00
352-70	GRINDING CONCRETE PAVT	28,306.43 SY	\$6.00	\$169,838.58
446-71-1	EDGEDRAIN OUTLET PIPE, 4"	10,000.00 LF	\$34.30	\$343,000.00

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	16.08 GM	\$5,760.00	\$92,620.80

**Roadway Component Total**

\$4,757,588.73

**Sequence 16 Total**

\$4,757,588.73

**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.350
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	4.24	AC	\$21,106.08	\$89,489.78
120-6	EMBANKMENT	27,745.32	CY	\$16.33	\$453,081.08
<b>Earthwork Component Total</b>					<b>\$542,570.86</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	2
Roadway Pavement Width L/R	19.00 / 19.00
Structural Spread Rate	275
Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	8,872.31	SY	\$5.18	\$45,958.57
285-709	OPTIONAL BASE,BASE GROUP 09	7,811.58	SY	\$19.41	\$151,622.77
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,074.09	TN	\$135.51	\$145,549.94
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	312.46	TN	\$111.17	\$34,736.18

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	1

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	47.00	EA	\$3.78	\$177.66



710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	1.40 NM	\$1,006.44	\$1,409.02
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.70 GM	\$390.40	\$273.28
<b>Roadway Component Total</b>				<b>\$379,727.42</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	7.25 / 12.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	0.00 / 5.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,850.11	LF	\$23.22	\$42,959.55
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,850.11	LF	\$23.22	\$42,959.55
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	1,027.84	SY	\$40.70	\$41,833.09
570-1-1	PERFORMANCE TURF	2,055.68	SY	\$1.93	\$3,967.46

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	3,700.22	LF	\$1.09	\$4,033.24
104-11	FLOATING TURBIDITY BARRIER	87.60	LF	\$9.58	\$839.21
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	87.60	LF	\$3.96	\$346.90
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,594.90	\$2,594.90
104-18	INLET PROTECTION SYSTEM	18.00	EA	\$97.92	\$1,762.56
107-1	LITTER REMOVAL	4.25	AC	\$59.86	\$254.40
107-2	MOWING	4.25	AC	\$71.88	\$305.49

**Shoulder Component Total**

\$141,856.36

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	6.31	CY	\$1,285.00	\$8,108.35
425-1-351	INLETS, CURB, TYPE P-5, <10'	13.00	EA	\$5,196.95	\$67,560.35
425-1-451	INLETS, CURB, TYPE J-5, <10'	4.00	EA	\$6,781.44	\$27,125.76
425-1-521	INLETS, DT BOT, TYPE C, <10'	2.00	EA	\$3,307.19	\$6,614.38
425-2-41	MANHOLES, P-7, <10'	2.00	EA	\$3,432.62	\$6,865.24
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	816.00	LF	\$88.46	\$72,183.36
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	72.00	LF	\$114.92	\$8,274.24

430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	1,752.00 LF	\$163.18	\$285,891.36
570-1-1	PERFORMANCE TURF	106.52 SY	\$1.93	\$205.58
<b>Drainage Component Total</b>				<b>\$482,828.62</b>

**SIGNING COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	8.00 AS	\$263.21	\$2,105.68
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$946.53	\$946.53
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	1.00 AS	\$5,624.17	\$5,624.17
<b>Signing Component Total</b>				<b>\$8,676.38</b>

**LIGHTING COMPONENT****Conventional Lighting Subcomponent****Description**

Spacing

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,850.11 LF	\$6.37	\$11,785.20
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	241.43 LF	\$25.49	\$6,154.05
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	8.00 EA	\$574.66	\$4,597.28
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	6,274.61 LF	\$2.41	\$15,121.81
715-4-111	LIGHT POLE COMP, F&I, WS150, 40'	8.00 EA	\$4,869.35	\$38,954.80
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	8.00 EA	\$476.28	\$3,810.24
<b>Subcomponent Total</b>				<b>\$80,423.38</b>
<b>Lighting Component Total</b>				<b>\$80,423.38</b>

**Sequence 17 Total****\$1,636,083.02**

**SIGNING COMPONENT****X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-3-207	SIGN PANEL, F&I OM, 201-300 SF	10.00	EA	\$7,116.39	\$71,163.90
700-4-114	OH STATIC SIGN STR, F&I, C 41-50 FT	4.00	EA	\$82,014.75	\$328,059.00
700-4-126	OH STATIC SIGN STR, F&I, S 101-150 FT	2.00	EA	\$170,974.23	\$341,948.46
700-4-140	OH STATIC SIGN STR, F&I, O BR MOUNT	2.00	EA	\$8,329.12	\$16,658.24
<b>Signing Component Total</b>					<b>\$757,829.60</b>
<hr/>					
<b>Sequence 18 Total</b>					<b>\$757,829.60</b>
<hr/>					

Date: 10/13/2016 10:11:48 AM

## FDOT Long Range Estimating System - Production

### R3: Project Details by Sequence Report

Project: 419243-4-52-01

Letting Date: 02/2020

Description: US 27 AT SR 60

District: 01

County: 16 POLK

Market Area: 08

Units: English

Contract Class: 1 Lump Sum Project: N

Design/Build: N

Project Length: 5.180 MI

Project Manager: CES-REL-DCT

Version 19 Project Grand Total

**\$75,365,646.64**

Description: PD&amp;E Unit Cost Update from Version 6 - 10/5/16

**Project Sequences Subtotal****\$54,053,644.73**

102-1	Maintenance of Traffic	15.00 %	\$8,108,046.71
101-1	Mobilization	10.00 %	\$6,216,169.14

**Project Sequences Total****\$68,377,860.58**

Project Unknowns	10.00 %	\$6,837,786.06
Design/Build	0.00 %	\$0.00

**Non-Bid Components:**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

**Project Non-Bid Subtotal****\$150,000.00****Version 19 Project Grand Total****\$75,365,646.64**

***APPENDIX D***

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***Project Commitments Record***



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

**Project Commitments Record**

Project Name: US 27 PD&E Study FM#: 419243-1-22-01 Project Limits: From Highlands County Line to North of SR 60 Original FAP#: N/A

**Project Development & Environment**

Project Manager: Tony Sherrard Environmental Document Approval Date: \_\_\_\_\_

Environmental Document Type: (Type 1 or 2 CE, EA, EIS, SEIR, or NMSA)

Project Segment Number	Commitment	External Stakeholder	Env. Commitment? (yes/no)	Implementation Phase	Status	Transmittal Date	Completion Date	Comments
419243-1	1. Construction of the US 27 project will not commence until: a) the FDOT provides the Service with a receipt (in the form of a letter or email) from one or more Service approved conservation banks stating that at least 12.4 ac (5.1 ha) of scrub jay habitat or 12.4 scrub jay credits and 79.34 ac (32.1 ha) of sand skink habitat or 79.34 sand skink credits (2:1 acres to credits ratio) have been acquired by the FDOT; and b) the FDOT and FHWA receive an email or letter from the Service indicating that we have received the receipt from the approved conservation bank(s).	USFWS and the Public	Yes	Design				
	2. Vegetation removal and land clearing activities may not occur within occupied scrub-jay habitat on the project site during the scrub-jay nesting season (March 1 to June 30).	USFWS and the Public	Yes	Construction				
	3. Upon locating a dead, injured, or sick threatened or endangered species, initial notification must be made to the nearest Service Law Enforcement Office: U.S. Fish and Wildlife Service; 9549 Koger Boulevard, Suite 111; St. Petersburg, Florida 33702; 727-570-5398. Secondary notification should be made to the Florida Fish and Wildlife Conservation Commission (FWC): South Region; 3900 Drane Field Road; Lakeland, Florida 33811-1299; 1-800-282-8002 and care should be taken in handling sick or injured specimens to ensure effective treatment and care or in the handling of dead specimens to preserve biological material in the best possible state for later analysis as to the cause of death. In conjunction with the care of sick or injured skinks, or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.	USFWS and the Public	Yes	Construction				

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION  
**Project Commitments Record**

Project Segment Number	Commitment	External Stakeholder	Env. Commitment? (yes/no)	Implementation Phase	Status	Transmittal Date	Completion Date	Comments
	4. The FDOT will coordinate with the FWS, Florida Department of Agriculture and Consumer Services (FDACS), Bok Tower Gardens (BTG), and other appropriate entities during the future project design phase(s) to avoid and minimize impacts to listed plant species to the extent feasible. The FDOT will coordinate with the Rare Plant Conservation Program staff at BTG who will assist in the conservation efforts of these plants using three main techniques: taking cuttings of plants which are then used to clone additional individuals, collecting ripe seeds, and relocating entire plants. Plants will be relocated to the National Collection growing beds at BTG.	USFWS and the Public	Yes	Design				
	5. The FWS' most current version of the Standard Protection Measures for the Eastern Indigo Snake will be adhered to during construction of the project.	USFWS and the Public	Yes	Construction				
	6. To avoid potential adverse impacts to migratory bird species with active nests observed during field reviews, the FDOT will commit to resurvey the project area for bald eagle, osprey, and Southeastern American kestrel nests during design and permitting. If active nests are observed, the FDOT will coordinate with FWC and FWS (as necessary) to secure proper permits concerning these species.	USFWS and the Public	Yes	Design				
	7. Noise barriers could potentially provide at least the minimum required noise reduction for a cost below the reasonable limit of \$42,000 per benefited receptor at five residential areas. The potentially feasible and cost reasonable noise barriers are predicted to benefit 82 impacted residences at locations distributed between Camp Inn RV Resort (four impacted residences potentially benefited), Shady Nook RV Park/ Camp'n Aire Camping Resort/Lake Wales Campground (39 impacted residences potentially benefited), Lakeside Garden Mobile Home Park (eight impacted residences potentially benefited), the residential community along Wales Street (24 impacted residences potentially benefited), and the residential community along Lime Avenue (seven impacted residences potentially benefited). The	FHWA and Local Residents	No	Design				

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION  
**Project Commitments Record**

Project Segment Number	Commitment	External Stakeholder	Env. Commitment? (yes/no)	Implementation Phase	Status	Transmittal Date	Completion Date	Comments
	<p>impacted common use areas at the Camp Inn RV Resort (community swimming pool and pavilion) and West Side Baptist Church barbecue area would also potentially benefit from a noise barrier provided for impacted residences. The FDOT is committed to further consideration of noise barriers during the project design phase(s) for these locations contingent upon the following:</p> <ul style="list-style-type: none"> <li>• Detailed noise analyses during the final design process support the need, feasibility and reasonableness of providing abatement;</li> <li>• Cost analysis indicates that the cost of the noise barrier(s) will not exceed the cost reasonable criterion;</li> <li>• Community input supporting types, heights, and locations of the noise barrier(s) is provided to the District Office;</li> <li>• Safety and engineering aspects as related to the roadway user and the adjacent property owner(s) have been reviewed and any conflicts or issues resolved.</li> </ul>							
	<p>8. A land use review will be conducted during the Design phase to identify noise sensitive sites that may have received a building permit subsequent to the noise study but prior to the date of public knowledge (i.e. the date that the environmental document has been approved by OEM). If the review identifies noise sensitive sites that have been permitted prior to the date of public knowledge, then those sensitive sites will be evaluated for traffic noise and abatement considerations.</p>	FHWA and Local Residents	No	Design				
	<p>9. The FDOT will further evaluate High and Medium contamination sites during the project Design phase(s). For contamination sites identified, estimated areas of contamination will be marked on the project plans and, prior to construction, any necessary cleanup plans will be developed. If remediation activities are required, these will be overseen by the FDOT.</p>	SWFWMD and the Public	Yes	Design				

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION  
**Project Commitments Record**

Project Segment Number	Commitment	External Stakeholder	Env. Commitment? (yes/no)	Implementation Phase	Status	Transmittal Date	Completion Date	Comments
	10. It has been determined that Important Farmlands as defined by 7 CFR 658 are located in the project vicinity, however they will not be impacted by the project. If additional ROW is needed during the future project design phase(s), project involvement with Important Farmlands will be reevaluated and coordination will occur with the NRCS as appropriate.	USFWS and the Public	No	Design				

## Project Commitments Record

### Design

Project Manager:

FM #:

Project Segment Number	Commitment	External Stakeholder	Env. Commitment? (yes/no)	Confirmed no impact to Env. commitment (yes/no)	Commitment Approval Date	Implementation Phase	Status	Transmittal Date	Completion Date	Comments

### Right of Way

Project Manager:

FM #:

Project Segment Number	Commitment	External Stakeholder	Env. Commitment? (yes/no)	Confirmed no impact to Env. commitment (yes/no)	Commitment Approval Date	Implementation Phase	Status	Transmittal Date	Completion Date	Comments

### Construction

Project Manager:

FM#:

Project Segment Number	Commitment	External Stakeholder	Env. Commitment? (yes/no)	Confirmed no impact to Env. commitment (yes/no)	Commitment Approval Date	Implementation Phase	Status	Transmittal Date	Completion Date	Comments

### Operation and Maintenance

Project Manager:

FM#: \_\_\_\_\_





***APPENDIX E***

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***Existing Horizontal and Vertical Alignment Data***

### US 27 EXISTING HORIZONTAL GEOMETRY

PI STATION	DEGREE OF CURVE	RADIUS (FT.)	LENGTH (FT.)	PPM MIN. LENGTH (FT.)	ORIGINAL SE	REQUIRED SE (PPM)	COMMENTS
212+13.38	1° 00' 20.22"	5,697.58	1,262.08	1,050	0.021	0.037	SE CORRECTED BY FPID 425242-1
422+86.28	1° 00' 20.22"	5,697.58	1,254.99	1,050	0.039	0.037	MEETS CRITERIA
484+86.53	1° 19' 24.51"	4,329.18	4,296.14	1,050	0.053	0.054	MEETS CRITERIA
714+91.40	1° 00' 20.22"	5,697.58	3,152.29	1,050	0.039	0.037	MEETS CRITERIA
887+85.40	0° 30' 05"	11,427.16	4,437.56	1,050	0.021	0.02	MEETS CRITERIA
1012+09.62	0° 35' 00"	9,822.14	7,576.43	1,050	0.023	0.023	MEETS CRITERIA
1149+27.46	0° 40' 00"	8,594.37	3,228.75	1,050	0.026	0.026	MEETS CRITERIA







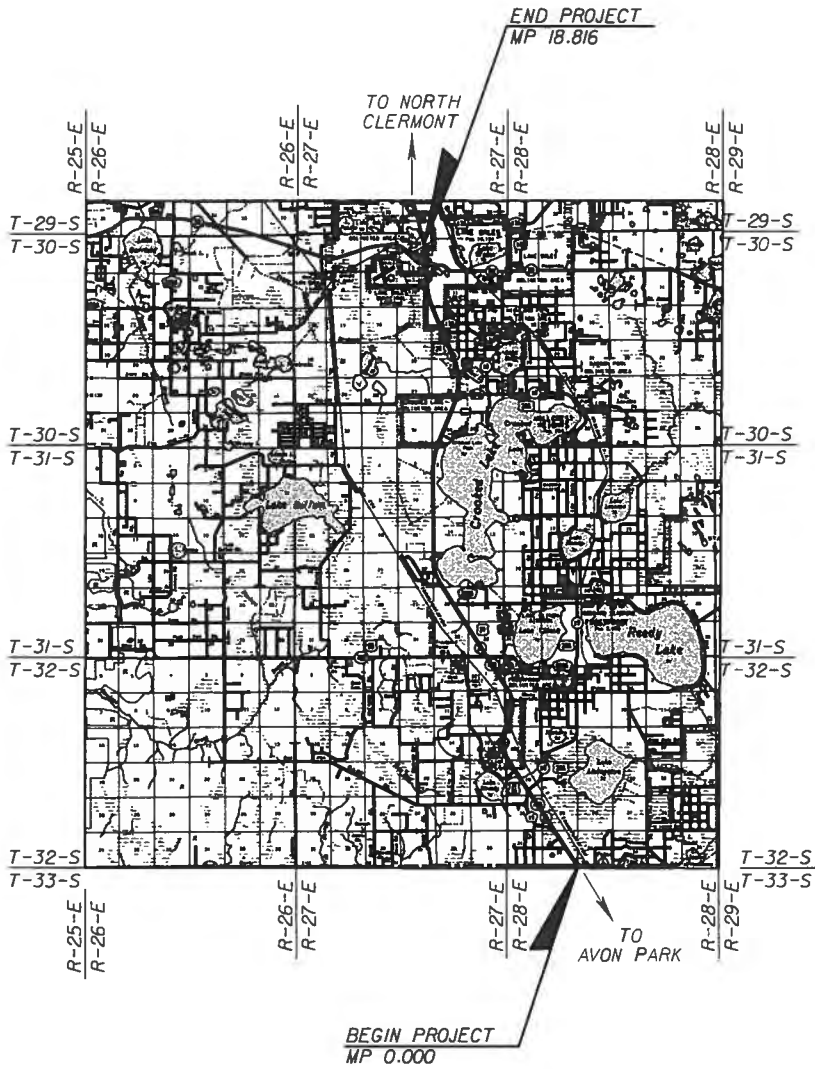
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***APPENDIX F***  
***Design Variations***

DESIGN VARIATION PACKAGE

STATE OF FLORIDA  
DEPARTMENT OF TRANSPORTATION  
FINANCIAL PROJECT ID 419243-1-22-01  
POLK COUNTY (16170)

STATE ROAD NO. 25 (US 27)  
FROM HIGHLANDS COUNTY LINE TO NORTH OF STATE ROAD 60



PREPARED BY

URS CORPORATION  
7650 WEST COURTNEY CAMPBELL CAUSEWAY  
TAMPA, FLORIDA 33607-1462  
CERTIFICATE OF AUTHORIZATION NO.: 00000002  
JEFFREY W. BLAZOWSKI, P.E. NO.: 55527

To: Bernie A. Masing, P.E.  
District Design Engineer

Date: June 3, 2014

Financial Project ID: 419243-1-22-01 New Const.  RRR   
Federal Aid Number: N/A  
Project Name: US 27 PD&E From Highlands County Line to North of SR 60, Polk County  
State Road Number: SR 25 Co./Sect./Sub. 16170000  
Begin Project MP: 0.000 End Project MP: 18.816  
Full Federal Oversight: Yes  No   
Request for Design Exception , Design Variation   
(For Design Exception or Variations Requiring Central Office Approval)  
Re-submittal: Yes  No  Original Ref# \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

Requested for the following element(s):  
 Design Speed       Lane Widths       Shoulder Widths       Bridge Widths  
 Structural Capacity       Vertical Clearance       Grades       Cross Slope  
 Superelevation       Horizontal Alignment       Vertical Alignment       Stopping Sight Distance  
 Horizontal Clearance       Other

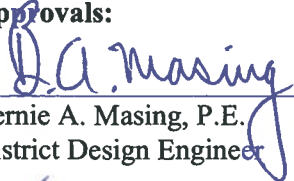
This design variation is being requested as part of the PD&E Study for evaluating widening of US 27 (SR 25) from the Highlands County Line (MP 0.000) to north of SR 60 (MP 18.816), located in Polk County. US 27 (SR 25) is part of Florida's Strategic Intermodal System (SIS) Corridor. The requested design variation is to allow certain existing vertical alignment elements to remain. See the attached documentation for justification of the proposed design variation.

**Recommended By:**

Jeffrey W. Blazowski, P.E. (No. 55527)  
Responsible Professional Engineer

 Date 6/3/14  
Signature

**Approvals:**

<sup>1531</sup><sub>6/5/14</sub>  Date 6-5-14  
Bernie A. Masing, P.E.  
District Design Engineer

N/A Date \_\_\_\_\_  
District Structures Design Engineer

N/A Date \_\_\_\_\_  
State Roadway Design Engineer

N/A Date \_\_\_\_\_  
State Structures Design Engineer

N/A Date \_\_\_\_\_  
State Chief Engineer

N/A Date \_\_\_\_\_  
FHWA Division Administrator

**PROJECT DESCRIPTION**

This design variation for vertical alignment is being requested as part of the Project Development and Environment (PD&E) Study for the widening of US 27 from the Highlands County Line to North of SR 60, located in Polk County. US 27 is classified as a rural principal arterial from MP 0.000 to MP 4.784 and MP 8.623 to MP 16.212 and as an urban principal arterial from MP 4.784 to MP 8.623 and MP 16.212 to north of SR 60. Within the project limits, US 27 is a Strategic Intermodal System (SIS) facility.

Improvements in the preferred alternative include expanding the existing four-lane facility to a six-lane rural typical section with a design speed of 70 mph from MP 0.000 to 18.057 and a six-lane suburban typical section with a design speed of 50 mph from MP 18.057 to the end of the project.

This design variation is to allow certain existing vertical alignment elements to remain without correction following the widening project. All of these elements are located within the proposed six-lane rural typical section with a design speed of 70 mph.

**DESIGN CRITERIA**

The Plans Preparation Manual (PPM), Volume I – English (01/01/14), Table 2.6.2 – Maximum Change in Grade Without Vertical Curves - indicates that at 70 mph, the maximum change in grade in percent without a vertical curve is 0.20.

The Plans Preparation Manual (PPM), Volume I – English (01/01/14), Tables 2.8.5 & 2.8.6 - indicate a K value of 401 and minimum length of 500 feet be used for crest vertical curves and a K value of 181 and minimum length of 400 feet be used for sag vertical curves.

**PROPOSED CRITERIA**

The table below summarizes the locations of vertical elements with deficient properties that are proposed to remain:

**Table 1 – Summary of Deficient Vertical Elements**

PI Station MP	Crest/Sag /PI	A	EXIST. K	EXIST. L (Feet)	Required K (PPM)	Required L (Feet) (PPM)	Max. Change in Grade (PPM)
MP 0.350	Sag	0.65%	462	<b>300'</b>	181	400'	N/A
MP 2.614	Crest	1.66%	<b>301</b>	500'	401	500'	N/A
MP 4.347	Crest	2.62%	<b>306</b>	800'	401	500'	N/A
MP 4.797	Crest	5.08%	<b>256</b>	1,300'	401	500'	N/A
MP 16.770	PI	<b>0.30%</b>	N/A	N/A	N/A	N/A	0.20%
MP 17.756	PI	<b>0.27%</b>	N/A	N/A	N/A	N/A	0.20%

**Note: Bold text indicates the deficiency in PPM criteria.**

**REASON DESIGN CRITERIA IS NOT APPROPRIATE**

It is the intent of this project to utilize the existing pavement to the maximum possible extent and provide the additional capacity through widening. Use of the PPM design criteria for the vertical alignment would not be consistent with the intent of this project and would add considerable construction cost to the project.

PI Station MP	Crest/Sag/PI	Required Correction	Length of Correction (feet)	Estimated Construction Costs*
MP 0.350	Sag	Lengthen Curve by Mill & Resurface & Overbuild (Max. 4")	400	\$46,820
MP 2.614	Crest	Lengthen Curve by Reconstruction	670	\$266,400
MP 4.347	Crest	Lengthen Curve by Reconstruction	1,060	\$420,000
MP 4.797	Crest	Lengthen Curve by Reconstruction	2,040	\$814,800
MP 16.770	PI	Lengthen Curve by Mill & Resurface & Overbuild (Max. 2.0")	400	\$22,880
MP 17.756	PI	Lengthen Curve by Mill & Resurface + Overbuild (Max. 2.0")	400	\$22,880

\* Costs in excess of standard milling/resurfacing/widening of the roadway required for proposed typical section

**JUSTIFICATION FOR THE PROPOSED CRITERIA**

**Sag Curves – Minimum Length**

One sag curve within the project limits is deficient with regards to PPM criteria in that it has a length less than 400 feet. The minimum length criteria is intended to provide improved appearance of the facility and is not related to safety or capacity. Discussion on AASHTO, 2004 Page 276 indicates that minimum lengths for sag vertical curves should be equal to three times the design speed. For 70 mph, this would indicate a minimum sag vertical curve length of 210 feet. The existing sag vertical curve at MP 0.350 exceeds this AASHTO minimum length.

**Crest Curves – Minimum K Value**

The crest curves at three locations along the alignment have deficient K value. However, the K values are compliant with the AASHTO, 2004 *Exhibit 3-72 – Design Controls for Crest Vertical Curves Based on Stopping Sight Distance* which requires a K value of 247 for a design speed of 70 mph.



### **Maximum Change in Grade Without a Vertical Curve**

There are two locations where PPM criteria for maximum change in grade without a vertical curve is exceeded. This criteria is related to driver comfort. While AASHTO does not specifically have criteria related to change in grade without a vertical curve, one can use AASHTO Formula 3-51, which is the comfort formula for sag curves. Using this formula, the algebraic differences in Table 1, and a vertical curve length of 25 feet (estimate of paving machine's ability to change grades) results in a comfort speed between 62 mph and 66 mph. AASHTO notes that this comfort factor is difficult to quantify as it is affected appreciably by vehicle body suspension, vehicle body weight, tire flexibility, and other factors.

### **Analysis of Crash Data**

Crash data was obtained for the project corridor for the 5-year period starting in 2007 and ending in 2011. This data was used to isolate the crashes that occurred within 0.5 miles of each proposed design variation location. These crashes were then analyzed to determine if there were any predominant crash types that could be associated with vertical alignment issues and if these types of crashes occurred more frequently than the average for the entire project corridor. This comparative analysis is attached. Examples of crash types that could be associated with vertical alignment issues are rear end, collision with a motor vehicle on roadway, or any of the several run off the road type crashes. The following is a summary of the results:

#### **MP 0.350 - Sag Curve – Minimum Length**

Between MP 0.100 and MP 0.600, there were four (4) crashes within the 5-year period coded as: unknown (1), collision with animal (1), overturned (1), and median crossover (1). Both the overturned and median crossover crashes were single vehicle incidents with the contributing causes listed as unknown and careless driving. Based on the minimal number, crash type, and contributing causes, it does not appear that the existing geometric feature was a contributing factor.

#### **MP 2.614 - Crest Curve – Minimum K Value**

Between MP 2.364 and MP 2.864, there were 28 crashes within the 5-year period. This relatively high number is due to the fact that a major signalized intersection with US 17/Scenic Highway/N. Avon Park Cutoff is located within this segment. There is little difference between the percentage of crash types within this segment and those that occurred for the entire project corridor. Based on this information, it does not appear that the existing geometric feature was a contributing factor.

#### **MP 4.347 & MP 4.797 - Crest Curves – Minimum K Value**

Due to the proximity of these two vertical curves, the limits of the crashes analyzed were expanded to include the 0.25 miles on either side of both crest vertical curves. Between MP 4.097 and MP 5.047, there were thirteen crashes within the 5-year period. There is little difference between the percentage of crash types within this segment and those that occurred for the entire project corridor. Based on this information, it does not appear that the existing geometric feature was a contributing factor.

#### **MP 16.770 - Maximum Change in Grade Without a Vertical Curve**

Between MP 16.520 and MP 17.020, there were 22 crashes within the 5-year period with the majority of the crashes associated with the unsignalized intersection with CR 17B/Hunt Brothers Road. Angle and left turn crashes are much higher than the project corridor average, which is expected with an intersection of this type. All other crash types are below the project corridor average indicating that the existing geometric feature is not a contributing factor.

**MP 17.756 - Maximum Change in Grade Without a Vertical Curve**

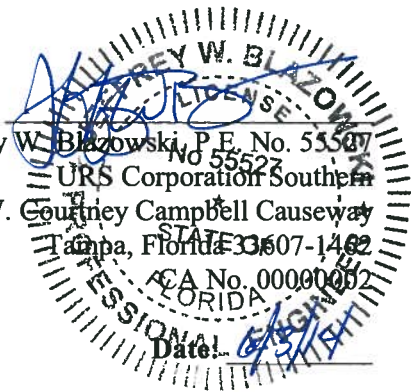
Between MP 17.506 and MP 18.006, there were four (4) crashes within the 5-year period coded as: head-on, angle, backed into, and overturned. The head-on and overturned crashes contributing causes were coded as following too closely and unknown respectively. Based on the minimal number, crash type, and contributing causes, it does not appear that the existing geometric feature was a contributing factor.

**Recommendation**

Based on the crash data analysis, it does not appear that any of the six existing vertical alignment elements proposed to remain are a contributing factor in a significant number of crashes. Based on this, coupled with the additional construction costs of meeting PPM criteria, it is recommended to allow the six existing vertical alignment elements that are the subject of the design variation to remain.

Recommended By:

Jeffrey W. Blazowski, P.E. No. 55507  
No. 55527  
URS Corporation Southern  
7650 W. Courtney Campbell Causeway  
Tampa, Florida 33607-1402



To: Bernie A. Masing, P.E.  
District Design Engineer

Date: May 28, 2014

Financial Project ID: 419243-1-22-01 New Const.  RRR   
Federal Aid Number: N/A  
Project Name: US 27 PD&E From Highlands County Line to North of SR 60, Polk County  
State Road Number: SR 25 Co./Sect./Sub. 16170000  
Begin Project MP: 0.000 End Project MP: 18.816  
Full Federal Oversight: Yes  No   
Request for Design Exception , Design Variation   
(For Design Exception or Variations Requiring Central Office Approval)  
Re-submittal: Yes  No  Original Ref# \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

Requested for the following element(s):

- Design Speed
- Lane Widths
- Shoulder Widths
- Bridge Widths
- Structural Capacity
- Vertical Clearance
- Grades
- Cross Slope
- Superelevation
- Horizontal Alignment
- Vertical Alignment
- Stopping Sight Distance
- Horizontal Clearance
- Other – Roadside Slopes

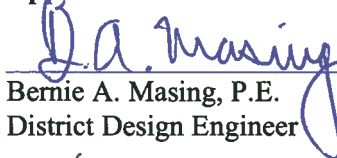
This design variation is being requested as part of the PD&E Study for evaluating widening of US 27 (SR 25) from the Highlands County Line (MP 0.000) to north of SR 60 (MP 18.816), located in Polk County. US 27 (SR 25) is part of Florida's Strategic Intermodal System (SIS) Corridor. The requested design variation is to allow varying roadside slopes. The front slope and back slope of the proposed roadside ditch will vary from 1:6 to 1:4 and 1:4 to 1:3 respectively as required to meet storm water management requirements within the existing right of way. See the attached documentation for justification of the proposed design variation.

**Recommended By:**

Jeffrey W. Blazowski, P.E. (No. 55527)  
Responsible Professional Engineer

 Date 5/29/14  
Signature

**Approvals:**

 Date 6-5-14  
Bernie A. Masing, P.E.  
District Design Engineer

N/A Date \_\_\_\_\_  
District Structures Design Engineer

N/A Date \_\_\_\_\_  
State Roadway Design Engineer

N/A Date \_\_\_\_\_  
State Structures Design Engineer

N/A Date \_\_\_\_\_  
State Chief Engineer

N/A Date \_\_\_\_\_  
FHWA Division Administrator

## **PROJECT DESCRIPTION**

This design variation for roadside slopes is being requested as part of the Project Development and Environment (PD&E) Study for the widening of US 27 from the Highlands County Line to North of SR 60, located in Polk County. US 27 is classified as a rural principal arterial from MP 0.000 to MP 4.784 and MP 8.623 to MP 16.212 and as an urban principal arterial from MP 4.784 to MP 8.623 and MP 16.212 to north of SR 60. Within the project limits, US 27 is a Strategic Intermodal System (SIS) facility.

Improvements in the preferred alternative include expanding the existing four-lane facility to a six-lane rural typical section with a design speed of 70 mph from MP 0.000 to 18.057 and a six-lane suburban typical section with a design speed of 50 mph from MP 18.057 to the end of the project.

The requested design variation is to allow varying roadside slopes. The front slope and back slope of the proposed roadside ditch will vary from 1:6 to 1:4 and 1:4 to 1:3 respectively as required to meet storm water management requirements within the existing right of way. This is anticipated to occur in several locations throughout the project.

## **DESIGN CRITERIA**

The Plans Preparation Manual (PPM), Volume I – English (01/01/14), Table 2.4.1 – Roadside Slopes - indicates that for a height of fill between zero to five feet, rural arterials with a projected 20 year AADT of 1500 or greater should have front slopes of 1:6 and back slopes of 1:4. Back slopes of 1:3 are acceptable with a standard width trapezoidal ditch and 1:6 front slopes. This criteria table is considered to be more applicable to defining the most economical slopes to be utilized for various fill heights rather than providing appropriate recoverable terrain.

Additional roadside slope criteria can be found in the PPM Volume I. Figure 4.1.3.2 – Roadside Ditch Trapezoidal Shape - provides acceptable roadside ditch front slope and back slope combinations when the ditch bottom width is four feet or greater. These configurations match those provided in the AASHTO Roadside Design Guide. A review of this chart indicates that combinations such as 1:6 front / 1:3 back, 1:4 front / 1:4 back, and 1:3 front / 1:6 back are acceptable trapezoidal roadside ditch combinations in that they are considered recoverable terrain.

## **PROPOSED CRITERIA**

It is proposed to match the roadside ditch front and back slopes per PPM Figure 4.1.3.2 and the AASHTO Roadside Design Guide.

## **JUSTIFICATION FOR THE PROPOSED CRITERIA**

Providing the roadside slopes per PPM Table 2.4.1 would result in the need to purchase additional right of way in 16 drainage basins to provide stormwater management facilities. These purchases would occur throughout the project limits and would impact dozens of different owners. Preliminary estimates indicate that 8.6 acres of additional right of way will be required to provide the required treatment and attenuation volume and

associated berms and tie down slopes. Based on a preliminary right of way cost estimate of \$75,000/acre, the anticipated cost to acquire the additional right of way to provide a 1:6 front slope is estimated at \$645,000. This cost could increase dramatically based on the number and/or the current use of the parcels involved.

The increased project costs associated with purchasing this right of way does not appear to provide any identifiable safety benefits. Both PPM and AASHTO indicate that several combinations of roadside ditch front and back slopes are acceptable that exceed those identified in PPM Table 2.4.1 – Roadside Slopes.

**RECOMMENDATION**

It is proposed to utilize PPM Figure 4.1.3.2 and the AASHTO Roadside Design Guide in determining the suitability of roadside slopes when used in trapezoidal ditch combinations. Slope conditions that exceed the combinations and recommendations provided in these documents will be shielded appropriately.

Based on this, it is recommended to approve the design variation for roadside slopes.

Recommended By:

Jeffrey W. Blazewski, P.E. No. 55527

URS Corporation Southern

7650 W. Courtney Campbell Causeway

Tampa, Florida 33607-1462

STATE OF FLORIDA  
CA No. 00000002





To: Bernie A. Masing, P.E.  
District Design Engineer

Date: May 8, 2014

Financial Project ID: 419243-1-22-01 New Const.  RRR   
Federal Aid Number: N/A  
Project Name: US 27 From the Highlands County Line to North of SR 60, Polk County  
State Road Number: 25 Co./Sect./Sub. 16170  
Begin Project MP: 0.000 End Project MP: 18.816  
Full Federal Oversight: Yes  No   
Request for Design Exception , Design Variation   
(For Design Exception or Variations Requiring Central Office Approval)  
Re-submittal: Yes  No  Original Ref# \_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_

Requested for the following element(s):

- Design Speed
- Lane Widths
- Shoulder Widths
- Bridge Widths
- Structural Capacity
- Vertical Clearance
- Grades
- Cross Slope
- Superelevation
- Horizontal Alignment
- Vertical Alignment
- Stopping Sight Distance
- Horizontal Clearance
- Other Border Width

This design variation is being requested as part of the Project Development and Environment (PD&E) Study for the widening of US 27 from the Highlands County Line to North of SR 60, located in Polk County.

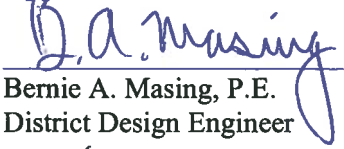
US 27 is a Strategic Intermodal System (SIS) Corridor. The preferred typical section alternatives are a six-lane rural typical section with a design speed of 70 mph and a six-lane suburban typical section with a design speed of 50 mph. The existing right of way width for the project varies with a minimum width of 200 feet. The requested design variation is to utilize a minimum border width of 36 feet for the six-lane rural typical section. See the attached documentation for justification of the proposed design variation.

**Recommended By:**

Jeffrey W. Blazowski, P.E. (No. 55527)  
Responsible Professional Engineer

*KSI 5/22/14*  
 Date 5/7/14  
Signature

**Approvals:**

 Date 6-5-14  
Bernie A. Masing, P.E.  
District Design Engineer

N/A Date \_\_\_\_\_  
District Structures Design Engineer

N/A Date \_\_\_\_\_  
State Roadway Design Engineer

N/A Date \_\_\_\_\_  
State Structures Design Engineer

N/A Date \_\_\_\_\_  
State Chief Engineer

N/A Date \_\_\_\_\_  
FHWA Division Administrator

## PROJECT DESCRIPTION

This design variation for Border Width is being requested as part of the Project Development and Environment (PD&E) Study for the widening of US 27 from the Highlands County Line to North of SR 60, located in Polk County. US 27 is classified as a rural principal arterial from MP 0.000 to MP 4.784 and MP 8.623 to MP 16.212 and as an urban principal arterial from MP 4.784 to MP 8.623 and MP 16.212 to MP 18.816. Within the project limits, US 27 is a Strategic Intermodal System (SIS) facility.

Improvements in the preferred alternative include expanding the existing four-lane facility to a six-lane rural typical section with a design speed of 70 mph from MP 0.000 to 18.057 and a six-lane suburban typical section with a design speed of 50 mph from MP 18.057 to the end of the project.

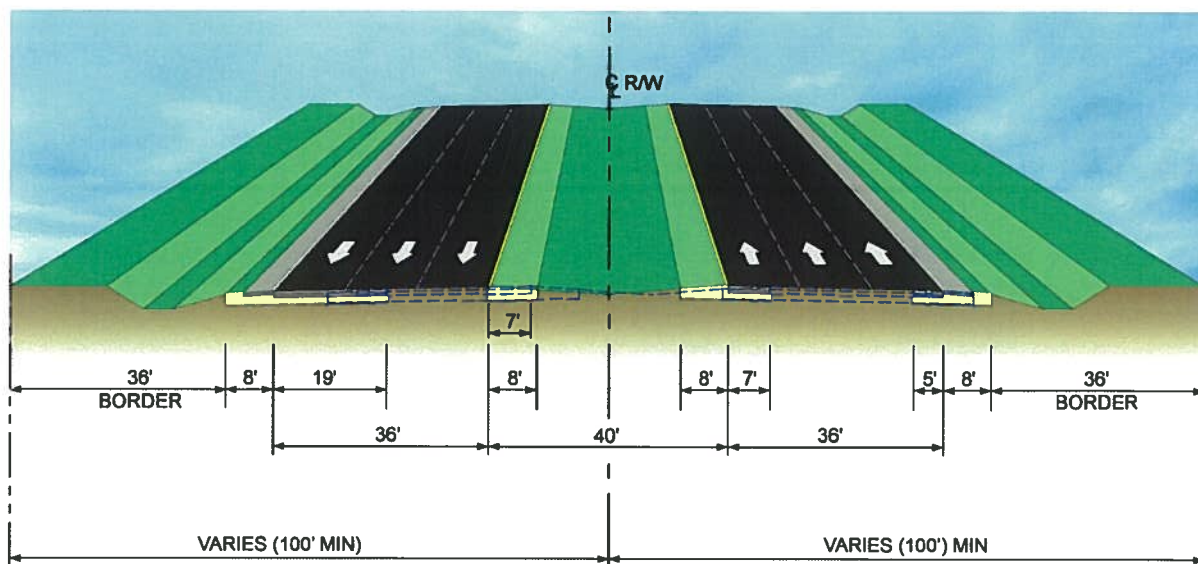
## DESIGN CRITERIA

The Plans Preparation Manual (PPM), Volume I – English (01/01/2014), Table 2.5.1 – Highways with Flush Shoulders, indicates that the required border width for arterials and collectors with a design speed greater than 45 mph is 40 feet, measured from the shoulder point of the roadway.

According to AASHTO's 2004 "A Policy on Geometric Design of Highway and Streets", page 463, borders should be sufficient to provide for needed clear zone. In locations where right of way is severely restricted, a minimum border of 15 feet or greater should be used if at all possible.

## PROPOSED CRITERIA

The proposed criteria will utilize a minimum border width of 36 feet. This will allow the proposed six-lane rural typical section to be constructed in areas where the existing right of way width is 200 feet. The proposed border is the width that remains between the shoulder point and the existing right of way after construction of the roadway improvements.



6-Lane Rural Typical Section

### JUSTIFICATION FOR THE PROPOSED CRITERIA

The PPM requires a minimum border width of 40 feet. This width is intended to provide space for design features such as signing, drainage, guardrail, fencing, and clear zone (36 feet for design speeds greater than 55 mph). The preferred typical section for the rural areas of the corridor will provide a minimum of 36 feet of border width and will be adequate to provide these features.

In order to provide the PPM required 40 feet of border width, an additional 9.74 acres of right of way will need to be acquired. Based on a preliminary right of way cost estimate of \$75,000/acre, the anticipated cost to acquire the additional right of way to provide the PPM border width is \$730,500.

### RECOMMENDATION

The proposed minimum 36 feet of border width can be achieved at a savings of \$730,500, as compared to 40 feet of border width, with no degradation to safety or function. Based on the issues discussed above, it is recommended that a design variation be approved.

Recommended By: 

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URS Corporation  
7650 W. Courtney Campbell Causeway  
Tampa, Florida 33607-0468  
CA No. 06000002

Date: 5/7/14



***APPENDIX G***

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***Programming Screen Summary Report***

# ETDM Summary Report

Project #3869 - US 27 Add Lanes from W. County Line Road to SR 60

Preliminary Programming Screen - Published on 09/08/2011

Generated by Scott Swearngen (on behalf of FDOT District 1)

Printed on: 2/27/2012

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## Introduction to Programming Screen Summary Report

The Programming Screen Summary Report shown below is a read-only version of information contained in the Programming Screen Summary Report generated by the ETDM Coordinator for the selected project after completion of the ETAT Programming Screen review. The purpose of the Programming Screen Summary Report is to summarize the results of the ETAT Programming Screen review of the project; provide details concerning agency comments about potential effects to natural, cultural, and community resources; and provide additional documentation of activities related to the Programming Phase for the project. Available information for a Programming Screen Summary Report includes:

- Screening Summary Report chart
- Project Description information (including a summary description of the project, a summary of public comments on the project, and community-desired features identified during public involvement activities)
- Purpose and Need information (including the Purpose and Need Statement and the results of agency reviews of the project Purpose and Need)
- Alternative-specific information, consisting of descriptions of each alternative and associated road segments; an overview of ETAT Programming Screen reviews for each alternative; and agency comments concerning potential effects and degree of effect, by issue, to natural, cultural, and community resources.
- Project Scope information, consisting of general project commitments resulting from the ETAT Programming Screen review, permits, and technical studies required (if any)
- Class of Action determined for the project
- Dispute Resolution Activity Log (if any)

The legend for the Degree of Effect chart is provided in an appendix to the report.

For complete documentation of the project record, also see the GIS Analysis Results Report published on the same date as the Programming Screen Summary Report.

**#3869 US 27 Add Lanes from W. County Line Road to SR 60**

<b>District</b>	District 1	<b>Phase</b>	Programming Screen
<b>County</b>	Polk	<b>From</b>	SR 60
<b>Planning Organization</b>	FDOT District 1	<b>To</b>	W County Line Road
<b>Plan ID</b>		<b>Financial Management No.</b>	41924312201
<b>Federal Involvement</b>	Potential Future Federal Funding		
<b>Contact Information</b>	Name: Gwen Pipkin Phone: (863) 519-2375 ext. 2375 E-mail: gwen.pipkin@dot.state.fl.us		

**Snapshot Data From: Programming Screen Summary Report Re-published on 09/08/2011 by Scott Swarengen**

**Overview**

		Evaluation of Direct Effects																				
		Natural						Cultural				Community										
Legend		Air Quality	Coastal and Marine	Contaminated Sites	Farmlands	Floodplains	Infrastructure	Navigation	Special Designations	Water Quality and Quantity	Wetlands	Wildlife and Habitat	Historic and Archaeological Sites	Recreation Areas	Section 4(f) Potential	Aesthetics	Economic	Land Use	Mobility	Relocation	Social	Secondary and Cumulative Effects
N/A	N/A / No Involvement																					
0	None (after 12/5/2005)																					
1	Enhanced																					
2	Minimal (after 12/5/2005)																					
3	Moderate																					
4	Substantial																					
5	Dispute Resolution (Programming)																					
<b>ETAT Review Period: 04/15/2011 - 05/30/2011. Re-Published: 09/08/2011</b>																						
<b>Alternative #1</b>		2	0	3	2	3	2	N/A	4	3	3	4	3	3	3	3	2	1	3	2	3	3
<b>From W County Line Road to SR 60</b>		2	0	3	2	3	2	N/A	4	3	3	4	3	3	3	3	2	1	3	2	3	3

**Project Description Data**

**Description Statement**

This capacity improvement project involves the widening of US 27 from West County Line Road (milepost 0.000) to SR 60 (milepost 18.816), in Polk County, from four lanes to six lanes. US 27 is a four lane facility with a functional classification of "rural principal arterial - other" from milepost 0.000 to milepost 4.784 and from milepost 8.623 to milepost 16.212. It has a functional classification of "urban other principal arterial" from milepost 4.784 to milepost 8.623 (near Frostproof) and from milepost 16.212 to milepost 18.816 (in Lake Wales). The project is approximately 18.8 miles and will require 126 to 212 feet of right-of way (see attached typical sections for six lane divided urban and rural arterials in the "Library" section of the EST). The project is listed in the Polk Transportation Planning Organizations 2035 Cost Affordable LRTP.

**Summary of Public Comments not available at this time**

**Consistency**

- Consistent with Air Quality Conformity.
- CONSISTENT with Coastal Zone Management Program.
- Consistent with Local Government Comp Plan.
- Consistent with MPO Goals and Objectives.

**Potential Lead Agencies**

- FL Department of Transportation

**Exempted Agencies**

Agency Name	Justification	Date
Federal Transit Administration	No transit facilities being considered as part of this project.	04/11/2011
US Coast Guard	No navigable waterways in the vicinity of project.	04/11/2011

**Community Desired Features**

No desired features have been entered into the database. This does not necessarily imply that none have been identified.

**Purpose and Need**

**Purpose and Need Statement**

Consistency with Transportation Plan Goals and Objectives

The proposed widening between the Polk/Highlands County Line and SR 60 is included in the Polk County Transportation Planning Organization's 2035 Long Range Transportation Plan (LRTP), adopted December 7, 2010. The PD&E phase is funded; however, the remaining project phases are unfunded in the LRTP (LRTP page 8-7). The project is not included in the FDOT's 2035 Cost Affordable Strategic Intermodal System Plan, but it is identified as a needed improvement in the 2030 SIS Multi-Modal Unfunded Needs Plan (adopted in 2006).

**Purpose and Need Statement**

**Purpose**

The capacity improvement project on US 27 will enhance the connectivity of the regional roadway network, provide needed capacity to meet growing travel demand in southern Polk County, support population, education and employment growth in the area, enhance regional freight mobility, improve safety and augment an existing emergency evacuation route. The project will also widen the last remaining 4-lane section of US 27 in Polk County to complete a gap and bring continuity to the 6-lane divided roadway cross section of US 27 that extends both southward and northward from the respective project termini. The purpose of the project is to identify reasonable alternatives that minimize environmental impacts and implementation costs and respond to public and stakeholder input to the maximum extent practical.

The need for the project is based on the following criteria:

Capacity/Transportation Demand - Provide additional capacity on US 27 to meet anticipated increases in traffic volume, which include substantial truck volumes.

Growth Management Planning - Improve automobile and truck access to emerging population, education and employment centers in Polk County.

Modal Interrelationships (Freight Mobility) - Improve the flow of goods on a heavily utilized truck corridor and accommodate anticipated growth in truck traffic.

Area Wide Network/System Linkage - Increase capacity on the SIS/FIHS to improve statewide connectivity and accessibility while providing additional north-south capacity to emerging population, education, recreation and employment centers in Polk County.

Emergency Evacuation - Increase the volume of residents that can be evacuated during an emergency event.

**Need**

Capacity/Transportation Demand - The roadway level of service is based on the Generalized Annual Average Daily Volumes for Florida's Rural Areas for Uninterrupted Flow Highways, Florida Department of Transportation 2009 Quality/Level of Service Handbook. The forecast travel demand is a corridor average from the Polk County Transportation Planning Organization's 2014 existing plus committed highway network loaded using 2035 socioeconomic data. The existing and projected roadway levels of service are shown below:

EXISTING AND FUTURE TRAFFIC (2009 AND 2035)

From To	2009 AADT	2009 LOS	2035 AADT	2035 LOS
County Line Rd SR 17	19,200	B	34,921	E
SR 17 CR 630	16,800	B	32,705	E

The LOS standard for US 27 is "D". Without the proposed improvement, operating conditions will degrade to LOS E by year 2035. An additional consideration is that the standardized LOS tables do not account for the very high truck percentages in the corridor, which tend to degrade traffic operational conditions.

Growth Management Planning - Traffic on US 27 is expected to increase due to projected population and employment growth both along the corridor and in the region. Table 2 below shows the Polk Transportation Planning Organization 2035 population and employment forecast for the adjacent traffic analysis zones (TAZ) in the Polk County portion of the corridor. Population is projected to almost double, while employment is projected to triple by 2035, according to the Bureau of Economic and Business Research (based on medium projections). In addition, US 27 will serve as the primary north-south corridor serving the Legoland theme park located on SR 540. Legoland is a major attraction planned to open in October 2011. US 27 will also serve north and southbound traffic in route to and from the new Polk State Corporate College located along State Road 60, west of Rifle Range Road and the new USF Polytechnic campus located in the southwest quadrant of I-4 and the Polk Parkway.

**EXISTING AND FUTURE POPULATION AND EMPLOYMENT GROWTH (2006 TO 2035)**

2006 2035 Growth  
 Population 8,939 17,684 8,745  
 Employment 5,359 16,456 11,097

Modal Interrelationships (Freight Mobility) - Reflecting the importance of the facility to freight mobility, traffic counts showed that approximately 19% of those vehicles were trucks. Industrial employment in the TAZs adjacent to the project limits is projected to grow from 3,586 in 2006 to 5,661 in 2035. This increase in industrial employment combined with the growth of the distribution and logistics industry in Polk County, including major new facilities like the CSX Transportation Integrated Logistics Center planned in Winter Haven, will contribute to increased truck traffic in the US 27 corridor. Widening of this roadway will improve traffic flow for slow moving trucks and will also help accommodate expected growth in freight traffic.

Area Wide Network/System Linkage - US 27 is a facility on the Florida Intrastate Highway System and Strategic Intermodal System. It is a major north-south arterial connecting a number of municipalities in Highlands and Polk counties in the immediate project area and other counties along this statewide corridor. North-south arterials are few in this part of the state.

US 27 from the southern terminus of this project southward into central Highlands County is scheduled for construction this year (2011) that will widen the roadway to a six-lane divided arterial. US 27 is also a six-lane divided arterial from the northern terminus of this project northward to State Road 540, just east of the future Legoland them park. This project will bring continuity to the 6-lane divided roadway cross section of US 27 extending south and north of the respective project limits.

This section of US 27 is an important part of the regional transportation network serving the area and is anticipated to become of even greater importance as newly planned facilities are completed, including the CSX Transportation Integrated Logistics Facility in Winter Haven, Legoland theme park, USF Polytechnic campus and Polk State Corporate College. These new developments are anticipated to draw employees, tourists and students from all directions, thus further straining the vehicular capacity of US 27. Also, the planned Central Polk Parkway is a limited access highway that will form a loop from the Polk Parkway to I-4. It will include an interchange at US 27, just north of the northern project terminus, allowing motorists to more convenient access to existing and planned major facilities in this area of Polk County.

Emergency Evacuation - US 27 is designated as a hurricane evacuation route by the Florida Division of Emergency Management. This facility is critical in evacuating residents in southern Polk County and northern Highlands County. The proposed improvement will enhance accessibility to other major evacuation routes such as SR 64 and US 98, increase the volume of traffic that can be evacuated during an emergency event, and improve emergency response times.

**Purpose and Need Reviews**

Agency	Acknowledgment	Review Date
FL Department of Environmental Protection	Understood	05/26/2011
FL Department of State	Understood	06/03/2011
FL Fish and Wildlife Conservation Commission	Understood	05/27/2011
Federal Highway Administration	Understood	09/06/2011

**Comments:** FHWA has reviewed the Purpose and Need statement for the proposed capacity improvements to US 27 between SR 60 near Lake Wales and West County Line Road in southeastern Polk County.

The proposed widening provides LOS improvements for projected needs but additional alternatives and information which might remedy the projected LOS should be explored before determining a plan of action. Currently there appears to be no identified need for the project, and this is necessary in order for FHWA to accept the Purpose and Need for the project before a project moves into PD&E. The current LOS in the area is "B", indicating that there is currently no congestion in the project area, nor is there information related to current safety problems in the area. Though a possible system linkage has been identified FHWA cannot approve a Purpose and Need statement that is in the form of a solution looking for a problem (an identified need).

- o Please identify the specific needs in order to identify the best alternative(s) to meet those needs.
- o If the need for the project is based modeling assumptions for future traffic in 2035, then the data to support those models should be clearly documented and based on the most recent information (including the current economic situation that typically shows reduced population growth and VMT).
- o Please identify the assumptions used for the traffic projections, including whether they are consistent with the low, medium or high ranges of the Bureau of Economic and Business Research (BEBR) population growth projections. The information references potential generators of truck traffic, but is it also not clear whether this portion of US 27 will be affected more than other sections of US 27.
- o Please provide additional information on portions of US 27 south of the proposed project area that may be projected for similar improvements. If these truck traffic generators are the primary justification for the project area (LOS B) then more information about the status and location of these

generators is needed in order to be very clear that this project is the best alternative to meet the anticipated needs. If there is currently no need for the widening and the need is based entirely on anticipated traffic that may occur in the future, then basing the project on an anticipated future need should be very clear in the proposed Purpose and Need Statement in order to assist both the MPO in their project prioritization process, and in FDOT's funding decisions. The future traffic projections should therefore indicate in what year each segment of the roadway is expected to fail in meeting its LOS standards.

o What alternatives have been considered in addition to the 'no build' and widening options?

o Please include the acceptable LOS as a reference in the Purpose and Need statement.

The Purpose and Need statement shows that the proposed actions are not consistent with local and regional plans.

o The project summary states "The proposed widening between the Polk/Highlands County Line and SR 60 is included in the Polk County Transportation Planning Organization's 2035 Long Range Transportation Plan, adopted December 7, 2010." This may be referenced in the Cost Affordable plan on page 8-7, but it may be color coded as an unfunded need. Is this the funding currently available for this project? If so, please provide the correct LRTP page reference or indicate whether or not an amendment has been made to the plan.

National Marine Fisheries Service	Understood	04/25/2011
Natural Resources Conservation Service	Understood	04/18/2011
Southwest Florida Water Management District	Understood	05/26/2011
US Army Corps of Engineers	Understood	05/27/2011
US Environmental Protection Agency	Understood	05/18/2011
US Fish and Wildlife Service	Understood	04/25/2011

**The following organizations were notified but did not submit a review of the Purpose and Need statement:**

- FL Department of Agriculture and Consumer Services
- FL Department of Community Affairs
- National Park Service
- Seminole Tribe of Florida



**Alternative #1**

**Alternative Description**

<b>From:</b>	W County Line Road	<b>To:</b>	SR 60
<b>Type:</b>	Widening	<b>Status:</b>	ETAT Review Complete
<b>Total Length:</b>	18.8 mi.	<b>Cost:</b>	\$96,864,000.00
<b>Modes:</b>	Roadway Bicycle Pedestrian	<b>SIS:</b>	Y

**Segment Description(s)**

Location and Length							
Segment No.	Name	Beginning Location	Ending Location	Length (mi.)	Roadway Id	BMP	EMP
	US 27	CR 630	CR 640	8.05	16170000		
	US 27	CR 640	SR 60	3.94	16170000		
	US 27	SR 17	CR 630	4.27	16170000		
	US 27	W County Line Road	SR 17	2.58	16170000		

Jurisdiction and Class			
Segment No.	Jurisdiction	Urban Service Area	Functional Class
	FDOT	In/Out	
	FDOT	In/Out	
	FDOT	In/Out	
	FDOT	Out	RURAL: Principal Arterial - Other

Base Conditions				
Segment No.	Year	AADT	Lanes	Config
	2009	15900	4	Lanes Divided
	2009	22143	4	Lanes Divided
	2009	16800	4	Lanes Divided
	2009	19200	4	Lanes Divided

Interim Plan				
Segment No.	Year	AADT	Lanes	Config

Needs Plan				
Segment No.	Year	AADT	Lanes	Config
	2035	40475	6	Lanes Divided
	2035	43175	6	Lanes Divided
	2035	31025	6	Lanes Divided
	2035	35125	6	Lanes Divided

Cost Feasible Plan				
Segment No.	Year	AADT	Lanes	Config
	2035			
	2035			
	2035			
	2035			

**Funding Sources**  
No funding sources found.

**Project Effects Overview**

Issue	Degree of Effect	Organization	Date Reviewed
<b>Natural</b>			
Air Quality	0 None	US Environmental Protection Agency	06/09/2011
Coastal and Marine	0 None	Southwest Florida Water Management District	05/26/2011
Coastal and Marine	N/A N/A / No Involvement	Federal Highway Administration	05/09/2011
Coastal and Marine	N/A N/A / No Involvement	National Marine Fisheries Service	04/25/2011
Contaminated Sites	3 Moderate	US Environmental Protection Agency	06/09/2011
Contaminated Sites	2 Minimal	FL Department of Environmental Protection	05/26/2011
Contaminated Sites	3 Moderate	Southwest Florida Water Management District	05/26/2011
Contaminated Sites	3 Moderate	Federal Highway Administration	05/09/2011

Farmlands	3	Moderate	Federal Highway Administration	05/09/2011
Farmlands	3	Moderate	Natural Resources Conservation Service	04/18/2011
Floodplains	3	Moderate	US Environmental Protection Agency	06/09/2011
Floodplains	3	Moderate	Southwest Florida Water Management District	05/26/2011
Floodplains	3	Moderate	Federal Highway Administration	05/09/2011
Infrastructure	2	Minimal	Southwest Florida Water Management District	05/26/2011
Infrastructure	2	Minimal	Federal Highway Administration	05/09/2011
Navigation	0	None	US Army Corps of Engineers	08/01/2011
Navigation	2	Minimal	Federal Highway Administration	05/09/2011
Special Designations	4	Substantial	Southwest Florida Water Management District	05/26/2011
Special Designations	4	Substantial	US Fish and Wildlife Service	04/25/2011
Water Quality and Quantity	3	Moderate	US Environmental Protection Agency	06/09/2011
Water Quality and Quantity	3	Moderate	FL Department of Environmental Protection	05/26/2011
Water Quality and Quantity	3	Moderate	Southwest Florida Water Management District	05/26/2011
Wetlands	4	Substantial	US Environmental Protection Agency	06/09/2011
Wetlands	4	Substantial	US Army Corps of Engineers	05/27/2011
Wetlands	3	Moderate	FL Department of Environmental Protection	05/26/2011
Wetlands	3	Moderate	Southwest Florida Water Management District	05/26/2011
Wetlands	3	Moderate	US Fish and Wildlife Service	04/25/2011
Wetlands	N/A	N/A / No Involvement	National Marine Fisheries Service	04/25/2011
Wildlife and Habitat	3	Moderate	FL Fish and Wildlife Conservation Commission	05/27/2011
Wildlife and Habitat	3	Moderate	Southwest Florida Water Management District	05/26/2011
Wildlife and Habitat	4	Substantial	US Fish and Wildlife Service	04/25/2011
<b>Cultural</b>				
Historic and Archaeological Sites	3	Moderate	FL Department of State	06/03/2011
Historic and Archaeological Sites	0	None	Southwest Florida Water Management District	05/26/2011
Historic and Archaeological Sites	4	Substantial	Federal Highway Administration	05/09/2011
Historic and Archaeological Sites	3	Moderate	Seminole Tribe of Florida	04/25/2011
Recreation Areas	3	Moderate	US Environmental Protection Agency	06/09/2011
Recreation Areas	3	Moderate	FL Department of Environmental Protection	05/26/2011
Recreation Areas	0	None	Southwest Florida Water Management District	05/26/2011
Recreation Areas	3	Moderate	Federal Highway Administration	05/09/2011
Section 4(f) Potential	3	Moderate	Federal Highway Administration	05/09/2011
<b>Community</b>				
Aesthetics	2	Minimal	FDOT District 1	06/02/2011
Aesthetics	2	Minimal	Federal Highway Administration	05/09/2011
Economic	1	Enhanced	FDOT District 1	06/02/2011
Economic	1	Enhanced	Federal Highway Administration	05/10/2011
Land Use	0	None	FDOT District 1	06/02/2011
Land Use	3	Moderate	Federal Highway Administration	05/10/2011
Mobility	1	Enhanced	FDOT District 1	06/02/2011

Mobility	3	Moderate	Federal Highway Administration	05/09/2011
Relocation	2	Minimal	FDOT District 1	06/02/2011
Relocation	3	Moderate	Federal Highway Administration	05/09/2011
Social	0	None	US Environmental Protection Agency	06/09/2011
Social	3	Moderate	FDOT District 1	06/02/2011
Social	2	Minimal	Federal Highway Administration	05/10/2011
<b>Secondary and Cumulative</b>				
Secondary and Cumulative Effects	3	Moderate	Southwest Florida Water Management District	05/26/2011

**ETAT Reviews and Coordinator Summary: Natural Issues**

**Coordinator Summary: Air Quality Issue**

2 Minimal assigned 08/24/2011 by FDOT District 1

**Comments:** The USEPA did not identify any air quality issues associated with this project.

Polk County is not within a designated Air Quality Non-Attainment Area or Maintenance Area for any of the four pollutants - nitrogen oxides, ozone, carbon monoxide, and small particulate matter - specified by the USEPA in National Ambient Air Quality Standards. According to the EST GIS analysis results, however, the project is located within an area identified as noncompliant with 2006-2008 and 2007-2009 ozone standards established by the USEPA and, therefore, considered a 'presumptive nonattainment area' for ozone.

Overall, the project is not expected to result in adverse effects to air quality. Because temporary impacts to air quality may occur during road construction as a result of fugitive dust and exhaust emissions, a Summary DOE of Minimal has been assigned to the Air Quality issue.

Commitments and Responses: An Air Quality Report will not be required for this project.

Technical Study: None.

**ETAT Reviews: Air Quality Issue: 1 found**

0 None assigned 06/09/2011 by Maher Budeir, US Environmental Protection Agency

**Coordination Document:** No Selection

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** None found.

**Comments on Effects to Resources:** None found.

**Coordinator Feedback:** None

The following organization(s) were expected to but did not submit a review of the Air Quality issue for this alternative: Federal Highway Administration

**Coordinator Summary: Coastal and Marine Issue**

0 None assigned 08/24/2011 by FDOT District 1

**Comments:** The FHWA did not identify any coastal or marine issues associated with this project. The FHWA noted that the NMFS reviewed the site with a no effect determination conclusion. Coordination Document: No Involvement.

The NMFS conducted a site inspection of the project study area on 22 April 2011 to assess potential concerns to living aquatic resources. The NMFS reported that it does not appear that the project will result in any direct or indirect impacts to NMFS trust resources. Coordination Document: No Involvement.

The SWFWMD did not identify any coastal or marine issues associated with this project. Coordination Document: No Involvement.

The project is not located within a coastal area; therefore, it is not anticipated to affect marine resources. For this reason, a Summary DOE of None has been assigned to the Coastal and Marine issue.

Commitments and Responses: An Essential Fish Habitat (EFH) Assessment will not be required for this project.

Technical Study: None.

**ETAT Reviews: Coastal and Marine Issue: 3 found**

0 None assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

**Coordination Document:** No Involvement

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** None found.

**Comments on Effects to Resources:** None found.

**Coordinator Feedback:** None

N/A / No Involvement assigned 05/09/2011 by Joseph Sullivan, Federal Highway Administration

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**Coordination Document:** No Involvement

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** None found.

**Comments on Effects to Resources:** None found.

**Additional Comments (optional):** Site area reviewed by NFMS with no effect determination conclusion.

**Coordinator Feedback:** None

N/A / No Involvement assigned 04/25/2011 by David A. Rydene, National Marine Fisheries Service

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**Coordination Document:** No Involvement

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** None.

**Comments on Effects to Resources:** NOAA's National Marine Fisheries Service (NMFS) has reviewed the information contained in the Environmental Screening Tool for ETDM Project # 3869. The Florida Department of Transportation District 1 proposes widening US 27 from SR 60 to West County Line Road in Polk County, Florida. The road would be widened from four lanes to six lanes

NMFS staff conducted a site inspection of the project area on April 22, 2011, to assess potential concerns regarding living aquatic resources. It does not appear that there will be any direct or indirect impacts to NMFS trust resources. Since the resources affected are not ones for which NMFS is responsible, we have no comment to provide regarding the project's impacts.

**Coordinator Feedback:** None

### Coordinator Summary: Contaminated Sites Issue

3 Moderate assigned 08/24/2011 by FDOT District 1

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**Comments:** The FDEP reported the presence of eight RCRA-regulated facilities within the project's 500-foot buffer as indicated through the EST GIS data. The FDEP noted that a Contamination Screening Evaluation similar to Phase I and Phase II Audits may be necessary along the project right-of-way; if contamination is encountered, dewatering activities should be avoided. The FDEP also requested that they be notified if contamination is encountered during construction, in which case the FDOT may be required to conduct additional assessment and remediation activities.

The FHWA commented that it had previously (in 2005) identified 10 petroleum storage tanks and 1 hazardous waste site within the project's 200-foot buffer and 8 additional hazardous waste sites within the project's 5,280-foot (one mile) buffer. The FHWA stated that the comments previously provided from FDEP, SWFWMD, and USEPA regarding potential contamination issues are still valid unless otherwise proven. Coordination Document: To Be Determined: Further Coordination Required.

The SWFWMD identified a 12,000-acre designated Brownfield Area (BF280601001) at the southern project terminus, which extends southward along US 27 into Highlands County. The SWFWMD reported that the project's 100-foot buffer contains three potentially contaminated petroleum sites, and a number of other such sites occur within the 200-foot project buffer. The SWFWMD also noted that the Polk County Effluent Disposal Prine Facility, Polk County Sunray Water Production Facility, and Park Water Company Facility occur within the project's 100-foot buffer and that US 27 currently traverses several areas containing groundwater contaminated with ethylene dibromide (a carcinogen). The SWFWMD stated that a Contamination Assessment will be necessary, and the results should be included in the ERP application. Coordination Document: Permit Required.

The USEPA indicated that site specific investigation is necessary to identify actual subsurface releases that may impact the subject site (among the Florida Aquifer, soils, surface water bodies, and other resources) as several potentially contaminated sites (i.e., Highlands County Brownfield Area, RCRA-regulated facilities, etc.) are in close proximity to the proposed project. The USEPA stated that contingencies should be in place to properly identify, characterize, and manage any contaminated media encountered.

According to the EST GIS analysis results, six RCRA-regulated facilities and one Brownfield site are located within the 200-foot project buffer. Due to the presence of these facilities, as well as potential unknown sources of contamination within the project study area, a Summary DOE of Moderate has been assigned to the Contaminated Sites issue.

Commitments and Responses: Preparation of a Contamination Screening Evaluation Report will be included in the scoping recommendations for this project.

Technical Study: Contamination Screening Evaluation Report.

### ETAT Reviews: Contaminated Sites Issue: 4 found

3 Moderate assigned 06/09/2011 by Maher Budeir, US Environmental Protection Agency

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**Coordination Document:** No Selection

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** HIGHLANDS COUNTY BROWNFIELD AREA

Several RCRA regulated sites within 500 feet of the project.

Resources that can be potentially impacted: Floridan Aquifer, soils and several surface water bodies.

**Comments on Effects to Resources:** Several potentially contaminated sites are in close proximity of the proposed project. Site specific investigation is necessary to identify actual subsurface releases that may impact the subject site. Subsurface activities in areas of groundwater or soil contamination may mobilize contaminants and further spread contamination. Additionally, contingencies should be in place to properly identify, characterize and manage contaminated media.

**Coordinator Feedback:** None

2 Minimal assigned 05/26/2011 by Lauren P. Milligan, FL Department of Environmental Protection

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**Coordination Document:** No Selection

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** GIS data indicates that there are eight RCRA regulated facilities within the 500-ft. project buffer zone.

**Comments on Effects to Resources:** A Contamination Screening Evaluation similar to Phase I and Phase II Audits may need to be performed along the project rights-of-way. Depending on the findings of the Contamination Screening Evaluations and the proximity to known contaminated sites, projects involving "dewatering" should be discouraged, since there is a potential to spread contamination to previously uncontaminated areas and affect contamination receptors, site workers and the public. In the event contamination is detected during construction, the Department needs to be notified and the FDOT may need to address the problem through additional assessment and remediation activities. The Contamination Screening Evaluations should outline specific procedures that would be followed by the applicant in the event that drums, wastes, tanks or potentially contaminated soils are encountered during construction.

**Coordinator Feedback:** None

**3** Moderate assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

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**Coordination Document:** Permit Required

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** There is a Designated Brownfield Area (BF280601001) located at the south terminus of the project which extends along, and in the vicinity of, US 27 in Highlands County. Covering approximately 12,000 acres, the area was so designated in March 2006. Three petroleum-related sites that represent potential contamination occur within 100 feet of the project, while numerous other such facilities occur within 200 feet of the project. Also present within 100 feet of the project are: the Polk County Effluent Disposal Prine Facility at Overpass Rd, Polk County Sunray Water Production Facility near the George St/Raymond Ave intersection, and the Park Water Company facility on 1st Ave North and US 27.

US 27 is adjacent to or crosses several areas that have been identified as having groundwater contamination, contaminated with ethylene dibromide (EDB). EDB is a carcinogen.

Regionally, the pollution potential of the Floridan Aquifer is moderate to high as indicated by DRASTIC scores between 73 and 133 within the 100-foot to 200-foot buffer area with the higher scores occurring in segments S-003 and S-004. The pollution potential of the intact intermediate aquifer is lower, with DRASTIC scores ranging between 52 and 92 with the higher scores occurring in S-003 and S-004. This aquifer may be absent in some local areas within 200 feet of the project. The DRASTIC score for the intact surficial aquifer is the highest of the three aquifers and ranges from 164 to 192. Where present, this aquifer system would be the most vulnerable to pollution; however, it may be locally absent within the 200-foot buffer area. The FAVA vulnerability response classifies the majority of the area occupied by the three aquifers of the aquifer system in the area as "most vulnerable."

Within 100 - 200 feet of the project, the recharge rate to the Floridan is estimated at 1-10 inches/year for all of segments S-004 and S-003 and for most of S-002, while the recharge rate is less than 1.0 inch/year for all of S-001.

**Comments on Effects to Resources:** There is a possibility for pond failures due to sinkhole formation creating a direct connection between stormwater and the Floridan Aquifer. Allowing untreated stormwater directly into the Floridan Aquifer (serving public water supply) can contaminate the aquifer.

Because of the high pollution potential and the high Floridan Aquifer recharge rates in S-004, S-003 and S-002, surface water and ground water pollution is possible during construction in the event that contaminated water or soils are encountered. The effects to resources could be substantial unless avoidance and/or appropriate remediation are provided as suggested below.

**Additional Comments (optional):** The SWFWMD has assigned a Degree of Effect based on their opinion of the potential of this project to result in increased coordination or effort associated with the SWFWMD's regulatory interests and obligations.

To minimize groundwater and surface water pollution potential, it may be helpful to:

1. Confirm the presence or absence of existing potable supply wells, both public and domestic, and identify precisely all potential sources of contamination within the path of construction or in proximity of the proposed surface water management systems;
2. Avoid known contaminated sites where possible in the selection of the project alignment and stormwater runoff facilities, particularly in S-004, S-003 and S-002;
3. Thoroughly evaluate potential stormwater treatment facility sites for the presence of contamination and eliminate contaminated sites as possible pond sites, particularly in S-004, S-003 and S-002; and
4. Design and construct stormwater treatment facilities to eliminate all physical disturbance and water quality impacts to the Floridan Aquifer, particularly in S-004, S-003 and S-002.

The District recommends that an environmental audit be conducted at the appropriate level to identify specific facilities of interest and to develop a plan for their proper removal or abandonment. It will also be necessary to check for existing wells and sources of contamination within the path of construction, or in proximity of the proposed surface water management systems. Coordination with FDEP and EPA and the preparation of a Contamination Assessment Report will be necessary, and included in the ERP application. The ERP will require assurance that the project will not degrade waters below their designated uses.

Contaminated soils, if discovered during the recommended soils investigation, should be avoided during construction activities. In addition, stormwater management facilities should be located outside of all potential contamination sites.

**Coordinator Feedback:** None

**3** Moderate assigned 05/09/2011 by Joseph Sullivan, Federal Highway Administration

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**Coordination Document:** To Be Determined: Further Coordination Required

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** see below.

**Comments on Effects to Resources:** In 2005 FHWA noted that GIS analysis reported 10 petroleum storage tanks and one hazardous waste site within 200 feet of the proposed project and another 8 hazardous waste sites within 1 mile of the project. SWFWMD noted additional potential contaminated sites. Additional comments noted that FDEP requested a contamination screen evaluation be performed along the project ROW. These comments along with those from USEPA are still valid unless otherwise proven. Therefore a DOE of 3 or 4 should remain in effect.



Coordinator Feedback: None

### Coordinator Summary: Farmlands Issue

2 Minimal assigned 09/07/2011 by FDOT District 1

**Comments:** The FHWA identified unique farmlands in the project area. The FHWA indicated that a moderate level of effect has been assigned to both previous (2005) and current impact assessments.

The NRCS commented that no Prime Farmland soils occur within any of the project buffer widths based on the EST GIS analysis results. The NRCS reported, however, that Unique Farmland soils exist within the project area; the amounts range from 140.4 acres within the 100-foot project buffer to 682.9 acres within the 500-foot buffer. The NRCS indicated that while significant portions of the project traverse residential and industrial areas, portions of the project intersect existing croplands (row crops, pasture, and citrus or tree crops) which are also designated as Farmland of Unique Importance.

According to the EST GIS analysis results, 281.2 acres (30.67%) of Farmland of Unique Importance are located within the 200-foot project buffer. Consistent with the Polk Transportation Planning Organization's (TPO) 2035 Long Range Transportation Plan (LRTP), the project occurs within an area dominated by agricultural and other vacant land with isolated clusters of residential, commercial, and industrial uses located in the urbanized portions along the corridor. Future land use plans call for increased residential, commercial, and industrial growth in the area. For these reasons and due to the fact that the proposed improvements are expected to fit predominantly within the existing roadway right-of-way, a Summary DOE of Minimal has been assigned to the Farmlands issue. The FDOT has coordinated with the NRCS and the FHWA in assigning a Summary DOE. The NRCS stated that they concur with the Summary DOE of Minimal based on the project configuration. The FHWA stated that due to potential impacts to special designated farmlands, further coordination with appropriate agencies may be required. They also noted that planning to avoid and minimize impacts to these farmlands may be necessary.

Commitments and Responses: A Farmlands Assessment will not be required for this project.

Technical Study: None.

### ETAT Reviews: Farmlands Issue: 2 found

3 Moderate assigned 05/09/2011 by Joseph Sullivan, Federal Highway Administration

**Coordination Document:** No Selection

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** Unique farmlands.

**Comments on Effects to Resources:** 2005 and current impact assessments assigned a moderate level of effect.

**Coordinator Feedback:** None

3 Moderate assigned 04/18/2011 by Rick Allen Robbins, Natural Resources Conservation Service

**Coordination Document:** No Selection

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** The USDA-NRCS considers soil map units with important soil properties for agricultural uses to be Prime Farmland. In addition, the USDA-NRCS considers any soils used in the production of commodity crops (such as, cotton, citrus, row crops, specialty crops, nuts, etc.) to possibly be considered as Unique Farmlands. Nationally, there has been a reduction in the overall amount of Prime and Unique Farmlands through conversion to non-farm uses. This trend has the possibility of impacting the nation's food supply and exporting capabilities.

**Comments on Effects to Resources:** Conducting GIS analysis of Prime Farmland (using USDA-NRCS data) and Important (Unique) Farmland Analysis (using 2004 SFWMD data and 2010 SSURGO data) has resulted in the determination that there are no Prime Farmland Soils at any buffer width. However, there are Unique Farmland soils at all buffer widths within the Project Area. The amounts range from 140.4 acres at the 100' buffer width and 682.9 acres at the 500' buffer width. According to ETDM DOQQ evaluation, portions of this project intersect existing croplands (row crops & pasture; but also citrus: noted as "tree crops" in SWFWMD land use data) which also have the designation of Farmland of Unique Importance. However, significant portions of the project route are either residential or industrial. Therefore, we are assigning a Moderate Degree of Impact for this project.

**CLC Commitments and Recommendations: Coordinator Feedback:** None

### Coordinator Summary: Floodplains Issue

3 Moderate assigned 08/24/2011 by FDOT District 1

**Comments:** The FHWA commented that the project's 100-foot buffer contains 97.0 acres of FEMA Flood Zones A or AE (flood prone areas); therefore, further floodplain impact analysis will be necessary. The FHWA also stated that the comments previously provided in 2005 regarding this issue hold true unless otherwise proven. Coordination Document: To Be Determined: Further Coordination Required.

The SWFWMD identified five primary floodplain impact areas, consisting of FEMA Flood Zones A and AE, associated with the project. The SWFWMD noted that the project may also impact numerous smaller unidentified floodplains. The SWFWMD recommends that the FDOT refer to data within recent SWFWMD-supported Watershed Management Models for recent land cover and topographic information. The SWFWMD requested that a bridge hydraulics report be submitted with the ERP application if proposed roadway improvements affect existing cross-drainage facilities. The SWFWMD also requested that the FDOT provide detailed analyses of the various culverts along US 27 that may be impacted by the proposed roadway widening. Coordination Document: Permit Required.

The USEPA reported that a good portion of the project is within the 100-year floodplain. The USEPA indicated that the project is likely to require a substantial amount of fill which will further impact the floodplain and will likely have additional indirect impacts. The USEPA stated that flood zone areas should be specifically analyzed and floodplain mitigation should be addressed. The EST GIS analysis results identify 45.7 acres (4.98%) of FEMA Flood Zone A (an area within the 100-year floodplain for which base flood elevations

have not been determined) and 159.2 acres (17.37%) of FEMA Flood Zone AE (an area within the 100-year floodplain for which base flood elevations have been determined) within the 200-foot project buffer. Due to the extent of 100-year floodplain within the project study area and the potential issues associated with providing floodplain compensation, a Summary DOE of Moderate has been assigned to the Floodplains issue.

Commitments and Responses: A Floodplains Assessment will be included in the scoping recommendations for this project.

Technical Studies: Floodplains Assessment.

**ETAT Reviews: Floodplains Issue: 3 found**

**3** Moderate assigned 06/09/2011 by Maher Budeir, US Environmental Protection Agency

**Coordination Document:** No Selection

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** More than 200 acres of the area within the 200 foot buffer.

**Comments on Effects to Resources:** A good portion of the project is within the 100 year flood zone. The project is likely to require substantial amount of fill which will further impact the floodplain and will likely have additional indirect impacts. Flood zone areas should be specifically analyzed. Mitigation of flood plain should be addressed.

**Coordinator Feedback:** None

**3** Moderate assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

**Coordination Document:** Permit Required

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** There are five primary Flood Plain impacts areas located within the alignment where FEMA Flood Insurance Rate Maps indicate flood hazard potential:

1. Lake Livingston and associated wetlands to the southwest, Zone A;
2. Unnamed wetland system on the west side of US 27 and including Lake Belle in S-004, Zone A;
3. Crooked Lake and connected wetlands on the east side of US 27, Zone AE;
4. Unnamed wetland system west of US 27 and south of CR 630, Zone A; and
5. Lake Clinch, Zone AE.

A total of approximately 5.0 miles of the project occupies the 100-year floodplain, and an additional 4.5 miles of the roadway is immediately adjacent to the 100-year floodplain.

In addition to these identified potential flood plain impacts there are numerous smaller areas of unidentified flood plains that may be impacted by the proposed roadway improvements.

**Comments on Effects to Resources:** The project will encroach on the 100-year floodplain, and may cause some loss of historic basin storage, thereby reducing storage capacity and altering conveyance characteristics in the affected basin.

**Additional Comments (optional):** The SWFWMD has assigned a Degree of Effect based on their opinion of the potential of this project to result in increased coordination or effort associated with the SWFWMD's regulatory interests and obligations. Compliance with ERP requirements will eliminate impacts but somewhat more than the usual coordination on this issue may be appropriate in view of the large percentage of the project having potential floodplain impacts.

If available, SWFWMD-supported Watershed Management Models are generally based on more recent land cover and topographic information. The SWFWMD recommends that the FDOT utilize data from these recent flood studies in preference to generalized information on flows and stages. FDOT should coordinate with the District's Engineering & Watershed Management Section in Brooksville in regard to the status / data availability of these Watershed Management Models. Proposed stormwater management systems may necessitate updates to the current or proposed Watershed Management Models.

If recent, reliable data indicate that floodplain impacts will occur, such impacts can be reduced or eliminated by providing compensation for lost floodplain storage.

For those improvements that may affect the existing cross drainage facilities, a bridge hydraulics report should be prepared (if applicable) and submitted with the Environmental Resource Permit application.

In the future, Polk County and the SWFWMD may update the FEMA Flood Insurance Rate Maps (FIRMs) using limited hydraulic and hydrologic modeling and approximate methods using recent land cover data. These data may be useful in the design of the project.

There are sixteen circular culverts/cross drains, thirteen concrete box culverts, three bridge culverts and one bridge structure that provide for conveyance of offsite water under the existing roadway facility. A detailed analysis of these various culverts based on impacts associated with widening the roadway will be required in order to ensure that there are no adverse offsite impacts.

The SWFWMD will require floodplain compensation for fill or other encroachment into the freshwater floodplain up to the 100-year event. No net encroachment into the floodplain, up to that encompassed by the 100-year event, which will adversely affect either conveyance, storage, or adjacent lands will be allowed.

**Coordinator Feedback:** None

**3** Moderate assigned 05/09/2011 by Joseph Sullivan, Federal Highway Administration

**Coordination Document:** To Be Determined: Further Coordination Required

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** Project intersects with FEMA designated A and A/E flood prone areas. Floodplains are often highly productive wetlands which provide a variety of water quality/quantity and wildlife functions.

**Comments on Effects to Resources:** The 100 foot project buffer encompasses 97 acres of A or A/E floodplain area. Comments from ACOE and State agencies should be gathered. Further floodplain impact analysis will be necessary. During future project phases please clearly document each effort to

avoid and/or minimize wetland and floodplain impacts. 2005 comments noted in the Advance Notice report hold true unless otherwise proven therefore previously designated Moderate level of effect is assigned.

**Coordinator Feedback:** None

The following organization(s) were expected to but did not submit a review of the Floodplains issue for this alternative: FL Department of Environmental Protection

**Coordinator Summary: Infrastructure Issue**

**2** Minimal assigned 08/24/2011 by FDOT District 1

**Comments:** The FHWA identified a fire house/ambulance, five drinking water wells, a wireless tower, and railroad within the 200-foot project buffer based on the EST GIS analysis results. The FHWA stated that the specific location of these resources must be identified during subsequent project phases and local coordination will be necessary to avoid impacts. Coordination Document: To Be Determined: Further Coordination Required.

The SWFWMD reported that several data collection sites operated and maintained by the SWFWMD are in the immediate project vicinity, one of which may be affected (either damaged or its collection function impaired) by project construction. The SWFWMD additionally identified a number of National Geodetic Survey Benchmarks near the proposed project. The SWFWMD recommends that the FDOT contact the SWFWMD Hydrologic Data Section in the Brooksville Office to avoid potential impacts to the data collection facilities. Coordination Document: To Be Determined: Further Coordination Required.

According to the EST GIS analysis results, the following infrastructure-related features are present within the 500-foot project buffer: two FDEM fire stations, three Federal Aviation Administration obstructions, six limited use drinking water wells, three wireless antenna structure locations, one USEPA Water Quality Data Monitoring Station, and 1,387.1 linear feet of railway. While the proposed improvements are expected to fit predominantly within the existing roadway right-of-way, due to agency concerns regarding potential impacts to data collection sites, a Summary DOE of Minimal has been assigned to the Infrastructure issue.

Commitments and Responses: None.

Technical Study: None.

**ETAT Reviews: Infrastructure Issue: 2 found**

**2** Minimal assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

**Coordination Document:** To Be Determined: Further Coordination Required

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** SWFWMD operates and maintains several data collection sites in the immediate project vicinity, one of which may be affected by project construction: the Lake Altamaha stage data collection site located at 2753°23.30"N 08135°55.40"W or 264 feet east of the project. Additional information is as follows:

SITE_ID	SITE_NAME	SITE_TYPE1	SITE_PRI_1	SITE_STATUS
767351	20_0968	CITY OF LAKE WALES	Ground Water Well	Active
23905	LAKE ALTAMAHA (R)	Surface Water	Lake	Active

The following NGS Benchmarks are located near this proposed US-27 widening project:

- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5507](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5507)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5509](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5509)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5508](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5508)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5511](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5511)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5493](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5493)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5498](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5498)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5510](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5510)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5503](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5503)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5495](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5495)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5496](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5496)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5491](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5491)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5490](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5490)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5497](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5497)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5499](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5499)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5501](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5501)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5502](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5502)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5506](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5506)

**Comments on Effects to Resources:** Construction activities related to the project and associated surface water management facilities have the potential to damage the District's data collection station or to impair its collection function.

**Additional Comments (optional):** SWFWMD requests that FDOT avoid data collection facilities. Coordination with the District's Hydrologic Data Section in Brooksville will be helpful in protecting this site.

SWFWMD owns lands along US-27 in the vicinity of Crooked Lake. FDOT should coordinate with the District's Land Resources Department Land Use Manager. In addition, additional lands along this project corridor are identified in the "Florida Forever Work Plan", available at:

- <http://www.swfwmd.state.fl.us/documents/>
- [http://www.swfwmd.state.fl.us/documents/plans/FFworkplan\\_2011Final.pdf](http://www.swfwmd.state.fl.us/documents/plans/FFworkplan_2011Final.pdf)

**Coordinator Feedback:** None

**2** *Minimal* assigned 05/09/2011 by Joseph Sullivan, Federal Highway Administration

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**Coordination Document:** To Be Determined: Further Coordination Required

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** Resources identified within the GIS analysis include a fire house/ambulance, 5 drinking water wells, rail road, and a wireless tower.

**Comments on Effects to Resources:** Each resource listed above is within 200 feet of the proposed project area. The rail road is within 100 feet in some areas. Specific location of resources and avoidance thereof will be required during subsequent project phases. Local coordination will be necessary to avoid impacts.

**Coordinator Feedback:** None

#### Coordinator Summary: Navigation Issue

**N/A** *N/A / No Involvement* assigned 09/07/2011 by FDOT District 1

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**Comments:** The FHWA did not identify any navigable waterways within the project's 500-foot buffer. The FHWA indicated that no impacts to navigable waterways are noted in previous (2005) and current assessments. Coordination Document: No Involvement.

The USACE did not identify any navigable waterways or marine facilities within the project study area. The USACE stated that the study should ensure navigation will remain unaffected in case an important factor was overlooked. Coordination Document: PD&E Support Document as per PD&E Manual.

The project does not cross any navigable waterways. For this reason, a Summary DOE of N/A / No Involvement has been assigned to the Navigation issue. The FDOT has coordinated with the FHWA in assigning a Summary DOE. The FHWA noted that while the widening of US 27 may not directly impact lakes, there are multiple lakes along this section of US 27 that may meet the Federal definition of navigable and therefore may require review and/or permitting through the ACOE.

**Commitments and Responses:** A Navigation Study, Bridge Questionnaire, and USCG Bridge Permit will not be required for this project.

**Technical Study:** None. / **Permit:** None.

#### ETAT Reviews: Navigation Issue: 2 found

**0** *None* assigned 08/01/2011 by Garrett Lips, US Army Corps of Engineers

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**Coordination Document:** PD&E Support Document As Per PD&E Manual

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** The EST identified no navigable waterways or marine facilities so the degree of effect should be none for navigation; however, the study should ensure navigation will remain unaffected if the EST overlooked an important factor.

**Comments on Effects to Resources:** None found.

**CLC Commitments and Recommendations:** **Coordinator Feedback:** None

**2** *Minimal* assigned 05/09/2011 by Joseph Sullivan, Federal Highway Administration

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**Coordination Document:** No Involvement

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** No navigable waters were noted within 500 feet of the project area in the GIS analysis.

**Comments on Effects to Resources:** In 2005 USGS recommended DOE of Minimal to None. No impacts to navigable waters were noted in current GIS analysis therefore a Minimal to None DOE is recommended.

**Coordinator Feedback:** None

#### Coordinator Summary: Special Designations Issue

**4** *Substantial* assigned 08/24/2011 by FDOT District 1

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**Comments:** The FWS reported that the project may impact lands within the Lake Wales Ridge Florida Forever Board of Trustees (BOT) project. The FWS noted that lands within the project's boundaries have already been acquired and protected; some are targeted for acquisition for conservation purposes. The FWS recommends that construction be conducted within the existing roadway right-of-way to the greatest extent practicable. Coordination Document: To Be Determined: Further Coordination Required.

The SWFWMD commented that within the vicinity of Crooked Lake, the project is located within the boundaries of the Greater Charlotte Harbor Ecosystem Management Area; therefore, coordination with the Charlotte Harbor National Estuary Program is recommended during the project's permitting phase. The SWFWMD also stated that Crooked Lake is a designated Outstanding Florida Water (OFW) and Special OFW, and portions of the Crooked Lake-West public land acquisition and Lake Wales Ridge Wildlife and Environmental Area occur within the project's 100-foot buffer. The SWFWMD recommends that the FDOT coordinate with the FDEP's Division of State Lands to determine the presence of Sovereign Submerged Lands within the project study area. The SWFWMD further recommends that the FDOT coordinate with the SWFWMD Brooksville Land Resources Department to avoid impacting SWFWMD-owned lands. Coordination Document: Permit Required.

According to the EST GIS analysis results, the only special designation resource located within the project's 200-foot buffer is the Lake Wales Ridge Florida Forever BOT project. The FDOT will conduct the appropriate agency coordination necessary to avoid and minimize impacts to this resource and any other special designation resources identified within the project study area. Due to the potential issues associated with encroachment on the Lake Wales Ridge Florida Forever BOT Project and SWFWMD's concerns of potential adverse impacts to Crooked Lake (an OFW), however, a Summary DOE of Substantial has been assigned to the Special Designations issue.

Commitments and Responses: None.

Technical Study: Section 4(f) Determination of Applicability.

#### ETAT Reviews: Special Designations Issue: 2 found

**4** *Substantial* assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

**Coordination Document:** Permit Required

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** Along much of its length, the project is the eastern boundary of the Greater Charlotte Harbor Ecosystem Management Area (EMA). In the vicinity of Crooked Lake, the project lies within the EMA as does Crooked Lake itself.

EMA's were designations given to watersheds and other geomorphic features (such as the Lake Wales Ridge) by the FDEP in the 1990s. An action plan was developed for each EMA, including the Greater Charlotte Harbor EMA, during the time of FDEP's Ecosystem Management Initiative. The District recommends coordination with The Charlotte Harbor National Estuary Program (CHNEP) during the permitting process to insure compliance with the action plan developed for the proposed project area.

Crooked Lake is designated Outstanding Florida Waters (OFW) and Special OFW. Other waters are designated Class III waters.

Portions of the District-owned Stuart and Britt Tracts of the Crooked Lake-West public land acquisition are located within 100 feet of the project on the west side of Crooked Lake. The project passes through these two parcels.

A unit of the Lake Wales Ridge Wildlife and Environmental Area is located within 100 feet of the project between Lake Streety and Hickory Lake.

**Comments on Effects to Resources:** The project may adversely affect water quality of Crooked Lake as a result of fugitive sedimentation during construction and as a result of untreated stormwater runoff from the completed project.

If the project is completed within existing ROW, no additional encroachment on the lake and its associated wetlands will occur. However, ROW requirements are stated as being 125 feet to 212 feet, and the ROW in the vicinity of Crooked Lake ranges between approximately 151 feet to 190 feet, suggesting that additional ROW may be needed in S-003. Additional ROW requirements may impact public lands on the west side of Crooked Lake, including the District-owned parcels.

There is the possibility that Sovereign Submerged Lands (SSL) may be involved with this project. Research of project land title records and information, and specific coordination with FDEP Division of State Lands, are needed to determine the location and extent of any such lands.

**Additional Comments (optional):** The SWFWMD has assigned a Degree of Effect based on their opinion of the potential of this project to result in increased coordination or effort associated with the SWFWMD's regulatory and proprietary interests and obligations.

FDOT must provide reasonable assurance that the project will not cause adverse water quantity impacts to receiving waters or adverse flooding to on-site or off-site property and that the project will not adversely affect water quality in Crooked Lake.

The FDOT is strongly urged to coordinate with the District's Land Resources Department in Brooksville so as to avoid impact to District lands.

**Coordinator Feedback:** None

**4** *Substantial* assigned 04/25/2011 by John Wrublik, US Fish and Wildlife Service

**Coordination Document:** To Be Determined: Further Coordination Required

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** Existing and potential public conservation lands

**Comments on Effects to Resources:** Based on information presented in the Environmental Screening Tool, we note that the project will impact lands within the Lake Wales Ridge Florida Forever Board of Trustees Project. Lands within this project have been targeted for acquisition for conservation purposes by the state of Florida. Some lands within the project's boundaries have already been acquired and protected. Accordingly, we recommend that the project be designed to avoid impacts to these conservation lands to the greatest extent practicable. This would likely include constructing the project within the existing disturbed road right-of-way to the greatest extent practicable.

**CLC Commitments and Recommendations:** **Coordinator Feedback:** None

The following organization(s) were expected to but did not submit a review of the Special Designations issue for this alternative: FL Department of Agriculture and Consumer Services, Federal Highway Administration, US Environmental Protection Agency

#### Coordinator Summary: Water Quality and Quantity Issue

**3** *Moderate* assigned 08/24/2011 by FDOT District 1

**Comments:** The FDEP commented that the project is adjacent to Crooked Lake, which is a designated Special Outstanding Florida Water (OFW); therefore, it must be demonstrated during the ERP application that direct impacts resulting from the project are "clearly in the public interest". The FDEP recommends that the PD&E Study include an evaluation of existing stormwater treatment adequacy and details on future stormwater treatment facilities. Coordination Document: Permit Required.

The SWFWMD reported that the project is located within four basins: Peace Creek Canal Tributary Basin (WBID 1613), Crooked Lake Outlet (WBID 1663A), Lake Clinch Outlet (WBID 1706A), and Lake Livingston Drain (WBID 1730F). The SWFWMD also identified the named channels within the project study area (Crooked Lake Canal, Crooked Lake Outlet Channel, and Lake Streety Canal) and noted that the project may affect six lakes (Lake Altamaha, Lake Adelaide, Crooked Lake, Lake Clinch, Lake Livingston, and Lake Streety). The SWFWMD further noted that there are three springs within 0.2 miles of the project and three water supply wells located immediately adjacent to the existing roadway right-of-way. The SWFWMD stated that there are no existing stormwater ponds associated with US 27, and runoff currently drains directly from the roadway throughout most of the project study area. The SWFWMD additionally noted that floodplain storage and runoff volume within the Crooked Lake Clinch/Reedy drainage basins are critical issues due to the limited capacity of the conveyance system connecting the following lakes: Crooked, Clinch, Reedy, and Arbuckle. The SWFWMD identified Water Use Permit #002989.006 within 1000 feet of the project and provided a list of Environmental Resource Permits located



within the project's 200-foot buffer. The SWFWMD stated that the project may affect several impaired watersheds (WBIDs 1539, 1613, 1619A, 1706, and 1730) and proposed stormwater management systems that discharge into impaired waters require a higher level of treatment in order to prevent further degradation of these waters. The SWFWMD also noted that stormwater discharge into an OFW would require water quality treatment at 150% standard treatment volume. The SWFWMD recommends that stormwater ponds be designed as shallow as practical and that geotechnical evaluations be conducted within potential pond sites in order to determine the potential for sinkhole development. The SWFWMD additionally recommends that a pre-application meeting be conducted prior to submittal of the ERP application and noted that an existing pre-application file (PA3864 and PA398252) is being maintained at the SWFWMD Bartow Service Office. Coordination Document: Permit Required.

The USEPA commented that the project is located in a recharge area for the Floridan aquifer. The USEPA indicated that the project will add substantial impervious surfaces and, therefore, impact water flow and water quality in the area. The USEPA stated that surface water treatment must be optimized to control flow and minimize impact on water quality.

The project will be designed to meet state water quality and quantity standards, and best management practices will be employed during construction. Due to the presence of two 303(d) listed Impaired Waters (WBIDs 1613 and 1617) within the project's 200-foot buffer and Crooked Lake (an OFW) within the project's 500-foot buffer, however, a Summary DOE of Moderate has been assigned to the Water Quality and Quantity issue.

Commitments and Responses: A Water Quality Impact Evaluation (WQIE), per FDOT guidance, will be included in the scoping recommendations for this project.

Technical Study: Water Quality Impact Evaluation (WQIE). / Permit: Environmental Resource Permit.

### ETAT Reviews: Water Quality and Quantity Issue: 3 found

**3** Moderate assigned 06/09/2011 by Maher Budeir, US Environmental Protection Agency

**Coordination Document:** No Selection

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** Floridan Aquifer, Crooked Lake,

**Comments on Effects to Resources:** The proposed project will add substantial impervious surfaces and will therefore impact water flow and water quality in the area. The area is a recharge area for the Floridan aquifer. Other water resources may also be impacted. Surface water treatment must be optimized to control flow and minimize impact on water quality.

**Coordinator Feedback:** None

**3** Moderate assigned 05/26/2011 by Lauren P. Milligan, FL Department of Environmental Protection

**Coordination Document:** Permit Required

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** The proposed road widening runs adjacent to Crooked Lake in Polk County, which is designated Special Outstanding Florida Waters (OFW) under section 62-302.700(9), F.A.C., and afforded a high level of protection under sections 62-4.242(2) and 62-302.700, F.A.C. Pursuant to section 373.414(1), F.S., direct impacts to these waterbodies and associated wetlands must be demonstrated to be "clearly in the public interest" as part of the ERP permitting process.

**Comments on Effects to Resources:** Every effort should be made to maximize the treatment of stormwater runoff from the proposed highway improvements project to prevent ground and surface water contamination. Stormwater treatment should be designed to maintain the natural predevelopment hydroperiod and water quality, as well as to protect the natural functions of adjacent wetlands. We recommend that the PD&E study include an evaluation of existing stormwater treatment adequacy and details on the future stormwater treatment facilities. The permit applicant may be required to demonstrate that the proposed stormwater system meets the design and performance criteria established for the treatment and attenuation of discharges to OFWs, pursuant to rule 40D-4, F.A.C., and the SWFWMD Basis of Review for ERP Applications.

**Coordinator Feedback:** None

**3** Moderate assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

**Coordination Document:** Permit Required

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** The project is located in the Peace River Watershed and the Kissimmee River Watershed. From north to south, the project occupies four drainage basins: the Peace Creek Canal Tributary basin (WBID1613) in the Peace River watershed; the Crooked Lake Outlet (WBID 1663A), Lake Clinch Outlet (WBID 1706A) and Lake Livingston Drain (WBID 1730F) in the Kissimmee River watershed. The project is located within 700 feet of the Lake Blue drainage basin (WBID 1613A).

Water bodies in the project vicinity include natural and artificial channels, stormwater ponds, farm ponds and natural lakes. A total roadway length of 4.23 mi starting from the north terminus and continuing to just north of Babson Park is in the Peace Creek Canal Tributary drainage basin. The Peace Creek Canal Tributary parallels US 27 on the west side for a distance of 1.75 mi after which it turns westward then northward to intercept the Peace Creek Canal, a major tributary of the Peace River. US 27 is located along the extreme eastern side of the Peace Creek Canal Tributary drainage basin, and flow direction is to the west.

The remainder of the project, 13.8 mi, is located in the three drainage basins in the Kissimmee River watershed. Named channels include Crooked Lake Canal, the Crooked Lake Outlet Channel and the Lake Streety Canal. A total roadway length of 5.5 mi occupies the Crooked Lake drainage basin which includes the 5538-acre Crooked Lake and extensive wetlands on the west side of US 27. US 27 bisects the basin, and flow from the wetlands on the west side of US 27 is restricted to canals that proceed under the roadway and through extensive wetlands to the lake. The basin discharges southeasterly to Lake Clinch by means of the Crooked Lake Outlet channel, an artificial canal that has a non-SWFWMD water control structure. That channel proceeds from the lake, through a large wetland on the lake's southeast shore, and under CR 630 to the northwest shore of Lake Clinch. A roadway length of 3.36 mi occupies the Lakes Clinch Outlet drainage basin south of the Crooked Lake drainage basin. Lake Clinch discharges to Reedy Lake which discharges to Livingston Creek by means of Reedy Creek; Livingston Creek then flows to Lake Arbuckle. The project occupies the Lake Livingston Creek drainage basin for a length of 4.9 mi. Lake Livingston receives flow from the Lake Streety area west of US 27 and from Lake Adelaide in Highlands County. The drainage basin discharges to Lake Arbuckle by means of Livingston Creek. Ultimately, the southern 13.8 miles of

the project drain to Lake Arbuckle which discharges to the Kissimmee River via Arbuckle Creek.

Lakes in the Peace River Basin that may be affected by the project include Lake Altamaha located within 50 feet of the project just south of SR 60 and east of US 27.

Lakes in the Kissimmee River basin located within SWFWMD boundaries that may be affected by the project include, from north to south: Lake Adelaide, Crooked Lake, Lake Clinch, Lake Livingston and Lake Streeby. Like many lakes in the Ridge region of Florida, Crooked Lake's basin is composed of sinkholes that have developed in extensive uplands. The lake has an area of 5,538 acres at elevation of 118' NGVD 1929; there is a SWFWMD staff gage on the lake, and Guidance Levels have been set by the Governing Board of SWFWMD. Prior to the construction of US 27 and its predecessor roadways, the lake was directly connected to the large area of wetlands that are now located to the west of US 27 by means of overland flow. The wetlands served as a backwater for the lake and as a water source for the lake, depending on lake level elevations. The lake's water elevation can vary considerably, and during droughts, the lake has separated into several basins, representing the sinkholes comprising the total lake.

Lake Clinch is a 1207-acre lake for which Guidance Levels have been set by the Governing Board of SWFWMD. It is located 0.9 mi from the project at its closest proximity.

Lake Livingston is a 1203-acre lake located 1.2 mi east of US 27. The lake is surrounded by very extensive wetlands and receives flow from the Lake Streeby Canal that passes through the US 27 bridge (Bridge No. 160194). Lake Streeby, located 0.52 mi west of US 27, is 321-acre lake for which Guidance Levels have been set by the Governing Board of SWFWMD. The lake discharges by means of the Lake Streeby Canal which is located 3.28 mi north of the Polk-Highlands County line. Within the ROW, flow in the canal is restricted to a narrow flow way through dense shrubs and small trees. Upon exiting the ROW, flow in the canal proceeds easterly through a bay - gum swamp to the swamp on the west side of Lake Livingston. Along its length from US 27 bridge to the Lake Livingston wetlands, the canal flows through the Lake Wales Ridge Wildlife and Environmental Area owned by FDEP. Lake Adelaide, a 96 -acre lake located 300' southwest of the project's south terminus, drains under US 27 northeasterly to the Lake Livingston wetlands. The Governing Board of the SWFWMD has established Guidance Levels for Lake Adelaide. Lake Livingston discharges by means of Livingston Creek and a non-SWFWMD water control structure to Lake Arbuckle.

No sinkholes are listed in the Environmental Screening Tool (EST) within a 0.5 mi buffer of the project; however, the region of Polk County occupied by US 27 is karstic, with numerous sinkholes and sinkhole ponds/lakes reported in the vicinity of the project.

Three springs are reported within 0.2 mi of the project. President's Drive spring, Ballfield spring and the Warner Southern College spring are located east and west of the project on the College property in Babson Park. The RV Camp Inn Resort spring is located on the west side of US 27 8.5 mi south of SR 60.

The segment of US 27 under study consists of a rural cross section with roadside swales at some locations. However, for most of the study segment the roadway drains off the pavement directly to off-site areas. No stormwater treatment ponds serving the roadway are present.

Three water supply wells are located immediately adjacent to the ROW on the east side. The Park Water Company production, storage, and treatment facility with propane tank is located 4.5 mi south of SR 60. The Sun Ray well is located 13.7 mi south of SR 60. A Polk County Utilities well is located 14.9 mi from SR 60.

The invert of the Crooked Lake structure is 120.0 ft NGVD 1929 (nearest tenth), and it has provisions for drop boards. Floodplain storage and runoff volume within the Crooked Lake and Clinch/Reedy drainage basins are critical issues due to the limited capacity of the conveyance system connecting lakes Crooked, Clinch, Reedy, and Arbuckle.

The following, existing Water Use Permit (WUPs) within 1000 feet of the US 27 may provide useful information:  
002989.006 - City of Lake Wales.

The January 15, 2010 Verified List of Impaired Waters includes information on TMDLs that is relevant to the District's permitting interests for this project. There are no Draft or Final TMDLs established for watersheds occupied by the project. Several watersheds that may be affected by the project are on the Verified List as impaired for various water quality parameters. Watersheds impaired for nutrients include: Peace Creek Drainage Canal (WBID 1539), Peace Creek Tributary Canal (WBID 1613), Lake Wales (WBID 1619A), Lake Clinch (WBID 1706), and Lake Hickory (WBID 1730). Peace Creek Drainage Canal also is impaired for BOD and DO, while Peace Creek Tributary Canal is impaired for DO.

Existing Environmental Resource Permits (ERPs) within 1000 feet of the US 27 that may provide useful information include:  
024682.000 - DOT SR 700  
028026.000 - DOT-SR 17 FROM US 27 TO CR 630A

Existing Environmental Resource Permits (ERPs) within 200 feet of US 27 since July 2005, which may provide useful information include:  
20651.008 - LAKE WALES -LONGLEAF BUS PRK HARLEY LOTS (Ridge H-D Management Llp)  
29177.000 - SUNRAY GAS ADDITION (U S Food Stores Inc)  
31826.000 - MCD STORAGE FACILITY (Mcd Of Central Florida Inc)  
32036.001 - MAYFAIR PH 1 - ENTRANCE RD (Mayfair Dev Of Lake Wales Llp)  
33792.000 - VELEZ & SONS GROUP INC (Velez & Sons Group Inc)  
34142.000 - KERSEY NURSERY MODULAR OFFICE (William M Kersey Living Trust)  
34201.000 - ALICO CROOKED LAKE TRACT (Alico Inc)  
34695.000 - YOUNGIE AUTO CENTER (Shanti Dookhan)  
35091.000 - SHOPS OF FROSTPROOF DRAINAGE IMPROVEMENT (Shops Of Frostproof LLC)  
32036.012 - MAYFAIR DEVELOPMENT-CONCEPTUAL (Mayfair Development Of Lake)  
32036.013 - MAYFAIR DEVELOPMENT (Mayfair Development Of Lake)  
32036.018 - MAYFAIR PHASE 14-MICROTEL INN (Mayfair Development Of Lake)  
32036.020 - MAYFAIR PHASE 12 (Mayfair Development Of Lake)  
29106.001 - SR25 US 27 LAKE ISIS RD TO POLK-HIGHLA (Florida Dept of Transportation)

Impacts to existing permitted stormwater management systems may decrease performance in terms of flood management or stormwater treatment.

Filling within the floodplain may decrease floodplain storage which could increase flooding depth and duration.

**Comments on Effects to Resources:** The project may increase pollutant loads to the Peace Creek Canal Tributary and Crooked Lake, and the Lake Streety Canal during construction as a result of erosion and sedimentation from exposed soils. The completed project may adversely affect waterways crossed by the project, including the Lake Streety Canal, the Blue Lake Outlet channel, and the Crooked Lake canals by increasing volumes and peak flows during storm events. Such a situation may have adverse effects on the waterways' physical integrity and function due to scour at the US 27 crossings and shoaling. Additional runoff may exceed the system's conveyance capacity, contributing to flooding on adjacent lands upstream of the US 27 Bridge.

Under-treated or untreated runoff generated by the project could adversely impact an OFW and three water supply wells. Sinkholes and springs within or adjacent to the construction corridor could also be impacted, with the potential to contaminate ground water as a result of the entry of stormwater runoff into sinkholes.

**Additional Comments (optional):** The SWFWMD has assigned a Degree of Effect based on their opinion of the potential of this project to result in identifiable impacts after fully complying with the SWFWMD's permitting processes or the effort associated with fully complying with the SWFWMD's proprietary interests and obligations.

Several District projects may provide information useful to FDOT in the design of US 27 improvements:

B171 - Lake Wales Ridge Public Lands Evaluation

B196 - Ridge Lakes Stormwater Improvement - BMP Evaluation

B217 - Stormwater Improvement, Water Quality in Avon Park and Lake Wales Ridge Lakes

B225 - Lake Wales Ridge Public Lands Evaluation

N240 - Stormwater improvements, Water Quality

Hydrologic data that may be useful to FDOT are available from several District sites:

Streamflow

Livingston Creek @ Frostproof 274046.10 813221.25 = 2740°46.10"N 08132°21.25"W

Groundwater

ROMP 44 SWNN/OCAL 274927.78 813552.93

ROMP 44 SURF 274927.94 813552.81

Rainfall

ROMP 44 WARNER S COLLEGE 274927.94 813552.81

Lakes

LAKE WEADER (R) 275408.30 813549.90

TWIN (EAST) LAKE (R) 275340.00 813531.40

TWIN LAKE (WEST) (R) 275342.10 813538.40

LAKE ALTAMAHA (R) 275323.30 813555.40

LAKE BELLE (R) 275303.50 813508.80

LAKE WARREN (R) 275319.50 813529.80

BLUE LAKE SOUTH (R) 275103.20 813425.90

LITTLE CROOKED LAKE (R) 274545.90 813423.10 274613081343001

CROOKED LAKE NR BABSON (R) 274830.00 813320.60

LAKE CLINCH (R) 274447.70 813213.00 02269300

REEDY LAKE (R) 274519.10 813039.10 02269400

LAKE STREETY (R) 274046.80 813353.80

LAKE ADELAIDE SOUTH 273813.20 813204.50

Data from these stations are contained within EPA's STORET database as well as FDEP's Impaired Waters Rule database.

While no sinkholes are reported in the Environmental Screening Tool (EST) within 0.5 mi of the project, sinkholes have been reported in the project vicinity and the potential for encountering sinkholes is high. In view of the proximity of the three production wells to the roadway, it is recommended that FDOT perform a specific investigation to determine whether sinkholes will be a factor in the drainage design of the project. Treatment pond design also will be influenced by the presence of sinkholes, and the District recommends that ponds be as shallow as practicable. A Drainage or Pond Siting Report, incorporating area-specific geotechnical information on the basin, will be necessary. Direct discharges to active sinkholes are strongly discouraged due to the potential for groundwater contamination.

To prevent further degradation of impaired waters and to be consistent with federal and state laws and rules, the District will require stormwater management systems that discharge directly or indirectly into impaired waters to provide net improvement for the pollutants that contribute to the water body's impairment. To do this, a higher level of treatment is necessary to assure that the permit creates a net improvement in the pollutants that have caused or are contributing to the water body impairment.

Reductions in pollutant loading from stormwater runoff via stormwater treatment facilities or other BMPs will be required, if necessary, to implement the TMDLs should they be developed.

For projects discharging directly into the Crooked Lake and associated OFW, the SWFWMD has imposed an additional treatment volume of 50% above the District's water quality treatment requirements to protect the Outstanding Florida Waters (OFW) designation.

If this project will require the acquisition of new right-of-way areas, the current rule for eminent domain noticing is 40D-1.603(9), FAC and requires the applicant to provide the noticing to the affected property owners. Additionally, any issued permit may include special conditions prohibiting construction until the FDOT provides evidence of ownership and control.

For ERP permitting purposes, the project area is located in the Peace River and Kissimmee River Drainage Basins. The District has assigned pre-application file numbers PA3864 and PA398252 for the purpose of tracking their participation in the ETDM review of this project. Files PA3864 and PA398252 are maintained at the Bartow Service Office of the SWFWMD. Please refer to these pre-application files whenever contacting District regulatory staff regarding this project.

**Coordinator Feedback:** None

The following organization(s) were expected to but did not submit a review of the Water Quality and Quantity issue for this alternative: Federal Highway Administration

### Coordinator Summary: Wetlands Issue

3 Moderate assigned 09/07/2011 by FDOT District 1

**Comments:** The FDEP reported that the National Wetlands Inventory data identifies 1,112.5 acres of palustrine wetlands within the 500-foot project buffer. The FDEP stated that the project will require an Environmental Resource Permit from the SWFWMD. The FDEP indicated that the ERP applicant will be required to eliminate or reduce any potential impacts to wetland resources. Coordination Document: Permit Required.

The FWS noted that wetlands are present within the project study area. The FWS stated that unavoidable impacts should be offset through mitigation that fully compensates for the loss of wetland resources. Coordination Document: To Be Determined: Further Coordination Required.

The NMFS restated comments provided for the Coastal and Marine issue.

The SWFWMD commented that potential wetland impacts within the 100-foot project buffer total 21.0 acres of which 9.57 acres are located in proximity to S-003 (concentrated primarily within the vicinity of Crooked Lake), 4.97 acres are in proximity to S-004 (consisting entirely of the Peace Creek Drainage Canal wetlands), 4.75 acres occur within the vicinity of S-002, and 1.71 acres of wetlands occur within the vicinity of S-001. The SWFWMD noted that potential wetland impacts within the project's 200-foot buffer increase to approximately 94.0 acres. The SWFWMD reported that existing wetland communities within the project study area consist of herbaceous marshes/roadside swales, wet prairies, shrubby wetlands, bay swamps, and gum swamps. The SWFWMD stated that there is potential for the proposed project to restore severed connectivity between Crooked Lake and wetlands located along the west side of US 27. The SWFWMD recommends that the FDOT include an evaluation of this potential hydrologic restoration in the Bridge Hydraulics Report. Coordination Document: Permit Required.

The USACE reported that there are approximately 420.0 acres of wetlands within the 200-foot project buffer according to National Wetlands Inventory data. The USACE recommends the use of barriers/retaining walls in lieu of wide shoulders/medians within wetland areas to reduce the overall roadway footprint and to minimize potential wetland impacts. The USACE noted that the project study area is located within the Lake Okechobee Watershed Comprehensive Everglades Restoration Plan (CERP) boundaries and requested that the FDOT identify/quantify the project's potential effects on this CERP project. The USACE further stated that the purchase of credits from a mitigation bank is currently the preferred method of achieving compensatory wetland mitigation for unavoidable impacts; avoidance and/or minimization measures must be implemented to the extent practical. Coordination Document: PD&E Support Document as per PD&E Manual.

The USEPA identified over 400.0 acres of wetlands within the 200-foot project buffer and indicated that the project is located within CERP project boundaries. The USEPA noted that the project could result in direct impacts to substantial acreages of wetlands and indirect impacts to many more wetland resources. The USEPA recommends that the project footprint be minimized and stated that unavoidable impacts should be fully mitigated.

The project corridor is approximately 18.8 miles in length. According to the National Wetlands Inventory database, approximately 414.0 acres (45.0%) of palustrine wetlands are present within the 200-foot project buffer. The FDOT will 1) incorporate avoidance and minimization measures to the greatest extent practicable into the project design, 2) fully mitigate unavoidable adverse wetland impacts as part of the permitting process, and 3) utilize best management practices during project construction. Due to the acreage of wetlands located within the project's 200-foot buffer, agency concerns of potential adverse wetland impacts resulting from the proposed roadway expansion and the issues associated with providing compensatory wetland mitigation, a Summary DOE of Moderate has been assigned to the Wetlands issue. The FDOT initiated coordination with the USACE and the USEPA on August 12th, 2011 to clarify the project issues and assignment of a Summary DOE. The FDOT has not received a response from the agencies' prior to the date of this Summary Report re-publication (September 7th, 2011).

Commitments and Responses: Preparation of a Wetlands Evaluation Report will be included in the scoping recommendations for this project.

Technical Study: Wetlands Evaluation Report.

Permit(s): Environmental Resource Permit. / USACE Dredge and Fill Permit.

### ETAT Reviews: Wetlands Issue: 6 found

4 Substantial assigned 06/09/2011 by Maher Budeir, US Environmental Protection Agency

**Coordination Document:** No Selection

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** Comprehensive Everglades Restoration Plan (CERP) Project Boundaries

Over 400 acres of wetlands (NWI) within the 200 foot buffer.

**Comments on Effects to Resources:** A substantial portion of the widening project will impact wetlands. EPA recommends that the project footprint be minimized. Substantial acreage of wetlands will be directly impacted and many more will be impacted indirectly. All wetland impact should be fully mitigated.

Additionally impact on the CERP should be assessed specifically and fully mitigated.

**Coordinator Feedback:** None

4 Substantial assigned 05/27/2011 by Garett Lips, US Army Corps of Engineers

**Coordination Document:** PD&E Support Document As Per PD&E Manual

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** The EST identified no navigable waterways or marine facilities so the degree of effect should be none for navigation; however, the study should ensure navigation will remain unaffected if the EST overlooked an important factor.

The EST also identified approximately 420 acres of NWI wetlands within 200 feet of the roadway corridor. The Corps expects the study and design to implement alternatives and design configurations that avoid wetlands to the extent practical. The Corps recommends the FDOT to study not only alternatives that achieve the project purpose and are feasible but also recommend FDOT to consider a design with the smallest environmental footprint

from the onset of the study and not to propose overly aggressive sprawling roadway configurations in anticipation of future changes to water quality requirements, for instance. We recommend modest roadway designs with only the minimum, yet safe, travel lane widths. Consider the maximum use of barriers in lieu of wide shoulders or medians, and retaining walls in areas of wetlands to reduce the overall roadway footprint. The Corps agrees with the FHWA project concept of "every day counts" and recommends the process to accelerate project delivery and to maximize protection of the environment.

CERP projects: The EST identified the Lake Okechobee watershed was within the project area. Coordination with the Corps is recommended to ensure the FDOT project goals and Goals of the Corps and CERP are not inconsistent. The CERP project is funded and is undergoing design and implementation so we recommend FDOT perform an analysis that would identify and quantify (if any) effects on the CERP project.

**Comments on Effects to Resources:** The Corps recommends avoidance of all wetlands and waters where practicable alternatives exist. The impacts must implement measures to minimize impacts to the extent practical. However, if unavoidable impacts are anticipated, the Corps recommends the FDOT to follow the most current regulations regarding compensatory mitigation. Currently, the hierarchy preference is for mitigation bank credit purchase.

**Coordinator Feedback:** None

**3** *Moderate* assigned 05/26/2011 by Lauren P. Milligan, FL Department of Environmental Protection

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**Coordination Document:** Permit Required

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** The National Wetlands Inventory GIS report indicates that there are 1112.5 acres of palustrine wetlands within the 500-ft. project buffer zone.

**Comments on Effects to Resources:** The proposed project will require an environmental resource permit (ERP) from the Southwest Florida Water Management District. The ERP applicant will be required to eliminate or reduce the proposed wetland resource impacts of highway construction to the greatest extent practicable:

- Minimization should emphasize avoidance-oriented corridor alignments, wetland fill reductions via pile bridging and steep/vertically retained side slopes, and median width reductions within safety limits.
- Wetlands should not be displaced by the installation of stormwater conveyance and treatment swales; compensatory treatment in adjacent uplands is the preferred alternative.
- After avoidance and minimization have been exhausted, mitigation must be proposed to offset the adverse impacts of the project to existing wetland functions and values. Significant attention is given to forested wetland systems, which are difficult to mitigate.
- The cumulative impacts of concurrent and future transportation improvement projects in the vicinity of the subject project should also be addressed.

**Coordinator Feedback:** None

**3** *Moderate* assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

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**Coordination Document:** Permit Required

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** The project area is characterized by an abundance of wetlands, many of them of high quality. Wetland systems observed during field visits in June 2005 and April 2011 primarily consisted of small wetland systems, with the exception being the very large wetland and floodplain systems associated with Crooked Lake on the eastern edge of the project corridor. It is expected that most of the construction will take place within existing ROW, but there are stretches of the existing facility where it appears that it will be necessary to acquire additional property for the project. Within the 100-foot project buffer, there are a total of 21 acres of potentially impacted wetlands. S-003 has the highest acreage of potentially affected wetlands (9.57 acres) most of which are associated with the Crooked Lake system; S-004 has the second highest acreage of potentially affected wetlands (4.97 acres) all of which are part of the Peace Creek Drainage Canal system; S-002 has 4.75 acres of potentially affected wetlands; these wetlands are generally associated with the Lakes Streety/Clinch/Livingston system. S-001 has the lowest acreage of potentially affected wetlands (1.71 acres) which also are part of the Lakes Streety/Clinch/Livingston system. Within the 200-foot buffer, the acreage of potentially affected wetlands increases over 4 times to approximately 94 acres. S-003 again is the most affected segment with half of the total wetlands acreage impacts (45 acres), and S-001 and S-004 have approximately the same amount of affected wetland acreage at about 13 acres each. S-002 has the second highest amount of potentially affected wetland acreage (23 acres).

The wetland types that are immediately adjacent to the project or within the ROW and their FLUCFCS classifications include: herbaceous communities in roadside swales (641), wet prairies (643), extensive marshes associated with Crooked Lake and Lake Livingston (641), shrubby wetlands (618), bay swamps (611), and gum swamps (613). While wetlands are scattered throughout the project corridor, they are particularly prevalent in the Crooked Lake area where US 27 bisects the Crooked Lake drainage basin. The lake parallels US 27 for 5.7 mi, and the roadway separates the lake from the herbaceous and shrubby wetlands that formerly constituted the western portion of the lake. The lake-to-wetland connection now is comprised of canals passing under US 27 to the lake on the east side of the roadway. Between the roadway and the lake basin, there are also extensive herbaceous and shrubby wetlands associated with Crooked Lake. Other important wetland areas along the project corridor include: the Blue Lake Outlet north of Babson Park (500'); stream crossing and wetlands southwest of Lake Clinch at 0.68 mi south of CR 630 (total length 2200'); the Lake Streety Canal at 0.5mi north of the US 27/SR 17 intersection (1000'); and the wetlands on the west side of Lake Livingston (total length of 2700').

Several species of Listed wetland dependant species were observed within the project limits, including the Florida sandhill crane (nesting) (ST), little blue heron (SSC), snowy egret (SSC), white ibis (SSC), and woodstork (FE). The entire project is located in a recognized Woodstork Core Foraging Area.

**Comments on Effects to Resources:** It is possible that it will be necessary to acquire additional property for the construction of the new laneage. Therefore, the project may adversely impact wetlands outside of the existing ROW as a result of direct encroachment, hydrologic disruption, and significant physical disturbance. Temporary impacts during construction, such as turbidity, damage to plants, and noise may also occur

US 27 and its predecessor roadways disrupted surface water hydrology in the Crooked Lake area. The proposed project represents an opportunity to restore some connectivity between the lake and wetlands to the west of US 27 which should be addressed in the recommended Bridge Hydraulics report.

Because this project is proposed as a capacity improvement along an existing roadway alignment there could be significant impacts to native habitats including wetlands and surface waters, depending upon the final alignment selection. The project has the potential to impact a significant number of wetland systems along its entire length. Depending upon the specific design and alignment selected for the new lanes, some small, ephemeral wetlands may be eliminated. Impacts to wetlands and uplands on District-owned Lands and to other public lands are possible.



**Additional Comments (optional):** The SWFWMD has assigned a Degree of Effect based on their opinion of the potential of this project to result in identifiable impacts after fully complying with the SWFWMD's permitting processes or the effort associated with fully complying with the SWFWMD's proprietary interests and obligations.

The decision as to whether new laneage will be constructed in the median or on one side or the other of the existing facility will affect the degree of wetland impact and the mitigation requirements associated with the project. Data from the technical studies on habitat, wildlife, and wetlands should be input into the selection of the final alignment of the project. The regional wetland and wildlife impacts of the project can be reduced further by means of appropriate precautions during construction.

Coordination with FFWCC will be required if wetland-dependent Listed Species are impacted by the project. It is recommended that the FDOT prepare a Wetland Evaluation Report (WER) and an Endangered Species Biological Assessment (ESBA) for further analysis. Several Listed Species that are wetland dependent have been reported from the project vicinity, including wood stork (nesting), sandhill crane (nesting), little blue heron, snowy egret, and white ibis. Existing data should be collected and specific surveys should be conducted to detect the occurrence and abundance of other Listed Species that are very likely to utilize the wetlands and other surface waters within and adjacent to the ROW. The potential impact of the roadway project on these species may be substantial.

Adequate and appropriate wetland mitigation activities may be required for unavoidable wetland and surface water impacts associated with the project. The FDOT Mitigation Program (Chapter 373.4137, F.S.) requires the FDOT to submit anticipated wetland and surface water impact information to the SWFWMD. This information is utilized to evaluate mitigation options, followed by nomination and multi-agency approval of the preferred options. These mitigation options typically include enhancement of wetland and upland habitats within existing public lands, public land acquisition followed by habitat improvements, and the purchase of private mitigation bank credits. The SWFWMD may choose to exclude an FDOT project in whole or in part if the SWFWMD is unable to identify mitigation that would offset wetland and surface water impacts of the project. Under this scenario, the SWFWMD will coordinate with FDOT on which impacts can be appropriately mitigated through the program as opposed to separate mitigation conducted by FDOT. Through the FDOT mitigation program, the SWFWMD may have previously purchased mitigation credits from a mitigation bank appropriate to the project area for unavoidable roadway wetland impacts. Depending on the quantity and quality of the proposed wetland impacts and associated mitigation activities at such a mitigation bank, the SWFWMD may propose purchasing additional credits from the mitigation bank and/or pursue and propose alternative locations for mitigation. The FDOT and SWFWMD will coordinate mitigation alternatives as the project proceeds through future design phases.

The project area crosses through the Peace River and Kissimmee River watersheds. In order to compensate for wetland and surface water impacts appropriately and adequately, mitigation activities are conducted within the same watershed basins as the proposed impacts. The SWFWMD will continue to evaluate potential mitigation options within these basins and make a future determination as to the appropriate mitigation options to be exercised. SWFWMD would appreciate updates on the anticipated wetland impacts for US 27.

If this project will require the acquisition of new right-of-way areas, the current rule for eminent domain noticing is 40D-1.603(9), FAC and requires the applicant to provide the noticing to the affected property owners. Additionally, any issued permit may include special conditions prohibiting construction until the FDOT provides evidence of ownership and control.

For ERP permitting purposes, the project area is located in the Peace River and Kissimmee River Drainage Basins. The District has assigned pre-application file numbers PA3864 and PA398252 for the purpose of tracking their participation in the ETDM review of this project. Files PA3864 and PA398252 are maintained at the Bartow Service Office of the SWFWMD. Please refer to these pre-application files whenever contacting District regulatory staff regarding this project.

**Coordinator Feedback:** None

**3** *Moderate* assigned 04/25/2011 by John Wrublik, US Fish and Wildlife Service

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**Coordination Document:** To Be Determined: Further Coordination Required

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** Wetlands

**Comments on Effects to Resources:** Wetlands provide important habitat for fish and wildlife. Information provided in the Environmental Screening Tool indicates that wetlands are found within the project area. The Service recommends that these valuable resources be avoided to the greatest extent practicable. If impacts to wetlands are unavoidable, the Service recommends the FDOT provide mitigation that fully compensates for the loss of wetland resources.

**CLC Commitments and Recommendations:** **Coordinator Feedback:** None

**N/A** N/A / No Involvement assigned 04/25/2011 by David A. Rydene, National Marine Fisheries Service

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**Coordination Document:** No Involvement

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** None.

**Comments on Effects to Resources:** NOAA's National Marine Fisheries Service (NMFS) has reviewed the information contained in the Environmental Screening Tool for ETDM Project # 3869. The Florida Department of Transportation District 1 proposes widening US 27 from SR 60 to West County Line Road in Polk County, Florida. The road would be widened from four lanes to six lanes

NMFS staff conducted a site inspection of the project area on April 22, 2011, to assess potential concerns regarding living aquatic resources. It does not appear that there will be any direct or indirect impacts to NMFS trust resources. Since the resources affected are not ones for which NMFS is responsible, we have no comment to provide regarding the project's impacts.

**Coordinator Feedback:** None

The following organization(s) were expected to but did not submit a review of the Wetlands issue for this alternative: Federal Highway Administration

**Coordinator Summary: Wildlife and Habitat Issue**

**4** *Substantial* assigned 08/24/2011 by FDOT District 1

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**Comments:** The FWC evaluated the 500-foot project buffer for the presence of wildlife and habitat resources and noted that the project study area is located on the Lake Wales Ridge for most of its length and is comprised primarily of altered lands such as High Impact Urban (34.82%), Improved Pasture (10.27%), Low Impact Urban (7.89%), Citrus (5.86%), Bare Soil (2.7%), and Other Agriculture (1.84%). The FWC also identified the following native habitat types within the 500-foot buffer: Dry Prairie (12.95%), Pineland (7.14%), Freshwater Marsh and Wet Prairie (4.09%), Xeric Oak Scrub (2.83%), Shrub and Brushland (2.14%), Hardwood Hammock (1.21%), Mixed Hardwood-Pine Forest (1.16%), Hardwood Swamp (1.11%), Cypress Swamp (1.09%), Shrub Swamp (1.02%), Mixed Wetland Forest (0.77%), Sand Pine Scrub (0.42%), Open Water (0.32%), Bay Swamp (0.21%), and Grassland (0.14%). The FWC noted that the project study area is located within the secondary range of the Florida black bear (with two documented bear roadkills along the project segment); within FWS Consultation Areas for the Florida scrub-jay, snail kite, and Lake Wales Ridge plants; and within the Core Foraging Area (CFA) of seven wood stork rookeries. The FWC additionally noted that the project is adjacent to three public lands: the Lake Wales Ridge Wildlife and Environmental Area, the Crooked Lake West Stuart Tract, and the Britt Tract. The FWC further stated that wildlife issues associated with this project consist of potential loss of valuable wildlife habitat (such as xeric scrub), potential adverse effects to a significant number of state and federally listed species, increased habitat fragmentation due to increased right-of-way width, potential loss of public conservation lands, and potential water quality degradation resulting from additional stormwater runoff. Coordination Document: To Be Determined: Further Coordination Required.

The FWS reviewed its GIS database for recorded locations of federally listed threatened and endangered species on or adjacent to the project study area and stated that the project corridor is located within the CFA of four active wood stork nesting colonies. To minimize adverse effects to the wood stork, the FWS recommends that any lost foraging habitat resulting from the project be replaced within the CFA of the affected colony. The FWS also stated that for projects that impact five or more acres of wood stork foraging habitat, a functional assessment must be conducted using the FWS' Wood Stork Foraging Analysis Methodology on the foraging habitat to be impacted and the foraging habitat provided as mitigation. The FWS additionally noted that suitable habitat for the Florida scrub-jay, sand skink, and blue-tail mole skink may be present within the project study area; therefore, species-specific surveys should be conducted in accordance with FWS protocol to determine the status of each referenced species within the project study area. The FWS requests that the FDOT incorporate islands of native and low-stature scrub plants into the landscape design (The FWS identified the SR 60 from I-95 to Yeehaw Junction project for reference). The FWS further recommends that the FDOT prepare a Biological Assessment during the project's PD&E phase. Coordination Document: To Be Determined: Further Coordination Required.

The SWFWMD reported that high quality upland (including sensitive xeric scrub) habitat occurs throughout the project study area, and numerous conservation lands are located within the 5,280-foot (one mile) project buffer. The SWFWMD also noted that the project study area is located within FWS Consultation Areas for the Florida scrub-jay, crested caracara, snail kite, and Lake Wales Ridge plants; and suitable habitat for these species is present within the 500-foot project buffer. The SWFWMD stated that potential impacts may include: the elimination of upland habitat known to be utilized by listed species, elimination of endangered scrub habitat, loss of listed plant and animal species, and loss of small populations of endemic plant species. The SWFWMD recommends that the FDOT prepare an Endangered Species Biological Assessment and/or conduct specific surveys to determine the need for wildlife accommodations and Listed plant avoidance/relocation. Coordination Document: Permit Required.

According to the EST GIS analysis results, the project's 200-foot buffer is located within FWS Consultation Areas for the Florida scrub-jay, crested caracara, snail kite, and Lake Wales Ridge plants; within the CFA of six active nesting wood stork colonies; within the Greater Charlotte Harbor and Lake Wales Ridge Ecosystem Management Areas; within the Lake Wales Ridge Ecosystem Florida Forever BOT Project; and within three public lands: Lake Wales Ridge Wildlife and Environmental Area, Crooked Lake West - Stuart Tract, and Crooked Lake West - Britt Tract. For these reasons and due to agency concerns of potential adverse impacts to suitable listed species' habitat and the need for Section 7 Consultation with FWS, a Summary DOE of Substantial has been assigned to the Wildlife and Habitat issue.

Commitments and Responses: Preparation of an Endangered Species Biological Assessment will be included in the scoping recommendations for this project.

Technical Study: Endangered Species Biological Assessment (ESBA).

#### ETAT Reviews: Wildlife and Habitat Issue: 3 found

**3** Moderate assigned 05/27/2011 by Scott Sanders, FL Fish and Wildlife Conservation Commission

**Coordination Document:** To Be Determined: Further Coordination Required

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** The Habitat Conservation Scientific Services Section of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated an agency review of ETDM #3869, Polk County, and provides the following comments related to potential effects to fish and wildlife resources on this Programming Phase project.

The Project Description Summary states that this project involves the widening of US 27 from four to six lanes from West County Line Road north to SR 60, a distance of approximately 18.8 miles. Approximately 12.4 miles of the road would have a functional classification of "rural principal arterial," with a Right-of-way (ROW) width of 212 feet, while 4.4 miles of road near Frostproof and Lake Wales would be classified as "urban principal arterial," requiring 126 feet of ROW width.

The project area was evaluated for potential fish, wildlife, and habitat resources within 500 feet of the proposed alignment. Our assessment reveals that the project area is on the Lake Wales Ridge over most of its length, with diverse plant community types adjacent to the ROW varying from herbaceous and wooded wetlands to well-drained xeric uplands. The majority of the assessment area consists of man-altered lands, including High Impact Urban (801.6 acres, 34.82%), Improved Pasture (236.5 acres, 10.27%), Low Impact Urban (181.6 acres, 7.89%), Citrus (134.9 acres, 5.86%), Bare Soil (62.2 acres, 2.70%), and Other Agriculture (42.5 acres, 1.84%). Native landcover types include Dry Prairies (298.2 acres, 12.95%), Pinelands (164.5 acres, 7.14%), Freshwater Marsh and Wet Prairie (94.2 acres, 4.09%), Xeric Oak Scrub (65.1 acres, 2.83%), Shrub and Brushland (49.3 acres, 2.14%), Hardwood Hammocks and Forests (27.8 acres, 1.21%), Mixed Hardwood-Pine Forests (26.7 acres, 1.16%), Hardwood Swamp (25.6 acres, 1.11%), Cypress Swamp (25.1 acres, 1.09%), Shrub Swamp (23.6 acres, 1.02%), Mixed Wetland Forest (17.8 acres, 0.77%), Sand Pine Scrub (9.8 acres, 0.42%), Open Water (7.3 acres, 0.32%), Bay Swamp (4.9 acres, 0.21%), and Grassland (3.3 acres, 0.14%).

Based on range and preferred habitat type, the following species listed by the Federal Endangered Species Act and the State of Florida as Federally Endangered (FE), Federally Threatened (FT), State-Threatened (ST), or State Species of Special Concern (SSC) may occur along the project area: gopher frog (SSC), American alligator (FT), bluetail mole skink (FT), sand skink (FT), short-tailed snake (ST), Eastern indigo snake (FT), Florida pine snake (SSC), gopher tortoise (ST), crested caracara (FT), burrowing owl (SSC), Southeastern American kestrel (ST), Florida sandhill crane (ST),

Florida scrub jay (FT), least tern (ST), limpkin (SSC), little blue heron (SSC), tricolored heron (SSC), snowy egret (SSC), white ibis (SSC), wood stork (FE), Florida black bear (ST), Florida mouse (SSC), and Sherman's fox squirrel (SSC).

The GIS analysis revealed several specific characteristics associated with lands along the project alignment that provide an indication of potential habitat quality or sensitivity that will require field studies to verify the presence or absence of listed wildlife species and the quality of wildlife habitat resources. In the FWC's Integrated Wildlife Habitat Ranking System, 61.41% of the assessment area has a high, moderately high, or medium ranking. In the FWC's measure of Potential Habitat Richness, 40.61% of the area is classified as high, moderately high, or medium. A total of 140.4 acres of the assessment area is within FWC Strategic Habitat Conservation Areas, with 119.3 acres receiving a high priority ranking. The project is within the secondary range of the Florida black bear, and two bear road kills have been documented on this segment of US 27. The project is within U.S. Fish and Wildlife Service (FWS) Consultation Areas for the Scrub Jay, Snail Kite, and Lake Wales Ridge Plants, and is within the core foraging area of seven wood stork rookeries.

The project is adjacent to three areas of public land: the 14,631-acre Lake Wales Ridge Wildlife and Environmental Area, managed by the FWC and owned by the Trustees of the Internal Improvement Trust Fund (TIITF); and the Crooked Lake West Stuart Tract (3,508 acres) and Britt Tract (77 acres), both managed by Polk County and co-owned by the Southwest Florida Water Management District and Polk County. Other managed conservation lands within one mile of the project area include: the 1,858-acre Lake Wales Ridge National Wildlife Refuge, managed by the FWS; the 1,147-acre Crooked Lake Wildlife and Environmental Area, managed by the FWC; the 1,013-acre Crooked Lake West and the 57-acre Hickory Lake Scrub County Park, both managed by Polk County; and the 830-acre Saddle Blanket Scrub Preserve and the 9-acre Sun Ray Scrub, both managed by The Nature Conservancy.

Primary wildlife issues associated with this project include: the potential direct loss of valuable wetland and upland wildlife habitat such as xeric scrub; potential adverse effects to a significant number of species listed by the Federal Endangered Species Act as Endangered or Threatened, or the State of Florida as Threatened or Species of Special Concern; increased habitat fragmentation due to the increased ROW width; increased roadkills due to higher traffic levels and vehicle speed, combined with increased ROW width; potential loss of public conservation lands; and potential water quality degradation as a result of additional stormwater runoff from the expanded roadway surface draining into adjacent wetlands, streams, and lakes. Over much of the project length, the cleared area adjacent to US 27 appears to be sufficient to fit the required ROW width without the direct loss of other habitat. Confining construction activities to the existing cleared ROW as much as possible could reduce potential direct impacts to fish and wildlife resources.

**Comments on Effects to Resources:** Based on the project information provided, we believe that the direct and indirect effects of this project on fish and wildlife resources could be moderate, due to the importance of the Lake Wales Ridge to a unique variety of rare and imperiled species.

**Additional Comments (optional):** We recommend that the Project Development and Environment (PD&E) Study address natural resources by including the following measures for conserving fish and wildlife and habitat resources that may occur within and adjacent to the project area. Plant community mapping and wildlife surveys for the occurrence of wildlife species listed by the Federal Endangered Species Act as Endangered or Threatened, or by the State of Florida as Threatened or Species of Special Concern should be performed, both along the Right-of-way and within sites proposed for Drainage Retention Areas. Based on the survey results, a plan should be developed to address direct, indirect, and cumulative effects of the project on wildlife and habitat resources, including listed species. Avoidance, minimization, and mitigation measures should also be formulated and implemented. If gopher tortoises are present within any permanent or temporary construction area, a permit should be obtained from the FWC. Drainage Retention Areas and equipment staging areas should be located in previously disturbed sites to avoid habitat destruction or degradation. Opportunities should also be investigated for providing structures to maintain habitat connectivity. A compensatory mitigation plan should include the replacement of any wetland, upland, or aquatic habitat lost as a result of the project. This could be achieved by purchasing land, or securing conservation easements over lands adjacent to existing public lands, and by habitat restoration. Replacement habitat for mitigation should be type for type, as productive, and equal to or of higher functional value. We recommend land acquisition and restoration of appropriate tracts adjacent to existing public lands near the project area, or tracts placed under conservation easement or located adjacent to large areas of jurisdictional wetlands that currently serve as regional core habitat areas. Please notify us immediately if the design, extent, or footprint of the current project is modified, as we may choose to provide additional comments and/or recommendations.

We appreciate the opportunity to provide input on highway design and the conservation of fish and wildlife resources. Please contact Brian Barnett at (850) 528-6316 or email [brian\\_barnett@urscorp.com](mailto:brian_barnett@urscorp.com) to initiate the process for further overall coordination on this project.

**Coordinator Feedback:** None

**3** *Moderate* assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

**Coordination Document:** Permit Required

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** High quality upland habitat is located throughout the project area, and the project traverses sensitive scrub habitat. Numerous conservation lands dominated by quality uplands are located within one mile of the project limits, including the Lake Wales Ridge Wildlife and Environmental Area, the Sun Ray Scrub area, the Saddle Blanket Lakes Preserve, and the Hickory Lake Scrub County Park. These lands provide excellent habitat for a diversity of native floral and faunal species. Additionally, the Nature Conservancy has designated over 290 acres as Ecological Resource Conservation Areas within 500 feet of the proposed project. There are 29 acres of FWCC Strategic Habitat Conservation Areas within the 200-foot buffer.

The entire project is located in the USFWS Consultation Areas for crested caracara, snail kite, Florida scrub jay and Lake Wales Ridge Plants. Suitable habitat for all of these species is available within the 500-foot buffer area.

Populations of several Listed Species are known to utilize uplands within 200 feet of the project. Uplands provide habitat for foraging, protection, and breeding. Listed Species known to utilize these areas include: Florida scrub jay (T), blue-tailed mole skink (T), sand skink (T), gopher tortoise (SSC), Eastern indigo snake (T), Florida mouse (SSC), and several Listed plant species whose range is restricted to Florida scrub habitat.

Road kills observed during project site visits in 2005 and 2011 totaled seven individuals, including two reptiles, two birds, and three mammals. Additionally, two bear road-kills have been documented within 200 feet of the proposed project area.

**Comments on Effects to Resources:** The project may result in significant adverse impacts to wildlife and habitat. Impacts potentially could include: the elimination of upland habitat known to be utilized by Listed Species; the elimination or disruption of endangered scrub habitat; the loss of Listed plant species and animal species; and the loss of small populations of endemic plant species. A wider pavement corridor and increased traffic will raise the likelihood of wildlife fatalities.

**Additional Comments (optional):** The SWFWMD has assigned a Degree of Effect based on their opinion of the potential of this project to result in identifiable impacts after fully complying with the SWFWMD's permitting processes or the effort associated with fully complying with the SWFWMD's proprietary interests and obligations.

Specific surveys are recommended to determine the occurrence and abundance of Listed animal and plant species in order to determine the need for wildlife accommodations and Listed plant avoidance/relocation.

The additional lanes increase the likelihood of animal fatalities on the roadway, particularly in view of the proximity of Crooked Lake and other water bodies on both sides of the existing roadway. Animals migrating across the roadway will be at additional risk upon completion of the project. A survey to determine the actual amount of animal traffic across the roadway itself and through the cross culverts is recommended.

It is recommended that the FDOT prepare a Wetland Evaluation Report (WER) and an Endangered Species Biological Assessment (ESBA) for further analysis.

**Coordinator Feedback:** None

**4** Substantial assigned 04/25/2011 by John Wrublik, US Fish and Wildlife Service

**Coordination Document:** To Be Determined: Further Coordination Required

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** Federally-listed species and fish and wildlife resources

**Comments on Effects to Resources:** Federally listed species - The Service has reviewed our Geographic Information Systems (GIS) database for recorded locations of federally listed threatened and endangered species on or adjacent to the project study area. The GIS database is a compilation of data received from several sources.

#### Wood Stork

The project corridor is located in the Core Foraging Areas (within 18.6 miles ) of four active nesting colonies of the endangered wood stork (*Mycteria americana*). The Service believes that the loss of wetlands within a CFA due to an action could result in the loss of foraging habitat for the wood stork. To minimize adverse effects to the wood stork, we recommend that any lost foraging habitat resulting from the project be replaced within the CFA of the affected nesting colony. Moreover, wetlands provided as mitigation should adequately replace the wetland functions lost as a result of the action. The Service does not consider the preservation of wetlands, by itself, as adequate compensation for impacts to wood stork foraging habitat, because the habitat lost is not replaced. Accordingly, any wetland mitigation plan proposed should include a restoration, enhancement, or creation component. In some cases, the Service accepts wetlands compensation located outside the CFA of the affected wood stork nesting colony. Specifically, wetland credits purchased from a "Service Approved" mitigation bank located outside of the CFA would be acceptable to the Service, provided that the impacted wetlands occur within the permitted service area of the bank.

For projects that impact 5 or more acres of wood stork foraging habitat, the Service requires a functional assessment be conducted using our "Wood Stork Foraging Analysis Methodology"(Methodology) on the foraging habitat to be impacted and the foraging habitat provided as mitigation. The Methodology can be found in the Service's letter and effect determination key to the U.S. Army Corps of Engineers dated May 18, 2010 (Service Federal Activity Code Number 41420-2007-FA-1494, available upon request).

#### Florida Scrub-Jay

The project occurs within the geographic range of the threatened Florida Scrub-Jay (*Aphelocoma coerulescens*). Our records indicate that suitable habitat for the scrub-jay may occur in the project corridor. Consequently, if suitable habitat occurs in the project corridor, we recommend that surveys based on Service protocol be conducted to determine the status of the Florida scrub-jay in the project area.

#### Sand Skink and Bluetail Mole Skink

The project occurs within the geographic range of the threatened sand skink (*Plestiodon reynoldsi* = *Plestiodon reynoldsi*) and threatened bluetail mole skink (*Plestiodon egregius lividus* = *Eumeces egregius lividus*). Our records indicate that suitable habitat for the sand skink and bluetail mole skink may occur in the project corridor. Consequently, if suitable habitat occurs in or near the project corridor, we recommend that surveys based on Service protocol be conducted to determine the status of the sand skink and bluetail mole skink in the project area. The Service has recently updated our skink survey protocol, and this information can be found at : [http://www.fws.gov/verobeach/images/pdf/library/20110404\\_Skink Survey Protocol.pdf](http://www.fws.gov/verobeach/images/pdf/library/20110404_Skink%20Survey%20Protocol.pdf)

The Service believes that the following federally listed species have the potential to occur in or near the project site: wood stork, Florida scrub-jay, sand skink, bluetailed mole skink, and eastern indigo snake (*Drymarchon corais couperi*), as well as the federally protected plants listed at the following link: [http://www.fws.gov/verobeach/images/pdf/library/Polk County3.pdf](http://www.fws.gov/verobeach/images/pdf/library/Polk%20County3.pdf). Accordingly, the Service recommends that the Florida Department of Transportation (FDOT) prepare a Biological Assessment for the project (as required by 50 CFR 402.12) during the FDOT's Project Development and Environment process.

**Fish and Wildlife Resources -** The Service recommends that the project be designed to minimize the loss of fish and wildlife habitat to the greatest extent practicable. This would include constructing new lanes within the existing disturbed road right-of way.

Wetlands provide important habitat for fish and wildlife. Information provided in the Environmental Screening Tool indicates that wetlands are found within the project area. The Service recommends that these valuable resources be avoided to the greatest extent practicable. If impacts to wetlands are unavoidable, the Service recommends the FDOT provide mitigation that fully compensates for the loss of wetland resources.

To provide a more aesthetically appealing project and assist in native plant conservation, the Service recommends that the FDOT consider planting native flowers and low stature scrub plants within the road right-of way and center median. We understand that these areas are usually planted with sod. As such, we propose a design that uses primarily sod, but incorporates small islands of native plant species at regular intervals along the project corridor. We note that a similar design incorporating native plants was done in association with the State Road 60 from I-95 to Yeehaw Junction road widening project. For ideas on appropriate native plant species, the FDOT may wish to contact botanists at the Bok Towers.



**CLC Commitments and Recommendations: Coordinator Feedback: None**

The following organization(s) were expected to but did not submit a review of the Wildlife and Habitat issue for this alternative: Federal Highway Administration

**ETAT Reviews and Coordinator Summary: Cultural Issues**

**Coordinator Summary: Historic and Archaeological Sites Issue**

**3** *Moderate* assigned 09/07/2011 by FDOT District 1

**Comments:** The FDOS noted that the project corridor has not been subject to a cultural resource assessment survey. They also note that no significant cultural or historical resources have been previously recorded within 500 feet of the project corridor, but there are bridges within the project limits that may be over 50 years of age. They recommended that a Cultural Resource Assessment Survey (CRAS) be conducted to locate and assess any archaeological sites that may be present.

The FHWA noted that research conducted during the 2005 project evaluation suggested a DOE of "Substantial" and related comments could be found in the Advanced Notification report.

The Seminole Tribe of Florida noted the absence of a systematic cultural resource assessment survey of the project corridor and requested a survey be conducted in order to determine effects to archaeological sites. The STOF-THPO asked to review the results of the CRAS before commenting on possible effects to archaeological sites within the project corridor.

No review was submitted by the Miccosukee Tribe of Indians of Florida.

A review of the Florida Master Site File (FMSF) GIS data revealed that 10 previous surveys intersect portions of the project corridor. However, no comprehensive archaeological or historic resources survey of the project corridor has been completed.

The FMSF listed three previously recorded archaeological sites and one historic linear resource within 500 feet of the project corridor. The three archaeological sites consist of three precontact period sites, JR156 (8PO6278), Ridge Foot (8PO3279), and Lake Adelaide North (8HG749). JR156 (8PO6278) and Lake Adelaide (8HG749) were evaluated as ineligible for inclusion in the National Register of Historic Places (National Register) by the SHPO. Ridge Foot (8PO3279) is a campsite dating to the St. Johns I period (700 B.C.-A.D. 800) that was evaluated as potentially eligible for inclusion in the National Register by the SHPO on April 26, 1993. These sites are of sufficient distance from the corridor that impacts are unlikely.

The historic linear resource located within 500 feet of the project corridor is the Seaboard Air Line Wahneta Railroad, dated to the Boom Time period (1921-1929). This resource was considered ineligible for inclusion in the National Register by the SHPO on May 14, 2008. No additional historic properties were identified within 500 feet of the project corridor during the GIS review.

Four bridges located within 100 feet of the project corridor are listed in the FDOT Roadway Characteristics Inventory (RCI): the Lake Streety Canal northbound and southbound bridges, and the CSX railroad northbound and southbound bridges. All of these bridges were constructed in 1975 and are not considered historic resources.

A review of the Polk property appraiser data revealed a total of 824 parcels adjacent to the project corridor, 31 of which had historic build dates. These 31 buildings were preliminarily noted as ineligible based on a field survey conducted on July 19, 2011.

Two historic cemeteries which did not appear in the FMSF GIS data but were cited in the 2005 ETDM review are the City of Lake Wales Cemetery and the Willow Lawn Cemetery. The City of Lake Wales Cemetery, also known as Pleasant Garden Cemetery, is adjacent to the project corridor. The field survey conducted on July 19, 2011 confirmed the location of this cemetery and noted the position of the graves at a sufficient distance from the ROW to make any impacts unlikely. The cemetery is also separated from the ROW by a ditch. The south end of the cemetery is located on a berm several feet above the ROW. The Willow Lawn Cemetery is located approximately one mile to the north of S.R. 60, a distance too far away from the project corridor to be considered for possible effects. This location was confirmed during the field survey.

General Land Office (GLO) township survey maps from 1859 and 1860 illustrate an area that is predominantly of low prairie, pineland, and marsh. The GLO maps also illustrate what appears to be an unnamed road or trail that is on the west side to the project corridor but no other features suggestive of any type of settlement or encampment are illustrated. This possible road or trail is not noted on the surveyors' notes. The soils along the project corridor are mostly poorly to very poorly drained. Historic aeriels of the project corridor show the area is covered by lakes, ponds, and poorly defined wetlands and drainage basins. No hammocks were evident immediately adjacent to the project corridor.

The FDOT has coordinated with the FHWA in assigning a Summary DOE. The FHWA stated that potential impacts to sites are possible and substantial coordination and planning with agencies and the public will be necessary. Based on this analysis and the preliminary results of the field survey, the previous substantial determination of effect assigned in the previous Planning Screen has been re-evaluated as moderate for this project. Therefore, a Summary DOE of Moderate has been assigned to the Historic and Archeological Sites issue.

Commitments and Responses: A cultural resource assessment survey will be conducted to identify historic properties.

Section 4(f) Potential Impacts to Cultural Resources: Based on the results of this analysis, there are no known Section 4(f) impacts to cultural resources.

**ETAT Reviews: Historic and Archaeological Sites Issue: 4 found**

**3** *Moderate* assigned 06/03/2011 by Alyssa McManus, FL Department of State

**Coordination Document:** No Selection



**Dispute Information:**N/A

**Identified Resources and Level of Importance:** THERE ARE NO IDENTIFIED SIGNIFICANT CULTURAL OR HISTORICAL RESOURCES IDENTIFIED WITHIN 500 FEET OF THE PROJECT AREA. HOWEVER, RESEARCH INDICATES THAT THERE ARE BRIDGES THAT ARE OVER 50 YEARS OF AGE WITHIN THE PROJECT LIMITS. THERE HAS BEEN NO CULTURAL RESOURCE SURVEY COMPLETED FOR THIS SPECIFIC US 27 SEGMENT.

**Comments on Effects to Resources:** Since potentially significant archaeological sites may be present, it is the request of this office that the project site be subjected to a professional cultural resource survey. The purpose of this survey will be to locate and assess any cultural resources that may be present. The resultant survey shall conform to the specification set forth in Chapter 1A-46, Florida Administrative Code, and will need to be forwarded to the Division of Historical Resources in order to complete the reviewing process for this proposed project and its impacts. The results of the analysis will determine if significant cultural resources would be disturbed by this development. In addition, if significant remains are located, the data described in the report and the consultant's conclusions will assist this office in determining measures that must be taken to avoid, minimize, or mitigate adverse impacts to archaeological sites and historical properties listed, or eligible for listing in the NRHP, or otherwise significant.

**Additional Comments (optional):** If you have any questions concerning our comments, please do not hesitate to contact Alyssa McManus, Architectural Historian at (850) 245-6333. Thank you for your interest in protecting Florida's historic resources.

**Coordinator Feedback:** None

0 None assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

**Coordination Document:** No Involvement

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** None found.

**Comments on Effects to Resources:** None found.

**Coordinator Feedback:** None

4 Substantial assigned 05/09/2011 by Joseph Sullivan, Federal Highway Administration

**Coordination Document:** To Be Determined: Further Coordination Required

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** Research conducted during the 2005 project evaluation suggests a DOE of Substantial is appropriate. Comments are in the Advance Notification report.

**Comments on Effects to Resources:** Based on 2005 summary a CRAS should be conducted.

**Coordinator Feedback:** None

3 Moderate assigned 04/25/2011 by Elliott York, Seminole Tribe of Florida

**Coordination Document:** No Selection

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** Due to the absence of a systematic Cultural Resources Assessment Survey (CRAS) for the proposed project corridor, the STOF-THPO would like to request a CRAS be conducted in order to determine effects, if any, to archaeological sites possibly occurring within the project area.

**Comments on Effects to Resources:** The STOF-THPO would like to review the results of the CRAS before commenting on possible effects to archaeological sites in the project area.

**Coordinator Feedback:** None

#### Coordinator Summary: Recreation Areas Issue

3 Moderate assigned 08/24/2011 by FDOT District 1

**Comments:** The FDEP commented that the project is within 100 feet of the Lake Okeechobee Watershed Comprehensive Everglades Restoration Plan (CERP) project area, Lake Wales Ridge Wildlife and Environmental Area, Crooked Lake West - Stuart and Britt Tracts, and the proposed Bartow to Lake Wales Rail-Trail. The FDEP also noted that the adjacent Lake Wales Ridge Ecosystem Florida Forever BOT Project area consists of separate sites along the ridge which are intended to be part of system of managed areas that conserve the character, biodiversity and biological function of the ancient scrub ecosystem and aims to protect the significant natural communities and numerous element occurrences of listed species. The FDEP stated that should acquisition of additional right-of-way within state-owned lands be needed for the project, the Board of Trustees of the Internal Improvement Trust Fund must be contacted for approval before the conveyance of these lands can proceed.

The FHWA reported that both the FDEP and the SWFWMD previously indicated that the proposed project bisects the southwest corner of the Lake Wales Ridge Wildlife and Environmental Area and the Lake Wales Ridge Ecosystem - Sunray/Hickory Lake South Site Florida Forever Lands; passes through a Multi-use Trails Priority Area for 4.27 miles on its northern end and 0.45 miles on its southern end; is adjacent to the Lake Wales Ridge Ecosystem Florida Forever BOT Project area; is near the Sun Ray Scrub area, the Saddle Blanket Lakes Preserve, and the Hickory Lake Scrub County Park; and is in the vicinity of Blue Lake, Crooked Lake, Lake Clinch, Lake Livingston, and Lake Streety which provide fishing, boating, and other resource-based recreational activities. The FHWA noted that multiple natural area linkages, a Florida Forever project area, 3 State managed areas, and 2 multi-use trails are identified through current analysis. The FHWA stated that further evaluation and planned avoidance of recreational areas will be needed in subsequent phases. Coordination Document: To Be Determined: Further Coordination Required.

The SWFWMD did not identify any issues or potential project effects related to recreation areas/features. Coordination Document: No Involvement.

The USEPA noted that several recreational resources are located within the 500-foot project buffer, including the Lake Wales Ridge Wildlife and Environmental Area, Crooked Lake Park, and many acres of critical Greenways Ecological Priority Linkages. The USEPA stated that unavoidable impacts should specifically be assessed and minimized.

Based on the EST GIS analysis results, the following recreational features are present within the 200-foot project buffer: the Lake Okeechobee Watershed Comprehensive Everglades Restoration Plan (CERP) project area, Lake Wales Ridge Wildlife and Environmental Area, Crooked Lake West - Stuart and Britt Tracts, and proposed greenway/multi-use trail priorities (in particular, the proposed Bartow to Lake Wales Rail-Trail). The project is also adjacent to the Lake Wales Ridge Ecosystem Florida Forever BOT Project area and within the vicinity of the Holiday Ranch RV Park (1,320-foot project buffer). While the proposed improvements are expected to fit predominantly within the existing roadway right-of-way, due to increased truck

traffic on US 27 as a result of the CSX Transportation Integrated Logistics Center planned in the area and agency concerns regarding potential impacts to recreation areas/features within the vicinity of the project, a Summary DOE of Moderate has been assigned to the Recreation Areas issue.

Commitments and Responses: A Section 4(f) Determination of Applicability will be included in the scoping recommendations for this project to confirm that potential impacts to features providing recreational opportunities will be minimized to the greatest extent practicable.

Technical Study: Section 4(f) Determination of Applicability.

**ETAT Reviews: Recreation Areas Issue: 4 found**

**3** Moderate assigned 06/09/2011 by Maher Budeir, US Environmental Protection Agency

**Coordination Document:** No Selection

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** Lake Whales, Crooked Lake Park, many acres of critical Greenways Ecological Priority Linkages.

**Comments on Effects to Resources:** Severla Resources are within the 500 foot buffer. Impact on these resources should be avoided. Specific unavoidable impact should be assessed and minimized.

**Coordinator Feedback:** None

**3** Moderate assigned 05/26/2011 by Lauren P. Milligan, FL Department of Environmental Protection

**Coordination Document:** No Selection

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** The project is within 100 ft. of the Lake Okeechobee Watershed CERP Project Area, Lake Wales Ridge Wildlife and Environmental Area, Crooked Lake West - Stuart and Britt Tracts and the proposed Bartow to Lake Wales Rail-Trail. In addition, the adjacent Lake Wales Ridge Ecosystem Florida Forever BOT Project area consists of separate sites along the ridge which are intended to be part of system of managed areas that conserve the character, biodiversity and biological function of the ancient scrub ecosystem. The project aims to protect the high concentration of endemic species that characterize Lake Wales Ridge.

**Comments on Effects to Resources:** These lands contain significant natural communities and numerous element occurrences of listed species, as indicated by the Florida Natural Areas Inventory. The Department is interested in preserving the area's natural communities, wildlife corridor functions, natural flood control, stormwater runoff filtering capabilities, aquifer recharge potential and recreational trail opportunities. Therefore, future environmental documentation should include an evaluation of the primary, secondary, and cumulative impacts of highway construction/expansion on the above public lands and proposed acquisition sites.

**Additional Comments (optional):** Under Article X, Section 18 of the Florida Constitution (as amended in 1998), dispositions of state-owned conservation lands are restricted to those lands "no longer needed for conservation purposes." If the proposed highway construction activities necessitate right-of-way expansion, the FDOT may need to request that the Board of Trustees of the Internal Improvement Trust Fund determine whether the subject properties are no longer needed for conservation purposes. This requirement must be met before the conveyance of these lands can proceed. In addition, please be advised that proposals to utilize state conservation lands may be required to meet the guidelines of the state's linear facility policy, POLICY Use of Natural Resource Lands by Linear Facilities As Approved By Board of Trustees of the Internal Improvement Trust Fund on January 23, 1996.

**Coordinator Feedback:** None

**0** None assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

**Coordination Document:** No Involvement

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** None found.

**Comments on Effects to Resources:** None found.

**Coordinator Feedback:** None

**3** Moderate assigned 05/09/2011 by Joseph Sullivan, Federal Highway Administration

**Coordination Document:** To Be Determined: Further Coordination Required

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** 2005 Comments: FDEP assigned a DOE of Moderate and commented that the proposed project bisects the southwest corner of the Lake Wales Ridge Wildlife and Environmental Area and the Lake Wales Ridge Ecosystem - Sunray/Hickory Lake South Site Florida Forever Lands. The Lake Wales Ridge project consists of separate sites along the ridge which are intended to be part of system of managed areas that conserve the character, biodiversity, and biological function of the ancient scrub ecosystem.

SWFWMD assigned a DOE of Moderate and indicated that the project passes through a Multi-use Trails Priority Area for 4.27 miles on its northern end and 0.45 miles on its southern end. Over 20 acres of habitat for the Lake Wales Ridge BOT Florida Forever Program exist within 200 feet of project limits. Approximately, 73 acres of the Lake Wales Ridge are currently managed as conservation lands within 500 feet of the proposed project limits, and three other managed lands, including the Sun Ray Scrub area, the Saddle Blanket Lakes Preserve, and the Hickory Lake Scrub County Park, are located within a one mile radius of the project limits. Fishing, boating and other resource-based recreation are available on Blue Lake, Crooked Lake, Lake Clinch, Lake Livingston, and Lake Streety. All of these lakes except Blue Lake have at least one boat ramp, and there are public parks on Crooked Lake and Clinch Lake.

Current GIS analysis identified multiple natural area linkages, a Florida Forever project area, 3 State managed areas, and 2 multi-use trails.

**Comments on Effects to Resources:** Based on previous and current data a DOE of Moderate is reasonable. Further evaluation and planned avoidance of recreational areas will be needed in subsequent phases.

**Coordinator Feedback:** None

The following organization(s) were expected to but did not submit a review of the Recreation Areas issue for this alternative: National Park Service

**Coordinator Summary: Section 4(f) Potential Issue**

**3** Moderate assigned 08/24/2011 by FDOT District 1

**Comments:** The FHWA indicated that multiple resources were identified in the 2005 and current assessments. The FHWA reported that both the FDEP and the SWFWMD previously indicated that the proposed project bisects the southwest corner of the Lake Wales Ridge Wildlife and Environmental Area and the Lake Wales Ridge Ecosystem - Sunray/Hickory Lake South Site Florida Forever Lands; as such, the project may 1) impair environmentally-oriented recreational uses on the Lake Wales Ridge Wildlife and Environmental Area, the Sun Ray Scrub, and Hickory Lake Scrub Park during construction as a result of noise and dust and/or 2) cause adverse impacts to the recreational value of lakes in the area, particularly Blue Lake and Crooked Lake, as a result of turbidity during construction and the subsequent entry of under-treated or untreated stormwater runoff. The FHWA noted that, at this time, no NRHP-listed or -eligible resources have been identified within the 500-foot project buffer so there does not appear to be potential for Section 4(f) impacts to cultural resources. The FHWA added, however, that if any of the estimated unrecorded historic resources are considered to be NRHP -eligible, then Section (4) impacts may occur. The FHWA stated that potential effects to existing and/or proposed public lands may occur due to the fact that additional right-of-way may be required for the improvement and so many public and recreational areas exist in close proximity to the project area; potential impacts will need to be addressed in future project phases. Coordination Document: To Be Determined: Further Coordination Required.

Based on the EST GIS analysis results, the following features are present within the 200-foot project buffer that may potentially be protected under the auspices of Section 4(f): the Lake Okeechobee Watershed Comprehensive Everglades Restoration Plan (CERP) project area, Lake Wales Ridge Wildlife and Environmental Area, Crooked Lake West - Stuart and Britt Tracts, proposed greenway/multi-use trail priorities (in particular, the proposed Bartow to Lake Wales Rail-Trail), four FDOT RCI bridges, eleven cultural field survey areas, and one resource group. The project is also adjacent to the Lake Wales Ridge Ecosystem Florida Forever BOT Project area and within the vicinity of the Holiday Ranch RV Park (1,320-foot project buffer). A Section 4(f) Determination of Applicability (DOA), specifically for resources related to recreational and wildlife management uses, will be developed during the Project Development phase and formal Section 4(f) designation will be provided (as necessary), by FHWA, for those Section 4(f) properties bordering the project area of potential effect. A separate Section 4(f) DOA (as part of the Section 106 process) will be developed for those historic, archaeological, and/or tribal resources that have been found to have an "adverse effect" from the proposed project through findings of the Cultural Resource Assessment Survey. While the proposed improvements are expected to fit predominantly within the existing roadway right-of-way, due to agency concerns regarding potential impacts to protected 4(f) resources within the vicinity of the project, a Summary DOE of Moderate has been assigned to the Section 4(f) Potential issue.

**Commitments and Responses:** A Section 4(f) Determination of Applicability will be included in the scoping recommendations for this project to confirm that potential impacts to recreational features and identified historic and archaeological resources will be minimized to the greatest extent practicable.

Technical Study: Section 4(f) Determination of Applicability.

**ETAT Reviews: Section 4(f) Potential Issue: 1 found**

**3** *Moderate* assigned 05/09/2011 by Joseph Sullivan, Federal Highway Administration

**Coordination Document:** To Be Determined: Further Coordination Required

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** Multiple resources were identified in the 2005 and current GIS assessments.

2005 Comments: FDEP assigned a DOE of Moderate and commented that the proposed project bisects the southwest corner of the Lake Wales Ridge Wildlife and Environmental Area and the Lake Wales Ridge Ecosystem - Sunray/Hickory Lake South Site Florida Forever Lands. The Lake Wales Ridge project consists of separate sites along the ridge which are intended to be part of system of managed areas that conserve the character, biodiversity, and biological function of the ancient scrub ecosystem. The project aims to protect the high concentration of endemic species that characterize Lake Wales Ridge.

SWFWMD assigned a DOE of Moderate and indicated that the project would likely cause adverse impacts to the recreational value of lakes in the area unless prevented, particularly Blue Lake and Crooked Lake. Such effects can occur as a result of turbidity during construction and the subsequent entry of under-treated or untreated stormwater runoff from the completed project. The project will impair environmentally-oriented recreational uses on the Lake Wales Ridge Wildlife and Environmental Area, the Sun Ray Scrub, and Hickory Lake Scrub Park during construction as a result of noise and dust. Secondary and Cumulative

One archaeological site within the one-mile buffer (8PO3279) has been determined potentially eligible for listing in the NRHP by the SHPO.

Additionally, four historic buildings and two historic districts listed in the NRHP are located within the one-mile buffer. These NRHP-listed resources include the Groveland Hotel (8PO1049), Lake Wales City Hall (8PO1151), the Atlantic Coast Line Railroad Depot (8PO1355), the Roosevelt School (8PO6249), the Lake Wales Commercial Historic District (8PO1684), and the Lake Wales Historic District (8PO5364). However, these resources are considered too far away for any potential Section 4(f) impacts to the resources direct or constructive uses. At this time no NRHP-listed or -eligible resources have been identified within the 500-foot buffer area, so there does not appear the potential for Section 4(f) impacts to cultural resources at this level of analysis. However, if any of the estimated unrecorded historic resources are considered to be NRHP -eligible, then Section (4) impacts may occur.

Because so many public and recreational areas exist in close proximity to the project area and some existing and/or proposed public lands will be impacted as a result of the proposed project if additional ROW must be acquired, a DOE of Moderate is recommended.

**Comments on Effects to Resources:** Potential effects are present and will need to be addressed in future project phases.

**Coordinator Feedback:** None

**ETAT Reviews and Coordinator Summary: Community Issues**

**Coordinator Summary: Aesthetics Issue**

**2** *Minimal* assigned 08/24/2011 by FDOT District 1

**Comments:** FDOT noted a wide aesthetic character along the majority of the roadway, from agricultural and vacant lands to commercial and industrial uses. Residential areas are typically clustered in the urban portions of the project. There are also high volumes of truck traffic along the corridor. Coordination Document: None.

FHWA stated that additional lanes may impact natural, urban and agricultural areas, and that changes to traffic patterns, flood attenuation and development may affect current resources. Public outreach will be necessary through each phase of the proposed project. Coordination Document: PD&E Support Document as per PD&E Manual.

The existing land use composition and functional character of the roadway do not appear to be significantly impacted by the proposed project improvements. In addition, there are high volumes of truck traffic along the corridor. A Summary DOE of Minimal has been assigned to the Aesthetic issue.

Commitments and Responses: Public outreach regarding project effects and general design concepts related to corridor aesthetics will be conducted during project development.

Technical Study: None.

**ETAT Reviews: Aesthetics Issue: 2 found**

**2** *Minimal* assigned 06/02/2011 by Scott Swearingen, FDOT District 1

**Coordination Document:** No Selection

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** Segment 1: W. County Line Road to SR 17 (S-001)

Identified Resources:

100-Foot Buffer:  
Residential Areas - 0.7 acre  
Highlands County Enterprise Zone - 0.19 acre

500-Foot Buffer:  
Residential Areas - 27.3 acres  
Highlands County Enterprise Zone - 6.6 acres

Quarter-Mile (1,320-Foot) Buffer:  
Residential Areas - 82.56 acres  
Highlands County Enterprise Zone - 27.95 acres

Segment 2: SR 17 to CR 630 (S-002)

Identified Resources:

100-Foot Buffer:  
Residential Areas - 1.01 acres

500-Foot Buffer:  
Residential Areas - 28.31 acres

Quarter-Mile (1,320-Foot) Buffer:  
Residential Areas - 172.14 acres

Segment 3: CR 630 to CR 640 (S-003)

Identified Resources:

100-Foot Buffer:  
Residential Areas - 5.87 acres

500-Foot Buffer:  
Residential Areas - 92.88 acres

Quarter-Mile (1,320-Foot) Buffer:  
Residential Areas - 345.47 acres

Segment 4: CR 640 to SR 60 (S-004)

Identified Resources:

100-Foot Buffer:  
Residential Areas - 3.60 acres

500-Foot Buffer:  
Residential Areas - 61.25 acres

Quarter-Mile (1,320-Foot) Buffer:  
Residential Areas - 196.66 acres

**Comments on Effects to Resources:** The project area is dominated by agricultural and other vacant land with 11.8 acres of residential and 22.3 acres of commercial uses located within the 100-foot buffer area. There are 209.7 acres of residential uses within the 500-foot buffer area. These residential areas are typically clustered in the urban portions of the project, such as in Crooked Lake Park (Segment 3) or in southwestern Lake Wales (Segment

4).

The current aesthetic character along the majority of the roadway consists primarily of agricultural and vacant lands with scattered mobile home parks, heavy commercial, commercial service and industrial uses. There are also high volumes of truck traffic. Potential project impacts on community aesthetics, including noise and vibration related impacts (during construction), are anticipated to be minimal due to the existing land use composition and functional character of the roadway.

**CLC Commitments and Recommendations:** Potential project impacts on community aesthetics appear to be minimal. Continued public outreach during project development should solicit opinions and preferences from residents regarding project effects and general design concepts related to corridor aesthetics. **Coordinator Feedback:** None

**2** *Minimal* assigned 05/09/2011 by Joseph Sullivan, Federal Highway Administration

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**Coordination Document:** PD&E Support Document As Per PD&E Manual

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** A large portion of this project will be through natural or agricultural landscapes. These landscapes will be changed by the primary impact (construction/road) as well as potential secondary impacts (development). Multiple (4) developed communities are adjacent to the road project.

**Comments on Effects to Resources:** Installation of additional lanes may impact natural, urban, and agricultural areas. Changes to traffic patterns, flood attenuation, and development may effect current resources. Public outreach will be necessary throughout each phase of the proposed project.

**Additional Comments (optional):** none

**Coordinator Feedback:** None

### Coordinator Summary: Economic Issue

**1** *Enhanced* assigned 08/24/2011 by FDOT District 1

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**Comments:** FDOT noted that US 27 is the primary route connecting the communities of southeastern Polk County with the larger cities of central Polk County and with southern Florida. It is an important truck route serving numerous facilities including the planned Integrated Logistics Center in Winter Haven. A portion of the Highlands County Enterprise Zone is located within the southern edge of the project area. Also, US 27 serves as an emergency evacuation route and is a facility on the Florida Intrastate Highway System and Strategic Intermodal System. Coordination Document: None.

FHWA stated that traffic on US 27 expected to increase in the region and that increased mobility for trucks and other traffic would be enhanced by improvements to US 27. Coordination Document: None.

Substantial future growth is anticipated in the project area with improvements to current facilities and newly planned facilities such as the Integrated Logistics Center in Winter Haven and Legoland, to name a few. Area residents, businesses and attractions are expected to benefit from the project with improved capacity and accessibility. Therefore, a Summary DOE of Enhanced has been assigned to the Economic issue.

Commitments and Responses: Public outreach to solicit input from residents and businesses which rely on US 27 for access will be conducted during project development.

Technical Study: None.

### ETAT Reviews: Economic Issue: 2 found

**1** *Enhanced* assigned 06/02/2011 by Scott Swearingen, FDOT District 1

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**Coordination Document:** No Selection

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** Segment 1: W. County Line Road to SR 17 (S-001)

Identified Resources:

100-Foot Buffer:

Residential Area - 0.7 acre

Commercial Area - 0.1 acre

Agricultural Area - 3.3 acres

Highlands County Enterprise Zone - 0.19 acre

Ecological Greenways Priority Linkages - 27.7 acres

Ecological Greenways Critical Linkages - 35.8 acres

Office of Greenways and Trails (OGT) Multi-Use Trail Priorities (Medium)

Census Blocks with 5% or Higher Persons that Speak English "Not At All" (1)

Census Blocks with Minority Populations Greater than 40% (2)

500-Foot Buffer:

Residential Area - 27.3 acres

Commercial Area - 12.2 acres

Agricultural Area - 35.3 acres

Highlands County Enterprise Zone - 6.55 acres

Highlands County Brownfield Area - 4.95 acres

Ecological Greenways Priority Linkages -150.3 acres

Ecological Greenways Critical Linkages -182.2 acres

Future Land Use:

Residential Area - 1.9 acres

Commercial Area - 1.9 acres



Mixed Use Area - 1.0 acre  
Agricultural/Rural Area (includes low density [ $<0.5$  du/ac] residential) - 277.3 acres

Quarter-Mile (1,320-Foot) Buffer:

Residential Area - 82.5 acres  
Commercial Area - 13.0 acres  
Agricultural Area - 86.0 acres  
Industrial Area - 8.9 acres  
Highlands County Enterprise Zone - 27.95 acres  
Highlands County Brownfield Area - 19.8 acres  
Ecological Greenways Priority Linkages -150.3 acres  
Ecological Greenways Critical Linkages -182.2 acres  
Florida Forever BOT Project - Lake Wales Ridge Ecosystem  
Future Land Use:  
Residential Area - 5.8 acres  
Commercial Area - 3.4 acres  
Mixed Use Area - 9.8 acres  
Industrial/Extractive Area - 4.4 acres  
Agricultural/Rural Area - 752.2 acres  
Mobile Home and RV Parks - Holiday Ranch RV Resort

One-Mile (5,280-Foot) Buffer:

Lake Streety PUD - 45.41 acres

Segment 2: SR 17 to CR 630 (S-002)

Identified Resources:

100-Foot Buffer:

Residential Area - 1.0 acre  
Commercial Area - 2.6 acres  
Agricultural Area - 1.7 acres  
Ecological Greenways Priority Linkages - 18.3 acres  
Ecological Greenways Critical Linkages - 86.3 acres  
Florida Forever BOT Project - Lake Wales Ridge Ecosystem  
Census Blocks with 5% or Higher Persons that Speak English "Not At All" (1)  
Census Blocks with Minority Populations Greater than 40% (7)

500-Foot Buffer:

Residential Area - 28.3 acres  
Commercial Area - 26.2 acres  
Agricultural Area - 33.1 acres  
Winter Haven Area Transit - Bus Route 35  
Ecological Greenways Priority Linkages -115.0 acres  
Ecological Greenways Critical Linkages -422.2 acres  
Future Land Use:  
Residential Area - 80.7 acres  
Commercial Area - 112.6 acres  
Industrial/Extractive Area - 78.9 acres  
Agricultural/Rural Area (includes low density [ $<0.5$  du/ac] residential) - 264.6 acres  
Lake Streety PUD - 0.8 acre  
Mobile Home and RV Parks - Lake Arbuckle County Park

Quarter-Mile (1,320-Foot) Buffer:

Residential Area - 172.2 acres  
Commercial Area - 39.2 acres  
Agricultural Area - 215.4 acres  
Industrial Area - 44.8 acres  
Ecological Greenways Priority Linkages -371.0 acres  
Ecological Greenways Critical Linkages -1,125.1 acres  
Future Land Use:  
Residential Area - 359.1 acres  
Commercial Area - 148.6 acres  
Industrial/Extractive Area - 228.6 acres  
Agricultural/Rural Area - 754.6 acres  
Lake Streety PUD - 19.51 acres  
Census Blocks with Minority Populations Greater than 40% (8)

One-Mile (5,280-Foot) Buffer:

Lake Streety PUD - 159.05 acres

Segment 3: CR 630 to CR 640 (S-003)

Identified Resources:

100-Foot Buffer:

Residential Area - 5.9 acres  
Commercial Area - 5.1 acres  
Agricultural Area - 13.1 acres  
Ecological Greenways Priority Linkages - 196.34 acres  
Florida Forever BOT Project - Lake Wales Ridge Ecosystem  
Census Blocks with 5% or Higher Persons that Speak English "Not At All" (2)  
Census Blocks with Minority Populations Greater than 40% (4)

500-Foot Buffer:

Residential Area - 92.9 acres  
Commercial Area - 57.9 acres  
Agricultural Area - 182.0 acres  
Winter Haven Area Transit - Bus Route 35  
Ecological Greenways Priority Linkages - 992.1 acres  
Ecological Greenways Critical Linkages - 4.0 acres  
Future Land Use:  
Residential Area - 32.5 acres  
Commercial Area - 91.8 acres  
Industrial/Extractive Area - 75.7 acres  
Agricultural/Rural Area (includes low density [ $<0.5$  du/ac] residential) - 664.6 acres  
Mixed Use Area - 97.6 acres  
Public/Semi-Public/Institutional Area - 13.7 acres  
Mobile Home and RV Parks - Lakefront Mobile Home Park

Quarter-Mile (1,320-Foot) Buffer:

Residential Area - 345.5 acres  
Commercial Area - 124.1 acres  
Agricultural Area - 511.6 acres  
Industrial Area - 53.6 acres  
Ecological Greenways Priority Linkages - 1,980.5 acres  
Ecological Greenways Critical Linkages - 48.0 acres  
Future Land Use:  
Residential Area - 246.4 acres  
Commercial Area - 166.0 acres  
Industrial/Extractive Area - 160.8 acres  
Agricultural/Rural Area - 1,718.6 acres  
Mixed Use Area - 252.4 acres  
Public/Semi-Public/Institutional Area - 40.2 acres  
Census Blocks with Minority Populations Greater than 40% (5)

One-Mile (5,280-Foot) Buffer:

Airport - Ridge Landing  
Aviation Transportation Facilities - Ridge Heights  
Five R. Ranch DRI - 315.4 acres

Segment 4: CR 640 to SR 60 (S-004)

Identified Resources:

100-Foot Buffer:

Residential Area - 3.60 acres  
Commercial Area - 14.8 acres  
Agricultural Area - 3.0 acres  
Ecological Greenways Priority Linkages - 95.2 acres  
Census Blocks with 5% or Higher Persons that Speak English "Not At All" (2)  
Census Blocks with Minority Populations Greater than 40% (3)  
Five R Ranch DRI - 0.01 acre

500-Foot Buffer:

Residential Area - 61.3 acres  
Commercial Area - 110.9 acres  
Agricultural Area - 24.4 acres  
Winter Haven Area Transit - Bus Route 35  
Ecological Greenways Priority Linkages - 490.6 acres  
Future Land Use:  
Residential Area - 23.3 acres  
Commercial Area - 145.2 acres  
Industrial/Extractive Area - 8.1 acres  
Mixed Use Area - 115.3

Public/Semi-Public Institutional Area - 19.3 acres  
Conservation Area - 6.7 acres  
Agricultural/Rural Area (includes low density [ $<0.5$  du/ac] residential) - 117.7 acres  
Census Blocks with Minority Populations Greater than 40% (4)  
Five R Ranch DRI - 22.5 acres  
Mobile Home and RV Parks - New Harmony and Laurel Mobile Home Parks

Quarter-Mile (1,320-Footer) Buffer:  
Residential Area - 196.7 acres  
Commercial Area - 201.9 acres  
Agricultural Area - 89.5 acres  
Industrial Area - 27.7 acres  
Ecological Greenways Priority Linkages - 1,373.2 acres  
Future Land Use:  
Residential Area - 219.8 acres  
Commercial Area - 212.6 acres  
Industrial/Extractive Area - 55.5 acres  
Mixed Use Area - 246.9  
Public/Semi-Public/Institutional Area - 40.0 acres  
Conservation Area - 16.8 acres  
Agricultural/Rural Area - 487.2 acres  
Census Blocks with Minority Populations Greater than 40% (8)  
Five R Ranch DRI - 154.4 acres

One-Mile (5,280-Footer) Buffer:  
Lake Wales Municipal Airport  
Lake East PUD - 28.84 acres

**Comments on Effects to Resources:** US Highway 27 is the primary route connecting the communities of southeastern Polk County with the larger cities of central Polk County (Lakeland, Winter Haven, Bartow, e.g.). The route also connects central Polk County with southern Florida and provides an important truck route serving the planned Integrated Logistics Center in Winter Haven. US 27 will also provide access to Legoland, a major theme park scheduled to open in October, 2011 and Polk State Corporate College that is currently under construction. It also serves as an emergency evacuation route for area residents and coastal communities. While most of the corridor is characterized by agricultural uses and vacant lands, there are pockets of residential, commercial, and industrial activity in the urbanized areas of the corridor, notably in Lake Wales (Segment 4) and Crooked Lake Park (Segment 3). Moreover, substantial population and employment growth is anticipated in the project area, resulting in greater residential, commercial and mixed use activities. A portion of the Highlands County Enterprise Zone is located within the southern edge of the project area (Segment 1). The project provides greater mobility and accessibility to the existing and planned commercial and industrial uses in the corridor.

US Highway 27 is also a major north-south arterial connecting a number of municipalities in Highlands and Polk counties in the immediate project area and other counties along this statewide corridor. North-south arterials are few in this part of the state. US Highway 27 is a facility on the Florida Intrastate Highway System and Strategic Intermodal System.

**CLC Commitments and Recommendations:** Area residents, businesses, and attractions are expected to benefit from this project with improved capacity and accessibility, and the proposed improvements will support projected growth and development in the project vicinity. The project also enhances mobility between the Highlands County Enterprise Zone and points north and supports the continued use of the facility as a regional trucking corridor. Therefore, the recommended degree of effect is Enhanced. However, since there are numerous Census blocks with greater than 40% minority populations and three Census block groups with five percent or greater persons who speak English "not at all" within the project area, it is also recommended that additional public outreach be conducted to solicit input from residents and businesses which rely on US Highway 27 for access.

**Coordinator Feedback:** None

**1** *Enhanced* assigned 05/10/2011 by Joseph Sullivan, Federal Highway Administration

**Coordination Document:** No Selection

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** Traffic on US 27 is expected to increase based on multiple factors along the corridor and in the region.

**Comments on Effects to Resources:** Increased mobility for truck and other traffic would be enhanced by improvements to US 27.

**Coordinator Feedback:** None

### Coordinator Summary: Land Use Issue

**3** *Moderate* assigned 09/07/2011 by FDOT District 1

**Comments:** FDOT noted that the project area consists of a mostly rural agricultural character with isolated clusters of residential and commercial uses in the urbanized places. The Highlands County Enterprise Zone and Highlands County Brownfield Area are located within the project area as well. The primary future land use is agriculture with some commercial, industrial, mixed use, and medium density residential. The project is consistent with the Polk TPO 2035 LRTP. The project is not included in the FDOT's 2035 Cost Affordable Strategic Intermodal System Plan, but it is identified as a needed improvement in the 2030 SIS Multi-Modal Unfunded Needs Plan (adopted in 2006). FDOT stated that the project appears to have no impact on local land use planning initiatives in the study area. Coordination Document: None.

FHWA noted that previous evaluations [2005 Planning Screen] found inconsistencies with the local comprehensive plans for proposed land use and that further evaluation of potential land use conflicts should be evaluated and addressed. Coordination Document: To Be Determined: Further Coordination Required.

The FDOT has coordinated with the FHWA in assigning a Summary DOE. The FHWA stated that land uses along the proposed corridor will likely change due to the project. Therefore, appropriate agency and public interaction and coordination will be necessary. The proposed project could

influence land use patterns and the type of development in the corridor. Therefore, a Summary DOE of Moderate has been assigned to the Land Use issue.

Commitments and Responses: None.

Technical Study: None.

**ETAT Reviews: Land Use Issue: 2 found**

0 None assigned 06/02/2011 by Scott Swearingen, FDOT District 1

**Coordination Document:** No Selection

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** Segment 1: W. County Line Road to SR 17 (S-001)

Identified Resources:

City of Lakeland Comprehensive Plan

Polk Transportation Planning Organization's 2035 Long Range Transportation Plan (LRTP)

100-Foot Buffer:

Residential Area - 0.7 acre

Commercial Area - 0.1 acre

Agricultural Area - 3.3 acres

Highlands County Enterprise Zone - 0.19 acre

500-Foot Buffer:

Residential Area - 27.3 acres

Commercial Area - 12.2 acres

Agricultural Area - 35.3 acres

Highlands County Enterprise Zone - 6.55 acres

Highlands County Brownfield Area - 4.95 acres

Future Land Use:

Residential Area - 1.9 acres

Commercial Area - 1.9 acres

Mixed Use Area - 1.0 acre

Agricultural/Rural Area (includes low density [ $<0.5$  du/ac] residential) - 277.3 acres

Quarter-Mile (1,320-Foot) Buffer:

Residential Area - 82.5 acres

Commercial Area - 13.0 acres

Agricultural Area - 86.0 acres

Industrial Area - 8.9 acres

Highlands County Enterprise Zone - 27.95 acres

Highlands County Brownfield Area - 19.8 acres

Future Land Use:

Residential Area - 5.8 acres

Commercial Area - 3.4 acres

Mixed Use Area - 9.8 acres

Industrial/Extractive Area - 4.4 acres

Agricultural/Rural Area - 752.2 acres

One-Mile (5,280-Foot) Buffer:

Lake Streety PUD - 45.41 acres

Segment 2: SR 17 to CR 630 (S-002)

Identified Resources:

City of Lakeland Comprehensive Plan

Polk Transportation Planning Organization's 2035 Long Range Transportation Plan (LRTP)

100-Foot Buffer:

Residential Area - 1.0 acre

Commercial Area - 2.6 acres

Agricultural Area - 1.7 acres

500-Foot Buffer:

Residential Area - 28.3 acres

Commercial Area - 26.2 acres

Agricultural Area - 33.1 acres

Future Land Use:

Residential Area - 80.7 acres

Commercial Area - 112.6 acres

Industrial/Extractive Area - 78.9 acres

Agricultural/Rural Area (includes low density [ $<0.5$  du/ac] residential) - 264.6 acres

Lake Streety PUD - 0.8 acre

Quarter-Mile (1,320-Foot) Buffer:

Residential Area - 172.2 acres  
Commercial Area - 39.2 acres  
Agricultural Area - 215.4 acres  
Industrial Area - 44.8 acres  
Future Land Use:  
Residential Area - 359.1 acres  
Commercial Area - 148.6 acres  
Industrial/Extractive Area - 228.6 acres  
Agricultural/Rural Area - 754.6 acres  
Lake Streety PUD - 19.51 acres

One-Mile (5,280-Foot) Buffer:

Lake Streety PUD - 159.05 acres

Segment 3: CR 630 to CR 640 (S-003)

Identified Resources:

City of Lakeland Comprehensive Plan  
Polk Transportation Planning Organization's 2035 Long Range Transportation Plan (LRTP)

100-Foot Buffer:

Residential Area - 5.9 acres  
Commercial Area - 5.1 acres  
Agricultural Area - 13.1 acres

500-Foot Buffer:

Residential Area - 92.9 acres  
Commercial Area - 57.9 acres  
Agricultural Area - 182.0 acres  
Future Land Use:  
Residential Area - 32.5 acres  
Commercial Area - 91.8 acres  
Industrial/Extractive Area - 75.7 acres  
Agricultural/Rural Area (includes low density [ $<0.5$  du/ac] residential) - 664.6 acres  
Mixed Use Area - 97.6 acres  
Public/Semi-Public/Institutional Area - 13.7 acres

Quarter-Mile (1,320-Foot) Buffer:

Residential Area - 345.5 acres  
Commercial Area - 124.1 acres  
Agricultural Area - 511.6 acres  
Industrial Area - 53.6 acres  
Future Land Use:  
Residential Area - 246.4 acres  
Commercial Area - 166.0 acres  
Industrial/Extractive Area - 160.8 acres  
Agricultural/Rural Area - 1718.6 acres  
Mixed Use Area - 252.4 acres  
Public/Semi-Public/Institutional Area - 40.2 acres

One-Mile (5,280-Foot) Buffer:

Five R. Ranch DRI - 315.4 acres

Segment 4: CR 640 to SR 60 (S-004)

Identified Resources:

City of Lakeland Comprehensive Plan  
Polk Transportation Planning Organization's 2035 Long Range Transportation Plan (LRTP)

100-Foot Buffer:

Residential Area - 3.60 acres  
Commercial Area - 14.8 acres  
Agricultural Area - 3.0 acres  
Five R Ranch DRI - 0.01 acre

500-Foot Buffer:

Residential Area - 61.3 acres  
Commercial Area - 110.9 acres  
Agricultural Area - 24.4 acres



Future Land Use:

Residential Area - 23.3 acres  
Commercial Area - 145.2 acres  
Industrial/Extractive Area - 8.1 acres  
Mixed Use Area - 115.3  
Public/Semi-Public Institutional Area - 19.3 acres  
Conservation Area - 6.7 acres  
Agricultural/Rural Area (includes low density [ $<0.5$  du/ac] residential) - 117.7 acres  
Five R Ranch DRI - 22.5 acres

Quarter-Mile (1,320-Footer) Buffer:

Residential Area - 196.7 acres  
Commercial Area - 201.9 acres  
Agricultural Area - 89.5 acres  
Industrial Area - 27.7 acres

Future Land Use:

Residential Area - 219.8 acres  
Commercial Area - 212.6 acres  
Industrial/Extractive Area - 55.5 acres  
Mixed Use Area - 246.9  
Public/Semi-Public/Institutional Area - 40.0 acres  
Conservation Area - 16.8 acres  
Agricultural/Rural Area - 487.2 acres  
Five R Ranch DRI - 154.4 acres

One-Mile (5,280-Footer) Buffer:

Lake East PUD - 28.84 acres

**Comments on Effects to Resources:** The project area consists of a mostly rural agricultural character with isolated clusters of residential and commercial uses in the urbanized places (Lake Wales and Crooked Lake Park). US 27 provides connectivity between central Polk County and southern Florida and is an important facility for through truck traffic and for emergency evacuations. Table 2 describes the existing land uses within the 500-foot project buffer. Agricultural and vacant lands represent the largest share of acreage within the corridor. Residential, commercial (retail/office) and industrial uses tend to be located in clusters in the urbanized portions of the corridor.

Table 2. Generalized Land Use (500-Footer Buffer)

500-Footer Buffer

Description	Acres	Percent*
ACREAGE NOT ZONED FOR AGRICULTURE	271.5	11.79%
AGRICULTURAL	457.3	19.86%
CENTRALLY ASSESSED	3.3	0.14%
INDUSTRIAL	37.3	1.62%
INSTITUTIONAL	12.7	0.55%
PARCELS WITH NO VALUES	4.0	0.18%
PUBLIC/SEMI-PUBLIC	24.6	1.07%
RECREATION	1.3	0.06%
RESIDENTIAL	71.6	3.11%
RETAIL/OFFICE	109.5	4.76%
VACANT NONRESIDENTIAL	569.3	24.73%
VACANT RESIDENTIAL	200.9	8.73%
WATER	0.4	0.02%

\*Percentages do not add to 100% due to the omission of the transportation right-of-way from the D1 generalized land use inventory  
EST - District 1 Generalized Land Use - analysis performed on 5/3/2011

The primary future land use in the project vicinity is agriculture with shares of commercial, industrial, mixed use, and medium density residential designations notably higher than existing shares. Within one mile of the project are two PUDs (Lake Streety and Lake Easy) and one DRI (Five R Ranch), as well as 224 acres of the Highlands County Enterprise Zone and 90 acres of the Highlands County Brownfield Area.

The project is consistent with the Polk County Transportation Planning Organization's 2035 Long Range Transportation Plan, adopted December 7, 2010. The project is not included in the FDOT's 2035 Cost Affordable Strategic Intermodal System Plan, but it is identified as a needed improvement in the 2030 SIS Multi-Modal Unfunded Needs Plan (adopted in 2006).

**CLC Commitments and Recommendations:** The proposed improvements will support the anticipated residential, commercial, and industrial growth along the corridor. Since the project appears to have no impact on local land use planning initiatives in the study area, the recommended degree of effect is None. **Coordinator Feedback:** None

**3** Moderate assigned 05/10/2011 by Joseph Sullivan, Federal Highway Administration

**Coordination Document:** To Be Determined: Further Coordination Required

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** Previous evaluations found inconsistencies with the local comprehensive plans for proposed land use.

**Comments on Effects to Resources:** Further evaluation of potential land use conflicts will need to be evaluated and addressed.

**Coordinator Feedback:** None

The following organization(s) were expected to but did not submit a review of the Land Use issue for this alternative: FL Department of Community Affairs

**Coordinator Summary: Mobility Issue**

**2** *Minimal* assigned 09/07/2011 by FDOT District 1

**Comments:** FDOT stated that the proposed improvements to US 27 are intended to improve operational capacity to meet mobility needs in response to anticipated population and employment growth in southeastern Polk County. Furthermore, they will enhance goods movement while mitigating the impacts of increased commuter activity in the corridor on truck mobility. The corridor provides access to numerous existing and planned facilities such as the Integrated Logistics Center in Winter Haven. Without the proposed project improvements, the future roadway LOS is anticipated to degrade to level "E" by 2035. Coordination Document: None.

FHWA noted that mobility resources were identified within the GIS analysis including multiple greenways priority linkages, 2 multi-use trails and an adjacent rail road. They requested that attention be given in subsequent phases to the avoidance and minimization of impacts to greenways and trail resources. FHWA assigned a Moderate DOE and noted that it was the previously recommended DOE from the 2005 Planning Screen. Coordination Document: To Be Determined: Further Coordination Required.

Substantial future growth is anticipated in the project area with improvements to current facilities and newly planned facilities such as the planned Integrated Logistics Center in Winter Haven, Legoland and Polk State Corporate College. Also, US 27 is an important truck route. The proposed improvements are intended to improve capacity and to meet mobility needs. Also, the project is consistent with the Polk TPO 2035 LRTP; however, it is not included in the FDOT's 2035 Cost Affordable Strategic Intermodal System Plan, but it is identified as a needed improvement in the 2030 SIS Multi-Modal Unfunded Needs Plan (adopted in 2006). The FDOT has coordinated with the FHWA in assigning a Summary DOE. The FHWA noted that mobility may be enhanced along this corridor due to this project; however, non-vehicular accommodations within this facility are reasonably expected. The project does not appear to have significant mobility impacts on non-vehicular transportation facilities within the project area. A Summary DOE of Minimal has been assigned to the Mobility issue.

Commitments and Responses: Public outreach during project development in coordination with the Polk TPO should continue to solicit community opinions and preferences, targeting input from the transportation disadvantaged population, commuters, and tourism entities regarding the proposed capacity improvements and mobility options along this segment of US 27.

Technical Study: None.

**ETAT Reviews: Mobility Issue: 2 found**

**1** *Enhanced* assigned 06/02/2011 by Scott Swearengen, FDOT District 1

**Coordination Document:** No Selection

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** Segment 1: W. County Line Road to SR 17 (S-001)

Identified Resources:

City of Lakeland Comprehensive Plan

Polk Transportation Planning Organization's 2035 Long Range Transportation Plan (LRTP)

100-Foot Buffer:

Residential Areas - 0.7 acre

Highlands County Enterprise Zone - 0.19 acre

Ecological Greenways Priority Linkages - 27.7 acres

Ecological Greenways Critical Linkages - 35.8 acres

Office of Greenways and Trails (OGT) Multi-Use Trail Priorities (Medium)

Crashes (2005-2007) - 77 (5 fatal)

500-Foot Buffer:

Residential Areas - 27.3 acres

Highlands County Enterprise Zone - 6.55 acre

Ecological Greenways Priority Linkages -150.3 acres

Ecological Greenways Critical Linkages -182.2 acres

Crashes (2005-2007) - 81 (5 fatal)

Federal Aviation Administration Obstruction (1)

Quarter-Mile (1,320-Foot) Buffer:

Residential Areas - 82.6 acres

Highlands County Enterprise Zone - 27.95 acres

Ecological Greenways Priority Linkages -399.6 acres

Ecological Greenways Critical Linkages -556.1 acres

Holiday Ranch RV Resort

Railroad - 5,822 feet

One-Mile (5,280-Foot) Buffer:

Railroad - 23,751 feet

FDOH Group Care Facility (1)

Segment 2: SR 17 to CR 630 (S-002)

Identified Resources:

City of Lakeland Comprehensive Plan  
Polk Transportation Planning Organization's 2035 Long Range Transportation Plan (LRTP)

100-Foot Buffer:

Residential Areas - 1.01 acres  
Ecological Greenways Priority Linkages - 18.3 acres  
Ecological Greenways Critical Linkages - 86.3 acres  
Crashes (2005-2007) - 97 (5 fatal)  
Railroad - 275 feet

500-Foot Buffer:

Residential Areas - 28.31  
Winter Haven Area Transit - Bus Route 35  
Ecological Greenways Priority Linkages -115.0 acres  
Ecological Greenways Critical Linkages -422.2 acres  
Crashes (2005-2007) - 111 (5 fatal)  
Mobile Home and RV Parks - Lake Arbuckle County Park  
Railroad - 1,387 feet

Quarter-Mile (1,320-Foot) Buffer:

Residential Areas - 172.14 acres  
Ecological Greenways Priority Linkages -371.0 acres  
Ecological Greenways Critical Linkages -1,125.1 acres  
Railroad - 3,797 feet  
FDOH Group Care Facility (1) - Adam Schwartz

One-Mile (5,280-Foot) Buffer:

Geocoded Schools - South County Center  
Railroad - 30,245 feet  
Rail Siding - 4,630 feet  
Federal Aviation Administration Obstruction (3)  
FDOH Group Care Facility (1) - ALPI Frostproof Development

Segment 3: CR 630 to CR 640 (S-003)

Identified Resources:

City of Lakeland Comprehensive Plan  
Polk Transportation Planning Organization's 2035 Long Range Transportation Plan (LRTP)

100-Foot Buffer:

Residential Area - 5.87 acres  
Ecological Greenways Priority Linkages - 196.34 acres  
Office of Greenways and Trails (OGT) Multi-Use Trail Priorities (Medium)  
Crashes (2005-2007) - 142 (4 fatal)

500-Foot Buffer:

Residential Area - 92.88 acres  
Mobile Home and RV Parks - Lakefront Mobile Home Park  
Winter Haven Area Transit - Bus Route 35  
Ecological Greenways Priority Linkages - 992.1 acres  
Ecological Greenways Critical Linkages - 4.0 acres  
Crashes (2005-2007) - 161 (4 fatal)  
Federal Aviation Administration Obstruction (2)

Quarter-Mile (1,320-Foot) Buffer:

Residential Areas - 345.47 acres  
Ecological Greenways Priority Linkages -1,980.5 acres  
Ecological Greenways Critical Linkages -48.0 acres

One-Mile (5,280-Foot) Buffer:

Airport - Ridge Landing  
Aviation Transportation Facilities - Ridge Heights  
Federal Aviation Administration Obstruction (2)  
Geocoded Schools (2) - South County Center and Warner Southern College  
Railroad - 25,314 feet  
Rail Siding - 10,893 feet  
FDOH Group Care Facilities (2)  
Five R. Ranch DRI - 315.4 acres

Segment 4: CR 640 to SR 60 (S-004)

Identified Resources:

City of Lakeland Comprehensive Plan  
Polk Transportation Planning Organization's 2035 Long Range Transportation Plan (LRTP)

100-Foot Buffer:

Residential Areas - 3.60 acres  
Ecological Greenways Priority Linkages - 95.2 acres  
Office of Greenways and Trails (OGT) Multi-Use Trail Priorities (Medium)  
Crashes (2005-2007) - 104 (2 fatal)

500-Foot Buffer:

Residential Areas - 61.25 acres  
Mobile Home and RV Parks (2) - New Harmony Mobile and Laurel Mobile Home Parks  
Winter Haven Area Transit - Bus Route 35  
Ecological Greenways Priority Linkages - 490.6 acres  
Crashes (2005-2007) - 172 (2 fatal)  
Five R Ranch DRI - 22.5 acres

Quarter-Mile (1,320-Foot) Buffer:

Residential Areas -196.66 acres  
Ecological Greenways Priority Linkages - 1,373.2 acres  
Five R Ranch DRI - 154.4 acres

One-Mile (5,280-Foot) Buffer:

Airport - Lake Wales Municipal Airport  
Federal Aviation Administration Obstruction (2)  
Geocoded Schools (6)  
Railroad - 12,202 feet  
Rail Siding - 4,829 feet  
FDOH Group Care Facilities (11)

**Comments on Effects to Resources:** This project widens US Highway 27 from an existing four-lane divided facility to a planned six-lane facility utilizing a rural typical section, except from milepost 4.784 to milepost 8.623 (portions of Segments 2 and 3) and from milepost 16.212 to milepost 18.816 (Segment 4), where an urban typical section will be used. It is located in southeastern Polk County between Highlands County and the City of Lake Wales.

The proposed improvements to US Highway 27 are intended to improve operational capacity to meet mobility needs in response to anticipated population and employment growth in southeastern Polk County. The existing roadway LOS for each of the four segments is currently "B," but future traffic growth is projected to degrade the LOS to "E" by 2035 (see Table 3). The roadway provides access to the Legoland Theme Park that is scheduled to open in October, 2011 and Polk State Corporate College that is currently under construction. The road also carries a high volume of truck traffic, which is expected to increase substantially with the development of the Integrated Logistics Center in Winter Haven. The proposed improvements will enhance goods movement while mitigating the impacts of increased commuter activity in the corridor on truck mobility.

Table 3 - Existing and Future Traffic (2009 and 2035)

From	To	2009 AADT	2009 LOS	2035 AADT	2035 LOS
County Line Rd	SR 17	19,200	B	34,921	E
SR 17	CR 630	16,800	B	32,705	E
CR 630	CR 640	15,900	B	40,465	E
CR 640	SR 60	22,143	B	43,429	E

2035 volumes and LOS based on Polk County Transportation Planning Organization's 2014 existing plus committed highway network loaded using 2035 socioeconomic data.

The project is consistent with the Polk County Transportation Planning Organization's 2035 Long Range Transportation Plan, adopted December 7, 2010. The project is not included in the FDOT's 2035 Cost Affordable Strategic Intermodal System Plan, but it is identified as a needed improvement in the 2030 SIS Multi-Modal Unfunded Needs Plan (adopted in 2006).

**CLC Commitments and Recommendations:** The project is anticipated to enhance mobility and accessibility for both automobile and truck traffic; however, public outreach in coordination with the Polk TPO should continue to solicit community opinions and preferences, targeting input from the diverse users of the corridor including freight providers, transportation disadvantaged population, commuters, and tourism entities regarding the proposed capacity improvements and mobility options along this segment of US Highway 27. **Coordinator Feedback:** None

**3** Moderate assigned 05/09/2011 by Joseph Sullivan, Federal Highway Administration

**Coordination Document:** To Be Determined: Further Coordination Required

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** Mobility resources identified within the GIS analysis include multiple greenways priority linkages, 2 multi-use trails, and the adjacent rail road.

**Comments on Effects to Resources:** Attention to avoidance and minimization of impacts to Greenways and trail resources is needed in subsequent phases. Previously noted (2005) DOE is noted. The 2005 recommendation does not reference Greenways or trail systems.

**Coordinator Feedback:** None

**Coordinator Summary: Relocation Issue**

**Comments:** FDOT stated that the project area is dominated by agricultural and other vacant land with 11.8 acres of residential and 22.3 acres of commercial uses located along the 18.8-mile corridor and within the 100-foot buffer area. They also noted that the typical section for the project is 126 feet in urbanized areas to 212 feet in rural areas and that the proposed improvements are expected to fit within the existing public rights-of-way, including the required stormwater treatment facilities; however, some existing residential or commercial uses abutting the highway could be impacted. Coordination Document: None.

FHWA restated comments from the 2005 Planning Screen noting, in part, that the potential for relocations exist mainly in the developed areas of Lake Wales and Avon Park. They requested that potential relocation impacts to residential and business locations be evaluated within future phases of the project. Coordination Document: To Be Determined: Further Coordination Required.

The project corridor is approximately 18.8 miles in length. While the proposed improvements are expected to fit within existing public rights-of-way, there may be the potential for impacts to some adjacent existing residential or commercial uses. Therefore, a Summary DOE of Moderate has been assigned to the Relocation issue.

Commitments and Responses: Any potential relocations of existing residents and businesses due to the project will be identified during project development.

Technical Study: None.

**ETAT Reviews: Relocation Issue: 2 found**

**Coordination Document:** No Selection

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** Segment 1: W. County Line Road to SR 17 (S-001)

Identified Resources:

100-Foot Buffer:

Residential Areas - 0.70 acre

Highlands County Enterprise Zone - 0.19 acre

200-Foor Buffer:

Residential Areas - 7.63 acres

Highlands County Enterprise Zone - 7.63 acres

Segment 2: SR 17 to CR 630 (S-002)

Identified Resources:

100-Foot Buffer:

Residential Areas - 1.01 acres

Florida Forever BOT Projects - Lake Wales Ridge Ecosystem, 21.89 acres

200-Foor Buffer:

Residential Areas - 4.28 acres

Florida Forever BOT Projects - Lake Wales Ridge Ecosystem, 40.71 acres

Segment 3: CR 630 to CR 640 (S-003)

Identified Resources:

100-Foot Buffer:

Residential Areas - 5.87 acres

Florida Forever BOT Projects - Lake Wales Ridge Ecosystem, 49.76 acres

200-Foor Buffer:

Residential Areas - 23.87 acres

Florida Forever BOT Projects - Lake Wales Ridge Ecosystem, 109.46 acres

Segment 4: CR 640 to SR 60 (S-004)

Identified Resources:

100-Foot Buffer:

Residential Areas - 3.60 acres

200-Foor Buffer:

Residential Areas - 13.98 acres



**Comments on Effects to Resources:** The project area is dominated by agricultural and other vacant land with 11.8 acres of residential and 22.3 acres of commercial uses located within the 100-foot buffer area. The typical section for the project is 126 feet in urbanized areas to 212 feet in rural areas. The proposed improvements to the project area are expected to fit within the existing public rights-of-way, including the required stormwater treatment facilities, but some existing residential or commercial uses abutting the highway may be impacted.

**CLC Commitments and Recommendations:** Potential relocation effects are expected to be minimal. However, it is recommended that community outreach and input regarding the potential effects of this project continues. Measures should be taken during public involvement to identify privately owned parcels that may be substantially affected by the project and to evaluate whether or not these effects would warrant relocating businesses or residents. **Coordinator Feedback:** None

**3** Moderate assigned 05/09/2011 by Joseph Sullivan, Federal Highway Administration

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**Coordination Document:** To Be Determined: Further Coordination Required

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** 2005 Comments: The potential for relocation exists mainly in the developed areas of Lake Wales and Avon Park. In the 100-foot project buffer in the vicinity of Lake Wales, developed parcels include five public/semi-public parcels, ten commercial parcels, two industrial parcels, five residential parcels, and one institutional parcel. In the Avon Park area, there are 34 commercial, one industrial, 15 residential, and four public/semi-public parcels within the 100 foot project buffer.

Current GIS analysis identified 11.17 residential designated acres within 100 feet of the project and 49.75 residential acres within 200 feet of the project. Additionally 4 mobile home parks were identified within 500 feet of the project.

**Comments on Effects to Resources:** Potential impacts to residential and business locations is present and will need to be evaluated within future phases of this project.

**Coordinator Feedback:** None

### Coordinator Summary: Social Issue

**3** Moderate assigned 08/24/2011 by FDOT District 1

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**Comments:** FDOT stated that most potential social resource impacts along the 18.8-mile corridor are concentrated within the urbanized areas of Lake Wales and Crooked Lake Park. Demographic data for the study area shows that African-American and other racial minorities comprise a significantly larger share of the study area population than of the population of Polk County. The percent of persons 65 or older is higher in the study area than in the reference areas, while the percent of persons under 18 is lower, suggesting an older-than-average population affected by the project. Median family income in the corridor is lower than the County as a whole, but similar to the Lake Wales reference area; the percentage of households without automobile access is similar to countywide rates and lower than in Lake Wales. The study area also has a relatively high percentage of persons of Hispanic ethnicity and three Census block groups were identified within the quarter-mile project buffer in which five percent or more of the population speak English "not at all." Public outreach activities per the FDOT PD&E Manual will need to be targeted to the Hispanic community. Coordination Document: PD&E Support Document as per PD&E Manual.

FHWA noted that previous [2005 Planning Screen] evaluations found minimal to no social issues in conflict with the proposed project; however, further evaluation may be necessary in future phases. Coordination Document: None.

USEPA did not identify resources and did not comment on effects to resources. Coordination Document: None.

The project is anticipated to improve capacity, circulation and mobility; however, this could lead to higher traffic volumes and an overall disruption to the social environment. The proposed improvements are expected to fit within the existing public rights-of-way, including the required stormwater treatment facilities. The demographic character of the project study area depicts a relatively older, more racially and ethnically diverse, and less affluent population. Per the FDOT PD&E Manual, Part 1, Chapter 11, Section 11.2.4, if the demographic data indicates that 5% or 1,000 persons or more in a project area speak a language other than English then Limited English Proficiency (LEP) accommodations should be required. Based on available U.S. Census data for the area, such accommodations will be required for the project. A Summary DOE of Moderate has been assigned to the Social issue.

**Commitments and Responses:** The Socio-Cultural Effects Analysis and public outreach activities should give special consideration to the potential impacts on transportation disadvantaged groups, including the elderly and households without vehicular access, to ensure that they are not disproportionately affected by the project. Also, public outreach activities targeting the Hispanic community will be conducted during the Project Development phase in compliance with the PD&E Manual.

Technical Study: None.

### ETAT Reviews: Social Issue: 3 found

**0** None assigned 06/09/2011 by Maher Budeir, US Environmental Protection Agency

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**Coordination Document:** No Selection

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** None found.

**Comments on Effects to Resources:** None found.

**Coordinator Feedback:** None

**3** Moderate assigned 06/02/2011 by Scott Swearingen, FDOT District 1

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**Coordination Document:** No Selection

**Dispute Information:**N/A

**Identified Resources and Level of Importance:** Segment 1: W. County Line Road to SR 17 (S-001)

Identified Resources:

100-Foot Buffer:

Residential Area - 0.7 acre  
Highlands County Enterprise Zone - 0.19 acre  
Ecological Greenways Priority Linkages - 27.7 acres  
Ecological Greenways Critical Linkages - 35.8 acres  
Office of Greenways and Trails (OGT) Multi-Use Trail Priorities (Medium)  
Census Blocks with Minority Populations Greater than 40% (2)  
Census Blocks with 5% or Higher Persons that Speak English "Not At All" (1)  
Parcel Derived Social Services - Alico Inc Boarding Home  
Cultural Resource Field Survey Project Boundaries (2)

200-Foot Buffer:

Highlands County Brownfield Area  
Parcel Derived Social Services (3)

500-Foot Buffer:

Residential Area - 27.3 acres  
Highlands County Enterprise Zone - 6.55 acres  
Highlands County Brownfield Area - 4.95 acres  
Ecological Greenways Priority Linkages -150.3 acres  
Ecological Greenways Critical Linkages -182.2 acres  
Cultural Resource Field Survey Project Boundaries (4)  
Florida Site File Archaeological/Historic Sites (1)  
Parcel Derived Parks (2)  
Parcel Derived Social Services (4)  
Future Land Use:  
Residential Area - 1.9 acres  
Commercial Area - 1.9 acres  
Mixed Use Area - 1.0 acre  
Agricultural/Rural Area (includes low density [ $<0.5$  du/ac] residential) - 277.3 acres

Quarter-Mile (1,320-Foot) Buffer:

Residential Area - 82.5 acres  
Highlands County Enterprise Zone - 27.95 acres  
Highlands County Brownfield Area - 19.8 acres  
Ecological Greenways Priority Linkages -150.3 acres  
Ecological Greenways Critical Linkages -182.2 acres  
Florida Forever BOT Project - Lake Wales Ridge Ecosystem  
Florida Site File Archaeological/Historic Sites (2)  
Mobile Home and RV Parks - Holiday Ranch RV Resort  
Parcel Derived Religious Centers (1)  
Parcel Derived Social Services (6)  
Florida Master Site File Resource Groups (1)

One-Mile (5,280-Foot) Buffer:

Residential Area - 509.0 acres  
Highland Lakes Volunteer Fire and Rescue Station  
Florida Site File Historic Standing Structures (1)  
Geocoded Health Care Facilities (1)  
FDOH Group Care Facilities (1)  
Florida Site File Archaeological/Historic Sites (3)  
Parcel Derived Parks (4)  
Parcel Derived Religious Facilities (6)  
Parcel Derived Social Services (20)  
Lake Streety PUD  
Lake Wales Ridge Wildlife and Environmental Area  
FDEP Wastewater Facilities (2)

Segment 2: SR 17 to CR 630 (S-002)

Identified Resources:

100-Foot Buffer:

Residential Area - 1.0 acre  
Ecological Greenways Priority Linkages - 18.3 acres  
Ecological Greenways Critical Linkages - 86.3 acres  
Florida Forever BOT Project - Lake Wales Ridge Ecosystem  
Census Blocks with Minority Populations Greater than 40% (7)  
Census Blocks with 5% or Higher Persons that Speak English "Not At All" (1)  
Lake Wales Ridge Wildlife and Environmental Area  
Florida Master Site File Resource Groups (1)

200-Foot Buffer:

Geocoded Social Service Facilities (1)

Parcel Derived Social Services (1)

500-Foot Buffer:

Residential Area - 28.3 acres  
Ecological Greenways Priority Linkages -115.0 acres  
Ecological Greenways Critical Linkages -422.2 acres  
Future Land Use:  
Residential Area - 80.7 acres  
Commercial Area - 112.6 acres  
Industrial/Extractive Area - 78.9 acres  
Agricultural/Rural Area (includes low density [ $<0.5$  du/ac] residential) - 264.6 acres  
Mobile Home and RV Parks - Lake Arbuckle County Park  
Frostproof Fire Department Station 2  
Parcel Derived Parks (2)  
Parcel Derived Religious Centers (1)  
Parcel Derived Social Services (13)  
Lake Streety PUD - 0.8 acre

Quarter-Mile (1,320-Foot) Buffer:

Residential Area - 172.2 acres  
Ecological Greenways Priority Linkages -371.0 acres  
Ecological Greenways Critical Linkages -1,125.1 acres  
Census Blocks with Minority Populations Greater than 40% (8)  
FDOH Group Care Facilities (1)  
Parcel Derived Parks (3)  
Parcel Derived Social Services (33)

One-Mile (5,280-Foot) Buffer:

Residential Area - 1,535.5 acres  
Cultural Resource Field Survey Project Boundaries (1)  
Geocoded Schools (1)  
Geocoded Parks (2)  
FDOH Group Care Facilities (2)  
Parcel Derived Community Centers (1)  
Parcel Derived Cultural Centers (1)  
Parcel Derived Religious Centers (10)  
Parcel Derived Parks (5 golf courses)  
Parcel Derived Social Services (55)  
Hickory Lake Scrub County Park  
FDEP Waste Water Facilities (4)

Segment 3: CR 630 to CR 640 (S-003)

Identified Resources:

100-Foot Buffer:

Residential Area - 5.9 acres  
Ecological Greenways Priority Linkages - 196.34 acres  
Florida Forever BOT Project - Lake Wales Ridge Ecosystem  
Census Blocks with 5% or Higher Persons that Speak English "Not At All" (2)  
Census Blocks with Minority Populations Greater than 40% (4)  
Cultural Resource Field Survey Project Boundaries (3)  
Geocoded Assisted Housing - Tower Point  
FNAI Managed Lands (2)

200-Foot Buffer:

Polk County Fire Department Station 6 - Caloosa Lake  
Parcel Derived Social Services (1)

500-Foot Buffer:

Residential Area - 92.9 acres  
Ecological Greenways Priority Linkages - 992.1 acres  
Ecological Greenways Critical Linkages - 4.0 acres  
Future Land Use:  
Residential Area - 32.5 acres  
Commercial Area - 91.8 acres  
Industrial/Extractive Area - 75.7 acres  
Agricultural/Rural Area (includes low density [ $<0.5$  du/ac] residential) -664.6 acres  
Mixed Use Area - 97.6 acres  
Public/Semi-Public/Institutional Area - 13.7 acres  
Mobile Home and RV Parks - Lakefront Mobile Home Park  
Parcel Derived Schools (2)

Quarter-Mile (1,320-Foot) Buffer:  
Residential Area - 345.5 acres  
Ecological Greenways Priority Linkages -1,980.5 acres  
Ecological Greenways Critical Linkages -48.0 acres  
Census Blocks with Minority Populations Greater than 40% (5)  
Geocoded Assisted Housing - Carillon Place  
Geocoded and Parcel Derived Religious Centers (6)  
Geocoded and Parcel Derived Social Services (5)  
Parcel Derived Parks (1 golf course)  
FNAI Managed Lands (3)  
FDEP Waste Water Facilities (1)

One-Mile (5,280-Foot) Buffer:  
Residential Area - 1,704.5 acres  
Airport - Ridge Landing  
Aviation Transportation Facilities - Ridge Heights  
Five R Ranch DRI  
Cultural Resource Field Survey Project Boundaries (4)  
Lakemont Ridge Home and RV Park  
Geocoded and Parcel Derived Religious Centers (9 unique locations)  
Geocoded and Parcel Derives Schools (3 unique locations)  
FDOH Group Care Facilities (2)  
Parcel Derived Parks (5 golf courses)  
Parcel Derived Social Services (52)  
Florida Master Site File Resource Groups (1)  
FNAI Managed Lands (4)  
FDEP Solid Waste Facilities (2)  
FDEP Waste Water Facilities (9)

Segment 4: CR 640 to SR 60 (S-004)

Identified Resources:

100-Foot Buffer:  
Residential Area - 3.60 acres  
Ecological Greenways Priority Linkages - 95.2 acres  
Census Blocks with 5% or Higher Persons that Speak English "Not At All" (2)  
Census Blocks with Minority Populations Greater than 40% (3)  
Five R Ranch DRI - 0.01 acre  
Cultural Resource Field Survey Project Boundaries (5)  
Office of Greenways and Trails (OGT) Multi-Use Trail Priorities (Medium)  
Parcel Derived Community Centers (1)  
Parcel Derived Social Service Facilities (3)

200-Foot Buffer:  
Cultural Resource Field Survey Project Boundaries (7)  
Parcel Derived Social Service Facilities (4)

500-Foot Buffer:  
Residential Area - 61.3 acres  
Ecological Greenways Priority Linkages - 490.6 acres  
Future Land Use:  
Residential Area - 23.3 acres  
Commercial Area - 145.2 acres  
Industrial/Extractive Area - 8.1 acres  
Mixed Use Area - 115.3  
Public/Semi-Public Institutional Area - 19.3 acres  
Conservation Area - 6.7 acres  
Agricultural/Rural Area (includes low density [ $<0.5$  du/ac] residential) - 117.7 acres  
Census Blocks with Minority Populations Greater than 40% (4)  
Five R Ranch DRI - 22.5 acres  
Mobile Home and RV Parks - New Harmony and Laurel Mobile Home Parks  
Geocoded Cemeteries (1)  
Parcel Derived Religious Centers (1)  
Parcel Derived Social Service Facilities (8)

Quarter-Mile (1,320-Foot) Buffer:  
Residential Area - 196.7 acres  
Ecological Greenways Priority Linkages - 1,373.2 acres  
Florida Site File Historic Standing Structures (26)  
Florida Site File Archaeological or Historic Sites (3)  
Geocoded and Parcel Derived Religious Centers (5 unique locations)  
Geocoded Social Services (1)

Census Blocks with Minority Populations Greater than 40% (8)  
 Parcel Derived Social Service Facilities (20)  
 FDEP Waste Water Facilities (2)

One-Mile (5,280-Foot) Buffer:  
 Residential Area - 940.5 acres  
 Lake Wales Municipal Airport  
 Polk County Fire Department Station 6 - Caloosa Lake  
 City of Lake Wales Fire Department  
 FDEM Law Enforcement Facilities (Lake Wales Police Department)  
 Cultural Resource Field Survey Project Boundaries (10)  
 Florida Site File Historic Standing Structures (279)  
 Florida Site File Archaeological or Historic Sites (12)  
 Geocoded Assisted Housing (3)  
 Geocoded Civic Centers (1)  
 Geocoded Community Centers (4)  
 Geocoded Cultural Centers (5)  
 Geocoded Government Buildings (3)  
 Geocoded Health Care Facilities (3)  
 Geocoded Homeowner and Condominium Associations (1)  
 Geocoded Parks (2)  
 Geocoded and Parcel Derived Religious Centers (27 unique locations)  
 Geocoded Schools (6)  
 Geocoded Veteran Facilities (1)  
 FDOH Group Care Facilities (11)  
 National Register of Historic Places (6)  
 Lake Easy PUD  
 Florida Master Site File Resource Groups (6)  
 FDEP Solid Waste Facilities (2)  
 FDEP Waste Water Facilities (4)

**Comments on Effects to Resources:** The US Highway 27 project area is dominated by agricultural land and other open spaces. However, the project extends nearly 20 miles, and therefore it traverses a variety of areas, including portions of the urbanized areas of Lake Wales and Crooked Lake Park. Most of the residential, commercial, and industrial activities impacted by the project are located in these areas. Within these communities, and in isolated instances elsewhere along the corridor, a number of social resources fall within the project area, including (within the quarter-mile buffer):

- 761 acres of residential land uses
- 28 acres of the Highlands County Enterprise Zone
- 2 fire department stations
- 2 assisted housing facilities
- 5 religious centers
- 3 social service facilities
- 1 cemetery
- 5 archaeological or historic sites and 26 historic standing structures
- 5 mobile home/RV parks
- 1 group care facility
- Warner Southern College
- 1 development of regional impact and 1 planned unit development

Table 1 displays demographic characteristics in the project corridor within the 500-foot and one-mile buffer areas and compares those characteristics with parallel statistics in the City of Lake Wales and Polk County. The table shows that African-American and other racial minorities comprise a significantly larger share of the study area population than of the population of Polk County. (Within the quarter-mile project buffer, 19 Census blocks with 40% or higher minority populations were identified.) The percent of persons 65 or older is higher in the study area than in the reference areas, while the percent of persons under 18 is lower, suggesting an older-than-average population affected by the project. Median family income in the corridor is lower than the County as a whole, but similar to the Lake Wales reference area; the percentage of households without automobile access is similar to countywide rates and lower than in Lake Wales.

The study area also has a higher percentage of persons of Hispanic ethnicity than Lake Wales or Polk County, especially within the one-mile buffer area. (Three Census block groups were identified within the quarter-mile project buffer in which five percent or more of the population speak English "not at all.") Per the FDOT PD&E Manual, Part 1, Chapter 11, Section 11.2.4, if the demographic data indicates that 5% or 1,000 persons or more in a project area speak a language other than English then Limited English Proficiency (LEP) accommodations should be required. Therefore, public outreach activities will need to be targeted to the Hispanic community.

Taken as a whole, Table 1 describes an older, more racially and ethnically diverse, and less affluent population in the study area than is typical of Polk County.

Table 1. Demographic Information

Demographic	500' Buffer	1 Mile Buffer	Lake Wales	Polk County
White (Race)	77.7%	67.7%	60.4%	81.0%
African-American (Race)	10.5%	19.6%	35.4%	13.8%
"Other" * (Race)	11.8%	12.7%	4.2%	5.2%
Hispanic (Ethnic Group)	10.5%	15.9%	9.9%	9.7%
Age 65+	22.3%	23.4%	20.2%	18.3%
Under age 18	21.6%	21.7%	26.9%	24.4%



HH w/o car 7.3% 9.0% 14.1% 7.2%

Med. Family Income \$38,178 \$37,639 \$33,029 \$41,442

Source: US Census Bureau (2000 Data - Polk County)

\* "Other" includes Asian, Native American, Native Hawaiian & Other Pacific Islander Alone, & Other Race.

**CLC Commitments and Recommendations:** The potential impacts to the social environment are expected to be moderate. It is recommended that community outreach and input efforts for the project give special consideration to the potential impacts on transportation disadvantaged groups, including the elderly and households without vehicular access, to ensure that they are not disproportionately affected by the project. Also, public outreach activities targeting the Hispanic community should be conducted during the Project Development phase in compliance with the LEP requirements of the PD&E Manual. **Coordinator Feedback:** None

**2** *Minimal* assigned 05/10/2011 by Joseph Sullivan, Federal Highway Administration

**Coordination Document:** No Selection

**Dispute Information:** N/A

**Identified Resources and Level of Importance:** Previous (2005) evaluations found minimal to no social issues in conflict with the proposed project.

**Comments on Effects to Resources:** Further evaluation may be required in future phases.

**Coordinator Feedback:** None

The following organization(s) were expected to but did not submit a review of the Social issue for this alternative: FL Department of Community Affairs

#### ETAT Reviews and Coordinator Summary: Secondary and Cumulative Issues

#### Coordinator Summary: Secondary and Cumulative Effects Issue

**3** *Moderate* assigned 08/24/2011 by FDOT District 1

**Comments:** The SWFWMD stated that the project may result in further loss and/or disturbance of breeding and foraging habitat for listed species and further fragmentation of remaining uplands. The SWFWMD also stated that the addition of lanes and the resulting increase in traffic volume will raise the potential for wildlife fatalities along US 27. The SWFWMD noted that excessive habitat damage can be avoided by restricting construction equipment to previously disturbed areas and the median of the existing roadway. The SWFWMD also noted that the use of low impact development strategies may assist in water quality treatment and water quantity management. The SWFWMD recommended that wetland impacts be eliminated or reduced by implementing strict controls over sediment transport offsite during construction and by restricting staging areas to uplands. Coordination Document: Permit Required.

The purpose of this project is to improve connectivity to the regional roadway network, provide the additional travel capacity needed to accommodate projected population and employment growth within southern Polk County, enhance regional freight mobility, improve roadway safety, and decrease emergency evacuation times along US 27 (a designated hurricane evacuation route). To prevent potential secondary impacts, avoidance and minimization measures will be utilized in the design of the roadway. Mitigation will additionally be provided for any unavoidable adverse impacts, and best management practices will be employed during construction. While the proposed improvements are expected to fit predominantly within the existing roadway right-of-way, due to the unknown status of pond site locations and the increased volume of traffic expected along US 27, a Summary DOE of Moderate has been assigned to the Secondary and Cumulative Effects issue.

Commitments and Responses: None.

Technical Study: None.

#### ETAT Reviews: Secondary and Cumulative Effects Issue: 1 found

**3** *Moderate* assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

**Coordination Document:** Permit Required

**Dispute Information:** N/A

**At-Risk Resource:** Wildlife and Habitat

**Comments on Effects:** The project's potential impacts on wildlife and habitat include the further elimination and/or disturbance of breeding and foraging areas for Listed Species and the further dissection and fragmentation of remaining uplands. Increased traffic and increased traffic lane width will increase the potential for wildlife fatalities on US 27, particularly for gopher tortoises who utilize the remaining patches of suitable habitat adjacent to the project.

**Recommended Avoidance, Minimization, and Mitigation Measures:** Excessive habitat damage to remaining quality upland habitats can be eliminated by restricting construction equipment to already disturbed areas and to the median of the existing facility.

**Recommended Actions to Improve At-Risk Resources:** The results from the recommended analysis of road kill potential, particularly of gopher tortoises, should be considered during roadway design to eliminate adverse impacts to wildlife and habitats.

**At-Risk Resource:** Water Quality and Quantity

**Comments on Effects:** The project is a capacity improvement project. In the absence of stormwater runoff treatment for the entire impervious area occupied by the expanded facility, the project has the potential to contribute to physical and water quality impacts to surface water features in the project area that receive untreated/under-treated runoff from US 27.

**Recommended Avoidance, Minimization, and Mitigation Measures:** Compliance with existing permit requirements, the successful use of erosion and sediment control BMPs, and compliance with applicable TMDL and MFL requirements will help assure that minimum water quality standards are met. Water quantity concerns will also be addressed during the ERP process. In general, limiting or otherwise offsetting encroachment on the ditches, channels, and floodplains in the area can reduce quantity concerns. For groundwater resources, ensure that spillages of petroleum products and other chemicals do not occur during construction, and that stormwater treatment ponds do not intrude into the limerock or penetrate confining material of the

aquifer system, either directly or by sinkhole formation. Low impact development strategies may help with water quality treatment as well as water quantity management.

**Recommended Actions to Improve At-Risk Resources:** For surface water resources, reduce pollutant loads to the drainage features in the project area by treating stormwater runoff from currently untreated areas, by controlling erosion from the project site, by limiting activities in surface water, by protecting surface water from the ingress of grease and oils from equipment, and by considering restoration strategies at construction sites. Low impact development strategies may help to limit secondary and cumulative impacts.

---

**At-Risk Resource:** Wetlands

**Comments on Effects:** Possible secondary and cumulative impacts to wetlands within the project include the further loss or reduction of the functions now provided by the remaining wetlands.

**Recommended Avoidance, Minimization, and Mitigation Measures:** Wetland impacts can be eliminated or reduced by implementing strict controls over sediment transport off site during construction and by restricting the staging area and the movement of vehicles and equipment to non-wetland areas, including the median of the existing facility.

**Recommended Actions to Improve At-Risk Resources:**

1. Avoid impacts to wetlands wherever feasible;
2. Increase the buffer area around existing wetlands as practicable;
3. Reduce impacts by restoring or enhancing wetland acreage impacted previously by roadway construction.

**Coordinator Feedback:** None

**Eliminated Alternatives**

No eliminated alternatives present.

## Project Scope

### General Project Commitments

Date	Description
10/13/2005	The District will coordinate with the City of Lake Wales and Polk County regarding amendments to their comprehensive plans to show the project on future year transportation maps. During the cultural resource assessment survey, surveyors will coordinate with the Polk County Historical Museum and the Polk County Historical and Genealogical Library.

### Required Permits

Permit Name	Type	Review Date
Dredge and Fill Permit	USACE	08/24/11
Environmental Resource Permit	State	08/24/11

### Required Technical Studies

Technical Study Name	Type	Review Date
Bridge Hydraulic Report	ENGINEERING	08/24/11
<b>Conditions:</b> optional		
Contamination Screening Evaluation Report	ENVIRONMENTAL	08/24/11
Endangered Species Biological Assessment	ENVIRONMENTAL	08/24/11
Wetlands Evaluation Report	ENVIRONMENTAL	08/24/11
Floodplains Assessment	Other	08/24/11
Section 4f Evaluation	ENVIRONMENTAL	08/24/11
<b>Conditions:</b> Section 4(f) Determination of Applicability		
Sociocultural Effects Evaluation	Other	08/24/11
Water Quality Impact Evaluation (WQIE)	ENVIRONMENTAL	08/24/11
Cultural Resource Assessment Survey	ENVIRONMENTAL	08/24/11

### Dispute Resolution Activity Log

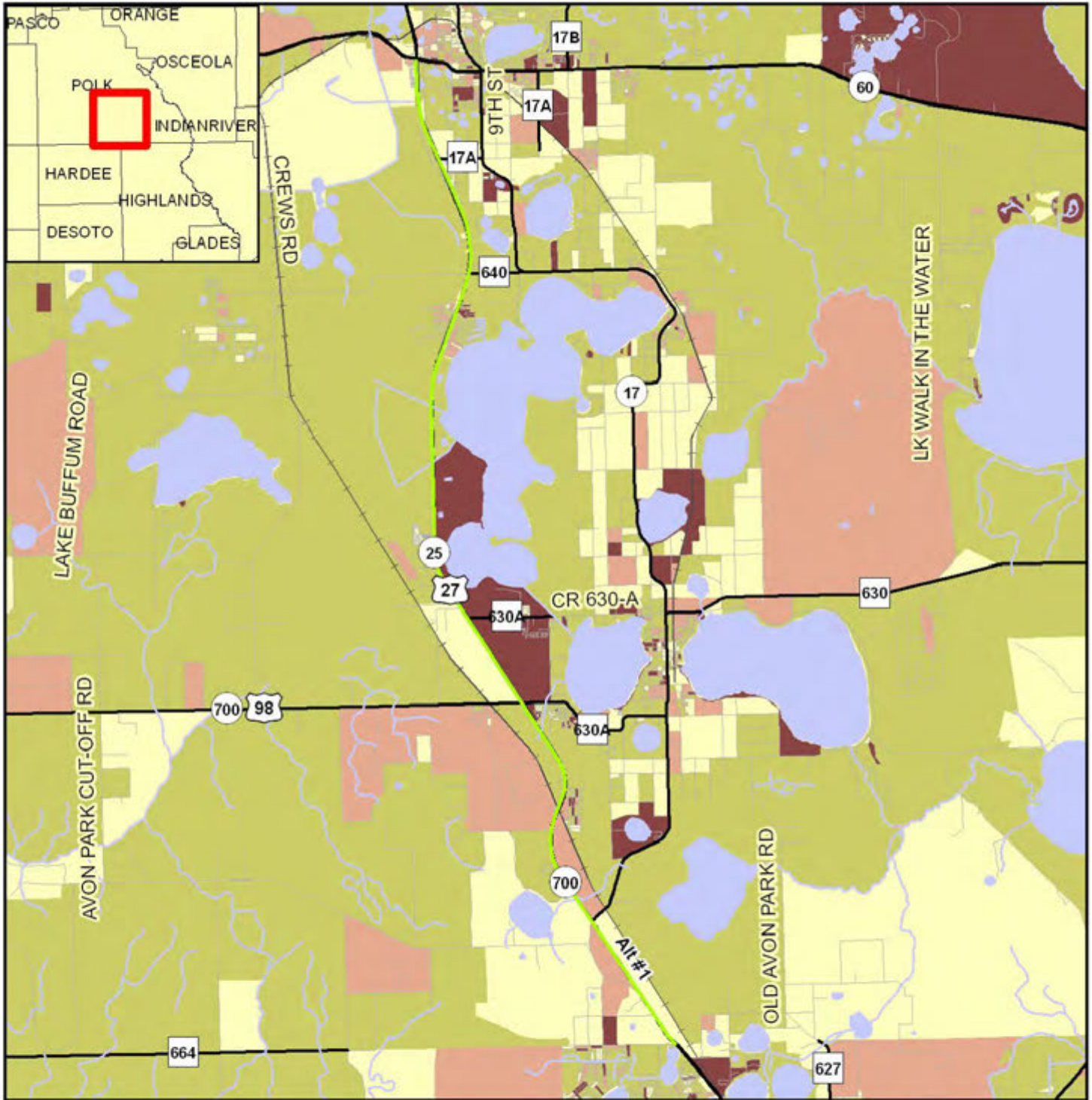
No Dispute Actions Found.





# 3869 US 27 Add Lanes from W. County Line Road to SR 60

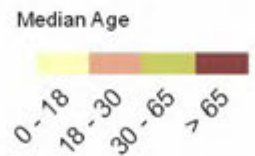
## W County Line Road to SR 60



Population Age Distribution Map



- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- Water Body



Data Sources:  
 US Geological Survey  
 FL Department of Transportation  
 Geographic Data Technology, Inc.  
 US Census Bureau

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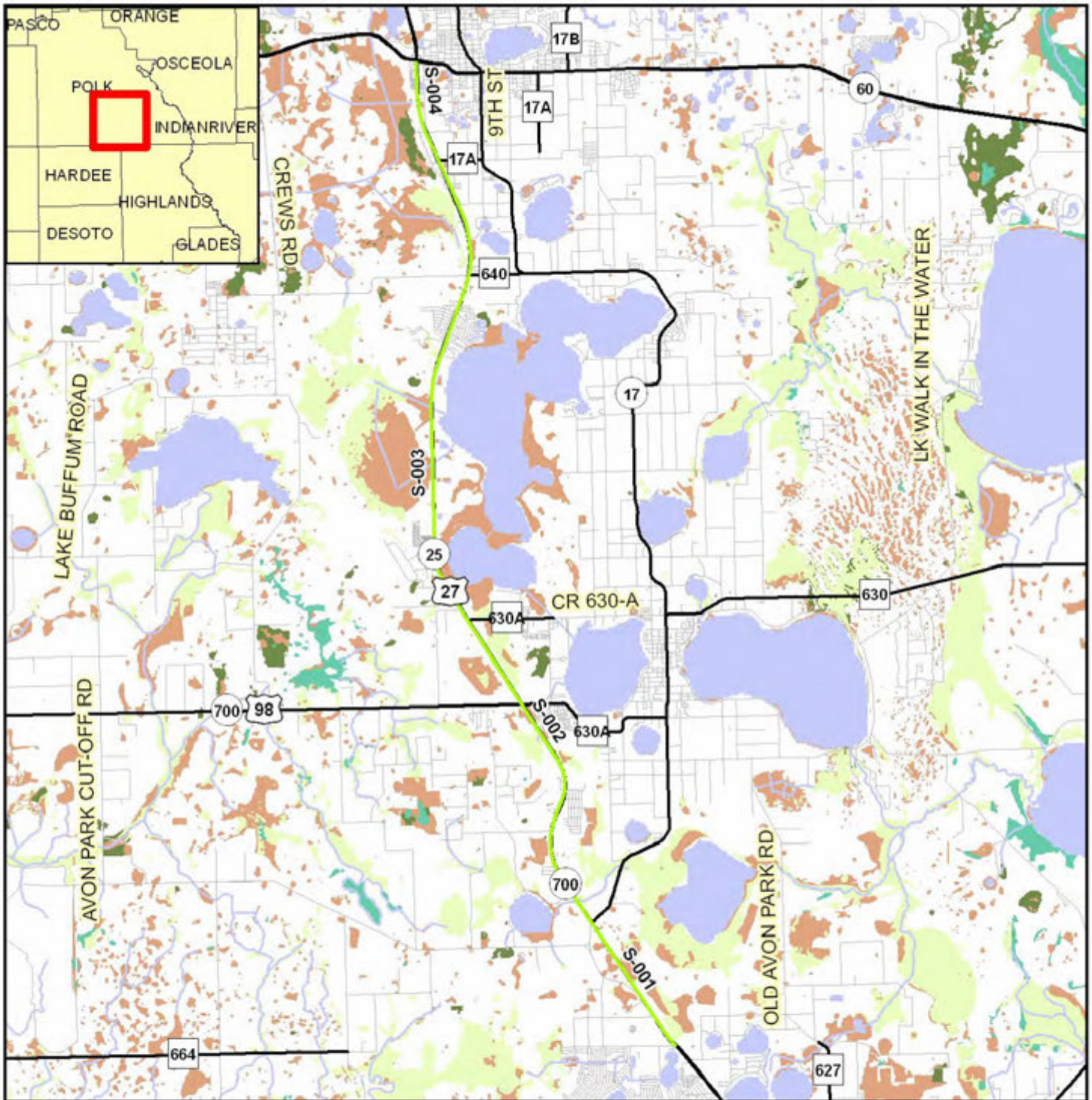




# 3869 US 27 Add Lanes from W. County Line Road to SR 60

## SR 60

### W County Line Road to SR 60



0 3 Miles



- |                           |                        |                               |                                      |
|---------------------------|------------------------|-------------------------------|--------------------------------------|
| ETDM Alternative Point    | Major Road             | Continuous Seagrass           | Gravel Beach/Riprap                  |
| ETDM Alternative Terminus | Local Road or Trail    | Discontinuous Seagrass        | Exposed Tidal Flat                   |
| ETDM Alternative Segment  | River, Stream or Canal | Coastal Barrier Resource Area | Sheltered Tidal Flat                 |
| ETDM Alternative Polygon  | Water Body             | Swamp or Marsh                | Mixed Sand And Gravel Beach          |
|                           | Aquatic Preserve       | Exposed Rocky Platform        | Sheltered Rock/Seawall/Vegetated     |
|                           | Navigable Water Way    | Sand Beach                    | Exposed Vertical Rocky Shore/Seawall |

### Coastal and Marine Resource Map

Data Sources: Geographic Data Technology, Inc.; US Geological Survey; Florida Marine Research Institute; Florida Department of Transportation; Florida Department of Environmental Protection; National Oceanic and Atmospheric Association; Florida Water Management Districts

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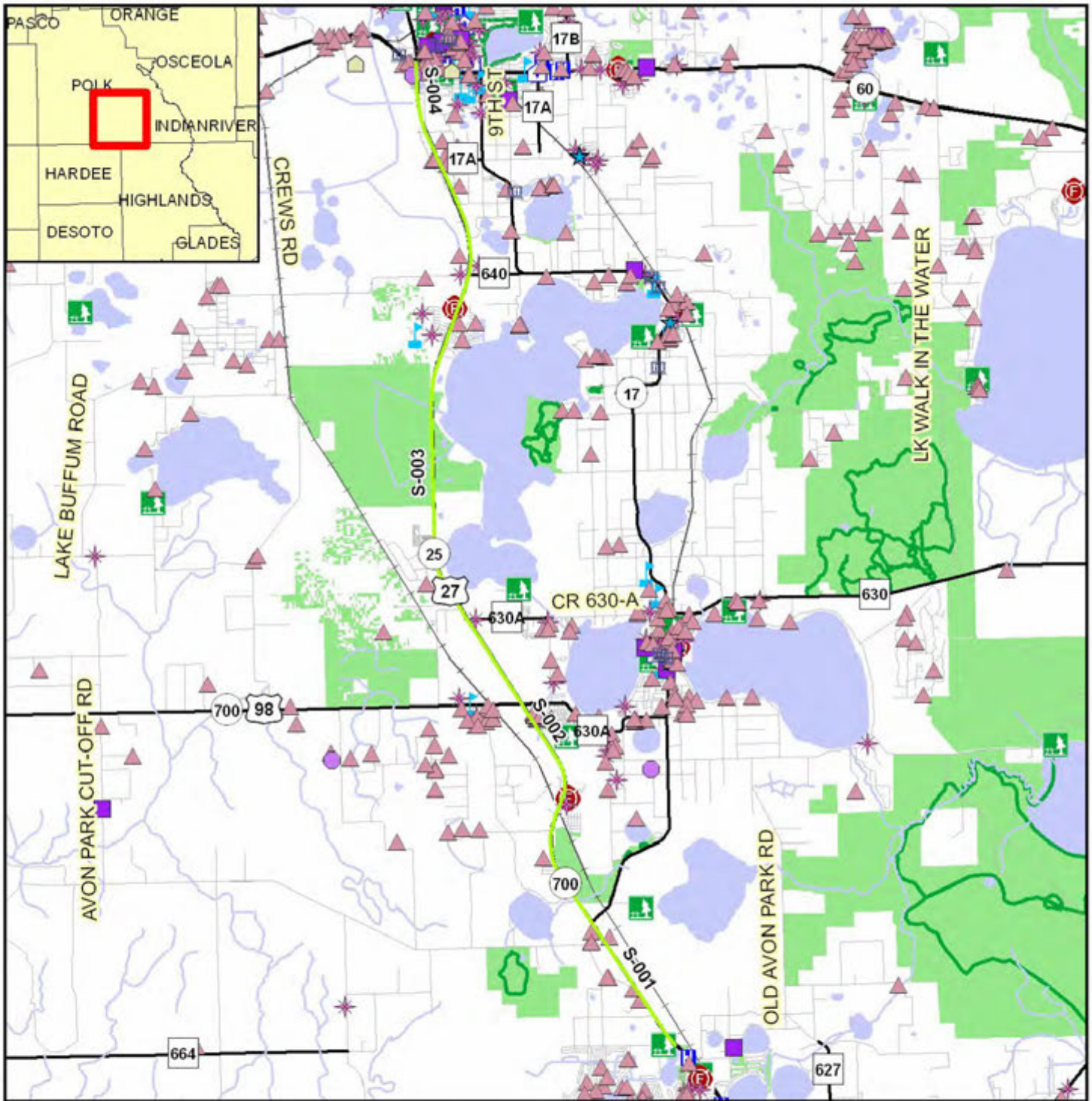




# 3869 US 27 Add Lanes from W. County Line Road to SR 60

## SR 60

### W County Line Road to SR 60



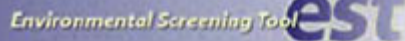
0 0.4 Miles



- |                           |                  |                  |                                 |
|---------------------------|------------------|------------------|---------------------------------|
| ETDM Alternative Point    | Government       | Cultural Center  | River, Stream or Canal          |
| ETDM Alternative Terminus | Civic Center     | Fire Station     | Recreational Trail              |
| ETDM Alternative Segment  | Cemetery         | Health Care      | Railroad                        |
| ETDM Alternative Polygon  | Social Service   | School           | Community Boundary              |
| Major Road                | Community Center | Park             | Water Body                      |
| Local Road or Trail       | Law Enforcement  | Place of Worship | Conservation or Recreation Area |

### Community Facilities and Services Map

Data Sources: US Geological Survey; FL Department of Transportation; Geographic Data Technology, Inc.; FL Property Appraisers; FL Natural Areas Inventory



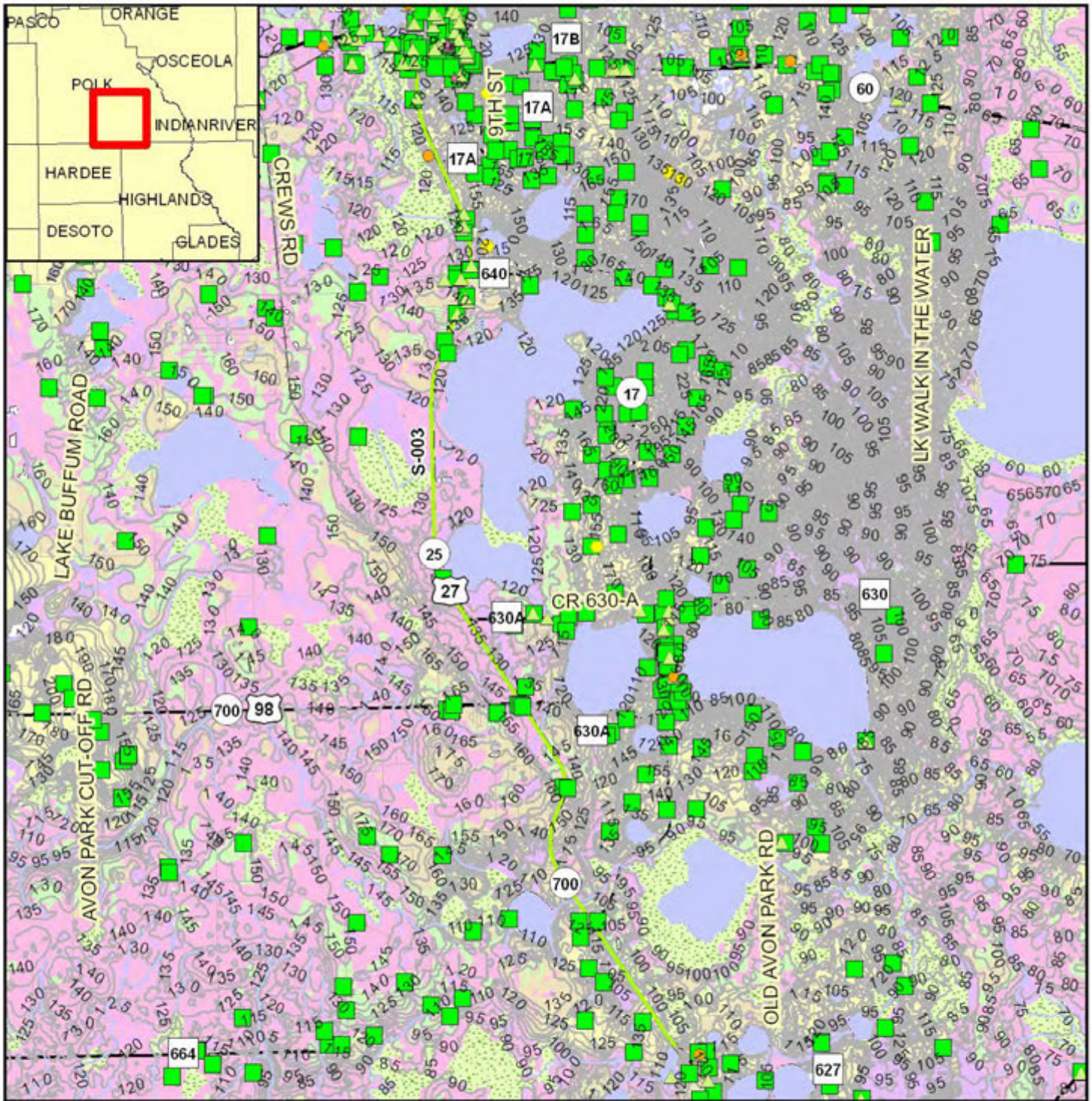
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# 3869 US 27 Add Lanes from W. County Line Road to SR 60

## SR 60 W County Line Road to SR 60



### Potential Contamination Assessment Map

- |                           |                         |                         |                 |
|---------------------------|-------------------------|-------------------------|-----------------|
| ETDM Alternative Point    | Railroad                | NPL Remediation Site    | FDEP Tanks      |
| ETDM Alternative Terminus | River, Stream or Canal  | Hazardous Material Site | Brownfield Area |
| ETDM Alternative Segment  | Toxic Release Inventory | Power Plant             | 5 FT Contour    |
| ETDM Alternative Polygon  | Dry Cleaning Facility   | Superfund Site          | Water Body      |
| Major Road                | Solid Waste Facility    | Nuclear Site            | Swamp/Marsh     |
| Local Road or Trail       |                         |                         |                 |

Data Sources:  
 Geographic Data Technology, Inc.; US Geological Survey; FL Department of Transportation; FL Department of Environmental Protection;  
 FL Water Management Districts; US Environmental Protection Agency; Natural Resource Conservation Service

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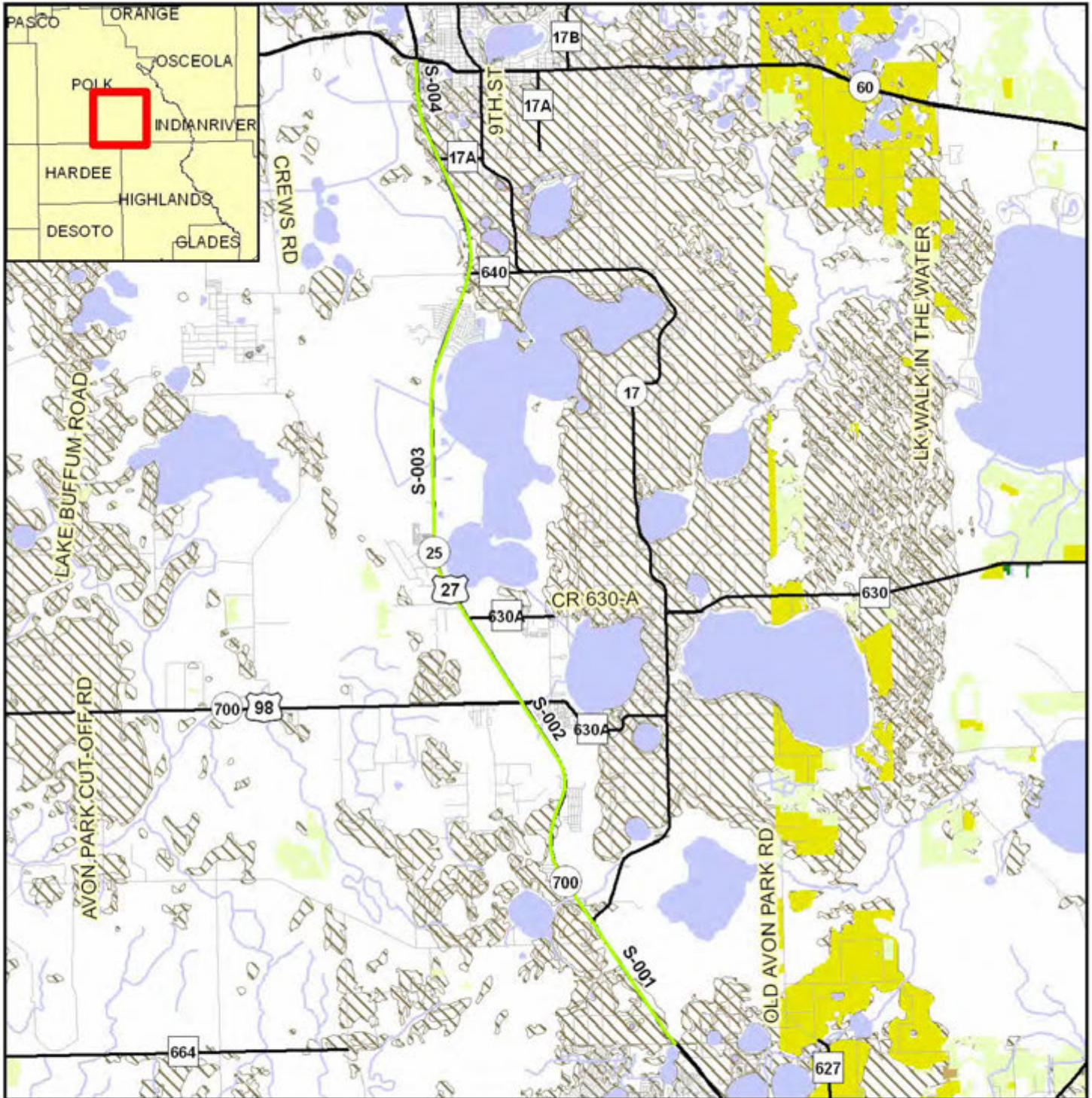




# 3869 US 27 Add Lanes from W. County Line Road to SR 60

## SR 60

### W County Line Road to SR 60



**Farmlands Resource Map**

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- River, Stream or Canal
- Water Body
- Prime Farmland Soils
- Cropland/Pastureland
- Nurseries/Vineyards
- Specialty Farms
- Tree Crops
- Rural Open Lands



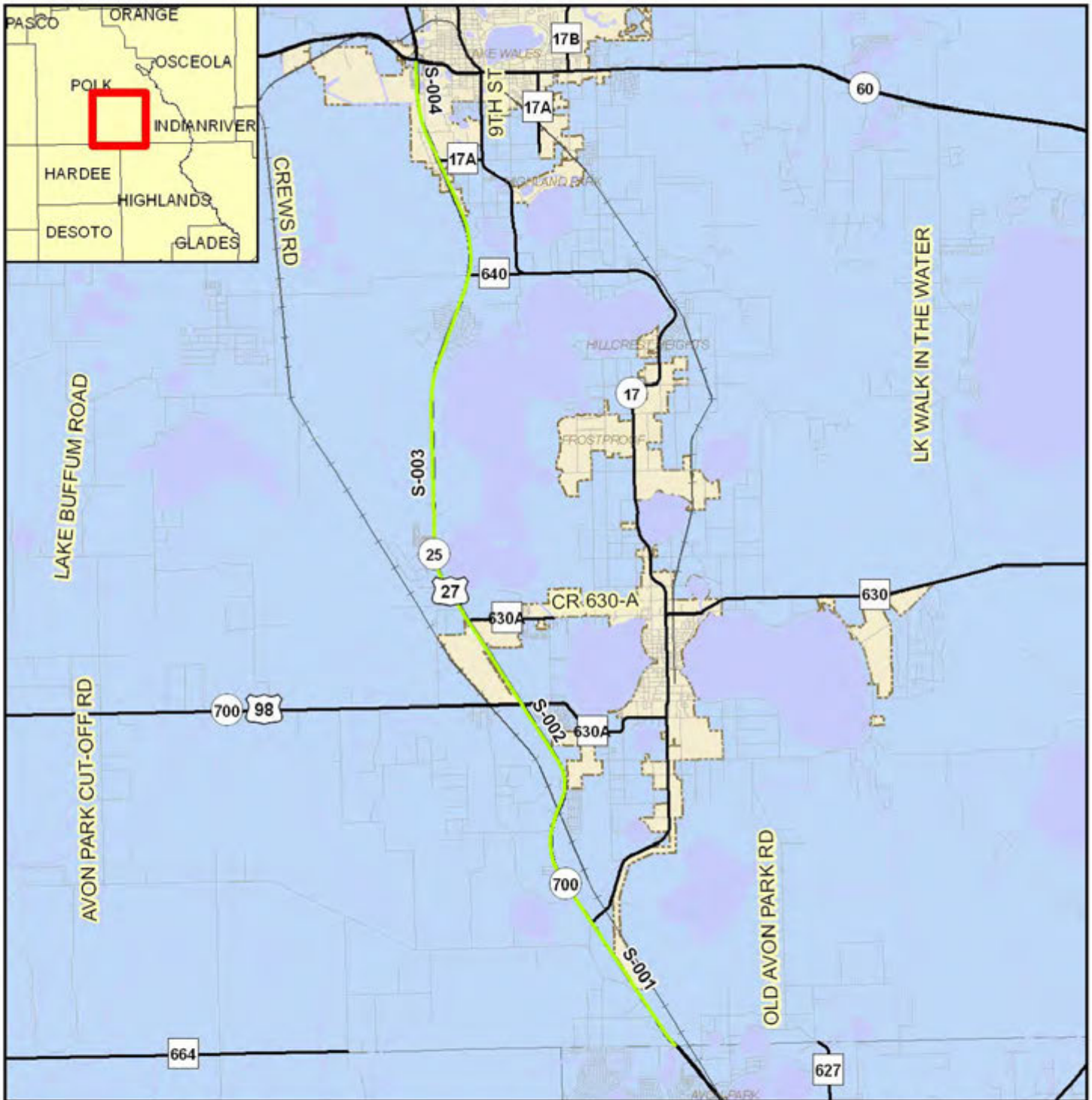
Data Sources: Geographic Data Technology, Inc., Florida Water Management Districts, US Geological Survey, Natural Resources Conservation Services  
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# 3869 US 27 Add Lanes from W. County Line Road to SR 60

## SR 60 W County Line Road to SR 60



**Floodplain Resource Map**



- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- Water Body
- City Limits
- County Boundaries
- Special Flood Hazard Area

Data Sources:  
 Geographic Data Technology, Inc.  
 US Geological Survey  
 Federal Emergency Management Agency

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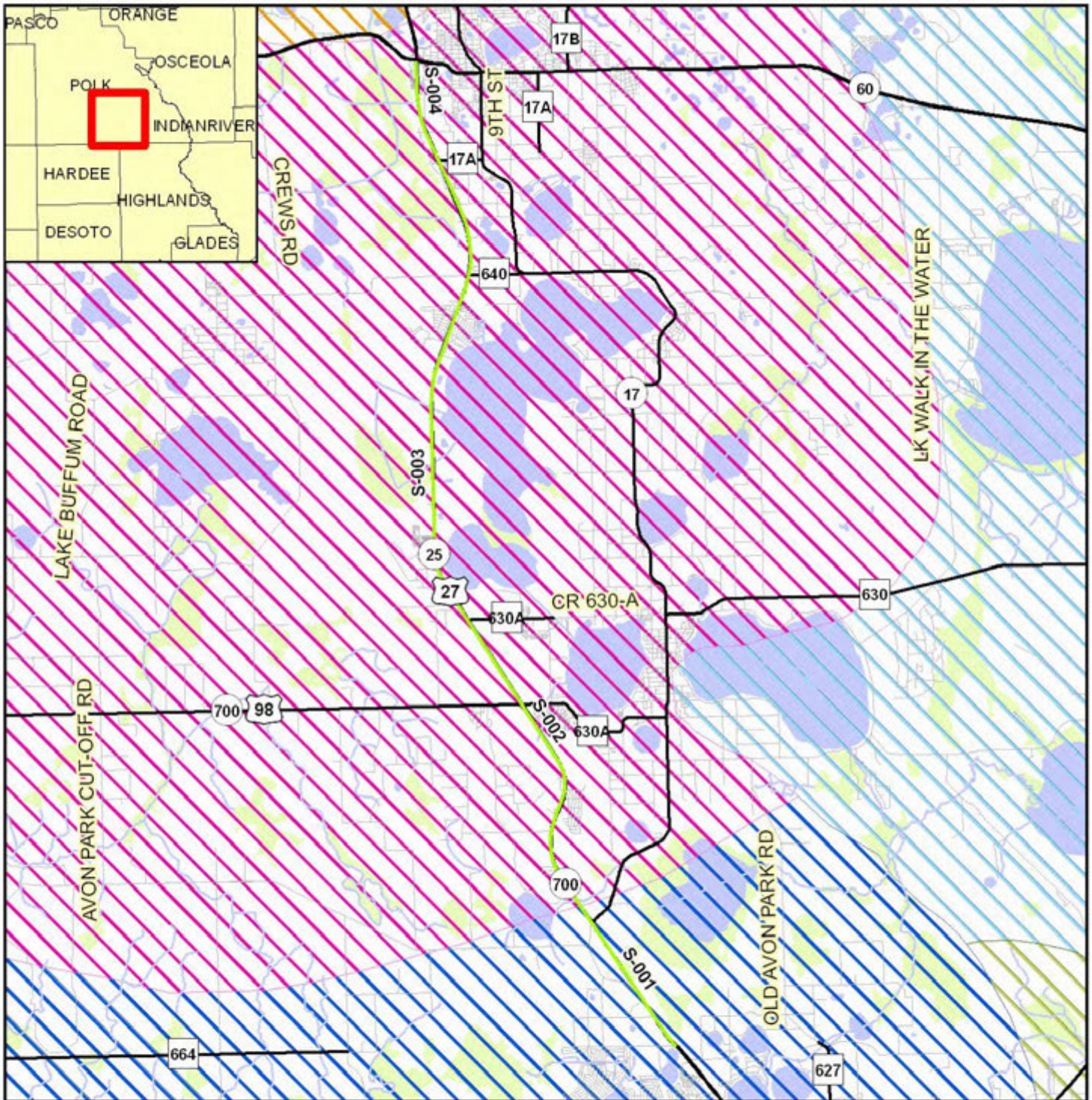




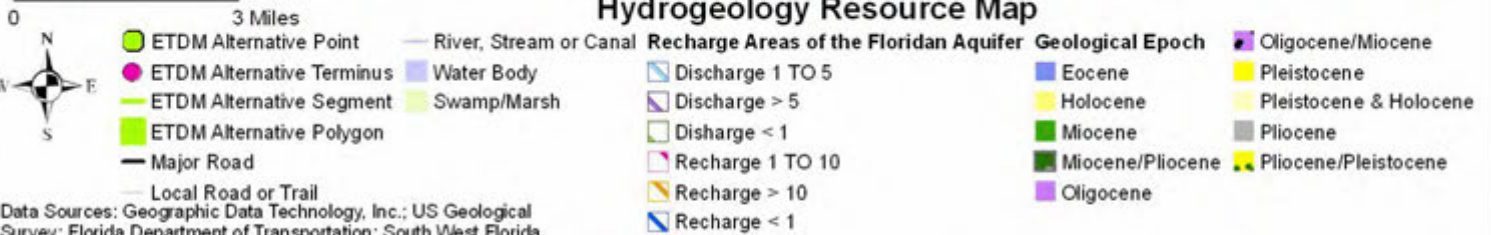


# 3869 US 27 Add Lanes from W. County Line Road to SR 60

## W County Line Road to SR 60



### Hydrogeology Resource Map



Data Sources: Geographic Data Technology, Inc.; US Geological Survey; Florida Department of Transportation; South West Florida Water Management District; Florida Geological Survey

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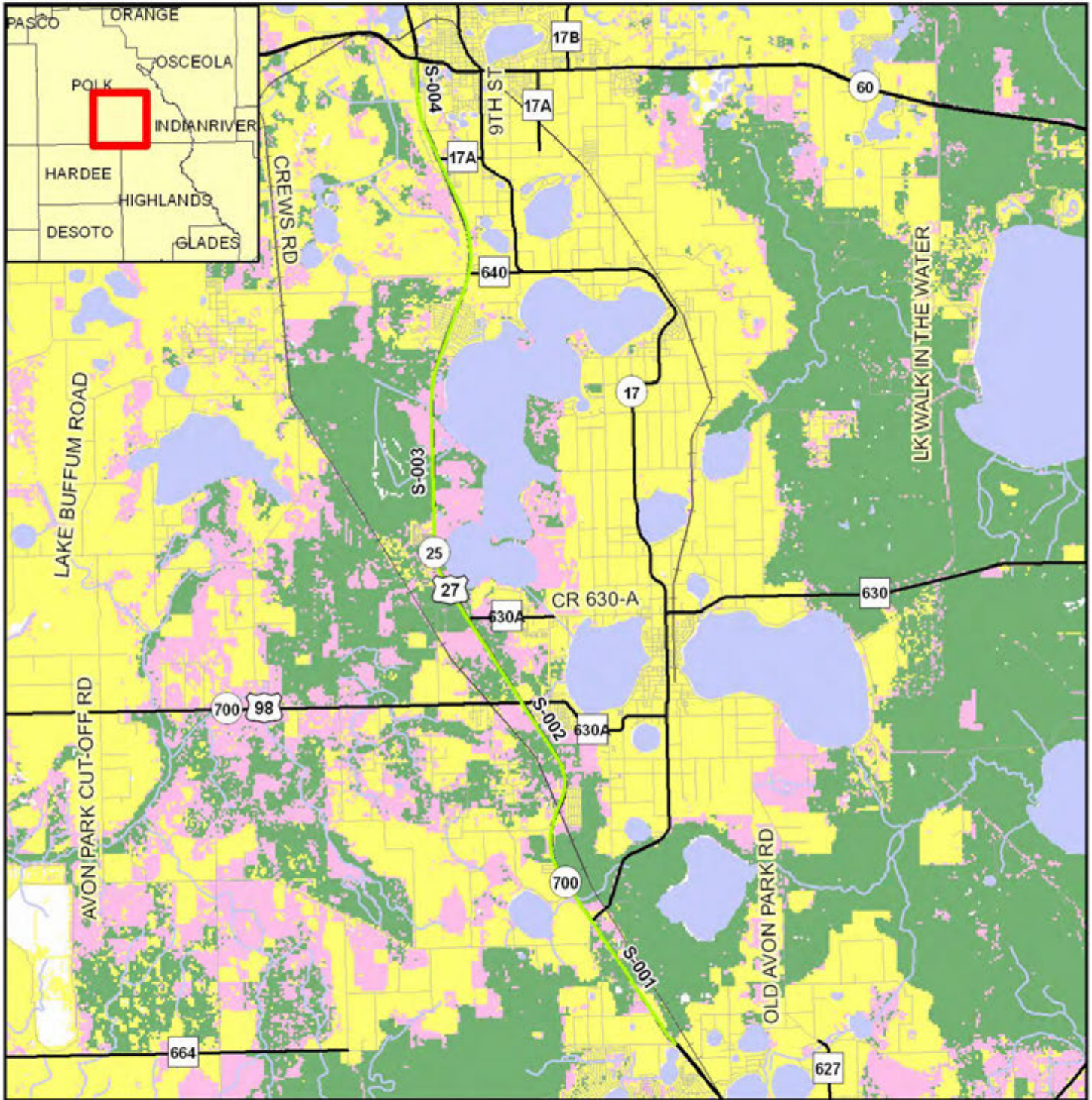






# 3869 US 27 Add Lanes from W. County Line Road to SR 60

## SR 60 W County Line Road to SR 60



### Integrated Wildlife Habitat Ranking System Map

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Railroad
- River, Stream or Canal
- Water Body
- Major Road
- Local Road or Trail
- Low Habitat Quality
- Medium Habitat Quality
- High Habitat Quality

Data Sources:  
 Geographic Data Technology, Inc.  
 US Geological Survey  
 Florida Department of Transportation  
 Florida Fish & Wildlife Conservation Commission

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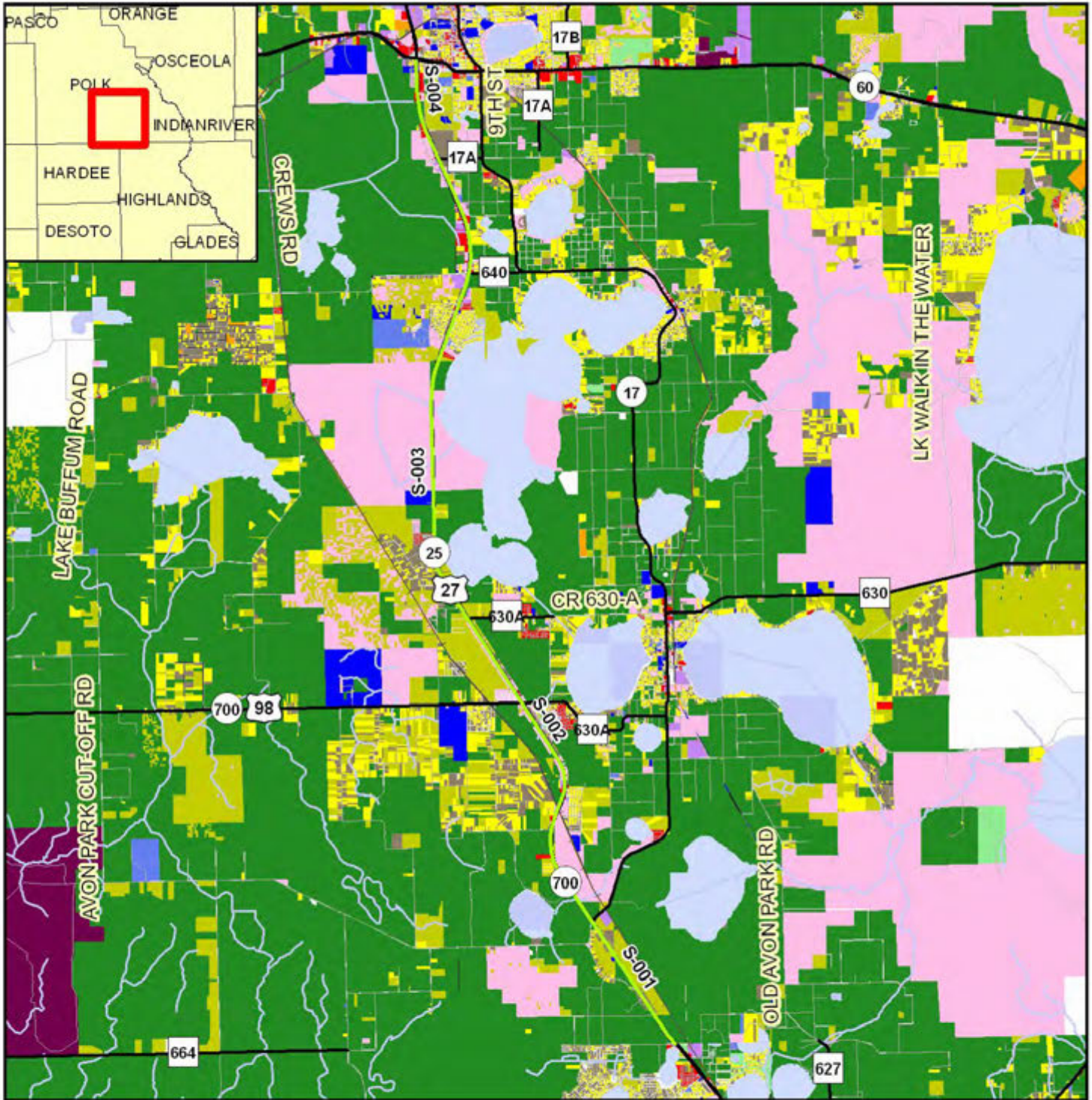
Map Generated on: 4/11/2011





# 3869 US 27 Add Lanes from W. County Line Road to SR 60

## W County Line Road to SR 60



Data Sources:  
 Geographic Data Technology, Inc.  
 US Geological Survey  
 Florida Department of Revenue  
 Florida Department of Transportation  
 Florida County Property Appraiser Offices

### Land Use Map

- |                           |                        |                         |                         |
|---------------------------|------------------------|-------------------------|-------------------------|
| ETDM Alternative Point    | Railroad               | Open (Not Agricultural) | Retail/Office           |
| ETDM Alternative Terminus | River, Stream or Canal | Other                   | Vacant (Residential)    |
| ETDM Alternative Segment  | Agricultural           | Public                  | Vacant (Nonresidential) |
| ETDM Alternative Polygon  | Industrial             | Right-of-Way            | Water                   |
| Major Road                | Institutional          | Recreational            | No Data                 |
| Local Road or Trail       | Mining                 | Residential             |                         |

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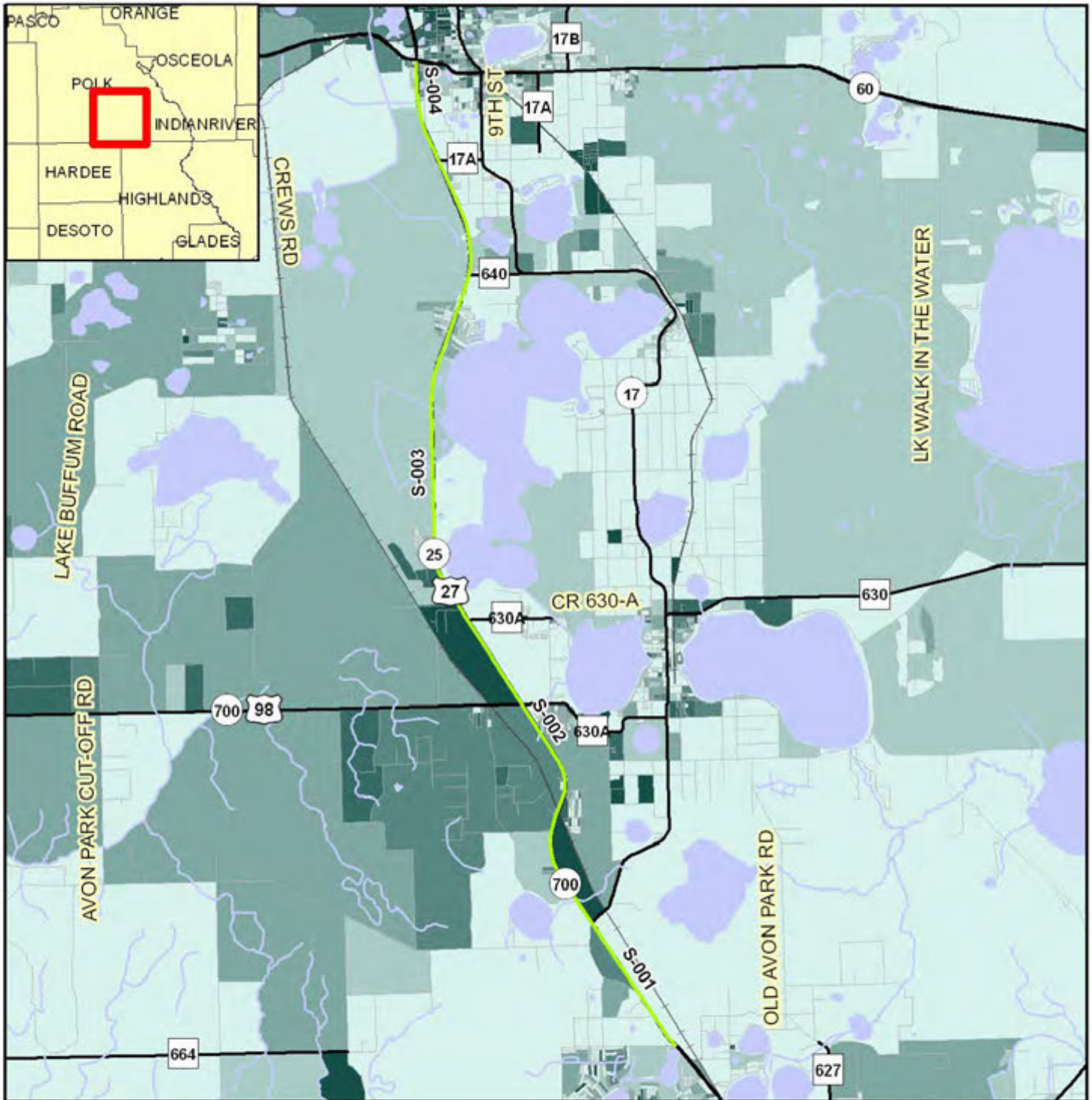
Map Generated on: 4/11/2011





# 3869 US 27 Add Lanes from W. County Line Road to SR 60

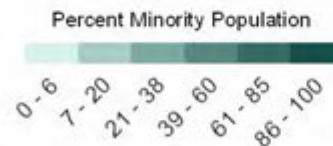
## W County Line Road to SR 60



**Minority Population Distribution Map**



- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ▨ ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- Water Body



Data Sources:  
 US Geological Survey  
 FL Department of Transportation  
 Geographic Data Technology, Inc.  
 US Census Bureau

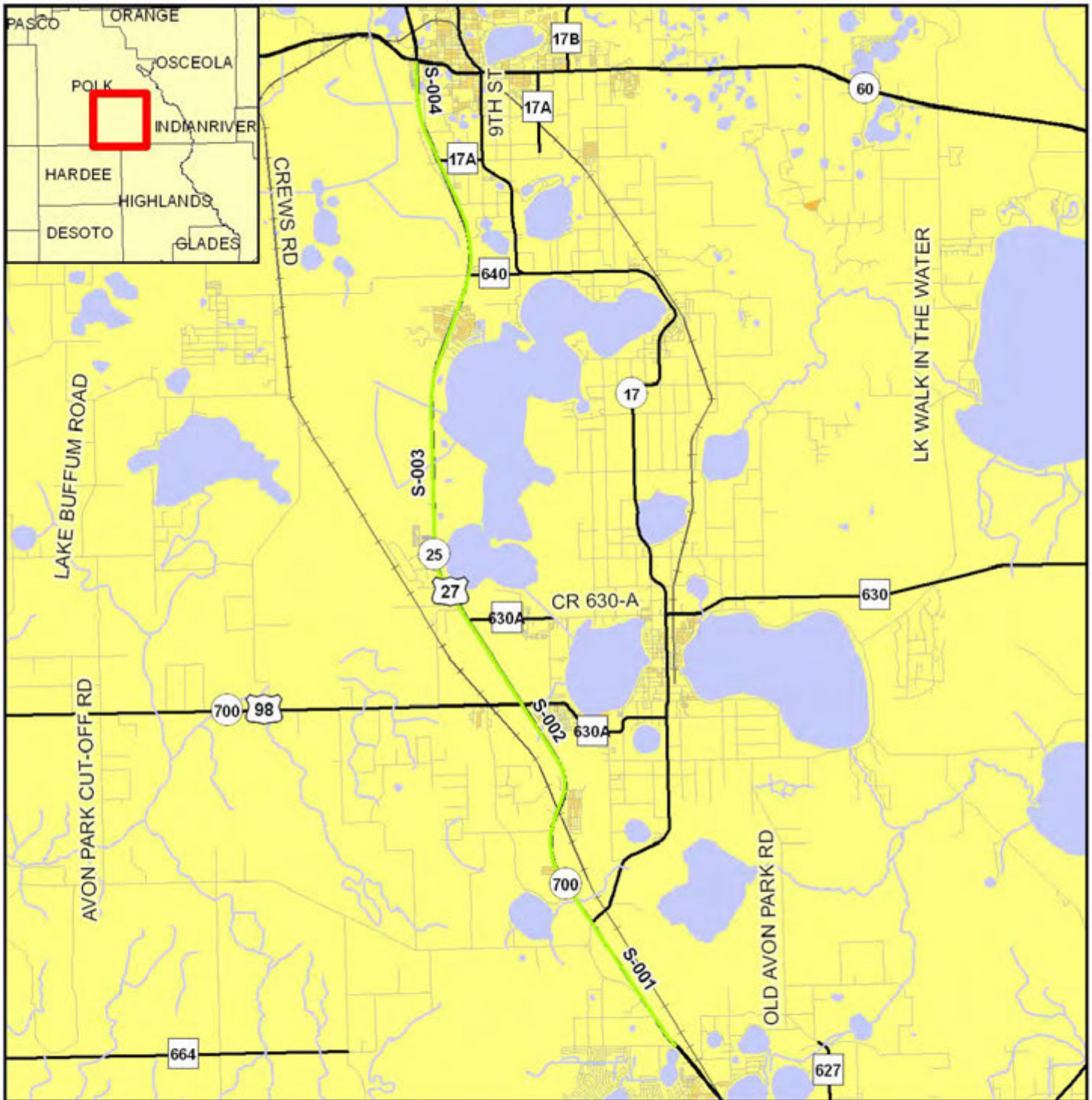
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# 3869 US 27 Add Lanes from W. County Line Road to SR 60

## SR 60 W County Line Road to SR 60

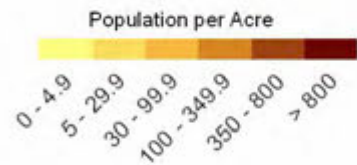


Population Density Map



Data Sources:  
 US Geological Survey  
 FL Department of Transportation  
 Geographic Data Technology, Inc.  
 US Census Bureau

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ▨ ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- Water Body



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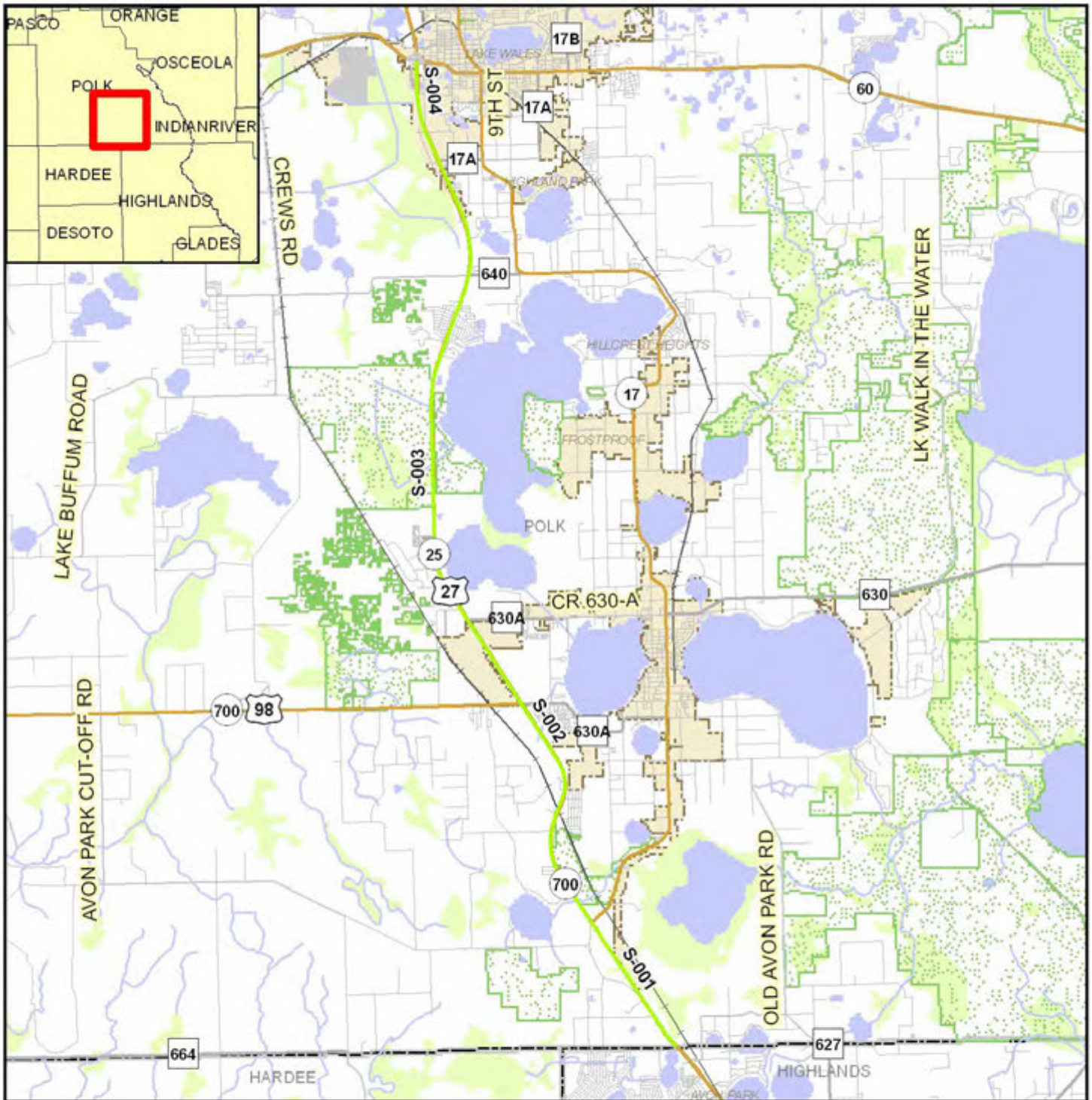






# 3869 US 27 Add Lanes from W. County Line Road to SR 60

## W County Line Road to SR 60



**Project Location Map**

0 2.5 Miles



Data Sources:  
 Geographic Data Technology, Inc.  
 US Geological Survey  
 US Census Bureau  
 County Property Appraisers  
 Florida Natural Areas Inventory

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- River, Stream or Canal
- Water Body
- Swamp/Marsh
- Managed Conservation Lands
- Toll Road
- Railroad
- Airport
- City Limits
- County Boundaries

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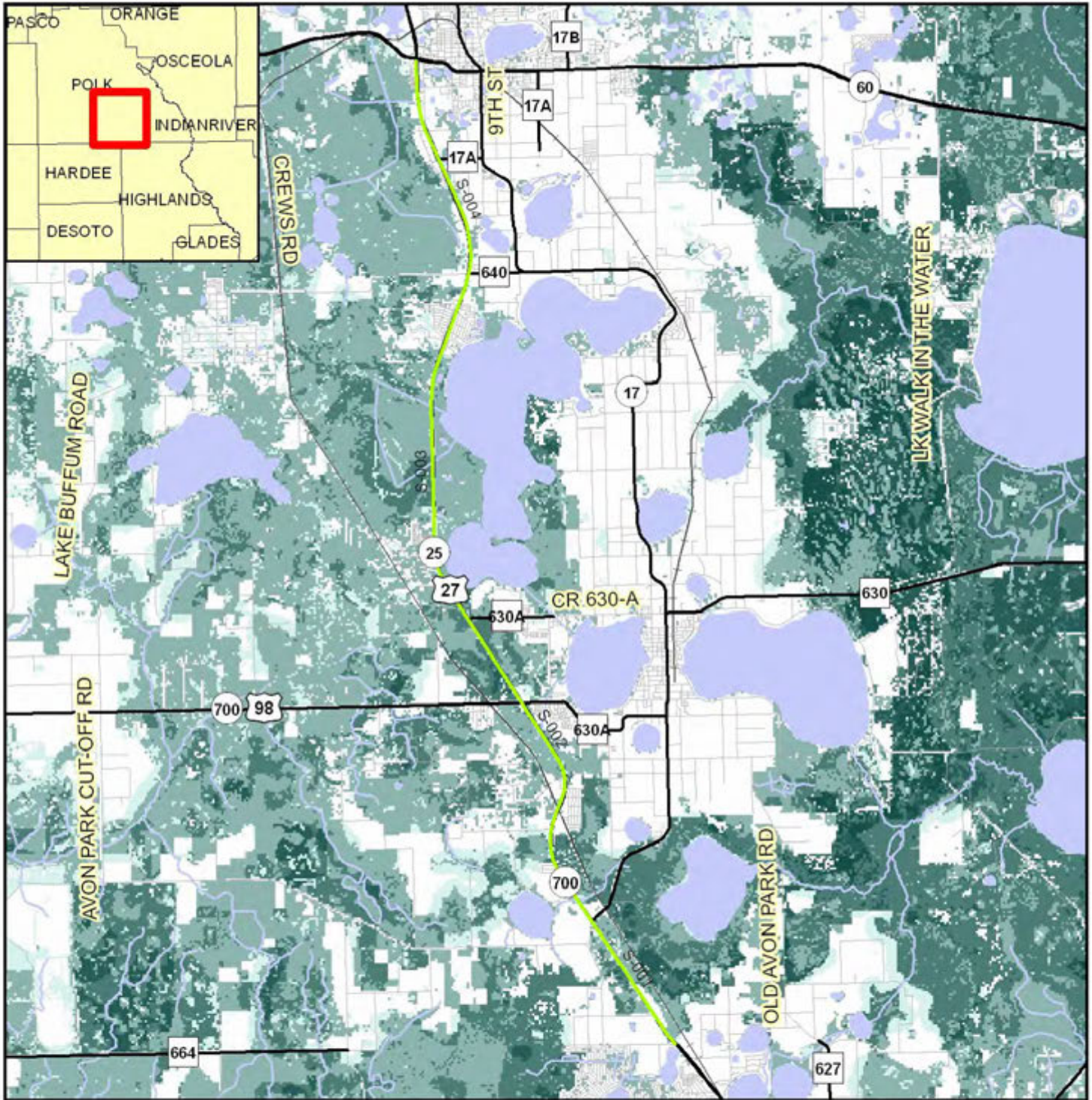






# 3869 US 27 Add Lanes from W. County Line Road to SR 60

## W County Line Road to SR 60



### Species Potential Habitat Model Map

- |                           |                        |                                   |
|---------------------------|------------------------|-----------------------------------|
| ETDM Alternative Point    | Railroad               | <b>Potential Habitat Richness</b> |
| ETDM Alternative Terminus | River, Stream or Canal |                                   |
| ETDM Alternative Segment  | Water Body             |                                   |
| ETDM Alternative Polygon  | Major Road             |                                   |
| Local Road or Trail       |                        |                                   |
- 
- |                 |
|-----------------|
| 1 - 2 Species   |
| 3 - 5 Species   |
| 6 - 8 Species   |
| 9 - 10 Species  |
| 11 - 13 Species |

Data Sources:  
 Geographic Data Technology, Inc.  
 US Geological Survey  
 Florida Department of Transportation  
 Florida Fish & Wildlife Conservation Commission

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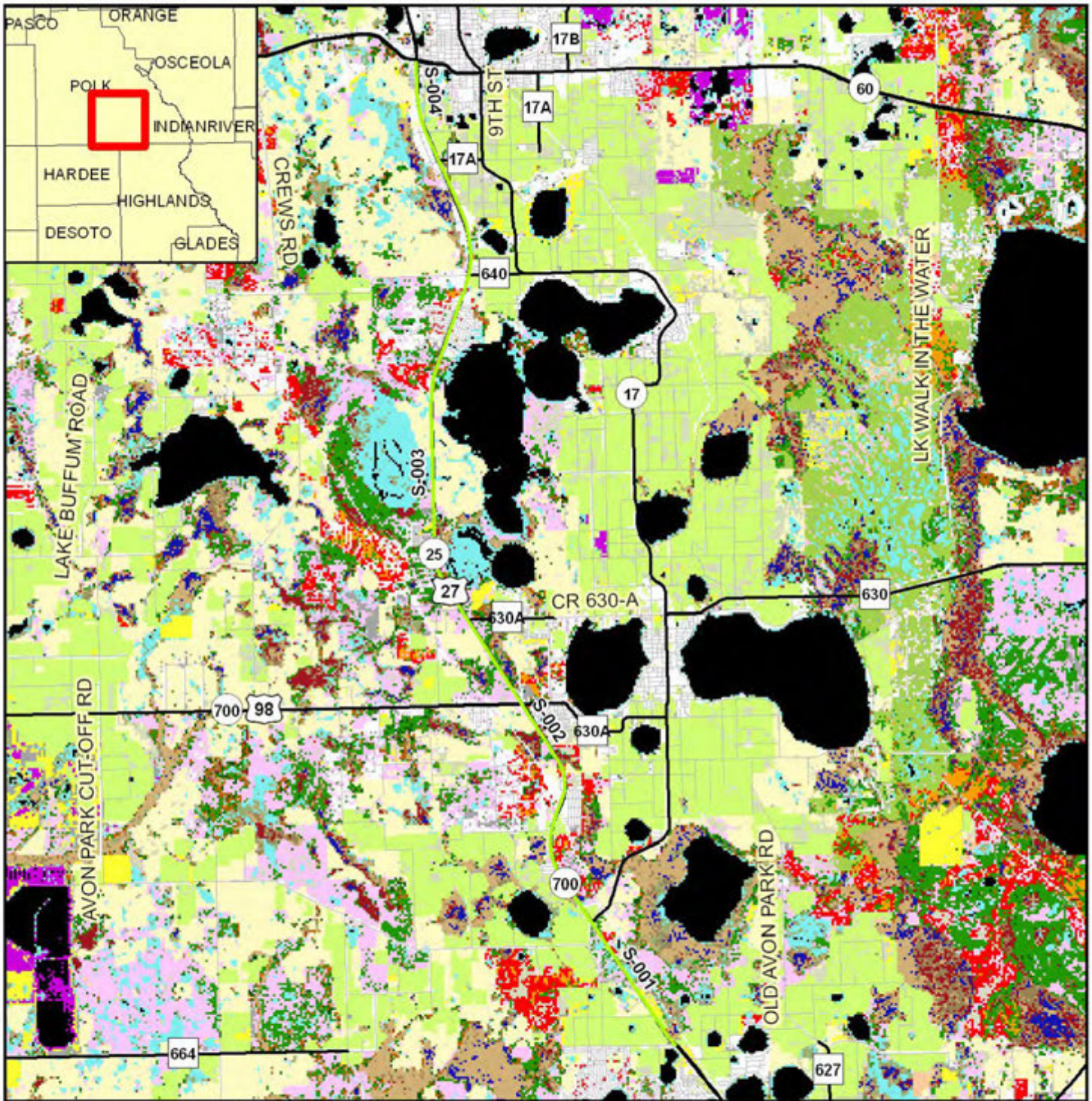
Map Generated on: 4/11/2011





# 3869 US 27 Add Lanes from W. County Line Road to SR 60

## W County Line Road to SR 60



Vegetation and Land Cover Map

0 4 Miles

- |                           |                            |                                  |                            |                     |                     |                   |
|---------------------------|----------------------------|----------------------------------|----------------------------|---------------------|---------------------|-------------------|
| ETDM Alternative Polygon  | Not Classified             | Hardwood Hammocks and Forests    | Bay Swamp                  | Mangrove Swamp      | Unimproved Pasture  | Brazilian Pepper  |
| ETDM Alternative Segment  | Coastal Strand             | Pinelands                        | Cypress Swamp              | Scrub Mangrove      | Sugarcane           | High Impact Urban |
| ETDM Alternative Terminus | Sand/Beach                 | Cabbage Palm-live Oak Hammock    | Cypress/Pine/Cabbage Palm  | Tidal Flats         | Citrus              | Low Impact Urban  |
| ETDM Alternative Point    | Xeric Oak Scrub            | Tropical Hardwood Hammock        | Mixed Wetland Forest       | Open Water          | Row and Field Crops | Extractive        |
| Major Road                | Sand Pine Scrub            | Freshwater Marsh and Wet Prairie | Hardwood Swamp             | Shrub and Brushland | Other Agriculture   |                   |
| Local Road or Trail       | Sandhill                   | Sawgrass Marsh                   | Hydric Hammock             | Grassland           | Exotic Plants       |                   |
|                           | Dry Prairie                | Cattail Marsh                    | Bottomland Hardwood Forest | Bare Soil/Clearcut  | Australian Pine     |                   |
|                           | Mixed Hardwood-pine Forest | Shrub Swamp                      | Salt Marsh                 | Improved Pasture    | Melaleuca           |                   |

**Data Sources:**

Geographic Data Technology, Inc.; Florida Department of Transportation; Florida Fish and Wildlife Conservation Commission

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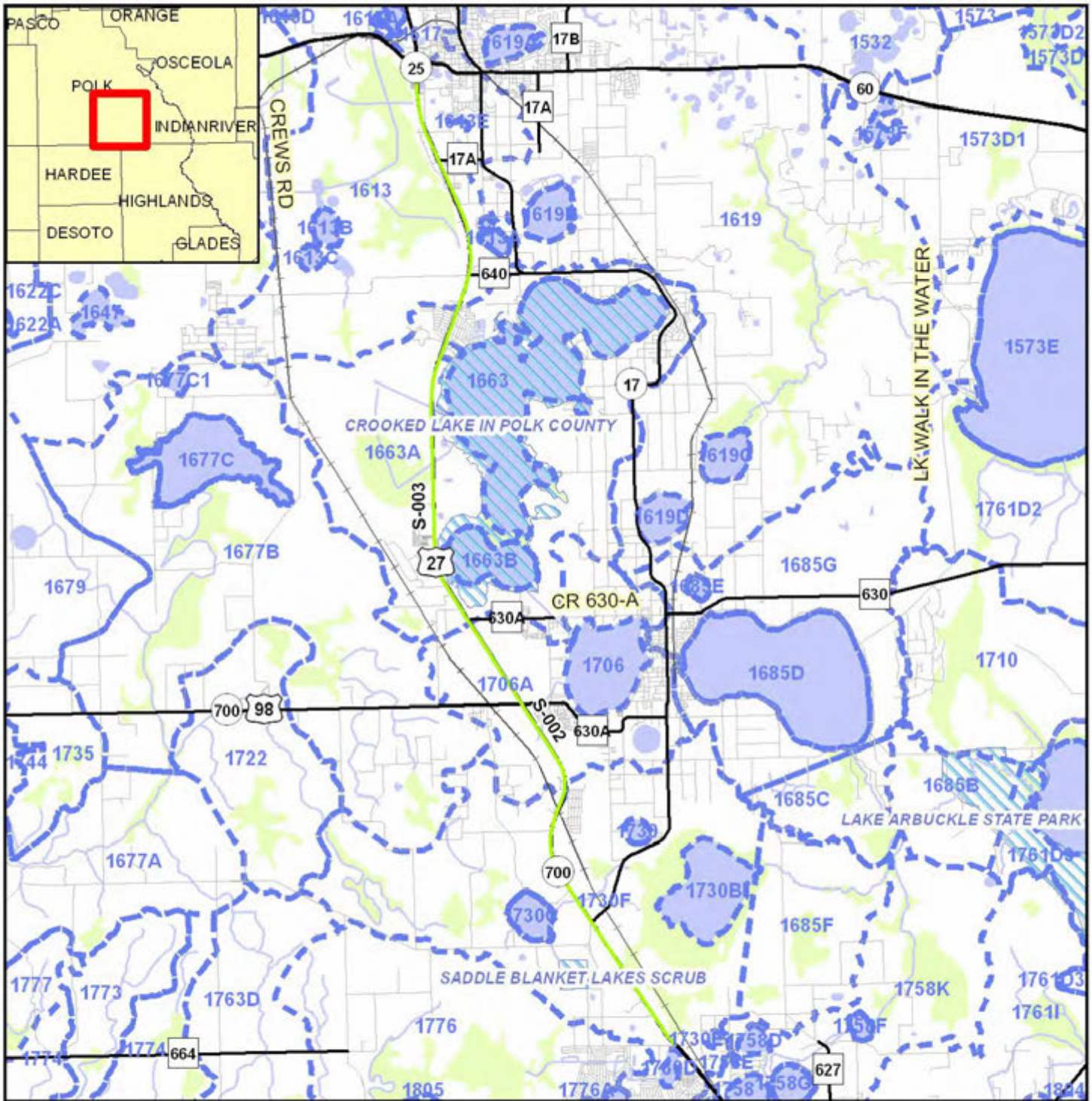
Map Generated on: 4/11/2011





# 3869 US 27 Add Lanes from W. County Line Road to SR 60

## W County Line Road to SR 60



- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- ▲ 1st Magnitude Spring
- River, Stream or Canal
- Navigable Water Way
- Drainage Basin
- Outstanding Florida Water

### Water Resources Map

- Surface Water Class I
- Surface Water Class II
- Water Body
- Swamp/Marsh

Data Sources: Geographic Data Technology, Inc. Florida Department of Transportation Florida Geological Survey US Geological Survey Florida Department of Environmental Protection US Bureau of Transportation Statistics

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Map Generated on: 4/11/2011









## Appendices

### Degree of Effect Legend

Legend			
Color Code	Meaning	ETAT	Public Involvement
N/A	Not Applicable / No Involvement	There is no presence of the issue in relationship to the project, or the issue is irrelevant in relationship to the proposed transportation action.	
0	None (after 12/5/2005)	The issue is present, but the project will have no impact on the issue; project has no adverse effect on ETAT resources; permit issuance or consultation involves routine interaction with the agency. The <i>None</i> degree of effect is new as of 12/5/2005.	No community opposition to the planned project. No adverse effect on the community.
1	Enhanced	Project has positive effect on the ETAT resource or can reverse a previous adverse effect leading to environmental improvement.	Affected community supports the proposed project. Project has positive effect.
2	Minimal	Project has little adverse effect on ETAT resources. Permit issuance or consultation involves routine interaction with the agency. Low cost options are available to address concerns.	Minimum community opposition to the planned project. Minimum adverse effect on the community.
2	Minimal to None (assigned prior to 12/5/2005)	Project has little adverse effect on ETAT resources. Permit issuance or consultation involves routine interaction with the agency. Low cost options are available to address concerns.	Minimum community opposition to the planned project. Minimum adverse effect on the community.
3	Moderate	Agency resources are affected by the proposed project, but avoidance and minimization options are available and can be addressed during development with a moderated amount of agency involvement and moderate cost impact.	Project has adverse effect on elements of the affected community. Public Involvement is needed to seek alternatives more acceptable to the community. Moderate community interaction will be required during project development.
4	Substantial	The project has substantial adverse effects but ETAT understands the project need and will be able to seek avoidance and minimization or mitigation options during project development. Substantial interaction will be required during project development and permitting.	Project has substantial adverse effects on the community and faces substantial community opposition. Intensive community interaction with focused Public Involvement will be required during project development to address community concerns.
5	Potential Dispute (Planning Screen)	Project may not conform to agency statutory requirements and may not be permitted. Project modification or evaluation of alternatives is required before advancing to the LRTP Programming Screen.	Community strongly opposes the project. Project is not in conformity with local comprehensive plan and has severe negative impact on the affected community.
5	Dispute Resolution (Programming Screen)	Project does not conform to agency statutory requirements and will not be permitted. Dispute resolution is required before the project proceeds to programming.	Community strongly opposes the project. Project is not in conformity with local comprehensive plan and has severe negative impact on the affected community.
	No ETAT Consensus	ETAT members from different agencies assigned a different degree of effect to this project, and the ETDM coordinator has not assigned a summary degree of effect.	
	No ETAT Reviews	No ETAT members have reviewed the corresponding issue for this project, and the ETDM coordinator has not assigned a summary degree of effect.	

### GIS Analyses

Since there are so many GIS Analyses available for Project #3869 - US 27 Add Lanes from W. County Line Road to SR 60, they have not been included in this ETDM Summary Report. GIS Analyses, however, are always available for this project on the Public ETDM Website. Please click on the link below (or copy this link into your Web Browser) in order to view detailed GIS tabular information for this project:

<http://etdmpub.flas-etat.org/est/index.jsp?tpID=3869&startPageName=GIS%20Analysis%20Results>

**Special Note:** Please be sure that when the GIS Analysis Results page loads, the **Programming Screen Summary Report Re-published on 09/08/2011 by Scott Swarengen Milestone** is selected. GIS Analyses snapshots have been taken for Project #3869 at various points throughout the project's life-cycle, so it is important that you view the correct snapshot.

### Project Attachments

**Note: Attachments are not included in this Summary Report, but can be accessed by clicking on the links below:**

Date	Type	Size	Link / Description
	Form SF-424: Application for Federal Assistance	354 KB	<a href="http://etdmpub.flas-etat.org/est/servlet/blobViewer?blobID=10982">http://etdmpub.flas-etat.org/est/servlet/blobViewer?blobID=10982</a>

***APPENDIX H***

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***Advance Notification Package***

## Scott Swearngen

---

**From:** Milligan, Lauren [Lauren.Milligan@dep.state.fl.us]  
**Sent:** Friday, July 20, 2012 2:33 PM  
**To:** 'Pipkin, Gwen G'  
**Cc:** mark.schulz@dot.state.fl.us; xavier.pagan@dot.state.fl.us; Scott Swearngen; Frank Kalpakis; Brooks, Lauren; McGilvray, Peter; help@fla-etat.org; linda.anderson@dot.gov; cathy.kendall@dot.gov; joseph.sullivan@dot.gov; brian.smart@dot.gov; Stahl, Chris  
**Subject:** RE: Advance Notification for ETDM Project #3869 US 27 from W. County Line Road to State Road 60 (Polk County)

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

**Categories:** FDOT

Thanks, Gwen. Please note that if the project itself has not changed, the Florida State Clearinghouse will not be performing another Coastal Zone Management Act consistency review of the project – that existing review is valid until the final CZMA review during the environmental resource permitting stage, **unless** substantive changes are made to the project scope during planning.

If the ANs are all going to be updated this way, I would like to request that the FDOT simply ask for a review of and comments on the project/updated Fact Sheet vs. another federal consistency review under CZMA. In other words, a new cover sheet would need to be developed that requests a new general issue/resource character review (not mentioning CZMA).

Have a great weekend!

*Lauren*

Lauren P. Milligan, Environmental Manager  
Florida State Clearinghouse  
Florida Department of Environmental Protection  
3900 Commonwealth Blvd, M.S. 47  
Tallahassee, FL 32399-3000  
ph. (850) 245-2170  
fax (850) 245-2190

---

**From:** Pipkin, Gwen G [mailto:Gwen.Pipkin@dot.state.fl.us]  
**Sent:** Friday, July 20, 2012 2:06 PM  
**To:** Milligan, Lauren; 'Scott Swearngen'; psteed@cfrpc.org; charles.barmby@lakelandgov.net; Schulz, Mark; linda.anderson@dot.gov; Cunill, Benito; cathy.kendall@dot.gov; joseph.sullivan@dot.gov; brian.smart@dot.gov; Hatim, Khaleda; dennis.hardin@freshfromflorida.com; michael.weston@freshfromflorida.com; Jeannette.Hallock-Solomon@deo.myflorida.com; chris.wiglesworth@deo.myflorida.com; Stahl, Chris; Jones, Ginny L.; Kammerer, Laura; daniel.mcclarnon@dos.myflorida.com; McManus, Alyssa M.; Bixby, Marjorie; Gilbert, Terry; maryann.poole@myfwc.com; scott.sanders@myfwc.com; David.Rydene@noaa.gov; mark.sramek@noaa.gov; anita\_barnett@nps.gov; rick.a.robbs@fl.usda.gov; curtisknowles@polk-county.net; ElliottYork@semtribe.com; Hank.Higginbotham@swfwmd.state.fl.us; paul.oneil@swfwmd.state.fl.us; Robert.B.Barron@usace.army.mil; john.p.fellows@usace.army.mil; Garrett.G.Lips@usace.army.mil; allen.e.stratton@uscg.mil; budeir.maher@epa.gov; john\_wrublik@fws.gov; brosen@usgs.gov; paulbackhouse@semtribe.com; Post, John M.; bonita.gorham@myfwc.com; Frank Kalpakis; kate\_hoffman@janus-research.com; adam\_schieffer@janus-research.com; Peate, Martin; Brooks, Lauren; Pride, Tom; Railey, Tobi; Pagan, Xavier; help@fla-etat.org; Schulz, Mark; Sherrard, Antone N; Kaster, Aaron; Botterill, Brooke; Barnett, Brian

**Subject:** RE: Advance Notification for ETDM Project #3869 US 27 from W. County Line Road to State Road 60 (Polk County)

Dear Lauren and ETAT members:

Please allow me to better clarify the intent of our request. The package you received this week includes the standard Advance Notification documents, along with a Fact Sheet. The Fact Sheet is a new item since the last release of this project. The purpose of the Fact Sheet is to provide a quick overview of each of the 21 resource issues reviewed and commented on by the ETAT as they pertain to the project. These comments also reflect local knowledge of the project area, as verified by field reviews by FDOT and consultant staff members.

Please review the attachment (provided through the link included in our initial email) with a focus on the Fact Sheet. As the project moves into the PD&E phase, we ask that you verify that there are no new issues or changes in resource character since the project was reviewed during the ETDM Programming Screen. However, if there are new issues or if changes have occurred, we would like to know at this time.

Thank you in advance and I hope that helps to clear up some of the confusion.

**Gwen G. Pipkin**

Senior Project Manager  
District ETDM Coordinator  
863.519.2375  
[gwen.pipkin@dot.state.fl.us](mailto:gwen.pipkin@dot.state.fl.us)

---

**From:** Milligan, Lauren [<mailto:Lauren.Milligan@dep.state.fl.us>]

**Sent:** Thursday, July 19, 2012 2:24 PM

**To:** 'Scott Swearingen'; [psteed@cfrpc.org](mailto:psteed@cfrpc.org); [charles.barmby@lakelandgov.net](mailto:charles.barmby@lakelandgov.net); Schulz, Mark; [linda.anderson@dot.gov](mailto:linda.anderson@dot.gov); Cunill, Benito; [cathy.kendall@dot.gov](mailto:cathy.kendall@dot.gov); [joseph.sullivan@dot.gov](mailto:joseph.sullivan@dot.gov); [brian.smart@dot.gov](mailto:brian.smart@dot.gov); Hatim, Khaleda; [dennis.hardin@freshfromflorida.com](mailto:dennis.hardin@freshfromflorida.com); [michael.weston@freshfromflorida.com](mailto:michael.weston@freshfromflorida.com); [Jeannette.Hallock-Solomon@deo.myflorida.com](mailto:Jeannette.Hallock-Solomon@deo.myflorida.com); [chris.wiglesworth@deo.myflorida.com](mailto:chris.wiglesworth@deo.myflorida.com); Stahl, Chris; Jones, Ginny L.; Kammerer, Laura; [daniel.mcclarnon@dos.myflorida.com](mailto:daniel.mcclarnon@dos.myflorida.com); McManus, Alyssa M.; Bixby, Marjorie; Gilbert, Terry; [maryann.poole@myfwc.com](mailto:maryann.poole@myfwc.com); [scott.sanders@myfwc.com](mailto:scott.sanders@myfwc.com); [David.Rydene@noaa.gov](mailto:David.Rydene@noaa.gov); [mark.sramek@noaa.gov](mailto:mark.sramek@noaa.gov); [anita\\_barnett@nps.gov](mailto:anita_barnett@nps.gov); [rick.a.robbins@fl.usda.gov](mailto:rick.a.robbins@fl.usda.gov); [curtisknowles@polk-county.net](mailto:curtisknowles@polk-county.net); [ElliottYork@semtribe.com](mailto:ElliottYork@semtribe.com); [Hank.Higginbotham@swfwmd.state.fl.us](mailto:Hank.Higginbotham@swfwmd.state.fl.us); [paul.oneil@swfwmd.state.fl.us](mailto:paul.oneil@swfwmd.state.fl.us); [Robert.B.Barron@usace.army.mil](mailto:Robert.B.Barron@usace.army.mil); [john.p.fellows@usace.army.mil](mailto:john.p.fellows@usace.army.mil); [Garett.G.Lips@usace.army.mil](mailto:Garett.G.Lips@usace.army.mil); [allen.e.stratton@uscg.mil](mailto:allen.e.stratton@uscg.mil); [budeir.maher@epa.gov](mailto:budeir.maher@epa.gov); [john\\_wrublik@fws.gov](mailto:john_wrublik@fws.gov); [brosen@usgs.gov](mailto:brosen@usgs.gov); [paulbackhouse@semtribe.com](mailto:paulbackhouse@semtribe.com); Post, John M.; [bonita.gorham@myfwc.com](mailto:bonita.gorham@myfwc.com); Frank Kalpakis; [kate.hoffman@janus-research.com](mailto:kate.hoffman@janus-research.com); [adam.schieffer@janus-research.com](mailto:adam.schieffer@janus-research.com); Peate, Martin; Brooks, Lauren; Pride, Tom; Railey, Tobi; Pagan, Xavier; [help@fla-etat.org](mailto:help@fla-etat.org); Schulz, Mark; Sherrard, Antone N; Kaster, Aaron; Botterill, Brooke

**Cc:** Pipkin, Gwen G

**Subject:** RE: Advance Notification for ETDM Project #3869 US 27 from W. County Line Road to State Road 60 (Polk County)

Hi Scott, Mark, Gwen and FDOT staff:

I'm a bit confused by this one. Did something about the project change? The state agencies provided comments and determined that the prior ETDM # 3869, US 27 AN package was consistent with the Florida Coastal Management Program back in June 2011.

Thanks!

*Lauren*

Lauren P. Milligan, Environmental Manager  
Florida State Clearinghouse  
Florida Department of Environmental Protection  
3900 Commonwealth Blvd, M.S. 47  
Tallahassee, FL 32399-3000  
ph. (850) 245-2170  
fax (850) 245-2190

*Please take a few minutes to share your comments on the service you received from the department by clicking on this link. [DEP Customer Survey](#).*

**From:** Scott Swearengen [<mailto:sswearengen@ciesthatwork.com>]

**Sent:** Thursday, July 19, 2012 1:54 PM

**To:** [psteed@cfrpc.org](mailto:psteed@cfrpc.org); [charles.barmby@lakelandgov.net](mailto:charles.barmby@lakelandgov.net); [mark.schulz@dot.state.fl.us](mailto:mark.schulz@dot.state.fl.us); [linda.anderson@dot.gov](mailto:linda.anderson@dot.gov); Cunill, Benito; [cathy.kendall@dot.gov](mailto:cathy.kendall@dot.gov); [joseph.sullivan@dot.gov](mailto:joseph.sullivan@dot.gov); [brian.smart@dot.gov](mailto:brian.smart@dot.gov); [khaleda.hatim@dot.state.fl.us](mailto:khaleda.hatim@dot.state.fl.us); [dennis.hardin@freshfromflorida.com](mailto:dennis.hardin@freshfromflorida.com); [michael.weston@freshfromflorida.com](mailto:michael.weston@freshfromflorida.com); [Jeannette.Hallock-Solomon@deo.myflorida.com](mailto:Jeannette.Hallock-Solomon@deo.myflorida.com); [chris.wiglesworth@deo.myflorida.com](mailto:chris.wiglesworth@deo.myflorida.com); Milligan, Lauren; Stahl, Chris; Jones, Ginny L.; Kammerer, Laura; [daniel.mcclarnon@dos.myflorida.com](mailto:daniel.mcclarnon@dos.myflorida.com); McManus, Alyssa M.; Bixby, Marjorie; Gilbert, Terry; [maryann.poole@myfwc.com](mailto:maryann.poole@myfwc.com); [scott.sanders@myfwc.com](mailto:scott.sanders@myfwc.com); [David.Rydene@noaa.gov](mailto:David.Rydene@noaa.gov); [mark.sramek@noaa.gov](mailto:mark.sramek@noaa.gov); [anita\\_barnett@nps.gov](mailto:anita_barnett@nps.gov); [rick.a.robbs@fl.usda.gov](mailto:rick.a.robbs@fl.usda.gov); [curtisknowles@polk-county.net](mailto:curtisknowles@polk-county.net); [ElliottYork@semtribe.com](mailto:ElliottYork@semtribe.com); [Hank.Higginbotham@swfwmd.state.fl.us](mailto:Hank.Higginbotham@swfwmd.state.fl.us); [paul.oneil@swfwmd.state.fl.us](mailto:paul.oneil@swfwmd.state.fl.us); [Robert.B.Barron@usace.army.mil](mailto:Robert.B.Barron@usace.army.mil); [john.p.fellows@usace.army.mil](mailto:john.p.fellows@usace.army.mil); [Garett.G.Lips@usace.army.mil](mailto:Garett.G.Lips@usace.army.mil); [allen.e.stratton@uscg.mil](mailto:allen.e.stratton@uscg.mil); [budeir.maher@epa.gov](mailto:budeir.maher@epa.gov); [john\\_wrublik@fws.gov](mailto:john_wrublik@fws.gov); [brosen@usgs.gov](mailto:brosen@usgs.gov); [paulbackhouse@semtribe.com](mailto:paulbackhouse@semtribe.com); [john.post@dot.state.fl.us](mailto:john.post@dot.state.fl.us); [bonita.gorham@myfwc.com](mailto:bonita.gorham@myfwc.com); Frank Kalpakis; [kate.hoffman@janus-research.com](mailto:kate.hoffman@janus-research.com); [adam.schieffer@janus-research.com](mailto:adam.schieffer@janus-research.com); Peate, Martin; Brooks, Lauren; Pride, Tom; Railey, Tobi; [xavier.pagan@dot.state.fl.us](mailto:xavier.pagan@dot.state.fl.us); [help@fla-etat.org](mailto:help@fla-etat.org); [mark.schulz@dot.state.fl.us](mailto:mark.schulz@dot.state.fl.us); [Antone.sherrard@dot.state.fl.us](mailto:Antone.sherrard@dot.state.fl.us); [aaron.kaster@dot.state.fl.us](mailto:aaron.kaster@dot.state.fl.us); [brooke.botterill@dot.state.fl.us](mailto:brooke.botterill@dot.state.fl.us); Scott Swearengen

**Cc:** Pipkin, Gwen G

**Subject:** Advance Notification for ETDM Project #3869 US 27 from W. County Line Road to State Road 60 (Polk County)

ETAT Members of FDOT District One:

A link to the Advance Notification (AN) Package for ETDM Project #3869 US 27 from W. County Line Road to State Road 60 in Polk County (Financial Management # 419243-1) is provided below.

[https://etdmpub.fl.a-etat.org/est/AN\\_Package.jsp?pkg=2181](https://etdmpub.fl.a-etat.org/est/AN_Package.jsp?pkg=2181)

Please review and submit comments as per the cover letter included in the attached file.

Thank you for your continued assistance.

Gwen G. Pipkin  
District One ETDM Coordinator

Scott Swearengen, AICP | Project Manager  
RENAISSANCE PLANNING GROUP  
ph 813.254.7741 x206



## Scott Swearngen

---

**From:** Frank Kalpakis  
**Sent:** Thursday, August 02, 2012 7:46 AM  
**To:** Scott Swearngen; Lauren Brooks  
**Subject:** Fwd: NMFS response to the AN for ETDM 3869

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

**Categories:** FDOT

For your files.

Sent from my iPhone

Begin forwarded message:

**From:** "Pipkin, Gwen G" <[Gwen.Pipkin@dot.state.fl.us](mailto:Gwen.Pipkin@dot.state.fl.us)>  
**Date:** August 1, 2012 4:02:10 PM EDT  
**To:** "Frank Kalpakis ([fkalpakis@ciiesthatwork.com](mailto:fkalpakis@ciiesthatwork.com))" <[fkalpakis@ciiesthatwork.com](mailto:fkalpakis@ciiesthatwork.com)>  
**Subject:** FW: NMFS response to the AN for ETDM 3869

For the files.....

**Gwen G. Pipkin**

Senior Project Manager  
District ETDM Coordinator  
863.519.2375  
[gwen.pipkin@dot.state.fl.us](mailto:gwen.pipkin@dot.state.fl.us)

---

**From:** Schulz, Mark  
**Sent:** Wednesday, August 01, 2012 12:01 PM  
**To:** Botterill, Brooke; Sherrard, Antone N  
**Cc:** Pipkin, Gwen G  
**Subject:** FW: NMFS response to the AN for ETDM 3869

---

**From:** David Rydene [<mailto:david.rydene@noaa.gov>]  
**Sent:** Wednesday, August 01, 2012 10:39 AM  
**To:** Schulz, Mark  
**Subject:** NMFS response to the AN for ETDM 3869

NOAA's National Marine Fisheries Service (NMFS), Habitat Conservation Division, has reviewed the Florida Department of Transportation's Advance Notification Package for ETDM Project # 3869 (Financial Project ID # 419243-1). NMFS reiterates the comments submitted during the project's ETDM Programming Phase. It does not appear that there will be any direct or indirect impacts to NMFS trust resources due to the project. Since the resources affected are not ones for which NMFS is responsible,

we have no comment to provide regarding the project's impacts.

--

David Rydene, Ph.D.  
Fish Biologist  
National Marine Fisheries Service  
Habitat Conservation Division  
263 13th Avenue South  
St. Petersburg, FL 33701  
Office (727) 824-5379  
Cell (813) 992-5730  
Fax (727) 824-5300

## Scott Swearngen

---

**From:** Milligan, Lauren [Lauren.Milligan@dep.state.fl.us]  
**Sent:** Friday, August 03, 2012 3:43 PM  
**To:** 'Pipkin, Gwen G'; Scott Swearngen; mark.schulz@dot.state.fl.us  
**Cc:** FWConservationPlanningServices@myfwc.com; Barnett, Brian; Chris.Wynn@MyFWC.com; Lambert, Carla  
**Subject:** FW: FWC's Comments on US 27 from West County Line Road to SR 60  
**Attachments:** US West County Line Rd to SR 60\_16564\_080312.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

**Categories:** FDOT

Dear Gwen:

RE: Advance Notification (AN) Package for ETDM Project #3869 US 27 from W. County Line Road to State Road 60 in Polk County

Please see attached the FWC's comments on the updated AN.

Have a great weekend!

*Lauren*

Lauren P. Milligan, Environmental Manager  
Florida State Clearinghouse  
Florida Department of Environmental Protection  
3900 Commonwealth Blvd, M.S. 47  
Tallahassee, FL 32399-3000  
ph. (850) 245-2170  
fax (850) 245-2190

Please take a few minutes to share your comments on the service you received from the department by clicking on this link [DEP Customer Survey](#).

**From:** Wallace, Traci [<mailto:traci.wallace@MyFWC.com>]  
**Sent:** Friday, August 03, 2012 3:22 PM  
**To:** Milligan, Lauren  
**Cc:** Barnett, Brian; Wynn, Chris; Lambert, Carla  
**Subject:** FWC's Comments on US 27 from West County Line Road to SR 60

Please find attached FWC's Comments on US 27 from West County Line Road to SR 60.

*Traci Wallace, AA III*

Office of Conservation Planning Services, MS 5B5  
Florida Fish and Wildlife Conservation Commission  
850-410-5272

Replies on project review letters should be sent to: [FWCConservationPlanningServices@myFWC.com](mailto:FWCConservationPlanningServices@myFWC.com)



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Conservation  
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**Karen Ventimiglia**  
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(800) 955-8770 (V)

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August 3, 2012

Ms. Lauren P. Milligan, Environmental Manager  
Florida State Clearinghouse  
Florida Department of Environmental Protection  
3900 Commonwealth Boulevard, MS 47  
Tallahassee, FL 32399-3000  
[Lauren.Milligan@dep.fl.state.us](mailto:Lauren.Milligan@dep.fl.state.us)

RE: Advance Notification, US 27 from West County Line Road to SR 60, ETDM  
3869, Polk County

Dear Ms. Milligan:

Florida Fish and Wildlife Conservation Commission staff has reviewed the referenced Advanced Notification Package in accordance with the Coastal Zone Management Act (CZMA) and Presidential Order 12372. We find that the project is consistent with the CZMA and that our comments of May 27, 2011 on ETDM 3869 (enclosed) remain applicable.

If you need further assistance, please do not hesitate to contact Jane Chabre either by phone at (850) 410-5367 or at [FWCConservationPlanningServices@MyFWC.com](mailto:FWCConservationPlanningServices@MyFWC.com). If you have specific technical questions regarding the content of this letter, please contact Brian Barnett at (772) 579-9746 or email [brian.barnett@MyFWC.com](mailto:brian.barnett@MyFWC.com).

Sincerely,

**Bonita Gorham**  
Land Use Planning Program Administrator  
Office of Conservation Planning Services

bg/bb  
ENV 1-3-2  
US West County Line Rd to SR 60\_16564\_080312  
Enclosure



## ETAT Reviews for Wildlife and Habitat

FL Fish and Wildlife Conservation Commission (05/27/2011)

### Reviewed By:

Scott Sanders, FL Fish and Wildlife Conservation Commission (05/27/2011)

*Wildlife and Habitat Effect: Moderate*

**Coordination Document:** To Be Determined: Further Coordination Required

### Identified Resources and Level of Importance:

The Habitat Conservation Scientific Services Section of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated an agency review of ETDM #3869, Polk County, and provides the following comments related to potential effects to fish and wildlife resources on this Programming Phase project.

The Project Description Summary states that this project involves the widening of US 27 from four to six lanes from West County Line Road north to SR 60, a distance of approximately 18.8 miles. Approximately 12.4 miles of the road would have a functional classification of "rural principal arterial," with a Right-of-way (ROW) width of 212 feet, while 4.4 miles of road near Frostproof and Lake Wales would be classified as "urban principal arterial," requiring 126 feet of ROW width.

The project area was evaluated for potential fish, wildlife, and habitat resources within 500 feet of the proposed alignment. Our assessment reveals that the project area is on the Lake Wales Ridge over most of its length, with diverse plant community types adjacent to the ROW varying from herbaceous and wooded wetlands to well-drained xeric uplands. The majority of the assessment area consists of man-altered lands, including High Impact Urban (801.6 acres, 34.82%), Improved Pasture (236.5 acres, 10.27%), Low Impact Urban (181.6 acres, 7.89%), Citrus (134.9 acres, 5.86%), Bare Soil (62.2 acres, 2.70%), and Other Agriculture (42.5 acres, 1.84%). Native landcover types include Dry Prairies (298.2 acres, 12.95%), Pinelands (164.5 acres, 7.14%), Freshwater Marsh and Wet Prairie (94.2 acres, 4.09%), Xeric Oak Scrub (65.1 acres, 2.83%), Shrub and Brushland (49.3 acres, 2.14%), Hardwood Hammocks and Forests (27.8 acres, 1.21%), Mixed Hardwood-Pine Forests (26.7 acres, 1.16%), Hardwood Swamp (25.6 acres, 1.11%), Cypress Swamp (25.1 acres, 1.09%), Shrub Swamp (23.6 acres, 1.02%), Mixed Wetland Forest (17.8 acres, 0.77%), Sand Pine Scrub (9.8 acres, 0.42%), Open Water (7.3 acres, 0.32%), Bay Swamp (4.9 acres, 0.21%), and Grassland (3.3 acres, 0.14%).

Based on range and preferred habitat type, the following species listed by the Federal Endangered Species Act and the State of Florida as Federally Endangered (FE), Federally Threatened (FT), State-Threatened (ST), or State Species of Special Concern (SSC) may occur along the project area: gopher frog (SSC), American alligator (FT), bluetail mole skink (FT), sand skink (FT), short-tailed snake (ST), Eastern indigo snake (FT), Florida pine snake (SSC), gopher tortoise (ST), crested caracara (FT), burrowing owl (SSC), Southeastern American kestrel (ST), Florida sandhill crane (ST), Florida scrub jay (FT), least tern (ST), limpkin (SSC), little blue heron (SSC), tricolored heron (SSC), snowy egret (SSC), white ibis (SSC), wood stork (FE), Florida black bear (ST), Florida mouse (SSC), and Sherman's fox squirrel (SSC).

The GIS analysis revealed several specific characteristics associated with lands along the project alignment that provide an indication of potential habitat quality or sensitivity that will require field studies to verify the presence or absence of listed wildlife species and the quality of wildlife habitat resources. In the FWC's Integrated Wildlife Habitat Ranking System, 61.41% of the assessment area has a high, moderately high, or medium ranking. In the FWC's measure of Potential Habitat Richness, 40.61% of the area is classified as high, moderately high, or medium. A total of 140.4 acres of the assessment area is within FWC Strategic Habitat Conservation Areas, with 119.3 acres receiving a high priority ranking. The project is within the secondary range of the Florida black bear, and two bear road kills have been documented on this segment of US 27. The project is within U.S. Fish and Wildlife Service (FWS) Consultation Areas for the Scrub Jay, Snail Kite, and Lake Wales Ridge Plants, and is within the core foraging area of seven wood stork rookeries.



The project is adjacent to three areas of public land: the 14,631-acre Lake Wales Ridge Wildlife and Environmental Area, managed by the FWC and owned by the Trustees of the Internal Improvement Trust Fund (TIITF); and the Crooked Lake West Stuart Tract (3,508 acres) and Britt Tract (77 acres), both managed by Polk County and co-owned by the Southwest Florida Water Management District and Polk County. Other managed conservation lands within one mile of the project area include: the 1,858-acre Lake Wales Ridge National Wildlife Refuge, managed by the FWS; the 1,147-acre Crooked Lake Wildlife and Environmental Area, managed by the FWC; the 1,013-acre Crooked Lake West and the 57-acre Hickory Lake Scrub County Park, both managed by Polk County; and the 830-acre Saddle Blanket Scrub Preserve and the 9-acre Sun Ray Scrub, both managed by The Nature Conservancy.

Primary wildlife issues associated with this project include: the potential direct loss of valuable wetland and upland wildlife habitat such as xeric scrub; potential adverse effects to a significant number of species listed by the Federal Endangered Species Act as Endangered or Threatened, or the State of Florida as Threatened or Species of Special Concern; increased habitat fragmentation due to the increased ROW width; increased roadkills due to higher traffic levels and vehicle speed, combined with increased ROW width; potential loss of public conservation lands; and potential water quality degradation as a result of additional stormwater runoff from the expanded roadway surface draining into adjacent wetlands, streams, and lakes. Over much of the project length, the cleared area adjacent to US 27 appears to be sufficient to fit the required ROW width without the direct loss of other habitat. Confining construction activities to the existing cleared ROW as much as possible could reduce potential direct impacts to fish and wildlife resources.

**Comments on Effects to Resources:**

Based on the project information provided, we believe that the direct and indirect effects of this project on fish and wildlife resources could be moderate, due to the importance of the Lake Wales Ridge to a unique variety of rare and imperiled species.

**Additional Comments (optional):**

We recommend that the Project Development and Environment (PD&E) Study address natural resources by including the following measures for conserving fish and wildlife and habitat resources that may occur within and adjacent to the project area. Plant community mapping and wildlife surveys for the occurrence of wildlife species listed by the Federal Endangered Species Act as Endangered or Threatened, or by the State of Florida as Threatened or Species of Special Concern should be performed, both along the Right-of-way and within sites proposed for Drainage Retention Areas. Based on the survey results, a plan should be developed to address direct, indirect, and cumulative effects of the project on wildlife and habitat resources, including listed species. Avoidance, minimization, and mitigation measures should also be formulated and implemented. If gopher tortoises are present within any permanent or temporary construction area, a permit should be obtained from the FWC. Drainage Retention Areas and equipment staging areas should be located in previously disturbed sites to avoid habitat destruction or degradation. Opportunities should also be investigated for providing structures to maintain habitat connectivity. A compensatory mitigation plan should include the replacement of any wetland, upland, or aquatic habitat lost as a result of the project. This could be achieved by purchasing land, or securing conservation easements over lands adjacent to existing public lands, and by habitat restoration. Replacement habitat for mitigation should be type for type, as productive, and equal to or of higher functional value. We recommend land acquisition and restoration of appropriate tracts adjacent to existing public lands near the project area, or tracts placed under conservation easement or located adjacent to large areas of jurisdictional wetlands that currently serve as regional core habitat areas. Please notify us immediately if the design, extent, or footprint of the current project is modified, as we may choose to provide additional comments and/or recommendations.

We appreciate the opportunity to provide input on highway design and the conservation of fish and wildlife resources. Please contact Brian Barnett at (850) 528-6316 or email [brian\\_barnett@urscorp.com](mailto:brian_barnett@urscorp.com) to initiate the process for further overall coordination on this project.

**Coordinator Feedback:** None

## Scott Swarengen

---

**From:** Scott Swarengen  
**Sent:** Friday, November 30, 2012 8:49 AM  
**To:** Scott Swarengen  
**Subject:** FW: Advance Notification for ETDM Project #3869 US 27 from W. County Line Road to State Road 60 (Polk County)  
**Attachments:** ETDM 3869 - ERPs - OFWs - Verified Impaired Waters.pdf; ETDM 3869 - FEMA Flood Insurance Rate Map Data.pdf; ETDM 3869 - Rereation Area Map within Segment S-003.pdf; ETDM 3869 - SWFWMD Owned Lands within Segment S-003.pdf; ETDM 3869 - WBIDs.pdf

---

**From:** Pipkin, Gwen G [<mailto:Gwen.Pipkin@dot.state.fl.us>]  
**Sent:** Wednesday, August 08, 2012 11:48 AM  
**To:** Scott Swarengen  
**Subject:** FW: Advance Notification for ETDM Project #3869 US 27 from W. County Line Road to State Road 60 (Polk County)

### Gwen G. Pipkin

Senior Project Manager  
District ETDM Coordinator  
863.519.2375  
[gwen.pipkin@dot.state.fl.us](mailto:gwen.pipkin@dot.state.fl.us)

---

**From:** Hank Higginbotham [<mailto:Hank.Higginbotham@swfwmd.state.fl.us>]  
**Sent:** Wednesday, August 08, 2012 11:00 AM  
**To:** Hartmann, William  
**Cc:** Dave Kramer; Paul O'Neil; Chaz Collins; Albert A. Gagne; Michelle Hopkins; Bob Dasta; Pipkin, Gwen G  
**Subject:** FW: Advance Notification for ETDM Project #3869 US 27 from W. County Line Road to State Road 60 (Polk County)

Bill,

As a follow-up to our telephone conversation this morning, please find attached several sketches that we have made to assist us in preparing our formal responses to the Advanced Notification – AN Package (noted below). As discussed, we will formally respond to the AN Package by the 07/31/12 deadline, and copy Gwen Pipkin with our MS Word document.

In addition, here is a partial listing of the latest FDEP data that we intend to include in the “*Water Quality & Quantity*” section of our AN Package response:

The total length of the US-27 project equals 18.816 miles divided into four segments for planning and evaluation purposes. Details on these 4 segments are as follows:

S-001: From the Polk / Highlands County line to SR-17 (Scenic Highway) - 2.58 miles

S-002: From SR-17 (Scenic Highway) to CR-630A - 4.27 miles

S-003: From CR-630A to CR-640 (Alturas-Babson Cutoff) - 8.05 miles

S-004: From CR-640 (Alturas-Babson Cutoff) to SR-60 (3.94 miles)

An approximate (graphical) location of these Segments can be viewed within the EST.

**Crooked Lake (WBID #1663)**, Group 4 (Kissimmee River), Lake Istokpoga Planning Unit, FDEP Central Regulatory District:

Selected Assessments for Cycle 2 (as of 11/02/10):

- Verified Impaired (Assessment Category 5) for Mercury (in fish tissue).
- Planning list (Assessment Category 3C) for Nutrients (TSI Trend).

- Not Impaired (Assessment Category 2) for Nutrients (TSI).
- Not Impaired (Assessment Category 2) for Nutrients (Historic TSI).
- Not Impaired (Assessment Category 2) for Dissolved Oxygen.
- Insufficient data (Assessment Category 3B) for Fecal Coliform.

A Total Maximum Daily Load (TMDL) document was not available for this WBID.  
No Basin Management Action Plan (BMAP) was available for this WBID.

**Peace Creek Tributary Canal (WBID #1613)**, Group 3 (Sarasota Bay – Peace - Myakka), Upper Peace River Planning Unit, FDEP Southwest Regulatory District:

Selected Assessments for Cycle 2 (as of 01/15/10):

- **Verified Impaired (Assessment Category 5) for Dissolved Oxygen (Nutrients).**
- Planning list (Assessment Category 3C) for Fecal Coliform.
- Planning list (Assessment Category 3C) for Nutrients (Chlorophyll-a).
- Insufficient data (Assessment Category 3B) for Nutrients (Historic Chlorophyll-a).

Two (2) TMDL documents are available at the following FDEP web site:

<http://webapps.dep.state.fl.us/DearTmdl/dashboardAction.do?method=tmdlPermitDetailsAction&srcWbid=1613>

The first (February, 2006) document is entitled is entitled “TMDL for Fecal & Total Coliform in Upper & Middle Peace River Basin (WBIDs 1501A, 1580, **1613**, 1623K and 1871)”.

The second (February, 2006) FINAL document is entitled is entitled “Final Peace River Basin, Florida Dissolved Oxygen, Nutrient, Turbidity and TSS TMDLs (WBIDs 1501A, 1497, 1623K, **1613**, 1626, 1580, 1539, 1617, 1921, 1871)”.

A Basin Management Action Plan (BMAP) was not available from the following FDEP web site:

<http://www.dep.state.fl.us/water/watersheds/bmap.htm>

However, the large scale BMAP graphic (dated June, 2012) from this web site indicates the BMAP activities are in progress for the Upper Peace River & Winter Haven Lakes. This is verified with the supporting table (dated 07/22/11) of ongoing BMAP activities within the FDEP’s Southwest District.

Hope this helps for now.

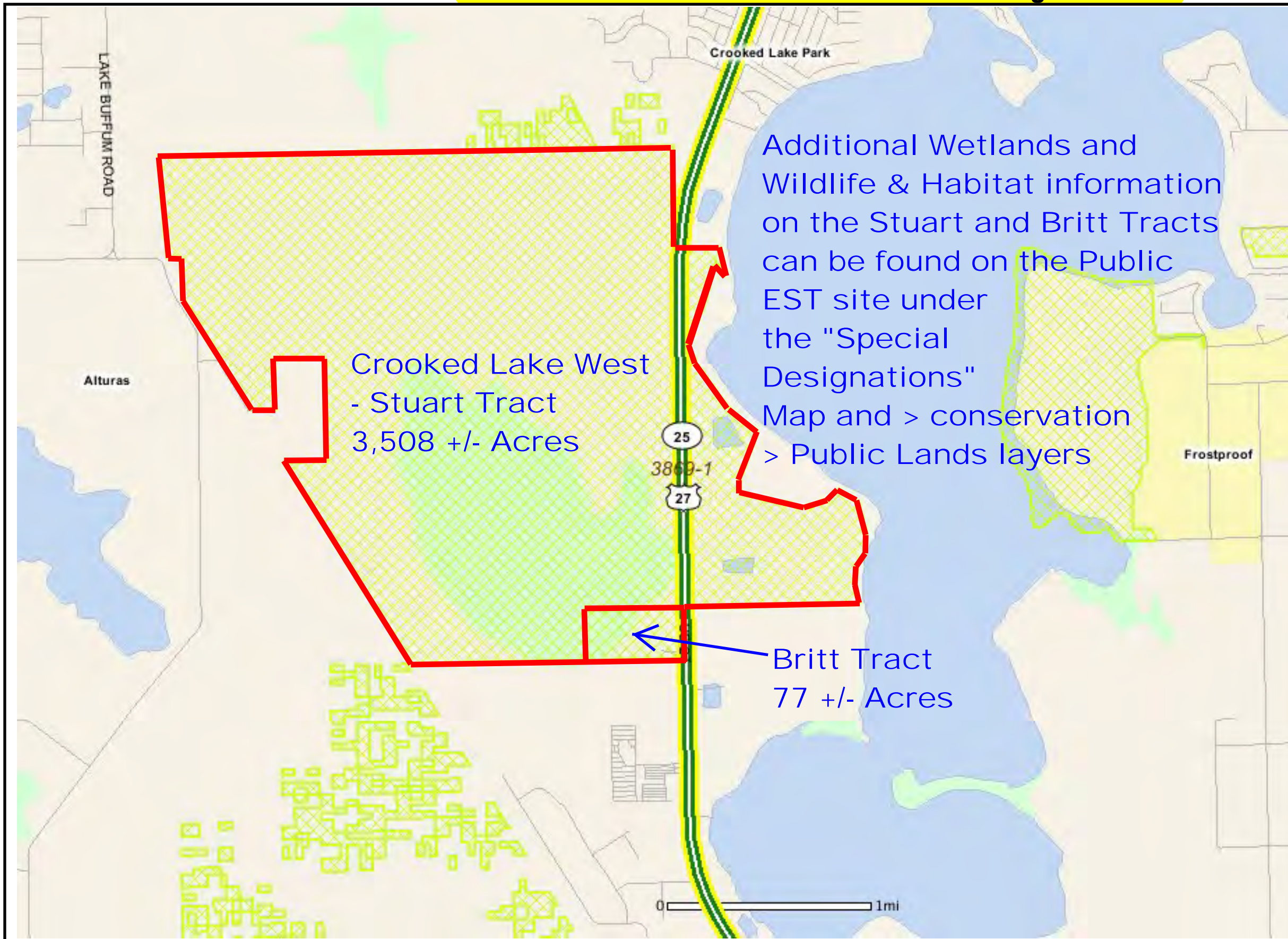
Hank Higginbotham, P.E.  
Senior Professional Engineer  
Environmental Resource Permit Bureau  
7601 Highway 301 North  
Tampa, FL 33637  
Southwest Florida Water Management District  
813-985-7481, x2001  
800-836-0797 (Florida only)

[hank.higginbotham@watermatters.org](mailto:hank.higginbotham@watermatters.org)





# ETDM 3869 - SWFWMD Owned Lands within Segment S-003



- Legend**
- ETDM Project #3869 Alternative 1 - Previously ReviewedPt
  - ETAT Review Complete
  - Dispute Resolution In Progress
  - Summary Report Complete
  - Work Program
  - Location Design Concept Acceptance (LDCA)
  - OTHER
  - ETDM Project #3869 Alternative 1 - Previously ReviewedSeg
  - ETAT Review Complete
  - Dispute Resolution In Progress
  - Summary Report Complete
  - Work Program
  - Location Design Concept Acceptance (LDCA)
  - OTHER
  - ETDM Project #3869 Alternative 1 - Previously Reviewed
  - ETAT Review Complete
  - Dispute Resolution In Progress
  - Summary Report Complete
  - Work Program
  - Location Design Concept Acceptance (LDCA)
  - OTHER
  - Population Areas
  - Alternatives (Currently in Review)
  - ETAT Review Alternatives (Previously Reviewed)
  - ETAT Review Complete
  - Dispute Resolution In Progress
  - Summary Report Complete
  - Work Program
  - Location Design Concept Acceptance (LDCA)
  - Currently Draft
  - Navteq Primary Street Name
  - FDOT Major Rd Names
  - Navteq Interstates
  - Navteq US Hwys
  - Navteq State Roads
  - Navteq County Roads
  - Public Land
  - NHD(100K) Hydrographic Landmark Areas
  - NHD(100K) Water Bodies
  - LAKE/POND
  - SWAMP/MARSH
  - RESERVOIR
  - City Limits (Parcel derived)
  - Major Florida Parks and Forests
  - Florida Boundary
  - LAND

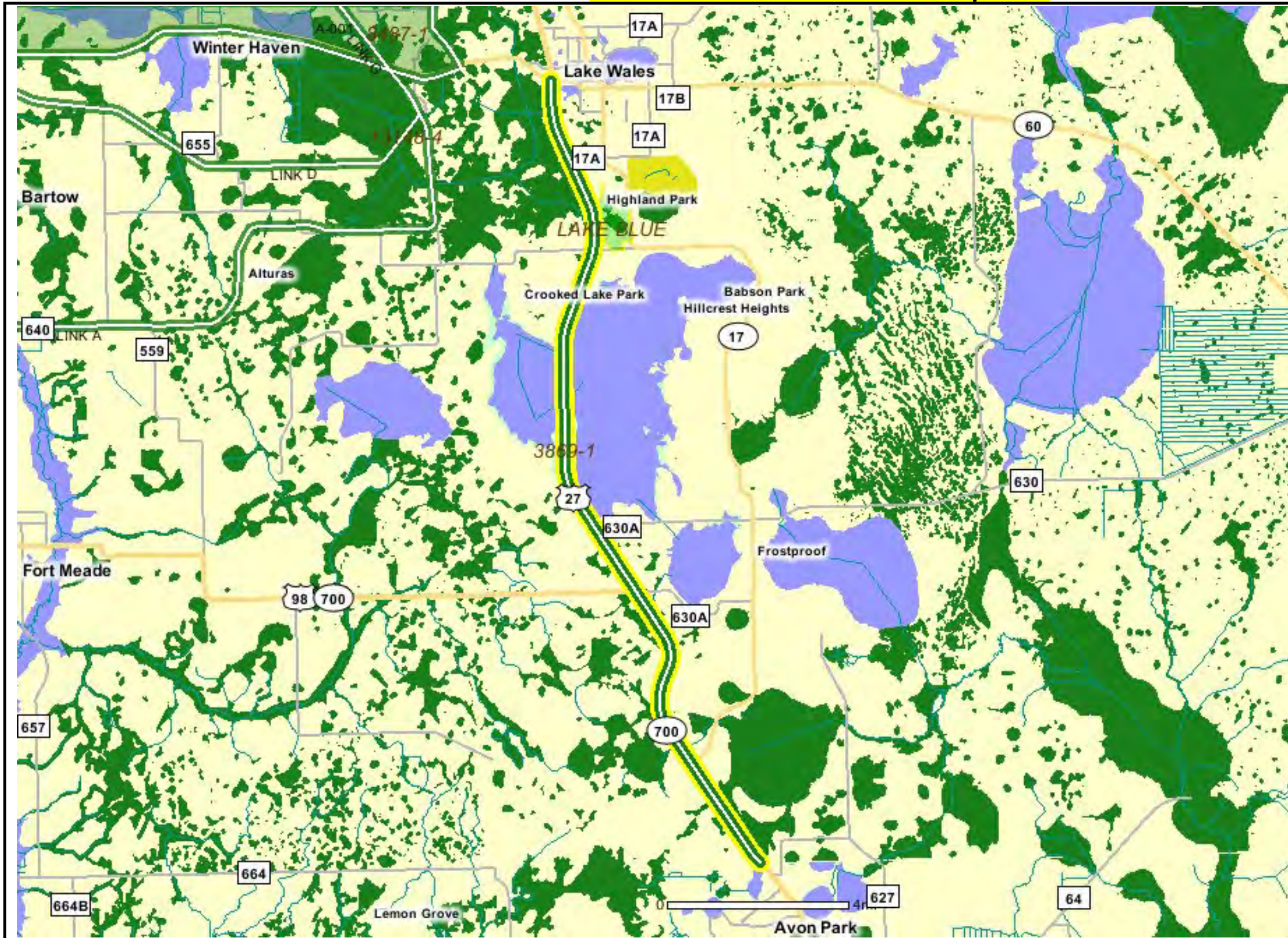








# FEMA Flood Insurance Rate Map Data



**Legend**

ETDM Project #3869  
Alternative 1 - Previously ReviewedPt

- ETAT Review Complete
- Dispute Resolution In Progress
- Summary Report Complete
- Work Program
- Location Design Concept Acceptance (LDCA)

OTHER

ETDM Project #3869  
Alternative 1 - Previously ReviewedSeg

- ETAT Review Complete
- Dispute Resolution In Progress
- Summary Report Complete
- Work Program
- Location Design Concept Acceptance (LDCA)

OTHER

ETDM Project #3869  
Alternative 1 - Previously Reviewed

- ETAT Review Complete
- Dispute Resolution In Progress
- Summary Report Complete
- Work Program
- Location Design Concept Acceptance (LDCA)

OTHER

LAKE BLUE

Population Areas

Point Labels (Previously Reviewed)

Line Labels (Previously Reviewed)

Polygon Labels (Previously Reviewed)

Alternatives (Previously Reviewed)

- ETAT Review Complete
- Dispute Resolution In Progress
- Summary Report Complete
- Work Program
- Location Design Concept Acceptance (LDCA)

Currently Draft

- Navteq Interstates
- Navteq US Hwys
- Navteq State Roads
- Navteq County Roads
- Navteq Local Arterials
- NHD(100K) Linear Surface Water Drainage Network

**FEMA Flood Insurance Rate**

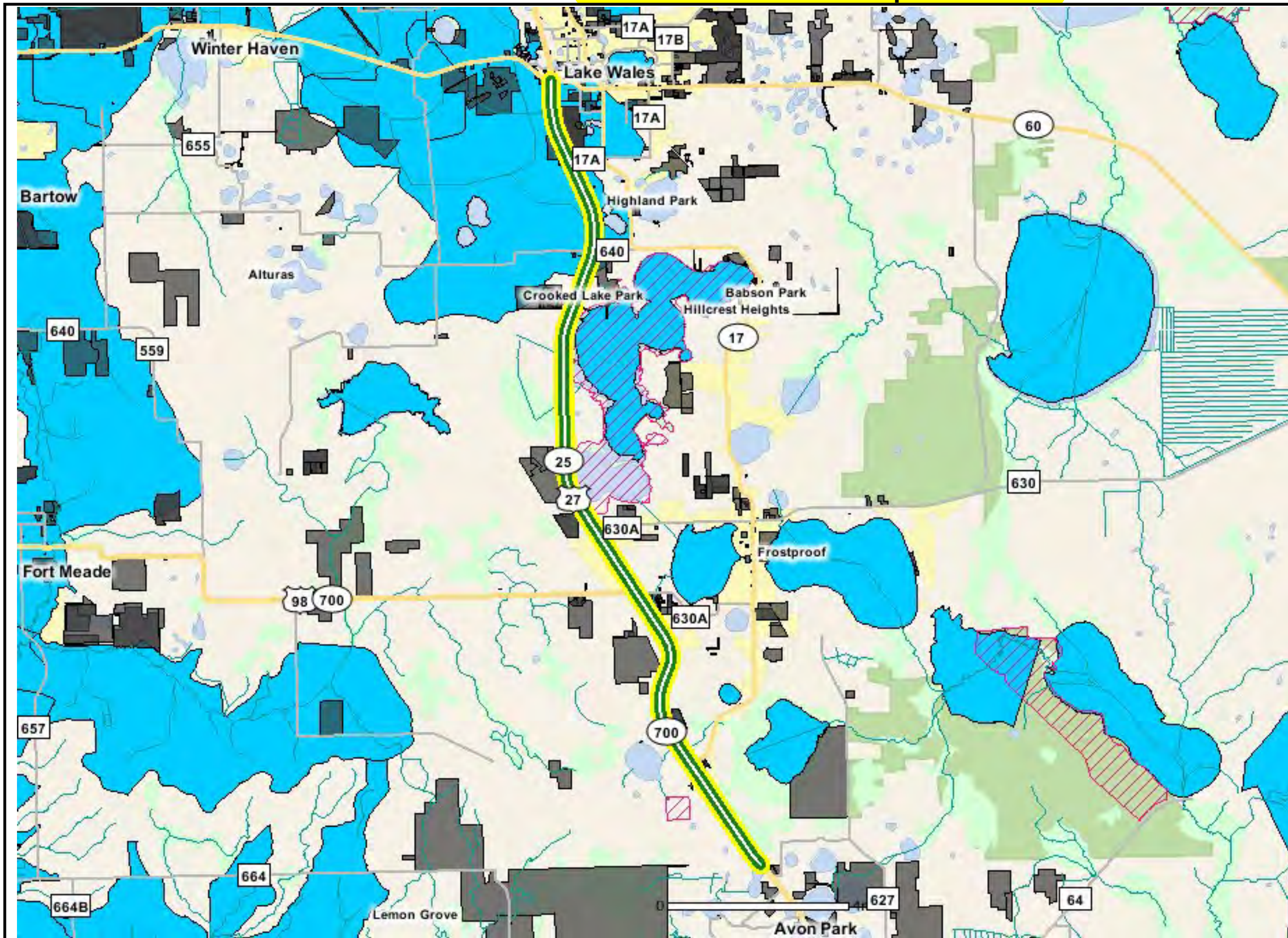
- A
- AE
- AH
- ANI
- AO
- D
- UNDES
- VE
- X
- X500

NHD(100K) Water Bodies

- LAKE/POND
- SWAMP/MARSH
- RESERVOIR
- Major Florida Parks and Forests
- Florida Boundary
- LAND



# ERPs - OFWs - Verified Impaired Waters

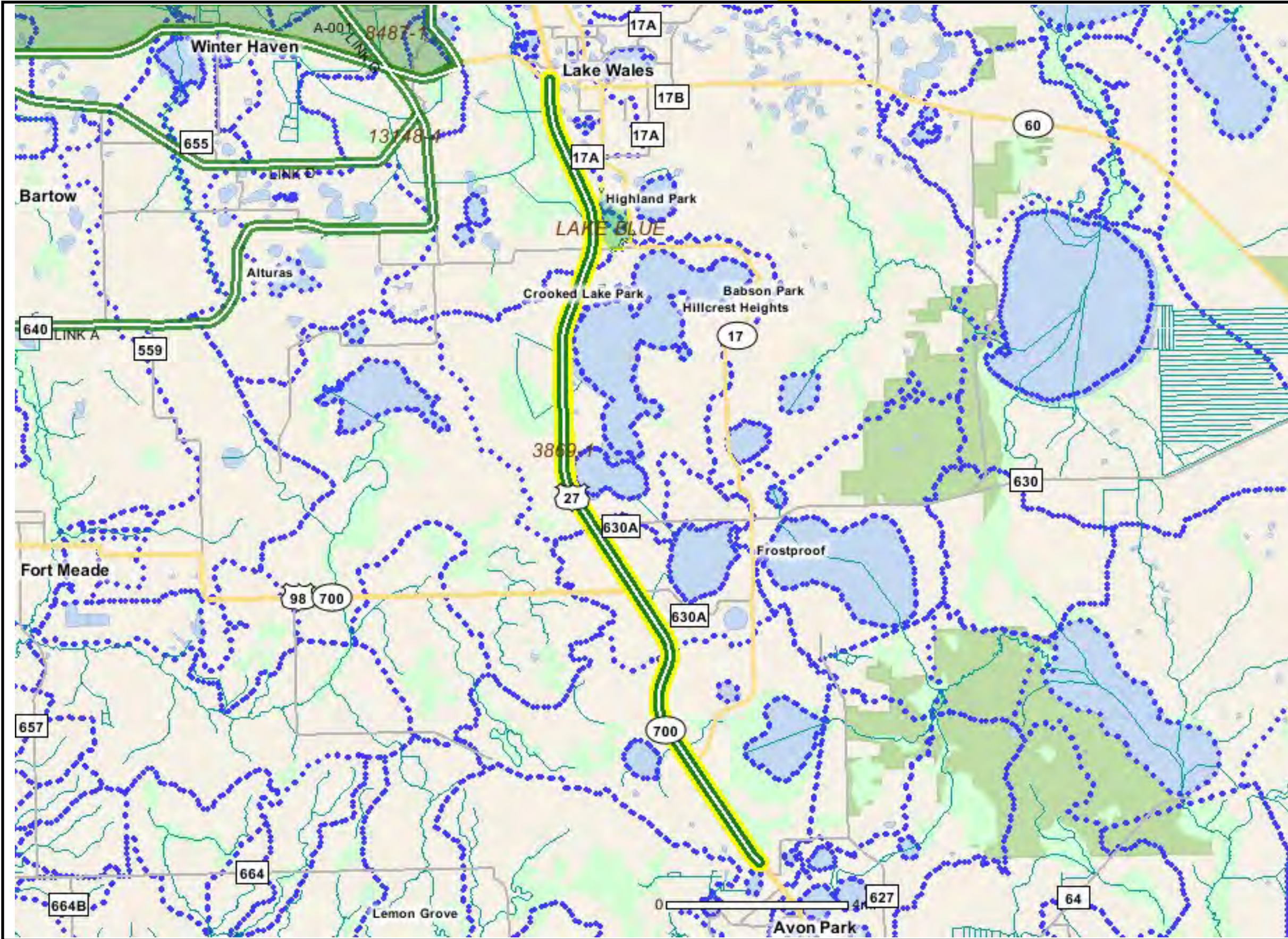


- Legend**
- ETDM Project #3869  
Alternative 1 - Previously ReviewedPt
  - ETAT Review Complete
  - Dispute Resolution In Progress
  - Summary Report Complete
  - Work Program
  - Location Design Concept Acceptance (LDCA)
  - OTHER  
ETDM Project #3869  
Alternative 1 - Previously ReviewedSeg
  - ETAT Review Complete
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  - Location Design Concept Acceptance (LDCA)
  - OTHER  
ETDM Project #3869  
Alternative 1 - Previously Reviewed
  - ETAT Review Complete
  - Dispute Resolution In Progress
  - Summary Report Complete
  - Work Program
  - Location Design Concept Acceptance (LDCA)
  - OTHER  
Population Areas  
Termini (Currently in Review)
  - Begin Point
  - End Point
  - Point Labels (Currently in Review)
  - Points (Currently in Review)
  - ETAT Review
  - Line Labels (Currently in Review)
  - Lines (Currently in Review)
  - ETAT Review
  - Polygon Labels (Currently in Review)
  - Polygons (Currently in Review)
  - ETAT Review
  - Alternatives (Currently in Review)
  - ETAT Review
  - Navteq Interstates
  - Navteq US Hwys
  - Navteq State Roads
  - Navteq County Roads
  - Navteq Local Arterials
  - NHD(100K) Linear Surface Water Drainage Network
  - SWFWMD Environmental Resource Permit Areas
  - Outstanding Florida Waters - Other
  - Verified Impaired Florida Waters
  - NHD(100K) Hydrographic Landmark Areas
  - NHD(100K) Water Bodies
  - LAKE/POND
  - SWAMP/MARSH
  - RESERVOIR
  - City Limits (Parcel derived)
  - Major Florida Parks and Forests
  - Florida Boundary
  - LAND





# WBIDs



- Legend**
- ETDM Project #3869 Alternative 1 - Previously ReviewedPt
  - ETAT Review Complete
  - Dispute Resolution In Progress
  - Summary Report Complete
  - Work Program
  - Location Design Concept Acceptance (LDCA)
  - OTHER
  - ETDM Project #3869 Alternative 1 - Previously ReviewedSeg
  - ETAT Review Complete
  - Dispute Resolution In Progress
  - Summary Report Complete
  - Work Program
  - Location Design Concept Acceptance (LDCA)
  - OTHER
  - ETDM Project #3869 Alternative 1 - Previously Reviewed
  - ETAT Review Complete
  - Dispute Resolution In Progress
  - Summary Report Complete
  - Work Program
  - Location Design Concept Acceptance (LDCA)
  - OTHER
  - LAKE BLUE
  - Population Areas
  - Point Labels (Previously Reviewed)
  - Line Labels (Previously Reviewed)
  - Polygon Labels (Previously Reviewed)
  - Alternatives (Previously Reviewed)
  - ETAT Review Complete
  - Dispute Resolution In Progress
  - Summary Report Complete
  - Work Program
  - Location Design Concept Acceptance (LDCA)
  - Currently Draft
  - Navteq Interstates
  - Navteq US Hwys
  - Navteq State Roads
  - Navteq County Roads
  - Navteq Local Arterials
  - NHD(100K) Linear Surface Water Drainage Network
  - Drainage Basins (Waterbody IDs)
  - NHD(100K) Water Bodies
  - LAKE/POND
  - SWAMP/MARSH
  - RESERVOIR
  - Major Florida Parks and Forests
  - Florida Boundary
  - LAND





## Scott Swarengen

---

**From:** Scott Swarengen  
**Sent:** Friday, November 30, 2012 8:54 AM  
**To:** Scott Swarengen  
**Subject:** FW: Advance Notification for ETDM Project #3869: US 27 from W. County Line Road to State Road 60 (Polk County)  
**Attachments:** 3869\_US-27\_AN\_Review\_as\_of\_08-29-12.docx; 3869\_US-27\_AN\_Review\_as\_of\_08-29-12.pdf  
**Categories:** FDOT

---

**From:** Brooks, Lauren [<mailto:lauren.brooks@urs.com>]  
**Sent:** Wednesday, August 29, 2012 10:19 AM  
**To:** Scott Swarengen  
**Cc:** Gwen Pipkin ([gwen.pipkin@dot.state.fl.us](mailto:gwen.pipkin@dot.state.fl.us)); Frank Kalpakis  
**Subject:** FW: Advance Notification for ETDM Project #3869: US 27 from W. County Line Road to State Road 60 (Polk County)

Lauren M. Brooks, AICP  
Project Planner

URS Corporation  
7650 West Courtney Campbell Causeway  
Tampa, FL 33607-1462  
Office: 813.636.2162  
Fax: 813.286.6587  
Cell: 813.313.9913  
[lauren.brooks@urs.com](mailto:lauren.brooks@urs.com) – PLEASE NOTE MY NEW EMAIL ADDRESS

---

**From:** Hank Higginbotham [<mailto:Hank.Higginbotham@swfwmd.state.fl.us>]  
**Sent:** Wednesday, August 29, 2012 10:10 AM  
**To:** [Lauren.Milligan@dep.state.fl.us](mailto:Lauren.Milligan@dep.state.fl.us)  
**Cc:** [Gwen.Pipkin@dot.state.fl.us](mailto:Gwen.Pipkin@dot.state.fl.us); Brooks, Lauren; Paul O'Neil; Chaz Collins; Michelle Hopkins; Albert A. Gagne; Dave Kramer; Cliff Ondercin; Rand Frahm; Carol Lynch  
**Subject:** Advance Notification for ETDM Project #3869: US 27 from W. County Line Road to State Road 60 (Polk County)

Lauren,

As a follow-up to the e-Mail chain below, please find attached our formal responses to the above referenced project. The attached documents are in MS Word and Adobe pdf formats. As a courtesy, we have also copied Gwen Pipkin at FDOT, D1 and Lauren Brooks at URS Corporation.

Should you have any questions regarding these documents, please call me at 800-836-0797, x2001.

Thanks,

Hank Higginbotham, P.E.  
Senior Professional Engineer  
Environmental Resource Permit Bureau  
7601 Highway 301 North  
Tampa, FL 33637  
Southwest Florida Water Management District

813-985-7481, x2001

800-836-0797 (Florida only)

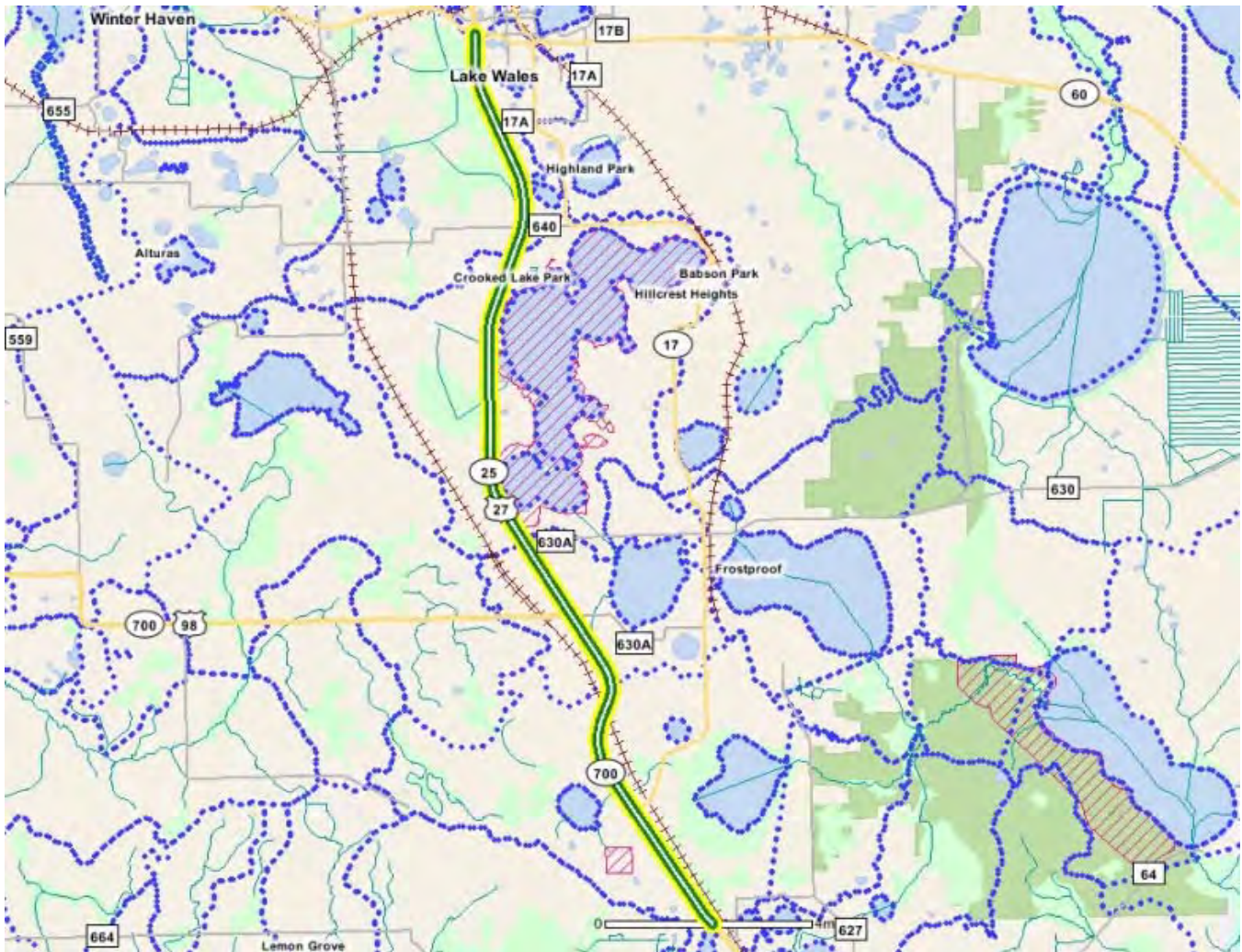
[hank.higginbotham@watermatters.org](mailto:hank.higginbotham@watermatters.org)

 **ePermitting**





**Location Map**



**Summary**

<b>Project Name / Number</b> US-27 Widening <b>ETDM #3869 PA #398252</b>	<b>ETDM Review Screen</b>	
	Planning	
<b>Location</b> From West County Line Road (at the Polk / Highlands County Line) to SR-60 (Lake Wales) Total length of project = 18.816 miles	Programming	
	<b>X Advanced Notification</b>	
<b>County</b> Polk	<b>Review Period</b>	
	07/19/12	to



**Description:**

This capacity improvement project involves the widening of US 27 from West County Line Road (milepost 0.000) to SR 60 (milepost 18.816), in Polk County, from four lanes to six lanes. US 27 is a four lane facility with a functional classification of "rural principal arterial - other" from milepost 0.000 to milepost 4.784 and from milepost 8.623 to milepost 16.212. It has a functional classification of "urban other principal arterial" from milepost 4.784 to milepost 8.623 (near Frostproof) and from milepost 16.212 to milepost 18.816 (in Lake Wales). The project is approximately 18.8 miles and will require 126 to 212 feet of right-of way (see attached typical sections for six lane divided urban and rural arterials in the "Library" section of the EST). The project is listed in the Polk Transportation Planning Organizations 2035 Cost Affordable LRTP.

**Purpose and Need**

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Consistency with Transportation Plan Goals and Objectives

The proposed widening between the Polk/Highlands County Line and SR 60 is included in the Polk County Transportation Planning Organization's 2035 Long Range Transportation Plan (LRTP), adopted December 7, 2010. The PD&E phase is funded; however, the remaining project phases are unfunded in the LRTP (LRTP page 8-7). The project is not included in the FDOT's 2035 Cost Affordable Strategic Intermodal System Plan, but it is identified as a needed improvement in the 2030 SIS Multi-Modal Unfunded Needs Plan (adopted in 2006).

Purpose and Need Statement

Purpose

The capacity improvement project on US 27 will enhance the connectivity of the regional roadway network, provide needed capacity to meet growing travel demand in southern Polk County, support population, education and employment growth in the area, enhance regional freight mobility, improve safety and augment an existing emergency evacuation route. The project will also widen the last remaining 4-lane section of US 27 in Polk County to complete a gap and bring continuity to the 6-lane divided roadway cross section of US 27 that extends both southward and northward from the respective project termini. The purpose of the project is to identify reasonable alternatives that minimize environmental impacts and implementation costs and respond to public and stakeholder input to the maximum extent practical.

The need for the project is based on the following criteria:

Capacity/Transportation Demand - Provide additional capacity on US 27 to meet anticipated increases in traffic volume, which include substantial truck volumes.

Growth Management Planning - Improve automobile and truck access to emerging population, education and employment centers in Polk County.

Modal Interrelationships (Freight Mobility) - Improve the flow of goods on a heavily utilized truck corridor and accommodate anticipated growth in truck traffic.

Area Wide Network/System Linkage - Increase capacity on the SIS/FIHS to improve statewide connectivity and accessibility while providing additional north-south capacity to emerging population, education, recreation and employment centers in Polk County.

Emergency Evacuation - Increase the volume of residents that can be evacuated during an emergency event.

Need



Capacity/Transportation Demand - The roadway level of service is based on the Generalized Annual Average Daily Volumes for Florida's Rural Areas for Uninterrupted Flow Highways, Florida Department of Transportation 2009 Quality/Level of Service Handbook. The forecast travel demand is a corridor average from the Polk County Transportation Planning Organization's 2014 existing plus committed highway network loaded using 2035 socioeconomic data. The existing and projected roadway levels of service are shown below:

EXISTING AND FUTURE TRAFFIC (2009 AND 2035)  
From To 2009 AADT 2009 LOS 2035 AADT 2035 LOS  
County Line Rd SR 17 19,200 B 34,921 E  
SR 17 CR 630 16,800 B 32,705 E  
CR 630 CR 640 15,900 B 40,465 E  
CR 640 SR 60 22,143 B 43,429 E

The LOS standard for US 27 is "D". Without the proposed improvement, operating conditions will degrade to LOS E by year 2035. An additional consideration is that the standardized LOS tables do not account for the very high truck percentages in the corridor, which tend to degrade traffic operational conditions.

Growth Management Planning - Traffic on US 27 is expected to increase due to projected population and employment growth both along the corridor and in the region. Table 2 below shows the Polk Transportation Planning Organization 2035 population and employment forecast for the adjacent traffic analysis zones (TAZ) in the Polk County portion of the corridor. Population is projected to almost double, while employment is projected to triple by 2035, according to the Bureau of Economic and Business Research (based on medium projections). In addition, US 27 will serve as the primary north-south corridor serving the Legoland theme park located on SR 540. Legoland is a major attraction planned to open in October 2011. US 27 will also serve north and southbound traffic in route to and from the new Polk State Corporate College located along State Road 60, west of Rifle Range Road and the new USF Polytechnic campus located in the southwest quadrant of I-4 and the Polk Parkway.

EXISTING AND FUTURE POPULATION AND EMPLOYMENT GROWTH (2006 TO 2035)  
2006 2035 Growth  
Population 8,939 17,684 8,745  
Employment 5,359 16,456 11,097

Modal Interrelationships (Freight Mobility) - Reflecting the importance of the facility to freight mobility, traffic counts showed that approximately 19% of those vehicles were trucks. Industrial employment in the TAZs adjacent to the project limits is projected to grow from 3,586 in 2006 to 5,661 in 2035. This increase in industrial employment combined with the growth of the distribution and logistics industry in Polk County, including major new facilities like the CSX Transportation Integrated Logistics Center planned in Winter Haven, will contribute to increased truck traffic in the US 27 corridor. Widening of this roadway will improve traffic flow for slow moving trucks and will also help accommodate expected growth in freight traffic.

Area Wide Network/System Linkage - US 27 is a facility on the Florida Intrastate Highway System and Strategic Intermodal System. It is a major north-south arterial connecting a number of municipalities in Highlands and Polk counties in the immediate project area and other counties along this statewide corridor. North-south arterials are few in this part of the state.

US 27 from the southern terminus of this project southward into central Highlands County is scheduled for construction this year (2011) that will widen the roadway to a six-lane divided arterial. US 27 is also a six-lane divided arterial from the northern terminus of this project northward to State Road 540, just east of the future Legoland them park. This project will bring continuity to the 6-lane divided roadway cross section of US 27 extending south and north of the respective project limits.



This section of US 27 is an important part of the regional transportation network serving the area and is anticipated to become of even greater importance as newly planned facilities are completed, including the CSX Transportation Integrated Logistics Facility in Winter Haven, Legoland theme park, USF Polytechnic campus and Polk State Corporate College. These new developments are anticipated to draw employees, tourists and students from all directions, thus further straining the vehicular capacity of US 27. Also, the planned Central Polk Parkway is a limited access highway that will form a loop from the Polk Parkway to I-4. It will include an interchange at US 27, just north of the northern project terminus, allowing motorists to more convenient access to existing and planned major facilities in this area of Polk County.

Emergency Evacuation - US 27 is designated as a hurricane evacuation route by the Florida Division of Emergency Management. This facility is critical in evacuating residents in southern Polk County and northern Highlands County. The proposed improvement will enhance accessibility to other major evacuation routes such as SR 64 and US 98, increase the volume of traffic that can be evacuated during an emergency event, and improve emergency response times.

### **Alternatives Under Consideration**

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There is only one alternative for the proposed project. The total length of the project equals 18.816 miles divided into four segments for planning and evaluation purposes: S-001 through S-004. Details on these 4 segments are as follows:

- S-001: From the Polk / Highlands County line to SR-17 (Scenic Highway) - 2.58 miles
- S-002: From SR-17 (Scenic Highway) to CR-630A - 4.27 miles
- S-003: From CR-630A to CR-640 (Alturas-Babson Cutoff) - 8.05 miles)
- S-004: From CR-640 (Alturas-Babson Cutoff) to SR-60 (3.94 miles)

### **Summary of Public Comments**

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Public outreach activities will be conducted during the Project Development phase.

### **Consistency**

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CONSISTENT with Coastal Zone Management Program.

- Consistent with Air Quality Conformity.
- Consistent with Local Government Comp Plan.
- Consistent with MPO Goals and Objectives.





**Required District Responses Under ETDM**

**Purpose and Need Statement**

Understood (without comments)

**Coastal and Marine**

<b>Degree of Effect:</b>	<input checked="" type="checkbox"/> <b>None</b>	Minimal	Moderate	Substantial
	Enhanced	N/A No Involvement		Potential Dispute

<b>Coordination Document:</b>	<input checked="" type="checkbox"/> <b>No Involvement</b>	PD&E Support Document	Permit Required
	Tech Memo Required	To Be Determined: Further Coordination Required	

**Identify Resources and level of importance:**

None

**Comment on effects to resources:**

None

**Additional Comments:**

None

**“Downstairs Comments” – for SFWMD staff only (not to be uploaded to the EST)**

None



**Contaminated Sites**

<b>Degree of Effect:</b>	None	Minimal	<b>X Moderate</b>	Substantial
	Enhanced	N/A No Involvement		Potential Dispute

<b>Coordination Document:</b>	No Involvement	PD&E Support Document	Permit Required
	Tech Memo Required	<b>X To Be Determined: Further Coordination Required</b>	

**Identify Resources and level of importance:**

Information regarding proposed off-site stormwater management facilities will not be available until after the subsequent PD&E and design phases of this project. Therefore, the SWFWMD utilized the FDOT's Environmental Screening Tool - EST (supplemented with information from the SWFWMD's Geographic Information System - GIS) for identifying potential contaminated sites that may affect subsequent Environmental Resource Permits (ERPs) for the FDOT. During July, 2012, the SWFWMD requested that FDOT update the EST analysis of this project. After updating, the facilities of concern within 200 feet of this US-27 project include (but are not limited to) the following:

- Brownfield Areas: One (1) contaminated area
- Hazardous Waste Facilities: Five (5) facilities.
- Petroleum Contamination Monitoring Sites: Twelve (12) facilities.
- Storage Tank Contamination Monitoring: Eleven (11) facilities.
- Super Act Risk Sources: Seven (7) facilities.

Detailed information regarding known contaminated sites can be obtained from the appropriate GIS themes / layers in the EST. In view of the current / past land uses in the project area, there may be other (unknown) contaminated sites.

Contamination sites (or potential contamination sites) of particular interest to the SWFWMD include the following:

- The designated Brownfield Area located immediately south of the south terminus of the project which extends along, and in the vicinity of, US 27 in Highlands County.
- The twelve (12) Petroleum Contamination Monitoring Sites.
- The existing ethylene dibromide (EDB) areas within segments S-002 (N.E. of Lake Streety) and S-004 (near Hunt Brothers Road, Meyers Road and SR-60). These EDB sites are generally located within current / former citrus groves.
- The existing railroad underpass within segment S-002.
- Other current / past commercial, industrial and agricultural activities near the proposed project.

From the SWFWMD's Geographic Information System (GIS), one (1) reported sinkhole was identified within the one (1) mile buffer of US-27 as follows:

- Sink ID #1356, 508 Keen Park Road - Frostproof, Latitude 27-45-22, Longitude 81-34-23

In addition seven (7) Subsidence Incident Report locations were noted as follows within the same one (1) mile buffer:

- Reference ID #16-851, Southern Pines MHP, 1600 Hwy 630, Frostproof, Latitude 27.7502 Longitude 81.585503
- Reference ID 16-718, Latitude 27.756111, Longitude 81.573056
- Reference ID #16-102, Latitude 27.762222, Longitude 81.574722
- Reference ID #16-852, SB US 27 at County Road 640 (Alturas Babson Park Cutoff), Lake Wales, Florida Latitude 27.8428, Longitude 81.586197



- Reference ID #16-855, US 27, Lake Wales, Latitude 27.8475, Longitude 81.585297
- Reference ID #16-854, Meyers Road, US 27, Lake Wales, Latitude 27.861, Longitude - 81.588997
- Reference ID #16-850, 264 Stuart Ave, Lake Wales Latitude 27.9019, Longitude 81.5865

Regionally, the pollution potential of the Floridan Aquifer is moderate to high as indicated by DRASTIC scores between 73 and 133 within the 100-foot to 200-foot buffer area with the higher scores occurring in segments S-003 and S-004. The pollution potential of the intact intermediate aquifer is lower, with DRASTIC scores ranging between 52 and 92 with the higher scores occurring in S-003 and S-004. This aquifer may be absent in some local areas within 200 feet of the project. The DRASTIC score for the intact surficial aquifer is the highest of the three aquifers and ranges from 164 to 192. Where present, this aquifer system would be the most vulnerable to pollution; however, it may be locally absent within the 200-foot buffer area. The FAVA vulnerability response classifies the majority of the area occupied by the three aquifers of the aquifer system in the area as “most vulnerable.”

**Comment on effects to resources:**

If encountered and disturbed during construction, any contaminated site could result in surface and / or groundwater water pollution. While the roadway widening footprint may not directly impact contaminated sites, proposed surface water management systems and other project construction activities should avoid these areas.

**Additional Comments:**

The SWFWMD has assigned a Degree of Effect (DOE) based on the potential need for increased coordination or effort associated with the SWFWMD’s proprietary or regulatory interests and obligations. For this US-27 project, a DOE of “moderate” was assigned to this issue due to the present belief that future ERP permitting is expected to be non-routine for:

- Potential pollution sources (particularly petroleum / storage tank contamination).
- Nearby sinkhole(s) and / or Subsidence Incident Reports.
- High DRASTIC scores of the intact surficial Aquifer.
- FAVA classification of “More Vulnerable” for the majority of the area occupied by the three aquifers.

However, the expected permitting effort by FDOT should be straight forward and a normal effort is expected on the part of SWFWMD’s regulatory staff.

To minimize groundwater and surface water pollution potential, the following actions should be considered by the FDOT:

- Conduct an Environmental Audit at the appropriate level to identify specific facilities of interest and to develop a plan for their proper removal or abandonment (with particular attention to current / past agricultural areas along the proposed alignment);
- Coordinate with FDEP & USEPA, and prepare an appropriate Contamination Assessment Report;
- Avoid known contaminated sites where possible in the selection of the project alignment. If discovered during the recommended soils investigation, contamination should be remediated properly so as to eliminate the potential for ground water contamination;
- If applicable, avoid / minimize all construction activity in proximity to known sinkholes and / or Subsidence Incident Reports along or near the project’s alignment;
- Confirm the presence or absence of existing potable supply wells, both public and domestic (refer to the GIS well information below), and identify precisely all potential sources of contamination within the path of construction or in proximity of the proposed surface water management systems;
- Thoroughly evaluate potential stormwater treatment pond sites for the presence of contamination and eliminate contaminated sites as potential pond sites;
- Design and construct stormwater management facilities to avoid breaching the upper confining unit;



- Temporary drainage & erosion control through areas of potential contamination may be important considerations for the FDOT and their construction contractor.

Contamination sources such as existing fuel storage tanks, fuel pumps, and septic tanks shall be removed or abandoned properly. In addition, existing wells in the path of construction shall be properly plugged and abandoned by a licensed well contractor – Reference: Rule 40D-4.381(1)(i), Florida Administrative Code, available at <http://www.swfwmd.state.fl.us/permits/rules/>.

Water use and well construction information is now available in the EST under Contaminated Sites > Permits > SWFWMD Well Construction Permits. Useful information includes the permit number, name of the permittee, well casing diameter(s), street address of the well(s), well driller name and the approximate location(s) by latitude / longitude. As of July, 2012, the EST indicated one-hundred-ninety-six (196) permits had been issued within the 200 foot buffer of this US-27 project. Similar information can be obtained from the SWFWMD's Permits Map Viewer, Well Construction Permit Search and Water Use Permit Search web sites as follows:

<http://www8.swfwmd.state.fl.us/ExternalPermitting/>

<http://www18.swfwmd.state.fl.us/search/search/wcpsimple.aspx>

<http://www18.swfwmd.state.fl.us/search/search/searchwupsimple.aspx>

Additional information on the Florida Aquifer Vulnerability Assessment (FAVA) can be obtained at the following web addresses:

<http://www.dep.state.fl.us/geology/programs/hydrogeology/fava.htm>

[http://www.dep.state.fl.us/geology/programs/hydrogeology/fava\\_gis\\_data.htm](http://www.dep.state.fl.us/geology/programs/hydrogeology/fava_gis_data.htm)

<http://www.dep.state.fl.us/swapp/documents/Florida%20Aquifer%20Vulnerability%20Assessment.pdf>

[http://suwanneehi.ifas.ufl.edu/documents/FAVA\\_REPORT\\_MASTER\\_DOC\\_3-21-05.pdf](http://suwanneehi.ifas.ufl.edu/documents/FAVA_REPORT_MASTER_DOC_3-21-05.pdf)

**“Downstairs Comments” – for SWFWMD staff only (not to be uploaded to the EST)**

Previous (09/08/11) Programming Screen information on “Contaminated sites” can be found in the *Screening Summary Report* of the public Environmental Screening Tool (EST), available at:

<https://etdmpub.fl.a-estat.org/est/>

The *Screening Summary Report* provides information from:

- All of the commenting agencies (including SWFWMD's consultant).
- The Coordinator's (FDOT, D1's) compiled summary & recommended Degree of Effect (i.e. potential impacts to the resource due to the proposed FDOT project).





**Floodplains**

<b>Degree of Effect:</b>	None	Minimal	<b>X Moderate</b>	Substantial
	Enhanced	N/A No Involvement		Potential Dispute

<b>Coordination Document:</b>	No Involvement	PD&E Support Document	<b>X Permit Required</b>
	Tech Memo Required	To Be Determined: Further Coordination Required	

**Identify Resources and level of importance:**

The following information was obtained from the FDOT’s Environmental Screening Tool (EST) and supplemented with information from the SWFWMD’s Geographic Information System (GIS):

The total length of the US-27 project equals 18.816 miles divided into four segments for planning and evaluation purposes. Details on these 4 segments are as follows:

S-001: From the Polk / Highlands County line to SR-17 (Scenic Highway) - 2.58 miles

S-002: From SR-17 (Scenic Highway) to CR-630A - 4.27 miles

S-003: From CR-630A to CR-640 (Alturas-Babson Cutoff) - 8.05 miles

S-004: From CR-640 (Alturas-Babson Cutoff) to SR-60 - 3.94 miles

An approximate (graphical) location of these Segments can be viewed within the EST.

The public EST can be accessed at <https://etdmpub.fl.a-etat.org/est/>

The SWFWMD’s public GIS can be accessed at <http://www.swfwmd.state.fl.us/data/>

and <http://www8.swfwmd.state.fl.us/GeneralMapView/>

Flood Insurance Rate Map (FIRM) areas of interest for the US-27 project (within the 200 foot buffer) includes the following:

**Segment S-001:**

- Zone A: representing approximately twelve (12) % of Segment S-001 within the 200 foot buffer. These Zone A estimates are primarily located near the south terminus of the project, on a cross drain tributary of Lake Livingston and west & south of South Avon Park Cutoff Road.
- Zone X and X500: representing approximately eighty-eight (88) % of the Segment within the 200 foot buffer.

An approximate (graphical) location of these FEMA Zones can be viewed within the EST.

**Segment S-002:**

- Zone A: representing approximately five (5) % of Segment S-002 within the 200 foot buffer. These Zone A estimates are sporadically located throughout the Segment length, with the greatest concentration in the northern ½ of the Segment.
- Zone X and X500: representing approximately ninety-five (95) % of the Segment length within the 200 foot buffer.

An approximate (graphical) location of these FEMA Zones can be viewed within the EST.

**Segment S-003:**

- Zone A: representing approximately one (1) % of Segment S-003 within the 200 foot buffer. These Zone A estimates are sporadically located in the southern portion of the Segment.
- Zone AE: representing approximately forty (40) % of Segment S-003 within the 200 foot buffer. These Zone AE designations are associated with Cooked Lake and Little Crooked Lake for a significant distance along this Segment.
- Zone X and X500: representing approximately fifty-nine (59) % of the Segment within the 200 foot buffer.

An approximate (graphical) location of these FEMA Zones can be viewed within the EST.



**Segment S-004:**

- Zone A: representing approximately eight (8) % of Segment S-004 within the 200 foot buffer. These Zone A estimates are sporadically located along the entire length of the Segment.
- Zone AE: representing less than one (1) % of the Segment within the 200 foot buffer. This Zone AE designation is associated with Lake Altamaha near the north end of S-004.
- Zone X: representing approximately ninety-two (92) % of Segment S-004 within the 200 foot buffer.

An approximate (graphical) location of these FEMA Zones can be viewed within the EST.

As of August, 2012, the following FIRM Panel Numbers for the US-27 project (from south to north) can be obtained from the FEMA Map Service Center at:

<https://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView?storeId=10001&catalogId=10001&langId=-1>

Panel # 1201110025B: Date of issue – 02/16/83 (Highlands County)

Panel # 12105C0945F: Date of issue – 12/20/00 (Polk County)

Panel # 12105C0935F: Date of issue – 12/20/00 (Polk County)

Panel # 12105C0950F: Date of issue – 12/20/00 (Polk County)

Panel # 12105C0740F: Date of issue – 12/20/00 (Polk County)

Panel # 12105C0745F: Date of issue – 12/20/00 (Polk County)

Panel # 12105C0730F: Date of issue – 12/20/00 (Polk County)

Panel # 12105C0565G: Date of issue – 11/19/03 (Polk County)

**Comment on effects to resources:**

Potential impacts for the US-27 project will depend upon the required filling, encroachment or alteration of existing (or future) Zone A & AE Floodplains, Historic Basin Storage areas and (if applicable) Floodways.

**Additional Comments:**

The SWFWMD has assigned a Degree of Effect based on the potential need for increased coordination or effort associated with the SWFWMD's proprietary or regulatory interests and obligations. For this US-27 project, a DOE of "Moderate" was assigned to this issue due to the present belief that future ERP permitting is expected to be non-routine for expected impacts to existing (or future) Zone A & AE floodplains within the proposed project area, especially within:

- Segment S-003 through the Crooked Lake area.
- Segment S-004 that is adjacent to the Peace Creek Drainage Canal watershed.

However, the expected permitting effort by FDOT should be straight forward and a normal effort is expected on the part of SWFWMD's regulatory staff.

SWFWMD supported Watershed Management Models are generally based on more recent land cover and topographic information. The SWFWMD recommends that the FDOT utilize data from these flood studies in preference to generalized information on flows and stages. FDOT should coordinate with District Engineering & Watershed Management Section staff in Brooksville regarding the status & data availability of these Watershed Management Models. Ongoing / future SWFWMD studies (within ½ mile of US-27) that may be helpful in the PD&E and design phase include the following:

Project Number: L353  
Project Name: WMP – Polk – Lakes Crooked, Clinch and Reedy Watersheds  
Area(s) of Responsibility: Flood Protection / Floodplain Management  
Project Status: Cancelled  
Project Manager: Mr. Frank Ritchie



Project Number: K734  
Project Name: Lake Wales WM Plan  
Area(s) of Responsibility: Flood Protection / Floodplain Management and Water Quality / Water Quality Maintenance & Improvement  
Project Status: **Complete**  
Project Manager: Mr. Frank Ritchie

Project Number: H034  
Project Name: Peace Creek Canal Watershed  
Area(s) of Responsibility: Flood Protection / Floodplain Management  
Project Status: **Proposed**  
Project Manager: Mr. Frank Ritchie

Project Number: H024  
Project Name: Identify Other Surface Water Storage & Release Options to Meet Peace River MFLs  
Area(s) of Responsibility: Natural Systems / Minimum Flows & Levels Recovery  
Project Status: **Complete**  
Project Manager: Ms. Dawn Turner

If available, floodplain information developed through these studies can be viewed through the SWFWMD's "Floodplain Map Viewer" at <http://www.swfwmd.state.fl.us/projects/wmp/>. As of July, 2012, no information was available the "Floodplain Map Viewer". Proposed stormwater management systems by FDOT may necessitate updates to the current or proposed Watershed Management Models.

Filling within any floodplain, floodway or historic basin storage area may decrease stormwater storage which could increase flooding depth and duration. The SWFWMD will require compensation for fill (or other encroachments) into floodplains, floodways and historic basin storage areas up to the 100-year event if such encroachment(s) will adversely affect conveyance, storage, water quality or adjacent lands (Reference: Sections 4.4 and 4.7 of the District's ERP "Basis of Review", available at <http://www.swfwmd.state.fl.us/permits/rules>).

The FDOT may reduce the degree of effect for flooding by:

- restricting the filling / encroachment into floodplain, floodway and historic basin storage areas to only those areas that are necessary;
- constructing stormwater treatment ponds outside floodplain, floodway and historic basin storage areas;
- providing equivalent compensation for lost floodplain, floodway and historic basin storage.

The SWFWMD recommends that the FDOT quantify floodplain, floodway and historic impacts based on existing or special basin hydrologic studies. Roadway modification improvements may also affect existing cross drainage / bridge facilities along the entire length of the US-27 project. Additional bridge hydraulics reports should be prepared (if applicable) and submitted with the Environmental Resource Permit application.

**"Downstairs Comments" – for SWFWMD staff only (not to be uploaded to the EST)**

Previous (09/08/11) Programming Screen information on "Floodplains" can be found in the *Screening Summary Report* of the public Environmental Screening Tool (EST), available at: <https://etdmpub.fl.a-etat.org/est/>

The *Screening Summary Report* provides information from:

- All of the commenting agencies (including SWFWMD's consultant).
- The Coordinator's (FDOT, D1's) compiled summary & recommended Degree of Effect (i.e. potential impacts to the resource due to the proposed FDOT project).



**Historic and Archaeological Sites**

<b>Degree of Effect:</b>	None	<b>X Minimal</b>	Moderate	Substantial
	Enhanced	N/A No Involvement		Potential Dispute

<b>Coordination Document:</b>	No Involvement	PD&E Support Document	Permit Required
	Tech Memo Required	<b>X To Be Determined: Further Coordination Required</b>	

**Identify Resources and level of importance:**

SWFWMD's responsibility in the ETDM review process is to identify only those historical and archeological sites located on District owned/controlled lands. From the SWFWMD's Geographic Information System (GIS), the District owns the following lands within Segment S-003 of the US-27 project (west of Crooked Lake):

- The 3,508 +/- Acre "Crooked Lake West – Stuart Tract", located immediately adjacent to the east & west sides of US-27.
- The 77 +/- Acre "Britt Tract", located immediately adjacent to the west side of US-27.

An approximate (graphical) location of these two (2) tracts can be viewed within the EST under the "Special Designations" map and > *Conservation* > *Public Lands* layer.

Upon re-analysis of the US-27 project (under the EST's "Historic & Archaeological" map); it does not appear that Historic & Archaeological sites will be impacted within these two (2) parcels owned by the SWFWMD. It should also be noted, however, that impacts to all historical and archeological sites shall be considered in evaluation of the application for an environmental resource permit (refer to the "Additional Comments" section below).

**Comment on effects to resources:**

If historical or archeological artifacts are discovered at any time on the two (2) parcels owned by the SWFWMD, the FDOT shall immediately notify the District and the Florida Department of State Division of Historic Resources Reference: Rule 40D-4.381(1)(w) F.A.C.

**Additional Comments:**

It is SWFWMD's understanding that FDOT requests comments from SWFWMD on historical or archeological resources through the ETDM process only when those resources are located on lands owned by SWFWMD. Thus, the Degree of Effect of "minimal" is based solely on the potential need for increased coordination or effort associated with the SWFWMD's proprietary interests and obligations. Additional coordination and evaluation of potential impacts to historical and archeological resources, regardless of land ownership, will occur as part of the environmental resource permitting process.

Pursuant to Rule 40D-4.302, F.A.C. (Additional Conditions for Issuance of Permits), applicants must provide reasonable assurance that proposed activities will not be contrary to the public interest, or if such an activity significantly degrades or is within an Outstanding Florida Water, that the activity will be clearly in the public interest. One of the factors considered in this determination is whether the activity will adversely affect or will enhance significant historical and archeological resources under the provisions of Section 267.061, F.S.





Pursuant to Section 3.2.7.c of the District's ERP "Basis of Review" (available at <http://www/permits/rules/>), the District will review proposed secondary impacts to historical and archeological resources as part of an ERP application by the FDOT. All reasonable effort should be made to avoid impacts to significant historical and archeological resources.

**"Downstairs Comments" – for SWFWMD staff only (not to be uploaded to the EST)**

Previous (09/08/11) Programming Screen information on "Historic and Archaeological Sites" can be found in the *Screening Summary Report* of the public Environmental Screening Tool (EST), available at:

<https://etdmpub.fla-etat.org/est/>

The *Screening Summary Report* provides information from:

- All of the commenting agencies (including SWFWMD's consultant).
- The Coordinator's (FDOT, D1's) compiled summary & recommended Degree of Effect (i.e. potential impacts to the resource due to the proposed FDOT project).



**Infrastructure**

<b>Degree of Effect:</b>	None	Minimal	<b>X Moderate</b>	Substantial
	Enhanced	N/A No Involvement		Potential Dispute

<b>Coordination Document:</b>	No Involvement	PD&E Support Document	Permit Required
	Tech Memo Required	<b>X To Be Determined: Further Coordination Required</b>	

**Identify Resources and level of importance:**

From the SWFWMD's Geographic Information System (GIS), the District owns the following lands within Segment S-003 of the US-27 project (west of Crooked Lake):

- The 3,508 +/- Acre "Crooked Lake West – Stuart Tract", located immediately adjacent to the east & west sides of US-27.
- The 77 +/- Acre "Britt Tract", located immediately adjacent to the west side of US-27.

An approximate (graphical) location of these two (2) tracts can be viewed within the EST under the "Special Designations" map and > *Conservation* > *Public Lands* layer.

The following information (regarding SWFWMD owned / controlled / cooperative data collection sites) was obtained from the SWFWMD's GIS system, and was analyzed for information within 500 feet of the US-27 project:

SITE\_ID: 712291  
 SITE\_NAME: NORTHWEST INFLOW TO CROOKED LAKE  
 SITE\_TYPE\_DESC: Surface Water / Canal  
 STATUS\_DESC: Cancelled  
 AGENCY: SWFWMD / US Geological Survey  
 APPROX\_LAT: 27 49 21.26  
 APPROX\_LONG: 81 35 39.54

SITE\_ID: 23905  
 SITE\_NAME: LAKE ALTAMAHA  
 SITE\_TYPE\_DESC: Surface Water / Water Level  
 STATUS\_DESC: Active  
 AGENCY: SWFWMD  
 APPROX\_LAT: 27 53 23.30  
 APPROX\_LONG: 81 35 55.40

SITE\_ID: 711852  
 SITE\_NAME: CROOKED LAKE WEST INFLOW  
 SITE\_TYPE\_DESC: Surface Water / Canal  
 STATUS\_DESC: Cancelled  
 AGENCY: SWFWMD / US Geological Survey  
 APPROX\_LAT: 27 48 33.00  
 APPROX\_LONG: 81 35 49.00



SITE\_ID: 25542  
SITE\_NAME: STUART PARCEL NORTH CROOKED LAKE  
SITE\_TYPE\_DESC: Surface Water / Canal  
WELL\_STATUS\_DESC: Inactive  
AGENCY: SWFWMD  
APPROX\_LAT: 27 48 33.87  
APPROX\_LONG: 81 35 51.49

The SWFWMD has cooperative programs with NGS, FDEP and other local agencies to establish and maintain benchmarks throughout the District. The following Benchmarks are located near this proposed project:

- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5507](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5507)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5509](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5509)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5508](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5508)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5511](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5511)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5493](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5493)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=AF7606](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=AF7606)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5498](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5498)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5510](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5510)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5495](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5495)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5496](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5496)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5491](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5491)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5490](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5490)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5492](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5492)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5494](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5494)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5497](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5497)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5499](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5499)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5500](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5500)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5501](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5501)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5502](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5502)
- [http://www.ngs.noaa.gov/cgi-bin/ds\\_mark.prl?PidBox=DL5505](http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DL5505)

**Comment on effects to resources:**

Construction activities related to the project and associated surface water management facilities have the potential to damage the District's data collection stations or to impair their collection functions. Of heightened concern are active data collection sites and benchmarks noted previously.

**Additional Comments:**

The SWFWMD has assigned a Degree of Effect based on the potential need for increased coordination or effort associated with the SWFWMD's proprietary or regulatory interests and obligations. For this US-27 project, a DOE of "Moderate" was assigned to this issue due to the present belief that future ERP permitting is expected to be non-routine for expected impacts to District owned lands within the Segment S-003 (west of Crooked Lake). However, the expected permitting and proprietary efforts by FDOT should be straight forward and a normal effort is expected on the part of SWFWMD's regulatory staff.

If new Right-of-Way and / or construction easements are required to accommodate the US-27 widening project, FDOT should coordinate with the SWFWMD's Land Use Manager (in Brooksville) to



minimize impacts and to ensure that the purposes for which the property is managed are not impaired.

The SWFWMD requests that FDOT avoid disturbing data collection facilities or adjacent survey benchmarks. Coordination with the SWFWMD's Hydrologic Data and Survey Sections in Brooksville will be helpful in protecting these infrastructure components.

**“Downstairs Comments” – for SWFWMD staff only (not to be uploaded to the EST)**

Previous (09/08/11) Programming Screen information on “Infrastructure” can be found in the *Screening Summary Report* of the public Environmental Screening Tool (EST), available at:

<https://etdmpub.flw-etat.org/est/>

The *Screening Summary Report* provides information from:

- All of the commenting agencies (including SWFWMD's consultant).
- The Coordinator's (FDOT, D1's) compiled summary & recommended Degree of Effect (i.e. potential impacts to the resource due to the proposed FDOT project).





**Recreation Areas**

<b>Degree of Effect:</b>	None	<b>X Minimal</b>	Moderate	Substantial
	Enhanced	N/A No Involvement		Potential Dispute

<b>Coordination Document:</b>	No Involvement	PD&E Support Document	Permit Required
	Tech Memo Required	<b>X To Be Determined: Further Coordination Required</b>	

**Identify Resources and level of importance:**

SWFWMD's responsibility in the ETDM review process is to identify only those recreation sites located on District owned/controlled lands. From the SWFWMD's Geographic Information System (GIS), the District owns the following lands within Segment S-003 of the US-27 project (west of Crooked Lake):

- The 3,508 +/- Acre "Crooked Lake West – Stuart Tract", located immediately adjacent to the east & west sides of US-27.
- The 77 +/- Acre "Britt Tract", located immediately adjacent to the west side of US-27.

An approximate (graphical) location of these two (2) tracts can be viewed within the EST under the "Recreation Areas" map and > *Conservation* > *Public Lands* layer.

Upon re-analysis of the US-27 project (under the EST's "Recreation Areas" map); it does not appear that existing recreational uses will be impacted within these two (2) parcels owned by the SWFWMD. It should be noted, however, that impacts to all recreational areas shall be considered in evaluation of the application for an environmental resource permit (refer to the "Additional Comments" section below).

**Comment on effects to resources:**

The District purchases and manages land in order to protect water resources. As a result, the potential exists for future recreational opportunities on the Stuart and Britt Tracts. Wildlife, including Listed Species, that live on these lands is also protected / managed.

**Additional Comments:**

It is SWFWMD's understanding that FDOT requests comments from SWFWMD on potential recreational impacts only when those activities are located on lands owned by SWFWMD. Thus, the Degree of Effect of "minimal" is based solely on the potential need for increased coordination or effort associated with the SWFWMD's proprietary interests and obligations. Additional coordination and evaluation of potential impacts to recreational areas, regardless of land ownership, will occur as part of the environmental resource permitting process.

Pursuant to Rule 40D-4.302, F.A.C. (Additional Conditions for Issuance of Permits), applicants must provide reasonable assurance that proposed activities will not be contrary to the public interest, or if such an activity significantly degrades or is within an Outstanding Florida Water, that the activity will be clearly in the public interest. FDOT must provide reasonable assurance that the project will not be contrary to the public interest considering its effects on fishing or recreational values (Reference: Rule 40D-4.302(1)(a) F.A.C. and Section 3.2.3 of the District's ERP "Basis of Review" available at <http://www/permits/rules/>).



For the US-27 project, design accommodations should be included to eliminate or reduce potential impacts to public lands and recreational areas. FDOT is encouraged to contact the District Land Management Department (in Brooksville) regarding any District-owned or managed lands that may incur actual or potential impacts resulting from a project. If necessary, final design accommodations should be included to eliminate or reduce potential impacts to public lands and recreational areas.

**“Downstairs Comments” – for SWFWMD staff only (not to be uploaded to the EST)**

Previous (09/08/11) Programming Screen information on “Recreation Areas” can be found in the *Screening Summary Report* of the public Environmental Screening Tool (EST), available at: <https://etdmpub.flas-estat.org/est/>

The *Screening Summary Report* provides information from:

- All of the commenting agencies (including SWFWMD’s consultant).
- The Coordinator’s (FDOT, D1’s) compiled summary & recommended Degree of Effect (i.e. potential impacts to the resource due to the proposed FDOT project).



**Secondary and Cumulative Effects**

<b>Degree of Effect:</b>	None	Minimal	<b>X Moderate</b>	Substantial
	Enhanced	N/A No Involvement		Potential Dispute

<b>Coordination Document:</b>	No Involvement	PD&E Support Document	<b>X Permit Required</b>
	Tech Memo Required	To Be Determined: Further Coordination Required	

**Water Quality and Quantity**

**Comments on Effects:**

In the absence of stormwater treatment & attenuation for new impervious areas, the project has the potential to contribute to water quality & quantity impacts to down-gradient receiving systems.

**Recommended avoidance, minimization and mitigation measures:**

Compliance with existing permit requirements, the successful use of erosion and sediment control BMPs, and compliance with applicable TMDL and BMAP requirements will help assure that minimum water quality standards are met. Water quantity concerns will also be addressed during the ERP process. In general, limiting or otherwise offsetting encroachment on the ditches, channels, floodplains and floodways in the area can reduce quantity concerns. For groundwater resources, ensure that spillages of petroleum products and other chemicals do not occur during construction, and that stormwater treatment ponds do not intrude into the limerock or penetrate confining material of the aquifer system, either directly or by sinkhole formation. Low impact development strategies may help with water quality treatment as well as water quantity management.

**Recommended actions to improve at-risk resources:**

For surface water resources, reduce pollutant loads to the drainage features in the project area by treating stormwater runoff from currently untreated areas, by controlling erosion from the project site, by limiting activities in surface water, by protecting surface water from the introduction of oils, greases and fuel spillage from equipment, and by considering restoration strategies at construction sites. Low impact development strategies may help to limit secondary and cumulative impacts.

**Wetlands**

**Comments on Effects:**

The expansion of US 27 has the potential to impact the 25 foot defined wetland buffer as they relate to the creek/canal systems, wetland and surface water roadside ditches. The removal of the wetland buffer increases the possibility for secondary impacts to occur to the wetlands during and post-construction. It is reasonable to assume the widening of the roadway will result in increased traffic, which without the proper wetland buffer, escalates the risk of unanticipated wetland impacts.

**Recommended avoidance, minimization and mitigation measures:**

Maintaining the 25 foot average wetland buffer can greatly reduce the secondary impacts to the wetlands located within the project area. If the minimum 15 foot wetland buffer cannot be maintained throughout the project, a buffer planting plan, including shrubbery and other transitional species, can be utilized to discourage these secondary impacts.



**Recommended actions to improve at-risk resources:**

No additional comments.

**Wildlife and Habitat**

**Comments on Effects:**

The widening of US 27 from 4 lanes to 6 lanes has the potential to impact the habitats utilized by local and migrating wildlife. These impacts include the elimination and/or disturbance of foraging areas for foraging bird species. Depending on the type of bridges / cross-drains utilized to span the creeks/canals there is a potential to disrupt the existing wildlife crossings at these locations.

Located within the 1,320 and 5,280 foot buffers are three bald eagle nests (*Haliaeetus leucocephalus*). These nests were recorded as an active nest in 2008 and 2010, with the last annual update on the status of the nests in 2010. In addition to the bald eagle's nest, the uplands located within the 100 foot buffer to the 5,280 foot buffer have the potential to provide habitat to Florida Sandhill Cranes, woodstork, gopher frogs and black bears.

**Recommended avoidance, minimization and mitigation measures:**

While the proposed road widening is more than 660 feet away from the eagle nest, coordination with Florida Fish and Wildlife Conservation Commission may be required to be in compliance with the current Eagle Management Plan. Coordination with FFWCC for potential sandhill crane nesting sites may also be required after a wildlife survey of the proposed site is completed at the time of design

Excessive habitat damage can be eliminated by strictly limiting construction equipment to the road ROW and designated staging areas. Turbidity will be addressed in the ERP and can be reduced by the use and maintenance of effective stormwater pollution prevention and control measures that are appropriate to the terrain involved.

**Recommended actions to improve at-risk resources:**

No additional comments.

**“Downstairs Comments” – for SWFWMD staff only (not to be uploaded to the EST)**

Previous (09/08/11) Programming Screen information on “Secondary and Cumulative Effects” can be found in the *Screening Summary Report* of the public Environmental Screening Tool (EST), available at:

<https://etdmpub.flas-estat.org/est/>

The *Screening Summary Report* provides information from:

- All of the commenting agencies (including SWFWMD's consultant).
- The Coordinator's (FDOT, D1's) compiled summary & recommended Degree of Effect (i.e. potential impacts to the resource due to the proposed FDOT project).





**Special Designations**

<b>Degree of Effect:</b>	None	Minimal	<b>X Moderate</b>	Substantial
	Enhanced	N/A No Involvement		Potential Dispute

<b>Coordination Document:</b>	No Involvement	PD&E Support Document	<b>X Permit Required</b>
	Tech Memo Required	To Be Determined: Further Coordination Required	

**Identify Resources and level of importance:**

The following information was obtained from the FDOT’s Environmental Screening Tool (EST) and supplemented with information from the SWFWMD’s Geographic Information System (GIS):

The “Sunray / Hickory Lake South” parcel is immediately adjacent to the east side of Segment S-002 between US-27 and Hickory Lake and north & west of SR-17 (Scenic Highway). This 897 +/- acre site is part of the “*Lake Wales Ridge Ecosystem Florida Forever BOT Project*”.

The “Crooked Lake West” parcel is immediately adjacent to both the east & west side of Segment S-003 (west of Crooked Lake). This 11,185 +/- acre site is also part of the “*Lake Wales Ridge Ecosystem Florida Forever BOT Project*”. As previously noted in the “Infrastructure” portion of this report, the SWFWMD’s 3,508 +/- acre Stuart Tract and 77 +/- acre Britt Tract are part of this BOT project. The US-27 project passes through (or is immediately adjacent to) these SWFWMD owned parcels.

Crooked Lake is designated as an Outstanding Florida Water (OFW). At its closest point, the OFW designation is approximately 200 feet east of the US-27 centerline (within the SWFWMD’s Stuart Tract).

**Comment on effects to resources:**

The project may adversely affect water quality of Crooked Lake as a result of fugitive sedimentation during construction and as a result of untreated stormwater runoff from the completed project.

If the project is completed within the existing Right-of-Way (ROW), no additional encroachment on the lake and its associated wetlands will occur. However, ROW requirements are stated as being 126 feet to 212 feet, and the ROW in the vicinity of Crooked Lake ranges between approximately 150 feet to 190 feet, suggesting that additional ROW may be needed within Segment S-003. Additional ROW requirements may impact public lands on the west side of Crooked Lake, including the SWFWMD owned Stuart & Britt parcels.

There is the possibility that Sovereign Submerged Lands (SSL) may be involved with this project. Research of project land title records and information, and specific coordination with FDEP Division of State Lands, are needed to determine the location and extent of any such lands.

**Additional Comments:**

The SWFWMD has assigned a Degree of Effect based on the potential need for increased coordination or effort associated with the SWFWMD’s proprietary or regulatory interests and obligations. For this US-27 project, a DOE of “Moderate” was assigned to this issue due to the present belief that future ERP permitting is expected to be non-routine for potential impacts to the two (2) “*Lake Wales Ridge Ecosystem Florida Forever BOT Projects*” (within Segments S-002 & S-003) and for potential impacts to Crooked Lake (an OFW) within Segment S-003. However, the expected



permitting and proprietary efforts by FDOT should be straight forward and a normal effort is expected on the part of SWFWMD's regulatory staff.

If new Right-of-Way and / or construction easements are required to accommodate the US-27 widening project, FDOT should coordinate with the SWFWMD's Land Use Manager (in Brooksville) to minimize impacts and to ensure that the purposes for which the property is managed are not impaired.

**"Downstairs Comments" – for SWFWMD staff only (not to be uploaded to the EST)**

Previous (09/08/11) Programming Screen information on "Special Designations" can be found in the *Screening Summary Report* of the public Environmental Screening Tool (EST), available at: <https://etdmpub.flc-etat.org/est/>

The *Screening Summary Report* provides information from:

- All of the commenting agencies (including SWFWMD's consultant).
- The Coordinator's (FDOT, D1's) compiled summary & recommended Degree of Effect (i.e. potential impacts to the resource due to the proposed FDOT project).



**Water Quality and Quantity**

<b>Degree of Effect:</b>	None	Minimal	<b>X Moderate</b>	Substantial
	Enhanced	N/A No Involvement		Potential Dispute

<b>Coordination Document:</b>	No Involvement	PD&E Support Document	<b>X Permit Required</b>
	Tech Memo Required	To Be Determined: Further Coordination Required	

**Identify Resources and level of importance:**

**Water Quality:**

The following information was obtained from the FDOT's Environmental Screening Tool (EST) and supplemented with information from the SWFWMD's Geographic Information System (GIS):

The total length of the US-27 project equals 18.816 miles divided into four segments for planning and evaluation purposes. Details on these 4 segments are as follows:

- S-001: From the Polk / Highlands County line to SR-17 (Scenic Highway) - 2.58 miles
- S-002: From SR-17 (Scenic Highway) to CR-630A - 4.27 miles
- S-003: From CR-630A to CR-640 (Alturas-Babson Cutoff) - 8.05 miles
- S-004: From CR-640 (Alturas-Babson Cutoff) to SR-60 (3.94 miles)

An approximate (graphical) location of these Segments can be viewed within the EST.

The public EST can be accessed at <https://etdmpub.fl.a-etat.org/est/>

The SWFWMD's public GIS can be accessed at <http://www.swfwmd.state.fl.us/data/> and <http://www8.swfwmd.state.fl.us/GeneralMapView/>

Water Body Identification Numbers (WBIDs) for this US-27 project (within the 500 foot buffer) include:

- Lake Adelaide (WBID #1730D) adjacent to Segment S-001 at the southern terminus of the project.
- Lake Livingston Drain (WBID #1730F) within Segments S-001 and S-002 of the southern portion of the project.
- Lake Clinch Outlet (WBID #1706A) within Segments S-002 and S-003 near CR-630A.
- Crooked Lake Outlet (WBID #1663A) within Segment S-003.
- Crooked Lake (WBID #1663) within Segment S-003 near Lakeside Garden Circle.
- Peace Creek Tributary Canal (WBID #1613) within Segments S-002 and S-003 of the northern portion of the project.
- Lake Effie Outlet (WBID #1617) near the north terminus of the project.

An approximate (graphical) location of these WBIDs can be viewed within the EST.

During August, 2012, the following information was obtained from the FDEP regarding Impaired Water Assessments along the US-27 Project:

**Lake Adelaide (WBID #1730D)**, Group 4 (Kissimmee River), Lake Istokpoga Planning Unit, FDEP Central Regulatory District:

Selected Assessments for Cycle 2 (as of 11/02/10):

- Insufficient data (Assessment Category 3B) for Dissolved Oxygen.
- Insufficient data (Assessment Category 3B) for Fecal Coliform.
- Insufficient data (Assessment Category 3B) for Nutrients (Historic TSI).
- Insufficient data (Assessment Category 3B) for Nutrients (TSI Trend).
- Planning List (Assessment Category 3C) for Nutrients (TSI).



A Total Maximum Daily Load (TMDL) document was not available for this WBID.  
No Basin Management Action Plan (BMAP) was available for this WBID.

**Lake Livingston Drain (WBID #1730F)**, Group 4 (Kissimmee River), Lake Istokpoga Planning Unit, FDEP Central Regulatory District:

- No Assessment was available as of August, 2012 for WBID #1730F. A Cycle 2 assessment (as of 11/02/10) is available for the Parent WBID #1730 (Hickory Lake). Hickory Lake is verified impaired for Nutrients (TSI) and is located outside of the one mile buffer of US-27 on the east side of Segment S-002.

A Total Maximum Daily Load (TMDL) document was not available for this WBID.  
No Basin Management Action Plan (BMAP) was available for this WBID.

**Lake Clinch Outlet (WBID #1706A)**, Group 4 (Kissimmee River), Lake Istokpoga Planning Unit, FDEP Central Regulatory District:

- Assessment was incomplete as of August, 2012 for WBID #1706A. A Cycle 2 assessment (as of 11/02/10) is available for the Parent WBID #1706 (Lake Clinch). Lake Clinch is verified impaired for Nutrients (TSI) & Mercury (in fish tissue), and is located inside of the one mile buffer of US-27 on the east side of Segments S-002 and S-003.

A Total Maximum Daily Load (TMDL) document was not available for this WBID.  
No Basin Management Action Plan (BMAP) was available for this WBID.

**Crooked Lake Outlet (WBID #1663A)**, Group 4 (Kissimmee River), Lake Istokpoga Planning Unit, FDEP Central Regulatory District:

Selected Assessments for Cycle 2 (as of 11/02/10):

- Insufficient data (Assessment Category 3B) for Nutrients (TSI).
- No data (Assessment Category 3A) for Nutrients (Chlorophyll-a).
- No data (Assessment Category 3A) for Nutrients (Historic Chlorophyll-a).

A Total Maximum Daily Load (TMDL) document was not available for this WBID.  
No Basin Management Action Plan (BMAP) was available for this WBID.

**Crooked Lake (WBID #1663)**, Group 4 (Kissimmee River), Lake Istokpoga Planning Unit, FDEP Central Regulatory District:

Selected Assessments for Cycle 2 (as of 11/02/10):

- Verified Impaired (Assessment Category 5) for Mercury (in fish tissue).
- Planning list (Assessment Category 3C) for Nutrients (TSI Trend).
- Not Impaired (Assessment Category 2) for Nutrients (TSI).
- Not Impaired (Assessment Category 2) for Nutrients (Historic TSI).
- Not Impaired (Assessment Category 2) for Dissolved Oxygen.
- Insufficient data (Assessment Category 3B) for Fecal Coliform.

A Total Maximum Daily Load (TMDL) document was not available for this WBID.  
No Basin Management Action Plan (BMAP) was available for this WBID.

**Peace Creek Tributary Canal (WBID #1613)**, Group 3 (Sarasota Bay – Peace - Myakka), Upper Peace River Planning Unit, FDEP Southwest Regulatory District:

Selected Assessments for Cycle 2 (as of 01/15/10):

- **Verified Impaired (Assessment Category 5) for Dissolved Oxygen (Nutrients).**
- Planning list (Assessment Category 3C) for Fecal Coliform.
- Planning list (Assessment Category 3C) for Nutrients (Chlorophyll-a).
- Insufficient data (Assessment Category 3B) for Nutrients (Historic Chlorophyll-a).

Two (2) TMLD documents are available at the following FDEP web site:

<http://webapps.dep.state.fl.us/DearTmdl/dashboardAction.do?method=tmdlPermitDetailsAction&srcWbid=1613>

The first (February, 2006) document is entitled is entitled "TMDL for Fecal & Total Coliform in Upper & Middle Peace River Basin (WBIDs 1501A, 1580, 1613, 1623K and 1871)".





The second (February, 2006) FINAL document is entitled is entitled “*Final Peace River Basin, Florida Dissolved Oxygen, Nutrient, Turbidity and TSS TMDLs (WBIDs 1501A, 1497, 1623K, 1613, 1626, 1580, 1539, 1617, 1921, 1871)*”.

A Basin Management Action Plan (BMAP) was not available from the following FDEP web site:

<http://www.dep.state.fl.us/water/watersheds/bmap.htm>

However, the large scale BMAP graphic (dated June, 2012) from this web site indicates the BMAP activities are in progress for the Upper Peace River & Winter Haven Lakes. This is verified with the supporting table (dated 07/22/11) of ongoing BMAP activities within the FDEP’s Southwest District.

**Lake Effie Outlet (WBID #1617)**, Group 3 (Sarasota Bay – Peace - Myakka), Upper Peace River Planning Unit, FDEP Southwest Regulatory District:

Selected Assessments for Cycle 2 (as of 01/15/10):

- No data (Assessment Category 3A) for Nutrients (Chlorophyll-a).
- No data (Assessment Category 3A) for Nutrients (Historic Chlorophyll-a).

One (1) TMDL document is available at the following FDEP web site:

<http://webapps.dep.state.fl.us/DearTmdl/dashboardAction.do?method=tmdlPermitDetailsAction&srcWbid=1617>

This (February, 2006) FINAL document is entitled is entitled “*Final Peace River Basin, Florida Dissolved Oxygen, Nutrient, Turbidity and TSS TMDLs (WBIDs 1501A, 1497, 1623K, 1613, 1626, 1580, 1539, 1617, 1921, 1871)*”.

A Basin Management Action Plan (BMAP) was not available from the following FDEP web site:

<http://www.dep.state.fl.us/water/watersheds/bmap.htm>

However, the large scale BMAP graphic (dated June, 2012) from this web site indicates the BMAP activities are in progress for the Upper Peace River & Winter Haven Lakes. This is verified with the supporting table (dated 07/22/11) of ongoing BMAP activities within the FDEP’s Southwest District.

Assessment Category information (for the above 7 WBIDs) was obtained from the “Permits” tab of the FDEP’s TMDL Tracker, accessible at:

<http://webapps.dep.state.fl.us/DearTmdl/dashboardAction.do?method=dashboard#>

Assessment Category definitions can be found in Table 7.5 of FDEP’s “*2012 Integrated Water Quality Assessment for Florida*”, (May, 2012), available at:

<http://www.dep.state.fl.us/water/pubs.htm>

[http://www.dep.state.fl.us/water/docs/2012\\_integrated\\_report.pdf](http://www.dep.state.fl.us/water/docs/2012_integrated_report.pdf)

From Table 7.3 of this same report, it should be noted that Cycle 3 rotation assessments are scheduled to be completed as follows:

Group 1 Basins – 06/30/12

Group 2 Basins - 06/30/13

**Group 3 Basins – 06/13/14**

**Group 4 Basins – 06/30/15**

Group 5 Basins – 06/30/16

Total Maximum Daily Load (TMDL) information is available from the following FDEP web sites:

<http://www.dep.state.fl.us/water/basin411/default.htm>

[http://www.dep.state.fl.us/water/tmdl/final\\_tmdl.htm](http://www.dep.state.fl.us/water/tmdl/final_tmdl.htm)

[http://www.dep.state.fl.us/water/tmdl/repost\\_tmdl.htm](http://www.dep.state.fl.us/water/tmdl/repost_tmdl.htm)

[http://www.dep.state.fl.us/water/tmdl/draft\\_tmdl.htm](http://www.dep.state.fl.us/water/tmdl/draft_tmdl.htm)

Basin Management Action Plan (BMAP) information is available from the following FDEP web site:

<http://www.dep.state.fl.us/water/watersheds/bmap.htm>

Additional FDEP web links & gateways for impaired waters information (including new listings / delistings) are as follows:

<http://www.dep.state.fl.us/water/watersheds/assessment/vdlists.htm>



<http://www.dep.state.fl.us/water/watersheds/assessment/index.htm>  
<http://www.dep.state.fl.us/water/tmdl/index.htm>  
<http://ca.dep.state.fl.us/mapdirect/?focus=tmdlvi>  
<http://www.dep.state.fl.us/gis/>

**Water Quantity:**

Floodplain issues for the US-27 project were addressed in a previous section of this document.

From the 09/08/11 Programming Screen review of this US-27 project, the invert of the Crooked Lake structure is 120.0 ft NGVD 1929 (nearest tenth), with provisions for drop boards. Floodplain storage and runoff volume within the Crooked Lake and Clinch/Reedy drainage basins are important issues due to the limited capacity of the conveyance system connecting lakes Crooked, Clinch, Reedy, and Arbuckle.

**Comment on effects to resources:**

Water Quality:

Untreated or under-treated runoff generated by the US-27 project could impact the seven (7) watersheds (WBIDs) identified in the previous section. As of August, 2012, five (5) of these watersheds are not currently classified as “Verified impaired” (Assessment Category 5) by the FDEP. However, this could change in the future as development activities increase within these respective WBIDs. The SWFWMD recommends that FDOT participate as a stakeholder in future TMDL and BMAP activities by the FDEP.

Crooked Lake is designated as an Outstanding Florida Water (OFW). At its closest point, the OFW designation is approximately 200 feet east of the US-27 centerline (within the SWFWMD’s Stuart Tract). The Crooked Lake WBID (#1663) extends to within 430 +/- feet of the US-27 centerline within Segment S-003 (just south of Lakeside Garden Circle). These distances are approximate, and were obtained from the FDOT’s Environmental Screening Tool (EST) and the SWFWMD’s Geographic Information System (GIS).

Water Quantity:

Potential impacts from the US-27 project will depend upon the required filling, encroachment or alteration of existing Zone A & AE Floodplains, Historic Basin Storage areas and (if applicable) Floodways. Un-attenuated or under-attenuated runoff could cause flooding impacts to existing off-site stormwater management systems and drainage conveyance facilities.

**Additional Comments:**

The SWFWMD has assigned a Degree of Effect based on the potential need for increased coordination or effort associated with the SWFWMD’s proprietary or regulatory interests and obligations. For the US-27 project, a DOE of “Moderate” was assigned to this issue due to the present belief that future ERP permitting is expected to be non-routine for:

- Potential impacts to existing Zone A & AE floodplains within the proposed project area.
- Potential impacts to verified impaired waters within the Peace Creek Tributary Canal (WBID #1613)
- Potential impacts to the Outstanding Florida Waters within Crooked Lake.

However, the expected permitting effort by FDOT should be straight forward and a normal effort is expected on the part of SWFWMD’s regulatory staff.

The SWFWMD will require that stormwater management systems that discharge directly into Outstanding Florida Waters (OFWs) provide treatment for a volume 50 percent more than required for this project’s selected treatment systems (Reference: Section 5.2.e of the District’s ERP “Basis of Review” (BOR), available at <http://www.swfwmd.state.fl.us/permits/rules/>). Of particular interest will be



the proposed sediment & erosion controls adjacent to Crooked Lake (refer to Section 2.8.3 of the District's ERP "Basis of Review", available at <http://www/permits/rules/>).

As applicable, the SWFWMD will require that stormwater management systems that discharge directly or indirectly into waters not meeting standards, including impaired waters, provide a net improvement condition in the water body in terms of the pollutants that contribute to the water body's impairment. A higher level of treatment may be necessary (Reference: Section 3.3.1.4 of the District's ERP "Basis of Review", available at <http://www/permits/rules/>). If applicable, reductions in pollutant loading from stormwater runoff via stormwater treatment facilities or other BMPs will be required to implement future TMDLs and BMAPs should they be finalized and adopted.

If equivalent stormwater quality treatment is to be considered, the FDOT must reasonably demonstrate the following:

- The alternate, contributing areas are hydrologically equivalent to the new and existing, directly-connected impervious watershed areas that would otherwise contribute to the treatment system;
- The pollution source and loading characteristics are reasonably equivalent, and
- The treatment benefits occur in the same receiving waters and in the same general locality as the existing point(s) of discharge from the new project area.

It is recommended that the FDOT consider stormwater quality treatment together with water quality impacts to wetlands and other surface waters when designing the stormwater water management, components of this project.

Segment S-004 (and the north portion of Segment S-003) of the US-27 project is within the Charlotte Harbor Watershed of the SWFWMD's Surface Water Improvement and Management (SWIM) program. FDOT should coordinate with the SWFWMD's Surface Water Improvement and Management (SWIM) department in Tampa regarding the appropriate details & data availability. The nearest SWIM projects that may be of interest in the PD&E and design phase of this US-27 project include the following:

Project Number: H014  
Project Name: Stormwater Improvements – Water Quality – Lake Hancock Outfall Treatment System  
Area(s) of Responsibility: Water Quality / Water Quality Maintenance & Improvement  
Project Status: **Ongoing**  
Project Manager: Ms. Janie Hagberg

Project Number: W515  
Project Name: Lake Hancock Historical Water Quality  
Area(s) of Responsibility: Natural Systems / Water Quality  
Project Status: Complete  
Project Manager: Mr. Chris Anastasiou

There are other SWFWMD projects that may be of interest in the PD&E and design phase of the US-27 project. FDOT should coordinate with the SWFWMD's Environmental and / or Resource Evaluation Sections in Brooksville regarding the appropriate details & data availability for the following projects:

Project Number: B171  
Project Name: Lake Wales Ridge Public Lands Evaluation  
Area(s) of Responsibility: Natural Systems / Water Quality  
Project Status: Complete  
Project Manager: Mr. Keith Kolasa



Project Number: B196  
Project Name: Ridge Lakes Stormwater Improvement – BMP Evaluation  
Area(s) of Responsibility: Natural Systems / Water Quality  
Project Status: Complete  
Project Manager: Mr. Michael Peck

Project Number: B217  
Project Name: Stormwater Improvement, Water Quality - Avon Park, Dundee - Ridge Lakes  
Area(s) of Responsibility: Water Quality / Water Quality Maintenance & Improvement  
Project Status: **Ongoing**  
Project Manager: Mr. Michael Peck

Project Number: B225  
Project Name: Lake Wales Ridge Public Lands Evaluation  
Area(s) of Responsibility: Natural Systems / Water Supply  
Project Status: Completed  
Project Manager: Mr. Keith Kolasa

Project Number: N240  
Project Name: Stormwater improvements – Water Quality – Lake Wales (REDI)  
Area(s) of Responsibility: Water Quality / Water Quality Maintenance & Improvement  
Project Status: **Ongoing**  
Project Manager: Mr. Michael Peck

Specific studies that contain useful water quality and hydrologic information have been done by FDEP, the SWFWMD and the USGS. These reports can be accessed through the District's Library at <http://www15.swfwmd.state.fl.us/dbtw-wpd/mywebqbe/librarybasic.htm>. Type in the County or water body of interest, click on "Submit query" then click on the pull-down menu in the upper left and select "Record Display – Web."

The following information is provided for the SWFWMD's Minimum Flows and Levels (MFL) Program within 1.0 mile of the US-27 project:

Adopted MFLs:

- Peace River - Upper Segment – Low Level
- Lake Clinch
- Crooked Lake

Adopted Guidance Levels:

- Lake Adelaide
- Lake Streety
- Blue Lake
- Lake Tractor
- Lake Belle
- Lake Altamaha
- Twin Lakes (East & West)
- Lake Weader
- Lake Cooper
- Lake Effie

MFL reports are available at:

[http://www.swfwmd.state.fl.us/projects/mfl/mfl\\_reports.php](http://www.swfwmd.state.fl.us/projects/mfl/mfl_reports.php)

Guidance Level information is available at:

<https://www.flrules.org/gateway/ChapterHome.asp?Chapter=40D-8>

Filling within any floodplain, floodway or historic basin storage area may decrease stormwater storage which could increase flooding depth and duration. The SWFWMD will require compensation for fill (or other encroachments) into floodplains, floodways and historic basin storage areas up to the 100-year





event if such encroachment(s) will adversely affect conveyance, storage, water quality or adjacent lands (Reference: Sections 4.4 and 4.7 of the District's ERP "Basis of Review", available at <http://www.swfwmd.state.fl.us/permits/rules>).

The FDOT may reduce the degree of effect for flooding by:

- restricting the filling / encroachment into floodplain, floodway and historic basin storage areas to only those areas that are necessary;
- constructing stormwater treatment ponds outside floodplain, floodway and historic basin storage areas;
- providing equivalent compensation for lost floodplain, floodway and historic basin storage.

As previously noted in the "Floodplains" section of this document, the SWFWMD recommends that the FDOT quantify floodplain, floodway and historic impacts based on existing, future or special basin hydrologic studies.

Roadway widening improvements may also affect existing cross drainage facilities along the entire length of this US-27 project, or require additional cross drains. Additional / updated bridge hydraulics reports should be prepared (if applicable) and submitted with the Environmental Resource Permit application.

Impacts to existing permitted stormwater management systems may decrease performance in terms of flood management and stormwater treatment. Information on Environmental Resource Permits (ERPs), Storm Water Permits, Dredge & Fill Permits and Works of the District Permits is now available in the EST under Water Quality & Quantity > Permits. Useful (but limited) information includes the permit number, a short description of the project, name of the permittee, project acreage and an approximate location of the project (shown graphically). As of August, 2012, the EST indicated fifty-one (51) permits had been issued within 200 feet of this US-27 project. Similar information can be obtained from the SWFWMD's Permits Map Viewer and Environmental Resource Permit Search web sites as follows:

<http://www8.swfwmd.state.fl.us/ExternalPermitting/>

<http://www18.swfwmd.state.fl.us/erp/erp/search/ERPSearch.aspx>

Previous roadway permits that may be of interest to FDOT in the future PD&E and design phases of US-27 are as follows:

Within Segment S-001 (Polk / Highlands County line to SR-17 / Scenic Highway – 2.58 miles):

- 29106.000 and .001 (Environmental Resource Permit), SR25 / US-27 Like Isis Road to the Polk / Highlands County Line, FDOT, District One

Within Segment S-002 (SR-17 / Scenic Highway to CR-630A - 4.27 miles):

- 24682.000 (Environmental Resource Permit), SR-700, FDOT, District #1
- 28026.000 (Environmental Resource Permit), SR-17 from US-27 to CR-630A, FDOT, District One

Within Segment S-003 (CR-630A to CR-640 / Alturas-Babson Cutoff - 8.05 miles):

- 24682.000 (Environmental Resource Permit), SR-700, FDOT, District #1

Within Segment S-004 (CR-640 / Alturas-Babson Cutoff to SR-60 - 3.94 miles):

- No ERPs listed for the FDOT.

Water quantity concerns must be addressed for the project in accordance with Chapter 4 of the District's ERP "Basis of Review". This includes making provisions to allow runoff from up-gradient areas to be conveyed to down-gradient areas without adversely affecting the stage point or manner of discharge and without degrading water quality (refer to Section 4.8 of the District's "Basis of Review", available at <http://www.swfwmd.state.fl.us/permits/rules/>).

The District's ERP "Basis of Review" document describes design approaches and criteria that will provide reasonable assurances that the proposed surface water management systems will meet the conditions for issuance of an Environmental Resource Permit (ERP). Parameters frequently over or



under estimated include: seasonal high water levels, seasonal high groundwater table elevations, soil vertical & horizontal hydraulic conductivity, depth to the soil confining units, historic basin storage, floodplain storage, conveyance way hydraulic capacity, peak discharge rates and timing, tailwater conditions in the receiving system, total discharged volume, and off-site hydrograph timing impacts. Site-specific design data is preferable to “book values.”

The District recommends that the FDOT consider providing a pond siting report that addresses the above referenced design approaches and criteria. For those improvements that may affect existing cross drainage facilities, an updated bridge hydraulics report(s) should be prepared and submitted with the ERP application.

If this project will require the acquisition of new right-of-way areas, the current rule for eminent domain noticing is 40D-1.603(9), FAC and requires the applicant to provide the noticing to the affected property owners. Additionally, any issued permit may include special conditions prohibiting construction until the FDOT provides evidence of ownership and control.

For ETDM #3869, the District has assigned a pre-application file (**PA #398252**) for the purpose of tracking its participation in the ETDM review of this project. File **PA #399252** is maintained at the Bartow Service Office of the SWFWMD. Please refer to this pre-application file whenever contacting District regulatory staff regarding this project.

**“Downstairs Comments” – for SWFWMD staff only (not to be uploaded to the EST)**

The relationship between FDEP’s Planning and Verified Lists can be found in Rule 62-303.150, F.A.C. The definition of “Impaired Water” can be found in Rule 62-303.200(7), F.A.C. These rules are available at:

<http://www.dep.state.fl.us/water/rulesprog.htm#storm>

Previous (09/08/11) Programming Screen information on “Special Designations” can be found in the *Screening Summary Report* of the public Environmental Screening Tool (EST), available at:

<https://etdmpub.fl.a-etat.org/est/>

The *Screening Summary Report* provides information from:

- All of the commenting agencies (including SWFWMD’s consultant).
- The Coordinator’s (FDOT, D1’s) compiled summary & recommended Degree of Effect (i.e. potential impacts to the resource due to the proposed FDOT project).



**Wetlands**

<b>Degree of Effect:</b>	None	Minimal	<b>X Moderate</b>	Substantial
	Enhanced	N/A No Involvement		Potential Dispute

<b>Coordination Document:</b>	No Involvement	PD&E Support Document	<b>X Permit Required</b>
	Tech Memo Required	To Be Determined: Further Coordination Required	

**Identify Resources and level of importance:**

Wetland systems observed during field visits in June 2005 and April 2011 primarily consisted of small wetland systems, with the exception being the very large wetland and floodplain systems associated with Crooked Lake. Within the 100-foot project buffer, there are a total of 21 acres of potentially impacted wetlands. Segment S-003 has the highest acreage of potentially affected wetlands (9.57 acres) most of which are associated with the Crooked Lake system; Segment S-004 has the second highest acreage of potentially affected wetlands (4.97 acres) all of which are part of the Peace Creek Drainage Canal system; S-002 has 4.75 acres of potentially affected wetlands; these wetlands are generally associated with the Lakes Streety /Clinch / Livingston system. Segment S-001 has the lowest acreage of potentially affected wetlands (1.71 acres) which also are part of the Lakes Streety /Clinch / Livingston system. Within the 200-foot buffer, the acreage of potentially affected wetlands increases over 4 times to approximately 94 acres. Segment S-003 again is the most affected segment with half of the total wetlands acreage impacts (45 acres), and Segments S-001 & S-004 have approximately the same amount of affected wetland acreage at about 13 acres each. Segment S-002 has the second highest amount of potentially affected wetland acreage (23 acres).

While wetlands are scattered throughout the project corridor, they are particularly prevalent in the Crooked Lake area where US-27 bisects the Crooked Lake drainage basin. The lake parallels US-27 for 5.7 mi, and the roadway separates the lake from the herbaceous and shrubby wetlands that formerly constituted the western portion of the lake. The lake-to-wetland connection now is comprised of canals passing under US-27 to the lake on the east side of the roadway. Between the roadway and the lake basin, there are also extensive herbaceous and shrubby wetlands associated with Crooked Lake. Other important wetland areas along the project corridor include: the Blue Lake Outlet north of Babson Park; stream crossing and wetlands southwest of Lake Clinch at 0.68 mi south of CR-630; the Lake Streety Canal at 0.5mi north of the US-27 / SR-17 intersection; and the wetlands on the west side of Lake Livingston.

Several species of Listed wetland dependant species were observed within the project limits, including the Florida sandhill crane (nesting) (ST), little blue heron (SSC), snowy egret (SSC), white ibis (SSC), and woodstork (FE). The entire project is located in a recognized Woodstork Core Foraging Area.

**Comment on effects to resources:**

Additional property may be required for the widening of US-27. Therefore, the project may adversely impact wetlands outside of the existing ROW as a result of direct encroachment, hydrologic disruption, and significant physical disturbance. Temporary impacts during construction, such as turbidity, damage to plants, and noise may also occur.

The creeks and canals that cross under US-27 will most likely require replacement or modification to the existing bridges and box culverts to handle the additional lanes of traffic. For the majority of the canals connected under the road, the impacts may be viewed as surface water impacts. However, the creeks will require additional assessments since the system may be classified as wetlands. The



widening of the bridges will result in shadowing impacts in addition to the direct wetland impacts from the structure.

Impacts to wetlands and uplands on District-owned Lands and to other public lands are possible but are subject to a longer review process during the permitting phase of construction.

The construction / alteration of stormwater facilities adjacent to wetlands, particularly forested wetlands, could intercept groundwater and surface water that has historically maintained wetland hydroperiods. Such wetlands may be dewatered and altered, with impacts to wetland vegetation communities, habitat, and wildlife populations.

#### **Additional Comments:**

The SWFWMD has assigned a Degree of Effect based on the potential need for increased coordination or effort associated with the SWFWMD's proprietary or regulatory interests and obligations. For this project, a DOE of "Moderate" was assigned to this issue due to the fact the vegetated ditch and wetlands will need to be delineated, quantified, and labeled on the construction plans as part of the permit review. However, the expected permitting effort by FDOT should be straight forward and a normal effort is expected on the part of SWFWMD's regulatory staff. Wetland mitigation may be required to offset the potential impacts to the wetlands located within the proposed ROW. In addition, water quality will need to be addressed to offset the impacts to the existing vegetation.

The District will require a delineation of the landward extent of wetland and surface water features by a qualified environmental scientist, pursuant to Chapter 62-340, F.A.C. The District recommends that the FDOT submit a Formal Wetland Determination Petition prior to the ERP application submittal.

The majority of the surface water impacts will have a de minimis impact on fish and wildlife habitat; therefore, wetland mitigation would not be required to offset the impacts. For the wetland impacts and the impacts to the creeks: an analysis utilizing the Uniform Mitigation Assessment Method (UMAM) will be required to determine the required wetland mitigation. The proposed road project is located within the service area for Boran Ranch and the Peace River Mitigation Banks; therefore, coordination with these mitigation banks may be needed during the permit application process if the proper type of mitigation credits is available. If not, other mitigation options will need to be assessed to properly offset the impacts.

For ETDM #3869, the District has assigned a pre-application file (**PA# 398252**) for the purpose of tracking its participation in the ETDM review of this project. File **PA# 398252** is maintained at the Bartow Service Office of the SWFWMD. Please refer to this pre-application file whenever contacting District regulatory staff regarding this project.

#### **"Downstairs Comments" – for SWFWMD staff only (not to be uploaded to the EST)**

This section discusses only wetland wildlife and wetland habitat; upland wildlife is discussed in the section on Wildlife and Habitat, below.

Previous (09/08/11) Programming Screen information on "Wetlands" can be found in the *Screening Summary Report* of the public Environmental Screening Tool (EST), available at: <https://etdmpub.flas-estat.org/est/>

The *Screening Summary Report* provides information from:

- All of the commenting agencies (including SWFWMD's consultant).
- The Coordinator's (FDOT, D1's) compiled summary & recommended Degree of Effect (i.e. potential impacts to the resource due to the proposed FDOT project).





**Wildlife and Habitat**

<b>Degree of Effect:</b>	None	<b>X Minimal</b>	Moderate	Substantial
	Enhanced	N/A No Involvement		Potential Dispute

<b>Coordination Document:</b>	No Involvement	PD&E Support Document	<b>X Permit Required</b>
	Tech Memo Required	To Be Determined: Further Coordination Required	

**Identify Resources and level of importance:**

High quality upland habitat is located throughout the project area, and the project traverses sensitive scrub habitat. Numerous conservation lands dominated by quality uplands are located within one mile of the project limits, including the Lake Wales Ridge Wildlife and Environmental Area, the Sun Ray Scrub area, the Saddle Blanket Lakes Preserve, and the Hickory Lake Scrub County Park. These lands provide habitat for a diversity of native floral and faunal species. Additionally, the Nature Conservancy has designated over 290 acres as Ecological Resource Conservation Areas within 500 feet of the proposed project. There are 29 acres of FWCC Strategic Habitat Conservation Areas within the 200-foot buffer.

The entire project is located in the USFWS Consultation Areas for crested caracara, snail kite, Florida scrub jay and Lake Wales Ridge Plants. Suitable habitat for all of these species is available within the 500-foot buffer area.

Populations of several Listed Species are known to utilize uplands within 200 feet of the project. Uplands provide habitat for foraging, protection, and breeding. Listed Species known to utilize these areas include: Florida scrub jay (T), blue-tailed mole skink (T), sand skink (T), gopher tortoise (SSC), Eastern indigo snake (T), Florida mouse (SSC), and several Listed plant species whose range is restricted to Florida scrub habitat.

**Comment on effects to resources:**

The project may result in impacts to wildlife and habitat. Impacts potentially could include: the elimination of upland habitat known to be utilized by Listed Species; the elimination or disruption of endangered scrub habitat; the loss of Listed plant species and animal species; and the loss of small populations of endemic plant species.

Specific surveys are recommended to determine the occurrence and abundance of Listed animal and plant species in order to determine the need for wildlife accommodations and Listed plant avoidance/relocation.

**Additional Comments:**

A Degree of Effect of "Minimal" was assigned to this issue due to the fact there may need to be some additional coordination with FFWCC, which is a completeness item for SWFWMD permits through the Coastal Zone Management (CZM) noticing procedure.

An Environmental Resource Permit (ERP) will be required for this project. However, the final determination of the type of permit will depend upon the final design configuration.

For ETDM #3869, the District has assigned a pre-application file (**PA# 398252**) for the purpose of tracking its participation in the ETDM review of this project. File **PA# 398252** is maintained at the



Bartow Service Office of the SWFWMD. Please refer to this pre-application file whenever contacting District regulatory staff regarding this project.

**“Downstairs Comments” – for SWFWMD staff only (not to be uploaded to the EST)**

Previous (09/08/11) Programming Screen information on “Wildlife & Habitat” can be found in the *Screening Summary Report* of the public Environmental Screening Tool (EST), available at: <https://etdmpub.flc-etat.org/est/>

The *Screening Summary Report* provides information from:

- All of the commenting agencies (including SWFWMD’s consultant).
- The Coordinator’s (FDOT, D1’s) compiled summary & recommended Degree of Effect (i.e. potential impacts to the resource due to the proposed FDOT project).

**Federal Consistency Review:**

Located in Coastal Zone	<b>Consistent</b>	Consistent with Comments	Inconsistent
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**Comments:**

None

**“Downstairs Comments” – for SWFWMD staff only (not to be uploaded to the EST)**

None