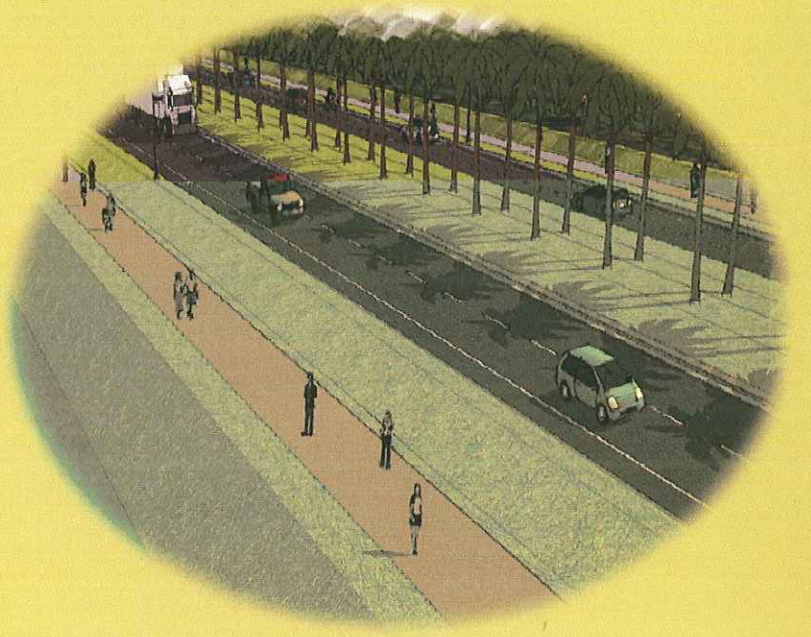
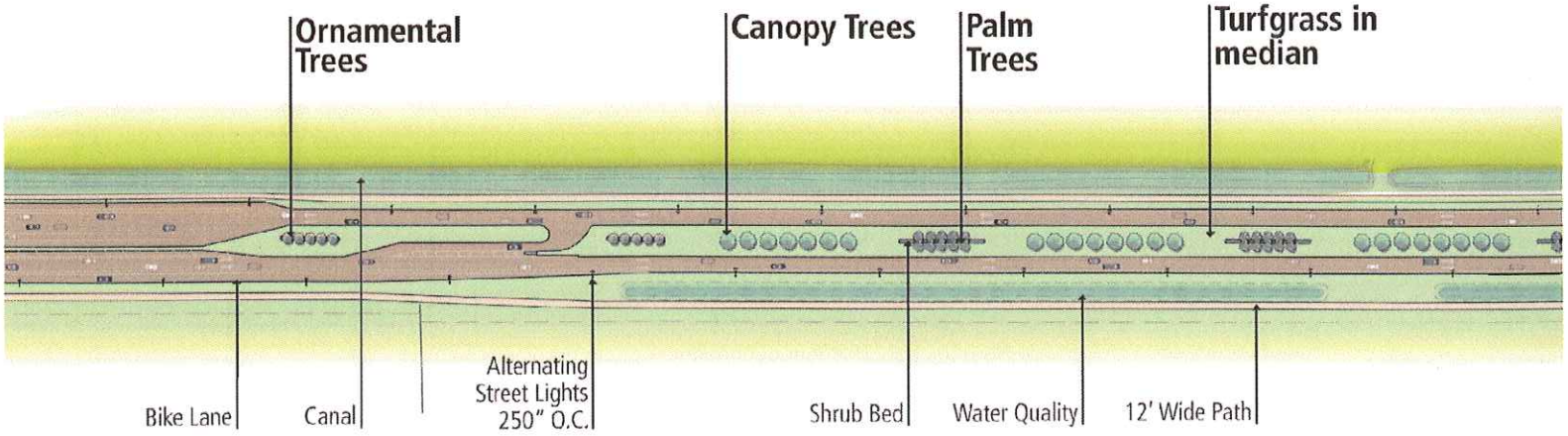
# Alico Road Alignment Study Report

## From Ben Hill Griffin Parkway
## To Airport Haul Road

## Lee County Department of Transportation
## Lee County Project No. 6076



## FINAL
## May 18, 2012








Stanley Consultants INC

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## To Airport Haul Road

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**Lee County Project No. 6076**

# FINAL
# Alignment Study Report

**May 18, 2012**

Stanley Consultants INC.
A Stanley Group Company
Engineering, Environmental and Construction Services - Worldwide

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## *PROFESSIONAL ENGINEER CERTIFICATE*

I hereby certify that I am a registered professional engineer in the State of Florida practicing with **Stanley Consultants, Inc.,** and that I have supervised the preparation of and approved the analysis, findings, opinions, conclusions, and technical advice reported in:

| | |
|---|---|
| Report: | Alico Road Alignment Study Report |
| Project: | Alico Road Alignment Study |
| Location: | Alico Road from Ben Hill Griffin Parkway to Airport Haul Road in Lee County |
| Lee County Project No. | 6076 |
| Lee County Contract No. | 5647 |
| Client: | Lee County Department of Transportation |

The following duly authorized engineering business performed the engineering work represented by this report:

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This report includes a summary of data collection efforts, corridor analysis, and conceptual design evaluation for the proposed CN-11-05 Alico Road Alignment Study from Ben Hill Griffin Parkway to Airport Haul Road in Lee County.

I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through design standards and criteria set forth by the federal, state, and local regulatory agencies as well as professional judgment and experience.

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## EXECUTIVE SUMMARY

The Alico Road Alignment Study was initiated to address the transportation needs for planned and committed development in the immediate vicinity of Alico Road. The proposed expansion of Alico Road is consistent with the Gubernatorial approved 2035 Long Range Transportation Plan (LRTP) prepared by the Lee County Metropolitan Planning Organization. This project is consistent with the local vision for the Research and Enterprise Diamond economic development initiative.

Additional alignment analysis included comparative evaluations to connect the existing Airport Haul Road with the adopted CR 951 corridor. The proposed Alico Road project includes the realignment of Airport Haul Road to smoothly connect with the adopted CR 951 corridor.

Lee County Department of Transportation implemented a public involvement program that included the local land owners and several departments within Lee County government. Several meetings were held and alternatives were adjusted to meet the needs of the community.

This project includes features which address the recent Complete Streets resolution. Proposed project improvements include pedestrian and bicyclist features and allows for future transit amenities to enhance the multimodal element to reduce dependency on the single occupant vehicle.

## RECOMMENDATIONS

The project need is based on travel demand or future traffic projections developed from the 2035 LRTP traffic model. Alico Road will experience substantial growth. Future travel demand estimates for the year 2035, show 67,000 vehicles per day just east of Ben Hill Griffin Parkway and up to 33,000 vehicles per day east of Airport Haul Road.

This study recommends a multimodal Alico Road corridor with a four lane divided roadway (two lanes for each direction) that provides opportunity to build two additional lanes for transit or other vehicle use when traffic demand requires the additional capacity. The study recommends connecting Airport Haul Road with the approved CR 951 corridor. Environmental improvements related to stormwater treatment and storage is included in the project.

Complete Streets features included in the project are a twelve foot wide multiuse pathway along both roadsides that provides for pedestrians and bicyclists, on-street bicycle lanes for the experienced long distance riders, recommendations for transit bus pull outs and shelters, locations for land use connectivity for pedestrians, bicyclist and transit riders, landscape and lighting.

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# 1.0 INTRODUCTION

## 1.1 Purpose and Need

Alico Road is a central transportation link within a growing region called The Research and Enterprise Diamond. This region includes the commercial and industrial land around the Southwest International Airport; and the residential and science research land around the Florida Gulf Coast University. The planned development for this region includes a mix of commercial, industrial and residential land use that will generate approximately 10,000 jobs related to university research and economic business development.

The purpose of the Alico Road Alignment Study is to provide a multimodal transportation facility that meets the motorist, bicyclist and pedestrians needs that are expected in the region through the year 2035. The region is planned to grow substantially from its present condition into multi-use research, commercial and residential region.

The traffic volumes are forecasted to increase from the existing average daily traffic (AADT) volume of 2,600 vehicles per day to 67,000 vehicles per day in the 2035 horizon planning year. The existing two lane undivided roadway will reach Level of Service F within 8 years or near the year 2020.

It has been identified that a four lane divided roadway is needed prior to the completion of the planned development and a six lane divided roadway will be required to meet the traffic volumes of 67,000 AADT in the year 2035.

As the region grows, multi-modal needs increase demand for sidewalks, bicycle pathways and transit service. Consistent with the Lee County Complete Streets initiative, these features have been incorporated into the planning phase of this study.

## 1.2 Project Consistency with the Long Range Transportation Plan

The proposed Alico Road project is consistent with the 2035 LRTP. Alico Road, from Ben Hill Griffin Parkway to Airport Haul Road is programmed in the Lee County MPO 2035 Cost Feasible Plan for construction from a two lane divided roadway to become a four lane divided roadway.

Other nearby projects are contained in the 2035 Cost Feasible LRTP. These are CR 951 from Corkscrew Road to Alico Road as a new four lane roadway; the Alico Connector from Airport Haul Road to SR 82 as a new four lane roadway and the east-west connector which is north of and parallel to Alico Road as a two lane roadway.

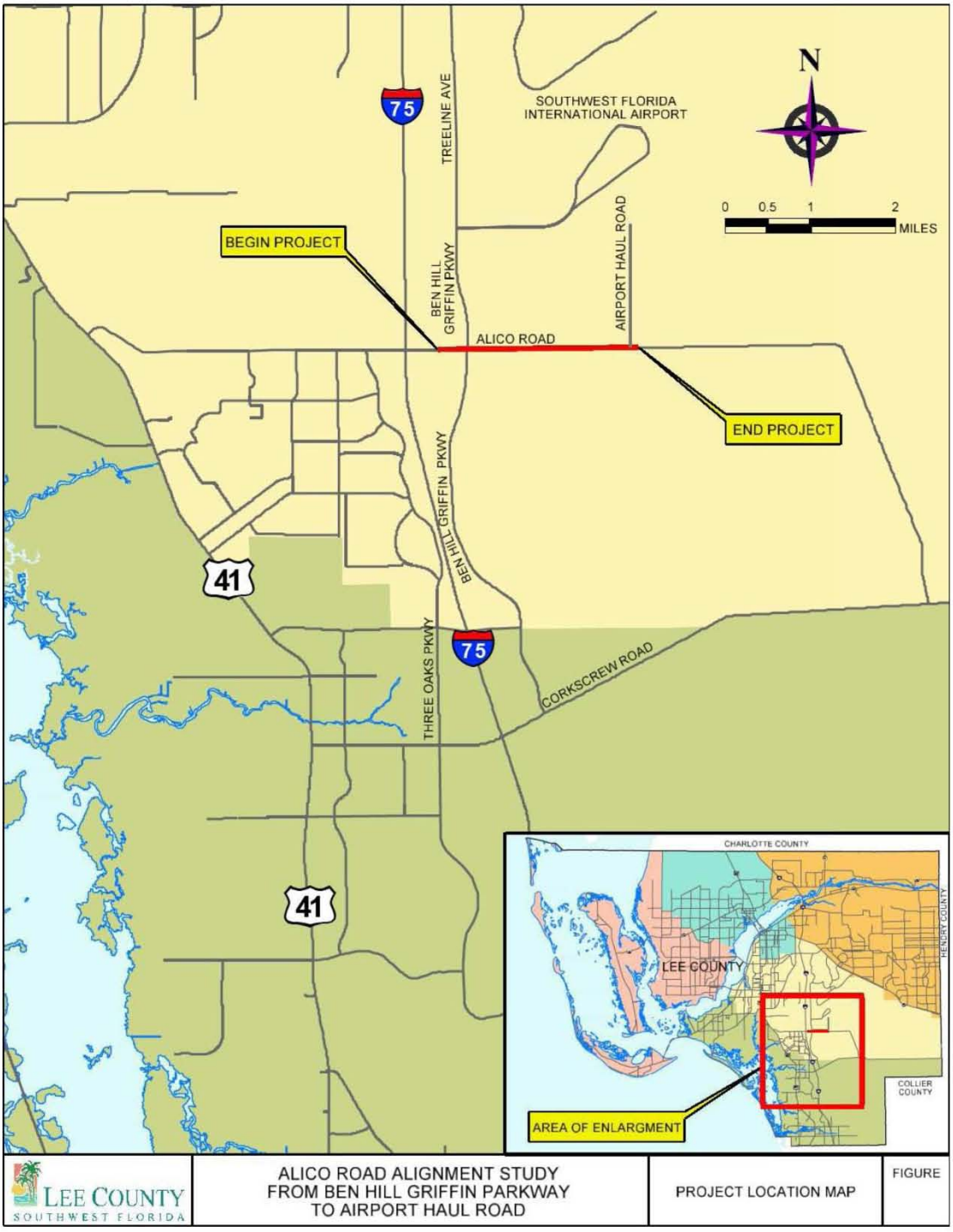



**Figure 1.2.1 Project Location Map**

## 1.3 Project Description

The preferred Alico Road alignment is centered along the existing 100 foot right of way with up to an additional 75 feet of right of way obtained for the pathways, bicycle lanes, bus pull outs, bus shelters, utilities and a storm water collection and conveyance system to improve the water quality. These functional zones are illustrated within the typical section **Figure 1.3.1.**

The proposed Alico Road project will reconstruct the existing two lane roadway between Ben Hill Griffin Parkway and Airport Haul Road and build a four lane divided roadway complete with wide multiuse pathways, bicycle lanes, and landscape features. The proposed median is wide enough to provide an additional lane in each direction to meet future transit and motorist travel needs. The engineering typical section is illustrated in **Figure 1.3.2.**

The transit features such as bus pullout bays and shelters are planned with future intersections that have connecting pedestrian and bicycle pathways.

Turning lane improvements are required at the intersection of Ben Hill Griffin Parkway to adequately serve the future traffic volumes. The near term improvements recommended with the four lane Alico Road project include providing dedicated northbound to eastbound right turn lane and a westbound to northbound right turn lane.

At the intersection of Airport Haul Road, alignment studies evaluated connecting Airport Haul Road directly with the proposed CR 951 roadway, to eliminate the future condition of two horizontally offset intersections. The two alignments either connected the two roadways east or west of the FP&L transmission powerline easement. The proposed alignment of Airport Haul Road will curve west and connect with the approved CR 951 corridor.

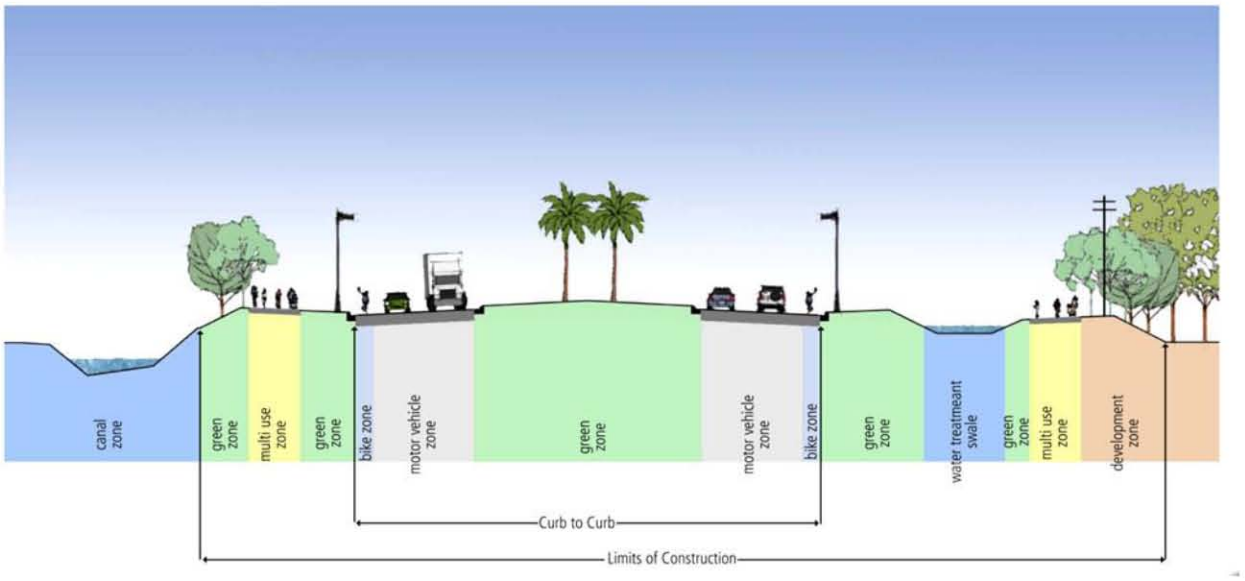



**Figure 1.3.1 Functional Zones within Typical Section**

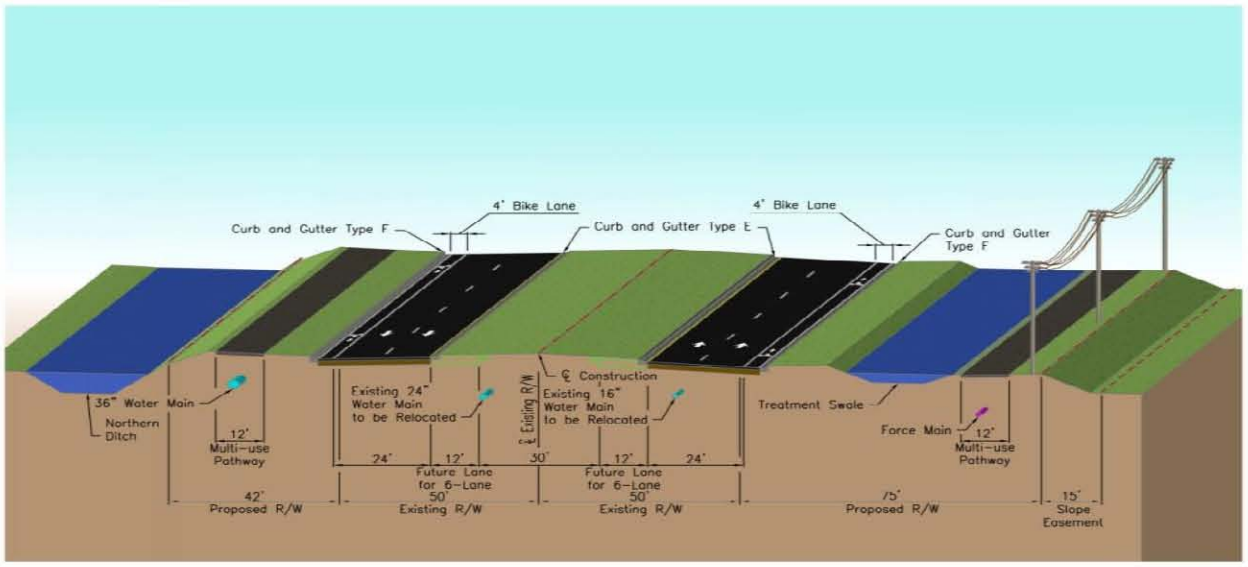



**Figure 1.3.2 Proposed Typical Section**

Typical Section Features - Four Lane Divided

- Landscape Buffers and Stormwater Treatment
- Right of Way is 217 feet to 250 feet wide
- Median is 54 feet wide to allow for two future lanes
- Travel Lanes are 12 feet wide
- Bicycle Lanes are 4 feet wide
- Multiuse Pathways are 12 feet wide

## 2.0 EXISTING CONDITIONS

### 2.1 Typical Section and Right of Way

The existing Alico Road highway is a rural high speed roadway with a posted day time speed limit of 55 mph and a night time speed limit of 45 mph, with a right-of-way width of 100 feet. For the majority of the project, the existing typical section for Alico Road consists of two travel lanes (one in each direction) that are 11 feet to 12 feet wide, and 4 foot wide paved shoulders, as shown in **Figure 2.1.1**.

There are two existing stormwater ditches along the north side of Alico Road, from east of the Ben Hill Griffin Parkway intersection to Station 161+70 (approximately 7050 feet). The roadside ditch is within the existing right-of-way. From Station 161+70 to the end of the project a single ditch exists which is contained inside the existing right of way.

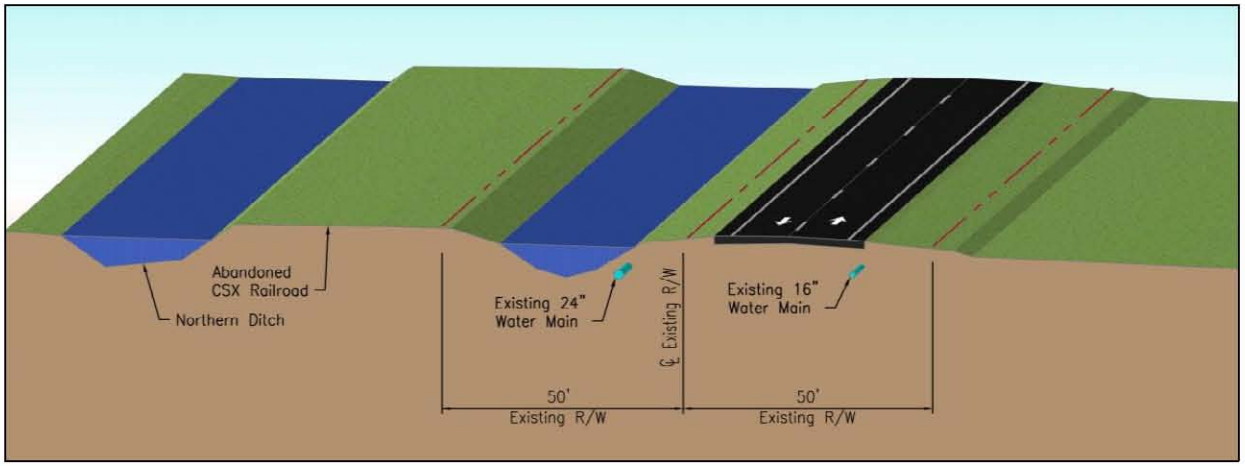



**Figure 2.1.1 Existing Typical Section**

### 2.2 Horizontal and Vertical Alignment

The Alico Road profile is relatively flat with centerline elevations ranging from 21.0 feet along the western limit to 24.0 feet along the eastern limit (NAVD 88). The existing horizontal alignment was obtained from field survey conducted for the project. Alico Road is mostly tangent and consists of two deflections with one curve along the existing alignment. **Table 2.2.1** summarizes the existing horizontal alignment.

**Table 2.2.1 Existing Horizontal Alignment**

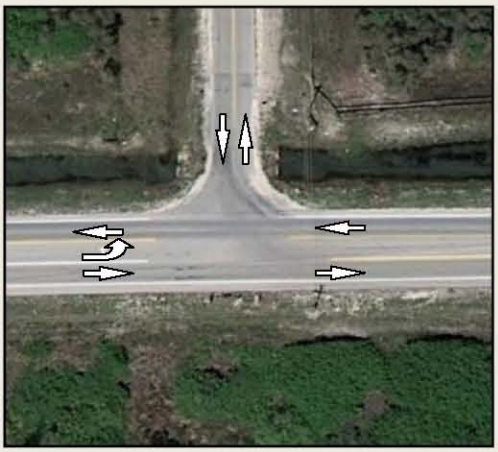
| PI Station | Bearing Back | Bearing Ahead | Radius (feet) |
|---|---|---|---|
| 92+61.70 | S 89°43'43" E | N 89°43'07" W | N/A |
| 118+96.59 | N 89°43'07" W | N 88°58'56" E | 29,770.02 |
| 145+69.73 | N 88°58'56" E | N 89°00'08" E | N/A |

## 2.3 Existing Traffic Volumes and Intersection Configuration

There are two existing intersections on the study corridor. Ben Hill Griffin Parkway is a signalized multilane divided roadway intersection with multiple right and left turn lanes, with posted speed of 45 mph. The existing right-of-way width is 200 feet along Alico Road and 150 feet along the south leg and 200 feet along the north leg of Ben Hill Griffin Parkway. The multiple through lanes continue eastward 800 feet past the intersection where Alico Road continues as a two lane rural roadway with a 55 mph daytime and 45 mph nighttime posted speed. Airport Haul Road is a rural two lane intersection with one eastbound left turn lane.



Alico Road at Ben Hill Griffin Parkway



Alico Road at Airport Haul Road

EXISTING INTERSECTION LANE CONFIGURATION

**Figure 2.3.1 Existing Intersection Lane Configuration**

Existing traffic counts were obtained on October 26, 2011 for the Ben Hill Griffin Parkway intersection. The morning peak hour started at 7:30 AM with 1981 vehicles traversing the intersection in the peak hour. The evening peak hour occurred at 4:30 PM to 5:30 PM with 3274 vehicles traversing the intersection in the peak hour. Below are diagrams depicting the turning movement volumes.

The "raw" daily traffic counts were adjusted to Average Annual Daily Traffic (AADT) volumes by applying a seasonal factor and an axle correction factor based on the time of year when the counts were conducted. The seasonal factor takes into account the variation in traffic throughout the year, and the axle correction factor takes into account the effect of multiple axles on heavy vehicles.

Level of Service (LOS) analysis was performed at the intersections Ben Hill Griffin Parkway and Alico Road, using Synchro 8 software which incorporates the 2000

Highway Capacity Manual methodologies. The traffic counts reflect a high percentage of truck traffic (41%) along Alico Road. This high truck traffic percentage is related to the movements of aggregates from the nearby limerock quarries. The existing conditions analysis for LOS considered this high truck percentage. The intersection of Alico Road and Ben Hill Griffin Parkway currently operates at LOS C/D for the AM/PM with the existing lane configuration.

Traffic turning movement data was developed from the approach counts collected at the intersection of Alico Road and Airport Haul Road. LOS analysis indicates that the unsignalized intersection operates at LOS A under existing conditions.

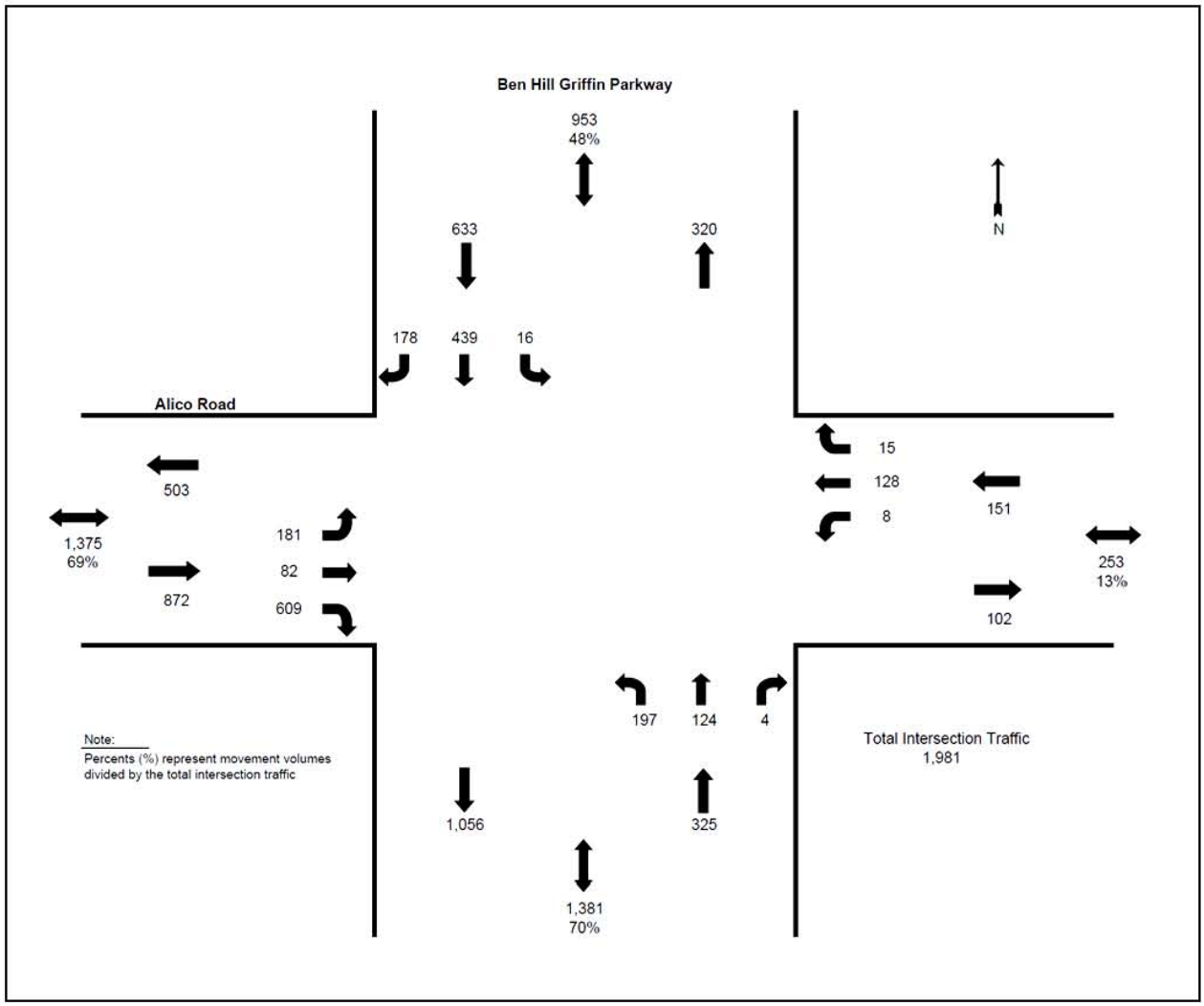



**Figure 2.3.2 Traffic Counts Yr 2010 – AM Peak Hour at Ben Hill Griffin Parkway**

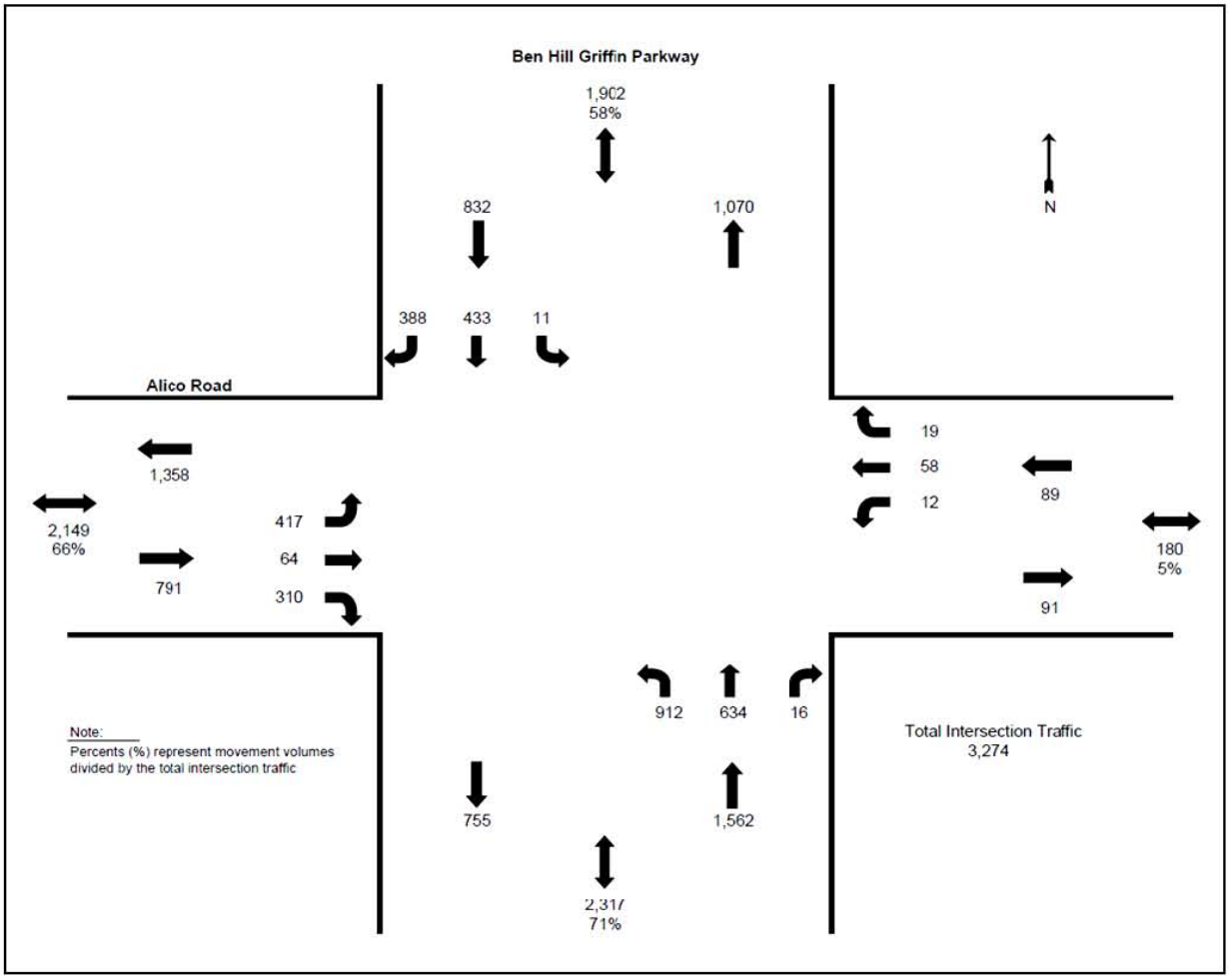



**Figure 2.3.3 Traffic Counts Yr 2010 – PM Peak Hour at Ben Hill Griffin Parkway**

## 2.4 Crash History

Crash data was received from the Lee County Traffic Department for the intersection of Ben Hill Griffin Parkway and Alico Rd for years 2006 through 2010. For the five year analysis period the intersection has recorded 166 crashes. The intersection averages about 33 crashes per year which is a high number of crashes for an intersection. But from the data it can be seen that the total amount of recorded crashes located at and around the intersection vicinity has a decreasing trend from 2006 to 2010. This decrease could be attributed to improved safety features and enhancements made to the intersection in recent years. The percentages of dark and rain crashes are lower than the statewide averages for Florida. Rain, dark and total amount of crashes for each year can be seen in the table below.

**Table 2.4.1 Crash Summary**

| Year | Rain | Rain % | Dark | Dark % | Total Crashes |
|---|---|---|---|---|---|
| **2006** | 4 | 9% | 3 | 6% | 47 |
| **2007** | 6 | 13% | 11 | 24% | 45 |
| **2008** | 1 | 3% | 5 | 17% | 29 |
| **2009** | 7 | 25% | 4 | 14% | 28 |
| **2010** | 1 | 6% | 5 | 29% | 17 |
| **Total** | 19 | 11% | 28 | 17% | 166 |

The crash data received coded crash types in to 2 main categories: vehicular collision and non-vehicular collision. The number of vehicular collisions is four times more than the number of non-vehicular with 120 collisions versus 33 collisions, respectfully. The most frequent type of vehicular collision is front to rear (rear-end) collision with a total of 69 for the five year analysis period. The number of vehicular collisions by year and type can be seen in the table below.

**Table 2.4.2 Vehicular Collision Type**

| Impact Type | 2006 | 2007 | 2008 | 2009 | 2010 | Total |
|---|---|---|---|---|---|---|
| **Angle** | 2 | 6 | 0 | 4 | 1 | 13 |
| **Front to Front** | 1 | 0 | 1 | 1 | 0 | 3 |
| **Front to Rear** | 16 | 18 | 13 | 12 | 10 | 69 |
| **Rear to Side** | 3 | 1 | 1 | 0 | 0 | 5 |
| **Sideswipe** | 15 | 8 | 2 | 4 | 1 | 30 |
| **Total** | 37 | 33 | 17 | 21 | 12 | 120 |

The most common type of non-vehicular collision is “other fixed object” with a total of 17 collisions in the five year period. The number of non-vehicular collisions by year and type can be seen in the table below.

**Table 2.4.3 Non-Vehicular Collision Type**

| Non-Vehicular Collision Type | 2006 | 2007 | 2008 | 2009 | 2010 | Total |
|---|---|---|---|---|---|---|
| Motor Vehicle in Transport | 0 | 2 | 0 | 0 | 1 | 3 |
| Other Fixed Object | 3 | 3 | 3 | 6 | 2 | 17 |
| Other Post, Pole or Structure | 0 | 0 | 0 | 0 | 1 | 1 |
| Overturned/rollover | 1 | 2 | 1 | 0 | 0 | 4 |
| Parked Motor Vehicle | 1 | 0 | 0 | 0 | 0 | 1 |
| Bicycle | 0 | 1 | 1 | 0 | 0 | 2 |
| Ran into water/canal | 1 | 0 | 0 | 1 | 0 | 2 |
| Tree | 0 | 0 | 1 | 0 | 0 | 1 |
| Utility Pole/Light Structure | 0 | 2 | 0 | 0 | 0 | 2 |
| Total | 6 | 10 | 6 | 7 | 4 | 33 |

The locations in relation to the intersection of the crashes were coded as the following: driveway/ally access road, intersection, intersection related, non-junction, and other. As expected the majority of the collisions occur at the intersection with a total of 66 collisions within the 5 year analysis period.

**Table 2.4.4 Crash Location in Respect to Intersection**

| Relationship to Intersection | 2006 | 2007 | 2008 | 2009 | 2010 | Total |
|---|---|---|---|---|---|---|
| Driveway/Ally Access Road | 0 | 0 | 1 | 0 | 0 | 1 |
| Intersection | 25 | 12 | 13 | 10 | 6 | 66 |
| Intersection Related | 8 | 19 | 7 | 6 | 6 | 46 |
| Non-Junction | 14 | 14 | 8 | 11 | 5 | 52 |
| Other | 0 | 0 | 0 | 1 | 0 | 1 |

The amount of crashes occurring at the intersection of Ben Hill Griffin Parkway and Alico Road are high but has been decreasing in current years. The majority of collisions are rear end vehicular collisions occurring at the intersection.

## 2.5 Existing Drainage Basin and Stormwater System

The Alico Road corridor has different drainage conditions north and south of the roadway. The south is primarily discontinued mining operations lands and the north is primarily unimproved lands.

**South of Alico Road** there are four (4) basins (Basin 1S, 2S, 3S, & 4S) that direct stormwater runoff to controlled and non-controlled drainage areas. Ref: Appendix A.

Basin 1S (Sta 86+00 to Sta 102+00)

East of the Ben Hill Griffin Parkway intersection the stormwater is conveyed through a series of roadside inlets and drainage piping to a longitudinal ditch area that flows towards the west under Ben Hill Griffin Parkway. This section was permitted with the SFWMD under ERP No. 36-00080-S for the transitional pavement only and does not have a controlled discharge.

Basin 2S (Sta 102+00 to Sta 136+00)
The roadway stormwater flows from the center line or crown of the pavement to the south to an undefined drainage area, consisting of mainly low lying land and ultimately sheet flowing or meandering toward the Miromar Lakes / Alico West lake. This uncontrolled basin area does not provide existing stormwater quality or attenuation prior to entering the lake other than sheet flow over existing vegetation and percolation in to the ground.

Basin 3S (Sta 136+00 to Sta 163+00)
Stormwater continues to drain from the center line crown of the pavement to the south. This uncontrolled drainage area is collected by ditch bottom inlets and piping that run to the south under an existing berm and private offsite parallel access road. The stormwater runoff from Alico Road and the parallel private-access road drains southerly toward the existing Miromar Lakes / Alico West Lake. However, this portion of the existing Alico West Lake discharges through a concrete weir that has a +/-2' wide x +/-2.5' deep notch offering some water quality and attenuation. There is an approved SFWMD permit (ERP No. 36-03566-P) for the lake which is controlled downstream by a 125' wide weir located at the southern end.

Basin 4S (Sta 163+00 to Sta 192+99.73 End Project)
Stormwater from the center line crown of the pavement drains to the south and is collected by a longitudinal roadside drainage conveyance ditch. This drainage area does not have an approved SFWMD permit. Additionally, the stormwater flows southeasterly toward low areas allowing stormwater to meander to an existing lake at the Ginn mine property. Further to the east, several driveways provide a basin divide since there are no drainage pipes allowing stormwater to the west. East of the driveways on the south side of Alico Road the stormwater flows to the east to the existing slough approximately 4,000 feet away.

**North of Alico Road,** the stormwater runoff generally sheet flows from the roadway center crown to one of two parallel ditches. Of the two ditches, the north ditch is a larger regional conveyance and is present along the entire study limits and ultimately connects to the slough several miles to the east of the study. The north ditch flows to the west through an 8 ft x 6 ft box culvert within the right-of-way for Ben Hill Griffin Parkway.

The other ditch is a smaller ditch which has limited attenuation but is only located from Station 86+00 to Station 161+70. The smaller ditch is within the existing right-of-way, while the north ditch exists outside of the 100' right-of-way until reaching Station 161+70 where it diverges back into the right-of-way. These two ditches potentially have two unconfirmed cross drainages interconnecting them. (See Appendix B).

There are five (5) permitted developments that are approved to discharge into the northern ditch. The developments are as follows: Airport Haul Road, Alico Airport Center (I-Hub), Premier Airport Park, Florida Gulf Coast Technology and Research Park, and Ginn Mine (East of the project limits). Along the corridor within the study limits,

development plans range from conceptual to actual permitted designs. Ultimately, the drainage in this area and Alico Road from Station 86+00 to Station 190+00 flows westerly in the north ditch towards the Ten Mile Canal after passing under Ben Hill Griffin Parkway.

Attenuation Ditch

The most southerly of the 2 ditches is from Station 86+00 to Station 161+70. This section of ditch offers some stormwater attenuation and limited treatment for the north half of Alico Road. As previously identified, this basin does not meet SFWMD design criteria. It is controlled near Station 92+00 and discharges into the Ben Hill Griffin Parkway drainage system which ultimately drains to the west.

North Ditch

From the headwall of existing 8'x6' box culvert, the north ditch stretches east ward to the existing slough several miles east of the study limits. This ditch carries the discharge of the northern developments to the west through the existing box culvert at Ben Hill Griffin Parkway, ultimately draining to the Ten Mile Canal. It is important to note, the north ditch diverts outside the existing Alico Road right-of-way to accommodate the attenuation ditch from Station 86+00 to approximately Station 161+70.

From the diversion at Station 161+70 to the end of the project, stormwater sheet flows across pavement and road shoulder into the ditch and flows bi-directional towards the west and east to the slough. This section is non-controlled.

## 2.6 Box Culvert

The existing 8 ft x 6 ft box culvert crossing is underneath Ben Hill Griffin Parkway along the north side of Alico Road. Appendix C details the box culvert.



**Figure 2.6.1 Existing Box Culvert at North Ditch**

# 3.0 TRAFFIC

## 3.1 Overview

The traffic forecasting and development of design year traffic volumes was conducted in a multi-step process. The travel demand model validation and forecasting was prepared by McMahon and Associates. The design traffic turning movement volumes and level of service analysis was conducted by Stanley Consultants, Inc.

This chapter presents the methodology and traffic volumes forecasted for the opening year (2015), interim year (2025), and design year (2035). Both design peak hour and daily traffic volumes were prepared for the Alico Road Alignment Study.

## 3.2 Regional Modeling Sub-Area

The 2035 Long Range Transportation Plan travel demand model, including the 2007 Validation Model was obtained from Lee County Metropolitan Planning Organization (Lee MPO). After coordination with Lee MPO, the methodology was approved on August 4, 2011 and contained under a separate technical memorandum. The travel demand forecasting and volumes are contained in the September 21, 2011 Technical Memorandum prepared by McMahon and Associates.

From US 41 (Tamiami Trail) to Ben Hill Griffin Parkway, Alico Road is a six lane divided facility which provides direct access to the I-75 interchange. East of Ben Hill Griffin Parkway to Airport Haul Road, Alico Road is a two lane undivided rural roadway. Alico Road continues to the east and south as a two lane road until terminating at Corkscrew Road.

The regional network within the LRTP 2035 traffic model contained the following roadway network links:

- CR 951 from Alico Road to Corkscrew Road
- Alico Road Extension to SR 82
- East-West Connector Road (north of and parallel to Alico Road)

The sub-area for the modeling was bounded by Daniels Parkway to the north, Corkscrew Road to the south, Alico Road to the East, and I-75 to the west. Land development data was obtained from Lee County Planning Department for the committed development projects. Trip generation of these special trip generators was included in Table 3.2.1. These following developments were included:

- Miromar Lakes
- Alico West
- Florida Gulf Coast Tech Center/Benderson
- Premier Airport Park
- Innovation Hub/Alico Airpark Center

**Table 3.2.1 Special Trip Generators**

| Major Planned and Committed Developments (Reference Appendix D, McMahon Sept 21, 2011) | |
|---|---|
| | **Total Vehicle Trips** |
| **Florida Gulf Coast Technological Research Park** | 44,036 |
| **Premier Airport Park** | 8,103 |
| **Alico Airpark Center** | 10,385 |
| **Miromar Lakes - A** | 21,926 |
| **Miromar Lakes - P** | 15,131 |
| **Alico West - A** | 35,807 |
| **Alico West - P** | 11,941 |
| **Total Planned and Committed Trips** | **147,239** |

## 3.3 Regional Model Traffic Scenarios Considered

The traffic forecast technical memorandum was submitted and approved by Lee County MPO in September 2011. The traffic forecast developed future traffic under three scenarios:

- **No Build:** Existing Alico Road remains as a two lane roadway from Ben Hill Griffin Road Parkway to Airport Haul Road.

- **Build 1 Years 2015 and 2035:** Alico Road between Ben Hill Griffin Parkway and Airport Haul Road was modeled as a four lane roadway.

- **Build 2 Years 2015 and 2035:** Alico Road between Ben Hill Griffin Parkway and Airport Haul Road was modeled as a six lane roadway.

The future traffic forecasted for the regional Build 1 and Build 2 scenarios is substantially similar (Table 3.4.1). Because of these similarities in the AADT volumes, the future Design Traffic Forecast was performed using the regional scenario Build 2. This is a conservative approach since the Build 2 represents slightly higher traffic volumes.

## 3.4 Design Traffic Forecast

**Daily Traffic Projections**

The projected average daily traffic for the years 2015 and 2035 is included in Table 3.4.1 along with the number of lanes programmed in the 2035 LRTP regional model.

**Table 3.4.1 Network Daily Traffic Volumes (AADT)**

| ROADWAY | SEGMENT | 2007 | | 2015 No Build | | 2015 Build 1 | | 2035 No Build | | 2035 Build 1 | | 2035 Build 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Lanes | AADT | Lanes | AADT | Lanes | AADT | Lanes | AADT | Lanes | AADT | Lanes | AADT |
| Alico Road | I-75 to Ben Hill Griffin Parkway | 6L | 28,500 | 6L | 41,500 | 6L | 42,000 | 6L | 72,500 | 6L | 73,500 | 6L | 74,000 |
| | Ben Hill Griffin Pkwy to Airport Haul Road | 2L | 2,100 | 2L | 20,000 | 4L | 23,000 | 2L | 42,000 | 4L | 57,500 | 6L | 67,000 |
| | East of Airport Haul Road | 2L | 1,200 | 2L | 4,900 | 2L | 4,200 | 4L | 26,000 | 4L | 31,500 | 4L | 33,000 |
| Ben Hill Griffin Pkwy. | N of Alico Road | 4L | 29,500 | 4L | 35,500 | 4L | 35,000 | 4L | 40,500 | 4L | 37,500 | 4L | 37,000 |
| | S of Alico Road | 6L | 30,500 | 6L | 41,000 | 6L | 41,000 | 6L | 62,500 | 6L | 64,000 | 6L | 64,500 |
| Airport Haul Road | N of Alico Road | N/A | 0 | 2L | 3,900 | 2L | 3,600 | 2L | 16,500 | 2L | 19,000 | 2L | 19,500 |
| E/W Road | Ben Hill Griffin Pkwy to Airport Haul Rd. | N/A | 0 | N/A | 0 | N/A | 0 | 2L | 14,000 | 2L | 9,600 | 2L | 6,100 |
| CR-951 | Alico Road to Corkscrew Road | N/A | 0 | N/A | 0 | N/A | 0 | 4L | 23,500 | 4L | 22,500 | 4L | 22,000 |

## Peak Hour Directional Traffic Projections

The peak hour factor (K) was assumed to be 9% of the daily traffic along Alico Road and 9.5% for the north and south traffic along Ben Hill Griffin Parkway and Airport Haul Road. This K factor for the main arterial was used to maintain uniformity with the FDOT methodology which is currently recommending the use of a standard K factor of 9% instead of the calculated K30 for design traffic. The "time-of-day" travel demand model and historical traffic data were examined to determine the directionality of the Alico Road corridor and its cross streets during the peak hours. The peak hour directional traffic was obtained by applying the directional factor (D=55.6%) from the daily traffic forecasted from the model runs.

## Turning Movement Projections

The TURN5 spreadsheet was used to develop initial turning movement projections, as recommended by the FDOT Traffic Forecasting Handbook. Input data to the TURN5 spreadsheet consists of any available turning movement counts, base year AADTs, projected link volumes, peak to daily (K) and directional distribution (D) factors. The TURN5 spreadsheets, turning movement percentages were calculated based on a combination of approach volumes, K factors, D factors, and base year turning movement counts. These values were used to develop design hourly turning movement volumes for the years 2015 and 2035 at each intersection approach. After review of the TURN5 turning volumes it was observed that the volumes were not consistent with the area expected traffic patterns and future development. The TURN5 method developed turning volumes which were inconsistent with the forecasted regional model volumes, therefore a second approach was developed and utilized the forecasted AADT volumes.

The forecasted AADT from the model was used to calculate AM and PM traffic using the D factor of 55.6% and the model adjustment factor of 0.91 for Alico Road and 0.86 for the traffic on Ben Hill Griffin Parkway the north of Alico Road. Using the peak hour traffic factor (K) of 0.9 the peak hour volumes were calculated and distributed as a

percent of the volumes for each approach. This method resulted in more consistent volumes and allowed a more appropriate traffic balancing along the corridor.

Further balancing of the traffic between the east and west project limits was performed along intermediate intersections that were added to the corridor based on the regional model output, zonal links, and the current planned development. These intersection turning traffic volumes were calculated following the same methodology for consistency. The turning movement volumes were adjusted when declining projections were observed. Also, they were adjusted to best meet the calculated peak hour approach volumes and balance with the adjacent intersections. The design hourly volumes used for the analysis are based on the peak-hour, peak-direction. The intersection design hour volumes are shown in Table 3.6.1.

New intersections will be required to manage the traffic to and from the planned development. The preliminary plans for the future development as currently presented to the Lee County were considered in the analysis. Together with access management strategies these new roadway connections were located along the corridor. For purpose of this report, the planned developments were identified as Development A, B and C and are shown in Figure 3.6.1.

## 3.5 Arterial Traffic Analysis

The 2015, 2025 and 2035 intersection traffic operations analyses for the design hourly volume was performed along the corridor using the HCM2000 methodologies as represented in the software package Synchro 8. Signal timings were optimized for all intersections and analysis years.

The arterial traffic analysis evaluates Alico Road as a six lane facility from Ben Hill Griffin Parkway to Development C Intersection which is west of Airport Haul Road; then continues as a four lane roadway to east of Airport Haul Road.

For the year 2015, the intersections of Ben Hill Griffin Parkway and Airport Haul Road were analyzed. For the years 2025 and 2035, the Development A, B and C intersections for the proposed development were added to the arterial analysis. Synchro output sheets are provided in a separate support document.

## 3.6 Design Hour Turning Movement Volumes

The Build Alternative traffic analysis evaluates Alico Road as a six lane facility from Ben Hill Griffin Parkway to 1,800 west of Airport Haul Road; and as a four lane section to Airport Haul Road. The traffic forecasted for Alico Road from Ben Hill Griffin Parkway to Airport Haul Road is expected to be 67,000 vehicles per day. East of Airport Haul Road the traffic is expected to be 33,000 vehicles per day. Details on the Design Hour Turning Movement Volumes for years 2015, 2025, 2035 are illustrated in **Table 3.6.1**.

**Table 3.6.1 Design Hour Turning Movement Volumes**

| Intersection | Ben Hill Griffin Parkway | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| 2011 | 181 | 82 | 609 | 8 | 128 | 15 | 197 | 124 | 4 | 16 | 439 | 178 |
| 2015 | 458 | 323 | 525 | 381 | 527 | 332 | 795 | 501 | 354 | 320 | 520 | 720 |
| 2025 | 470 | 869 | 727 | 740 | 1107 | 478 | 1126 | 487 | 899 | 643 | 539 | 806 |
| 2035 | 615 | 1325 | 1146 | 910 | 1433 | 479 | 1410 | 533 | 1147 | 702 | 607 | 863 |

| Intersection | Development A | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| 2011 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2025 | 693 | 1429 | 98 | 10 | 1538 | 32 | 173 | 11 | 42 | 49 | 21 | 657 |
| 2035 | **522** | **2181** | **190** | **94** | **1564** | **197** | **135** | **50** | **30** | **212** | **30** | **1200** |

| Intersection | Development B | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| 2011 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2025 | 301 | 1163 | 37 | 106 | 933 | 172 | 61 | 143 | 31 | 19 | 92 | 581 |
| 2035 | **350** | **1726** | **110** | **198** | **1162** | **227** | **158** | **152** | **81** | **64** | **167** | **733** |

| Intersection | Development C | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| 2011 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2025 | 112 | 807 | 240 | 361 | 443 | 74 | 426 | 238 | 39 | 59 | 102 | 396 |
| 2035 | 320 | 1114 | 349 | 477 | 665 | 102 | 302 | 612 | 258 | 75 | 250 | 787 |

| Intersection | Airport Haul Road | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| 2011 | 50 | 103 | -- | -- | 19 | 6 | -- | -- | -- | 45 | -- | 142 |
| 2015 | 135 | 86 | -- | -- | 132 | 70 | -- | -- | -- | 45 | -- | 133 |
| 2025 | 145 | 305 | 405 | 434 | 392 | 156 | 414 | 165 | 345 | 125 | 166 | 150 |
| 2035 | 276 | 728 | 274 | 435 | 705 | 290 | 439 | 181 | 551 | 331 | 163 | 264 |




**Figure 3.6.1 Conceptual Spacing of Development A, B, C Intersections**

## 3.7 Level of Service Analysis

The first step in evaluating the future Level of Service (LOS) for Alico Road was to review the FDOT Generalized Level Of Service Tables. The link volume table review concluded that Alico Road from Ben Hill Griffin Parkway to intersection Development C should become an eight lane facility to achieve LOS D under urbanized conditions according to the FDOT generalized table. However, a more accurate and detailed arterial analysis was conducted using Synchro software.

The results of the Synchro LOS analysis are included in Tables 3.7.1 thru 3.7.5 for the intersections which are anticipated to be signalized in the year 2035. Detailed Synchro output tables are available under a separate cover.

The arterial analysis shows that a six lane roadway with expanded intersections will operate at LOS D with an average travel speed of 20 MPH through the year 2035. The eastern link beyond Development C intersection is estimated to operate at LOS D with a four lane section through the year 2035.

It is recommended that traffic operations along the corridor be evaluated as the land is planned, developed, and the surrounding roadway network is constructed.

## Table 3.7.1 Intersection LOS - Ben Hill Griffin Parkway

| Intersection | Ben Hill Griffin Parkway at Alico Road | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| 2011 | 181 | 82 | 609 | 8 | 128 | 15 | 197 | 124 | 4 | 16 | 439 | 178 |
| 2015 | 458 | 323 | 525 | 381 | 527 | 332 | 795 | 501 | 354 | 320 | 520 | 720 |
| | | | | | | | | | | | | |
| 2025 | 470 | 869 | 727 | 740 | 1107 | 478 | 1126 | 487 | 899 | 643 | 539 | 806 |
| Lanes | 3 | 3 | 1F | 3 | 3 | 1F | 3 | 3 | 1F | 3 | 3 | 2 |
| LOS | F | E | A | D | D | C | E | C | A | D | D | D |
| Int. LOS | D | | | | | | | | | | | |
| Ave. Delay | 42.5 Sec./vehicle | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 2035 | 615 | 1325 | 1146 | 910 | 1433 | 479 | 1410 | 533 | 1147 | 702 | 607 | 863 |
| Lanes | 3 | 3 | 2 | 3 | 3 | 1 | 4 | 3 | 1 Free | 3 | 3 | 2 |
| LOS | F | E | D | F | C | B | F | D | A | D | D | B |
| Int. LOS | D | | | | | | | | | | | |
| Ave. Delay | 50.6 Sec./vehicle | | | | | | | | | | | |

## Table 3.7.2 Intersection LOS – Development A

| Intersection | Intermediate Intersection - Development A at Alico Road | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| 2011 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | | | | | | | | | | | | |
| 2025 | 590 | 1460 | 170 | 10 | 1538 | 32 | 173 | 11 | 42 | 49 | 21 | 657 |
| Lanes | 2 | 3 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| LOS | E | B | B | B | C | A | E | D | D | F | F | B |
| Int. LOS | D | | | | | | | | | | | |
| Ave. Delay | 38.8 Sec./vehicle | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 2035 | 522 | 2181 | 190 | 94 | 1564 | 197 | 135 | 50 | 30 | 212 | 30 | 1200 |
| Lanes | 2 | 3 | 1 | 1 | 3 | 1 | 2 | 1 | 0 | 1 | 1 | 2 |
| LOS | D | D | B | D | C | B | D | D | E | F | E | B |
| Int. LOS | D | | | | | | | | | | | |
| Ave. Delay | 47.6 | | | | | | | | | | | |

## Table 3.7.3 Intersection LOS – Development B

| Intersection | Intermediate Intersection - Development B at Alico Road | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| 2011 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | | | | | | | | | | | | |
| 2025 | 295 | 1163 | 42 | 106 | 933 | 172 | 61 | 143 | 31 | 19 | 92 | 581 |
| Lanes | 2 | 3 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| LOS | D | C | C | D | D | E | D | B | A | C | C | A |
| Int. LOS | C | | | | | | | | | | | |
| Ave. Delay | 32.3 Sec./vehicle | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 2035 | 350 | 1726 | 110 | 198 | 1162 | 227 | 158 | 152 | 81 | 64 | 167 | 733 |
| Lanes | 2 | 3 | 1 | 1 | 3 | 1 | 1 | 2 | 1 | 1 | 1 | 2 |
| LOS | C | A | A | D | C | C | D | C | B | C | C | B |
| Int. LOS | B | | | | | | | | | | | |
| Ave. Delay | 18.6 Sec./vehicle | | | | | | | | | | | |

## Table 3.7.4 Intersection LOS – Development C

| Intersection | Intermediate Intersection - Development C at Alico Road | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| 2011 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | | | | | | | | | | | | |
| 2025 | 112 | 807 | 240 | 361 | 443 | 74 | 426 | 238 | 39 | 59 | 102 | 396 |
| Lanes | 2 | 3 | 0 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 |
| LOS | A | A | -- | E | A | A | D | C | C | C | D | A |
| Int. LOS | C | | | | | | | | | | | |
| Ave. Delay | 20.6 Sec./vehicle | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 2035 | 320 | 1114 | 349 | 477 | 665 | 102 | 302 | 612 | 258 | 75 | 250 | 787 |
| Lanes | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 |
| LOS | C | B | E | F | B | C | F | C | C | C | F | A |
| Int. LOS | D | | | | | | | | | | | |
| Ave. Delay | 49.0 Sec./vehicle | | | | | | | | | | | |

**Table 3.7.5 Intersection LOS - Airport Haul Road**

| Intersection | Airport Haul Road at Alico Road | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| 2011 | 50 | 103 | -- | -- | 19 | 6 | -- | -- | -- | 45 | -- | 142 |
| 2015 | 135 | 86 | -- | -- | 132 | 70 | -- | -- | -- | 45 | -- | 133 |
| | | | | | | | | | | | | |
| 2025 | 160 | 305 | 400 | 434 | 392 | 156 | 414 | 165 | 345 | 125 | 166 | 150 |
| Lanes | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 2 | 1 |
| LOS | C | C | F | D | D | D | D | B | C | C | C | C |
| Int. LOS | D | | | | | | | | | | | |
| Ave. Delay | 51.2 Sec./vehicle | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 2035 | 276 | 728 | 274 | 435 | 705 | 290 | 439 | 181 | 551 | 331 | 163 | 264 |
| Lanes | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 1 |
| LOS | B | B | A | D | C | C | D | C | C | C | C | D |
| Int. LOS | C | | | | | | | | | | | |
| Ave. Delay | 29.9 Sec. / vehicle | | | | | | | | | | | |

## 3.8 Conclusions and Recommendations

Based on the projected traffic volumes and the LOS analysis Alico Road should be implemented as a minimum four lane divided roadway with future provisions to widen to six lanes with design traffic volumes that are expected.

The proximity to I-75 and the planned development for the area demonstrate the need to improve Alico Road from a two lane facility to a major arterial to provide adequate capacity and level of service.

The corridor LOS will be controlled by the LOS at the signalized intersections. The LOS analysis for the signalized intersections indicates that with the exception of some turning or through movements at the Ben Hill Griffin Parkway and Alico Road intersections, the remaining intersections are expected to operate at LOS D or better.

## 4.0 ALTERNATIVES ANALYSIS

The Alico Road Alternatives consist of the No Build Alternative and three Build Alternatives which are the Center Alignment Alternative, the North Alignment Alternative, and the South Alignment Alternative.

The Alico Road alternatives analysis also evaluated the Airport Haul Road alignment connection with the future CR 951 corridor. Three alternatives were evaluated, the South Curve, North Curve and Tangent Alignment Alternatives.

Intersection improvements at Ben Hill Griffin Parkway were identified for the near term and long term traffic projections.

### 4.1 No-Build Alternative

The No-Build Alternative or do nothing alternative keeps the existing condition of Alico Road as two lanes through the design year of 2035. Only routine maintenance would be performed during this period. The No-Build Alternative does not address the capacity, operational, and safety deficiencies. The traffic analysis conducted for the No-Build Alternative indicates that Alico Road will operate at a LOS F in the design year 2035 without the proposed widening. This is below the acceptable LOS C standard for a two-lane facility.

The following is a list of distinct advantages and limitations associated with the No-Build Alternative:

**Advantages of the No-Build Alternative**

- No additional right-of-way would be acquired.
- No design or construction costs.
- No delays to the traveling public during construction.
- No construction impacts to the adjacent natural, physical and social environment.

**Limitations of the No-Build Alternative**

- Creates offset intersections with Airport Haul Road and CR 951
- Increased traffic congestion and user costs associated with increased delays.
- Increased potential for crashes due to congested lanes and intersections.
- Incompatibility with the adopted Lee County Comprehensive Plan.
- Increased emergency vehicle response times.
- Increased vehicle emission pollutants due to growing traffic congestion.
- Increased in roadway maintenance costs.

## 4.2 Description of Build Alternatives Considered

The project evaluated the following sets of roadway Build Alternatives:

- **Alico Road Alignment Alternatives**
  - Limits: Ben Hill Griffin Parkway to 1000 feet east of Airport Haul Road
  - Center Alignment – expansion centered along the existing right of way
  - North Alignment – expansion to the northern side of the existing right of way
  - South Alignment – expansion to the southern side of the existing right of way

- **Airport Haul Road Alignment Alternatives**
  - South Curve Alignment – CR 951 curves eastward, South of Alico Road to meet Airport Haul Road; and Airport Haul Road shifts west 100 feet.
  - North Curve Alignment – Airport Haul Road curves westward, north of Alico Road to match the approved CR 951 corridor
  - Tangent Alignment – CR 951 crosses Alico Road on a tangent or straight alignment and connects to Airport Haul Road as a right turn.

- **Ben Hill Griffin Parkway** Intersection Improvements
  - Near Term Improvements – adds turn lanes and through lanes
  - 2035 Design Year Improvements – adds additional turn lanes and through lanes

## 4.3 Alico Road Alternative Typical Sections

The Center Alignment Alternative is centered within the existing 100 foot right-of-way. The North Alignment Alternative shifts the alignment seven (7) feet to the north and the South Alignment Alternative shifts the alignment thirty-one (31) feet to the south of the existing centerline.

All three Build Alternatives consist of two typical sections which change at station 161+70:

- Typical Section 1: From Ben Hill Griffin Parkway to Station 161+00
- Typical Section 2: From Station 161+00 to 100 east of Airport Haul Road.

Other common features include:

- North ditch relocation from Station 161+00 to the end of the project.
- Median is 54-foot wide and allows for a 6 lane divided roadway
- Urban typical section with curb and gutter
- Median has Type E curb and gutter
- Type F curb and gutter on the outside lanes
- Design speed and posted speed is 45 mph
- 12 foot wide multi-use path on both sides
- On-street bike lanes that are 4 foot wide and designated
- Four 12 foot wide travel lanes
- Stormwater treatment swale
- Landscape Buffer Area

The development of the typical section incorporated specific zones for green space, pedestrians, bicycles and stormwater treatment. These functional zones were then applied to the various engineering factors to create the alternative typical sections. The zones on the Center Alignment Section 1 from Ben Hill Griffin Parkway to Station 161+00 are shown in **Figure 4.3.1**. The Center Alignment Section 2 from Station 161+00 to the end project limit is illustrated in **Figure 4.3.2**.

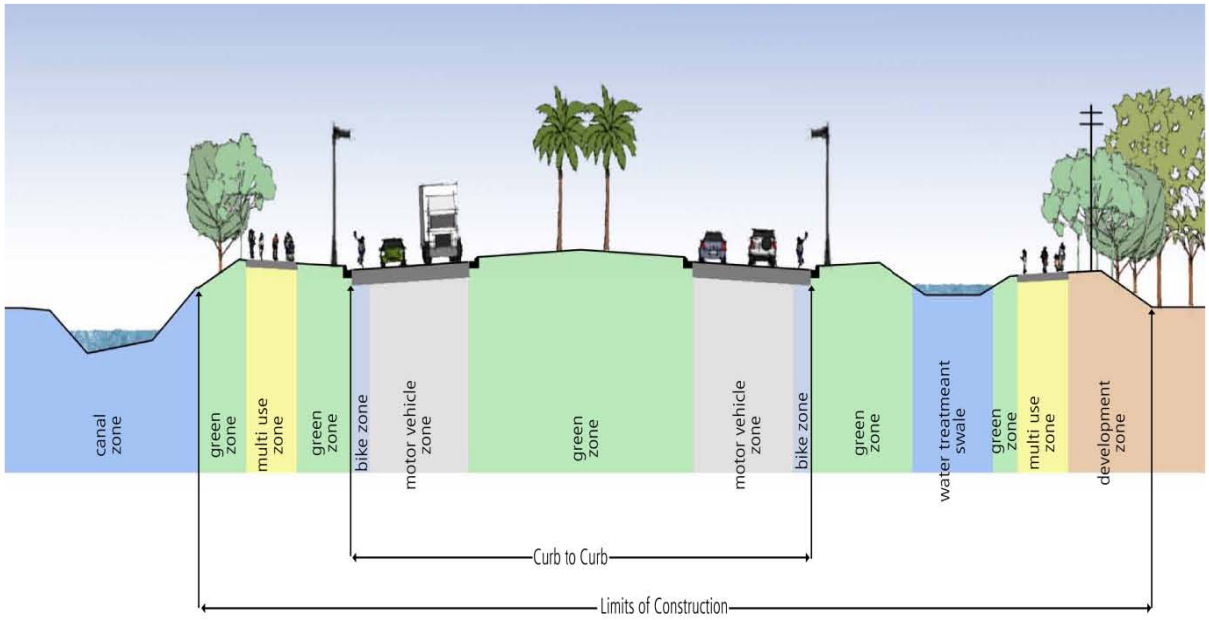



**Figure 4.3.1 Functional Zones Typical Section 1**

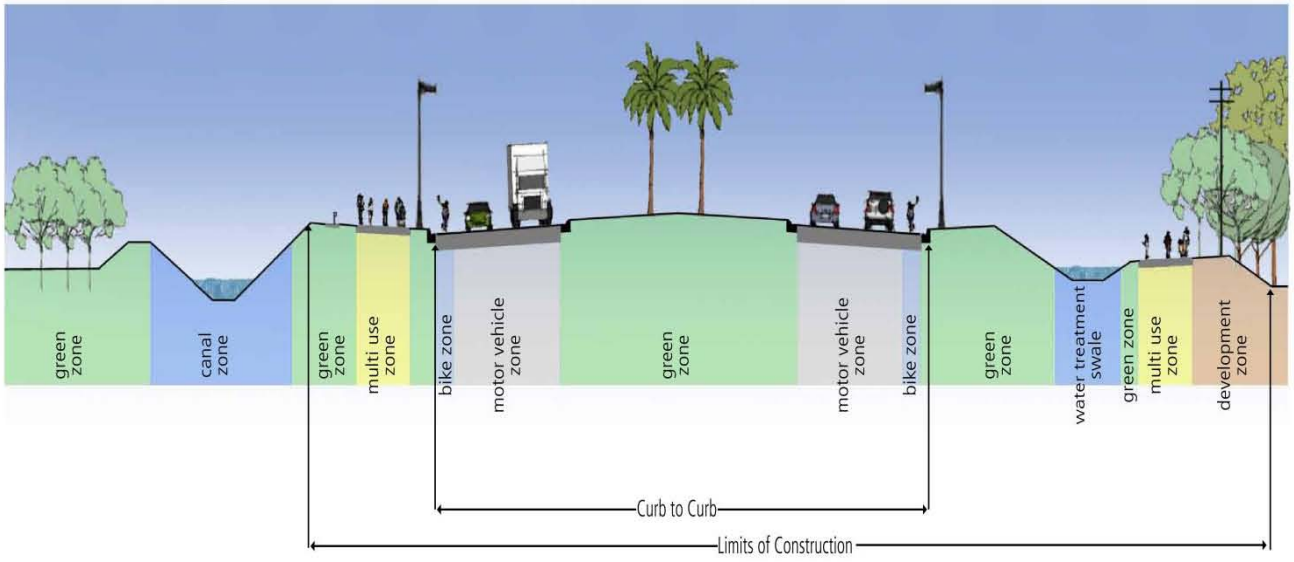



**Figure 4.3.2 Functional Zones Typical Section 2**

The Center Alignment's first typical section, shown in **Figure 4.3.3** has a total right of way width of 217 feet, which requires 42 feet of right of way on the north side and 75 feet of right-of-way along the south side. The stormwater treatment swale is along the south roadside and the existing north ditch remains in place. Utilities are placed in the area between the roadway and the right of way line.

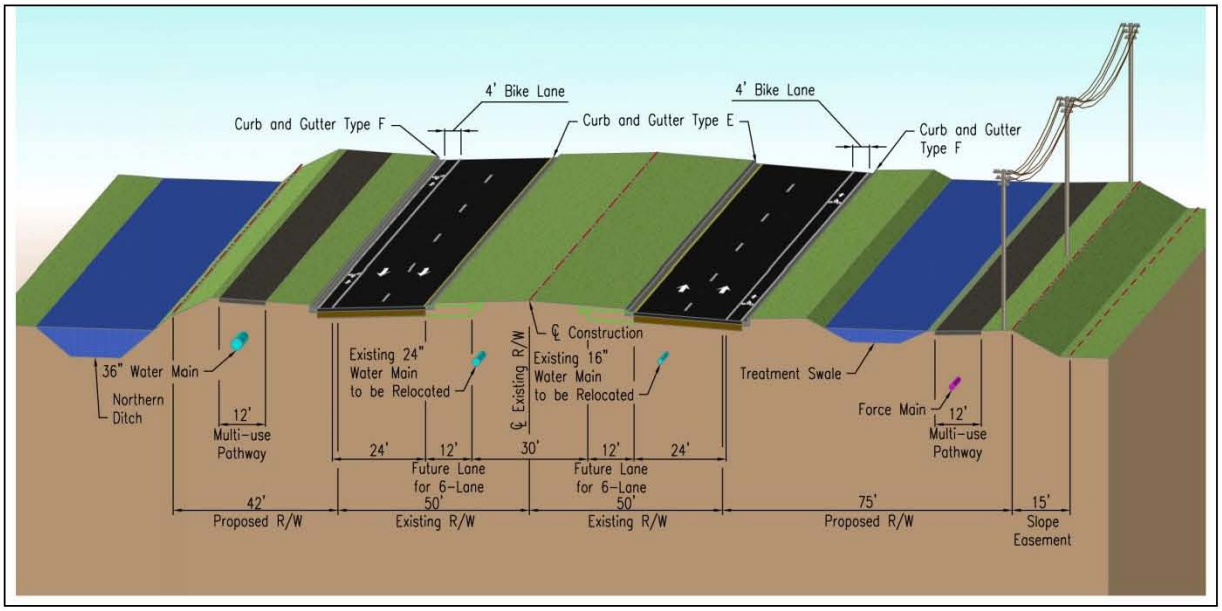



**Figure 4.3.3 Center Alignment Section 1**

As shown in **Figure 4.3.4,** the second typical section has a total right of way width of 250 feet, with 75 feet of right of way from the north and south side. The single north ditch is relocated to the north and a drainage treatment swale is along the south side.

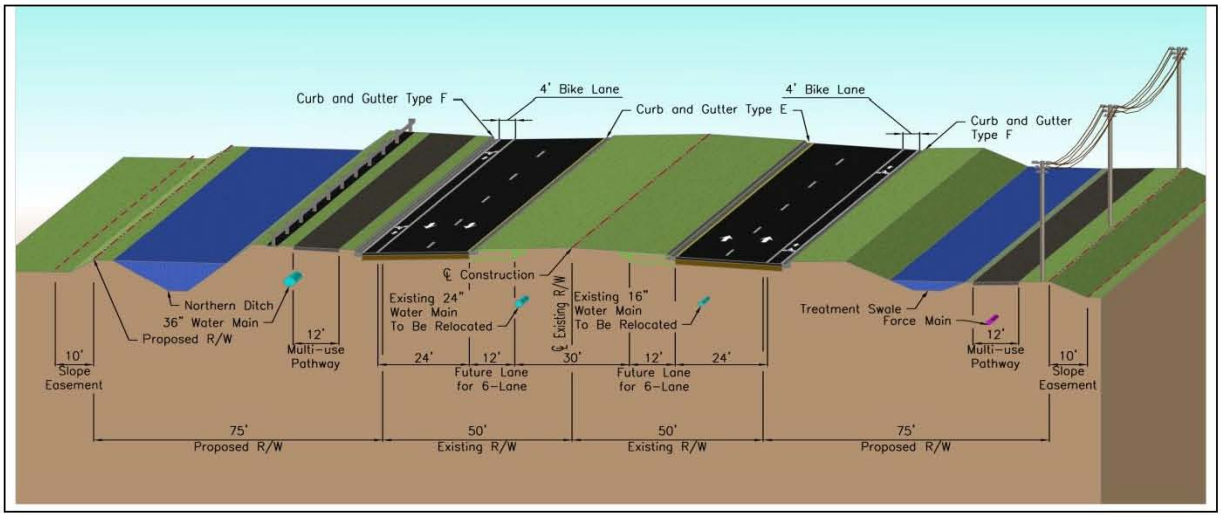



**Figure 4.3.4 Center Alignment Section 2**

The **North Alignment typical sections**, as shown in **Figure 4.3.5 and Figure 4.3.6**, is as far north as possible without relocating the north ditch throughout the length of the corridor. This typical section requires the use of guardrail along the north curb and gutter. Other features are nearly identical with the Center Alignment sections except the North Alignment Alternative allows, within the same right of way width, a 3 foot wider median that provides for a wider concrete separator for dual left turns in the future 6 lane master plan configuration.

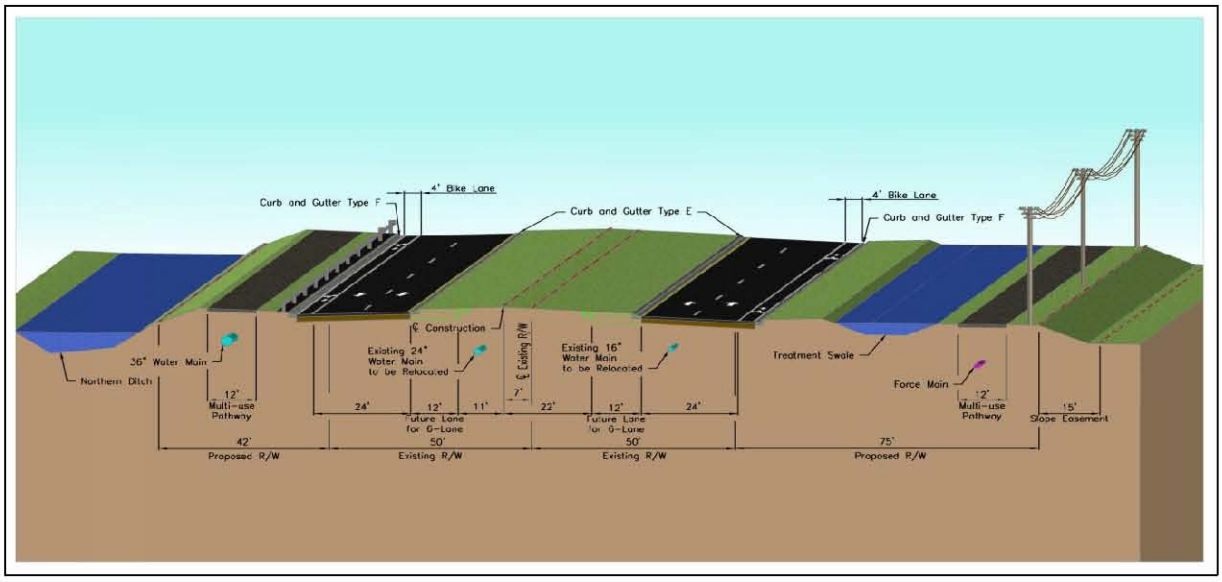



**Figure 4.3.5 North Alignment Section 1**

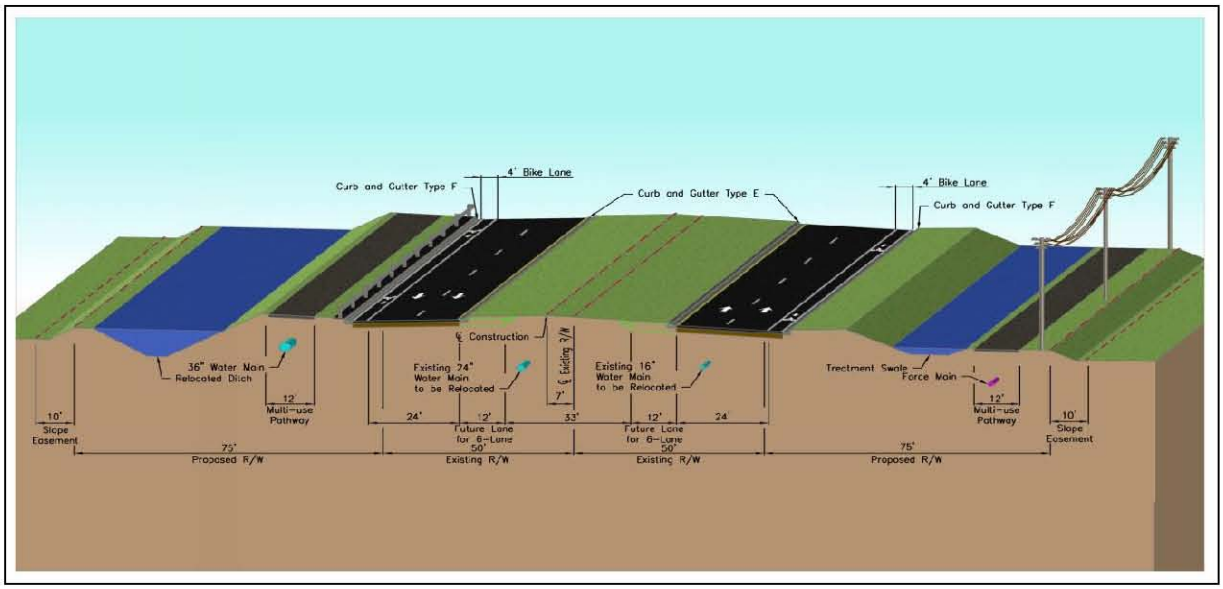



**Figure 4.3.6 North Alignment Section 2**

The **South Alignment typical section**, as shown in **Figure 4.3.7 and Figure 4.3.8,** have the same common features above with the stormwater treatment swale located along the north side of the road. The multi-use path is located between the treatment swale and the north ditch.

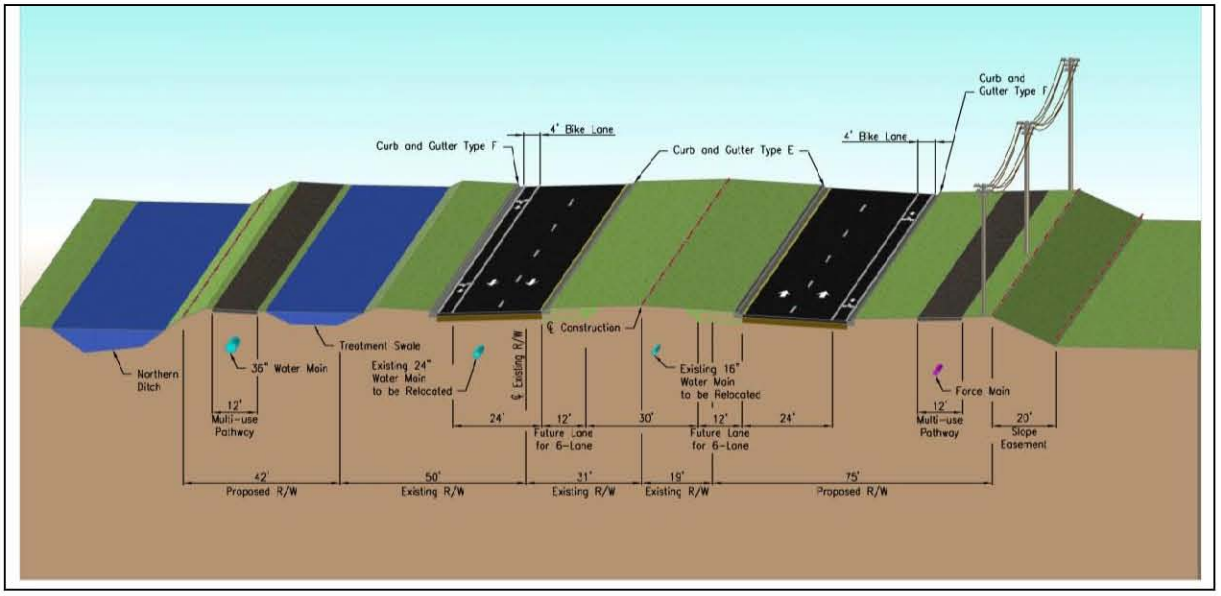



**Figure 4.3.7 South Alignment Section 1**

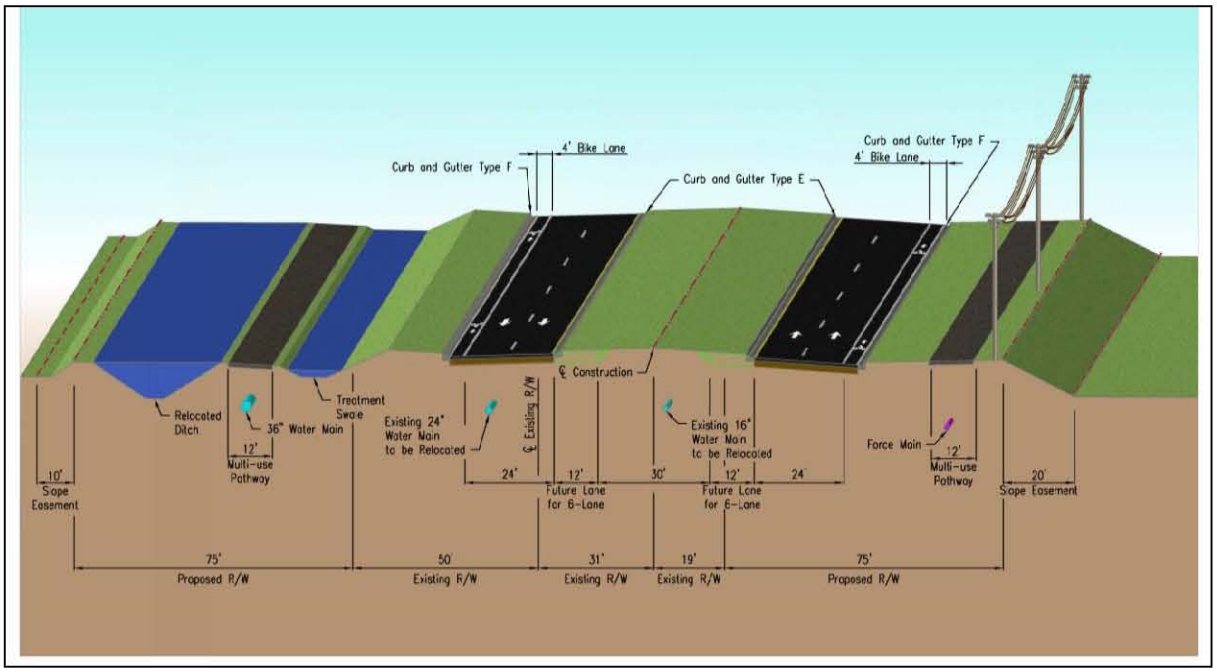



**Figure 4.3.8 South Alignment Section 2**

## 4.4 Engineering Evaluation of Alico Road Alignment Alternatives

The three Build Alternatives which are the Center Alignment Alternative, the North Alignment Alternative, and the South Alignment Alternative are similar in right-of-way impacts, environmental impacts, project costs, and many engineering impacts.

The alternatives were evaluated for the ability to meet the level of services requirements in the year 2035, the ability to serve pedestrians, bicyclists and transit services along the corridor. The evaluation comparison matrix is contained in the section below.

The factors affecting the alignment of Alico Road were based on the following:

- Traffic operations with adjacent intersections
- Ability to not exceed a 250 foot wide right of way
- Connectivity with future development
- Multimodal, pedestrian and bicycle features
- Environmental and wetland impacts
- Access spacing of median openings.
- Usage of the abandon railroad corridor
- Minimization of relocation to the regional north ditch
- Construction costs
- Right of way impacts

Operational traffic analysis was conducted for a four lane divided Alico Road and a six lane divided Alico Road. The four lane alternative provides for one intermediate intersection located midway between Ben Hill Griffin Parkway and Airport Haul Road. To account for the ultimate traffic in the year 2035 three intermediate intersections were included in the traffic analysis for the six lane divided roadway. Conceptual roadway design of these intermediate intersections is included on the future six lane master plan concept.

The evaluation considered providing a 250 foot wide typical section throughout the project limits. To widen 75 feet to the north, three critical existing features were impacted. The roadside swale, the abandoned railroad easement and the north ditch. The roadside swale impact was resolved by providing treatment in the new stormwater swale within the proposed right of way. The abandoned railroad and the north ditch are on private property. To relocate the north ditch, more than 75 feet of right of way would have been impacted. Further coordination and agreements would be required regarding the ownership and maintenance of the new north ditch. It was determined to keep the north ditch in the existing location. The abandoned railroad was found to be useful as the location for the future multiuse pathway.

East of station 161+00 the north ditch shifts southward and is within the existing Alico Road right of way. In this section the ditch is relocated north within the 75 feet of proposed right of way and will connect to the existing north ditch similar to how the two ditches are connected in the existing condition. This evaluation led to the development of the Center, North and South Alignments with both 250 foot and 217 foot wide typical sections.

## 4.5 Environmental Evaluation of Alico Road Alternatives

### *4.5.1 Natural*

Passarella & Associates, Inc. (PAI) characterized wetlands and listed wildlife habitat within the right-of-way and easement study area for the future widening of Alico Road (Study) and is detailed in a separate support document.

A pre-application meeting was held at Lee County DOT with USFWS staff on October 18, 2011 to discuss this Study. The USFWS will require the construction activity to adhere to the Standard Protection Measures for the Eastern indigo snake.

Regarding the wood stork, USFWS staff stated that a foraging habitat analysis will be required if more than five acres of wetlands are proposed for impact. Shallow ditches that provide foraging habitat for wood storks must also be mitigated for, unless the ditches can be replaced within the future road alignment.

Regarding the Florida panther, USFWS staff stated that all areas of the Study that are within the panther focus area, except for deep ditches, must be evaluated using the panther mitigation analysis. This includes the disturbed areas north of the current roadway. USFWS staff stated that they would consider excluding the acreage of the adjacent property where owners have previously provided panther compensation. USFWS staff indicated that they could handle the Study's federally listed species issues via concurrence letter instead of a Biological Opinion.

A total of 26 vegetative associations and land uses (i.e., Florida Land Use Cover and Forms Classification System (FLUCCS) types) have been identified in the study area. The dominant land uses on the site are roads, disturbed land, and drainage ditches. A total of 12.66± acres or approximately 15.3 percent of the study area is potential South Florida Water Management District (SFWMD) and U.S. Army Corps of Engineers (COE) jurisdictional wetlands. A total of 7.62± acres or approximately 9.2 percent of the study site is potential SFWMD "other surface waters" and COE waters of the U.S. The prominent wetland features on the property are hydric disturbed land, hydric pine, and wet prairie.

If proposed development of the site results in impacts to wetlands, "other surface waters," or COE waters of the U.S., a state Environmental Resource Permit and federal Dredge and Fill permit will be required. The applicant will need to demonstrate to both the state and federal agencies that wetland impacts were first avoided as much as possible and then minimized where feasible. The remaining unavoidable wetland impacts will require mitigation. The agencies will also consider secondary and cumulative impacts to wetlands as a result of the study. Preservation of wetland flow-ways may be evaluated by county, state, and federal agencies during review of development permits.

A Lee County Protected Species Survey identified no county, state, or federal protected species in the study area. Florida Fish and Wildlife Conservation Commission (FWC) records document occurrences of listed species in the vicinity of the property including Florida black bear (*Ursus americanus floridanus*), Florida panther (*Puma concolor coryi*), and wood stork (*Mycteria americana*). Coordination with the FWC and the U.S. Fish and Wildlife Service (USFWS) will be required during the permitting process to review the impact of the study to listed species. The study area will not likely have an adverse affect or jeopardize the existence of any threatened or endangered species, even though they are known or expected to occur in the study area. Critical habitat for threatened and endangered species does not occur within the study area. There are no known nesting or denning sites for state or federally listed species occurring in or immediately adjacent to the study area. Since Alico Road is located within core foraging areas for the wood stork and Focus Area for the Florida panther, habitat compensation for these species may be required by the USFWS through a Section 7 Consultation if a federal Dredge and Fill permit is required for the project. The agencies may make recommendations for protective measures to avoid adverse risk to listed species. Protective measures may include implementation of the Standard Protection Measures for the Eastern indigo snake (*Drymarchon couperi*) and preconstruction surveys for Big Cypress fox squirrel (*Sciurus niger avicennia*) nests.

### *4.5.2 Land Use*

No land use changes or changes to land use patterns are anticipated as a result of the proposed widening. The proposed project is expected to enhance the character and aesthetics of the existing landscape. In addition, the proposed project is compatible with adopted Lee County Land Use Plan goals, objectives and policies.

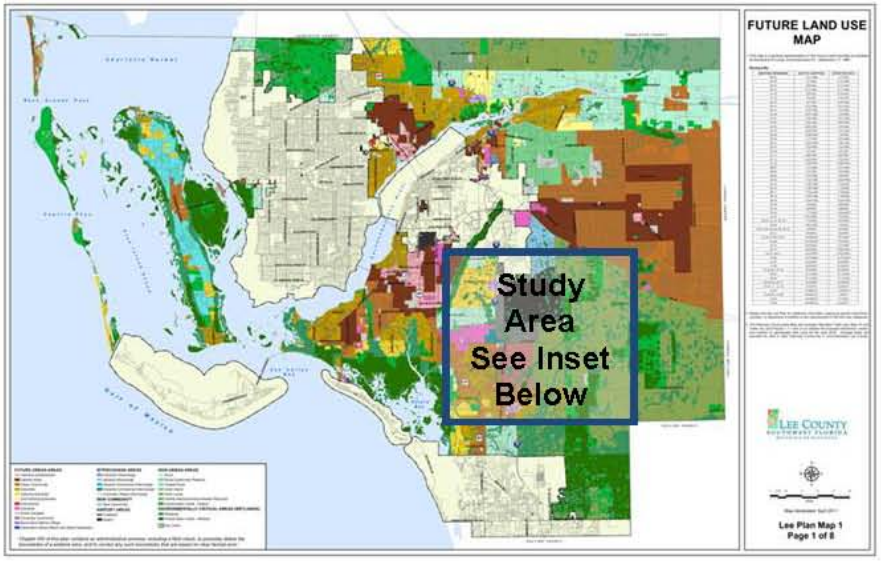
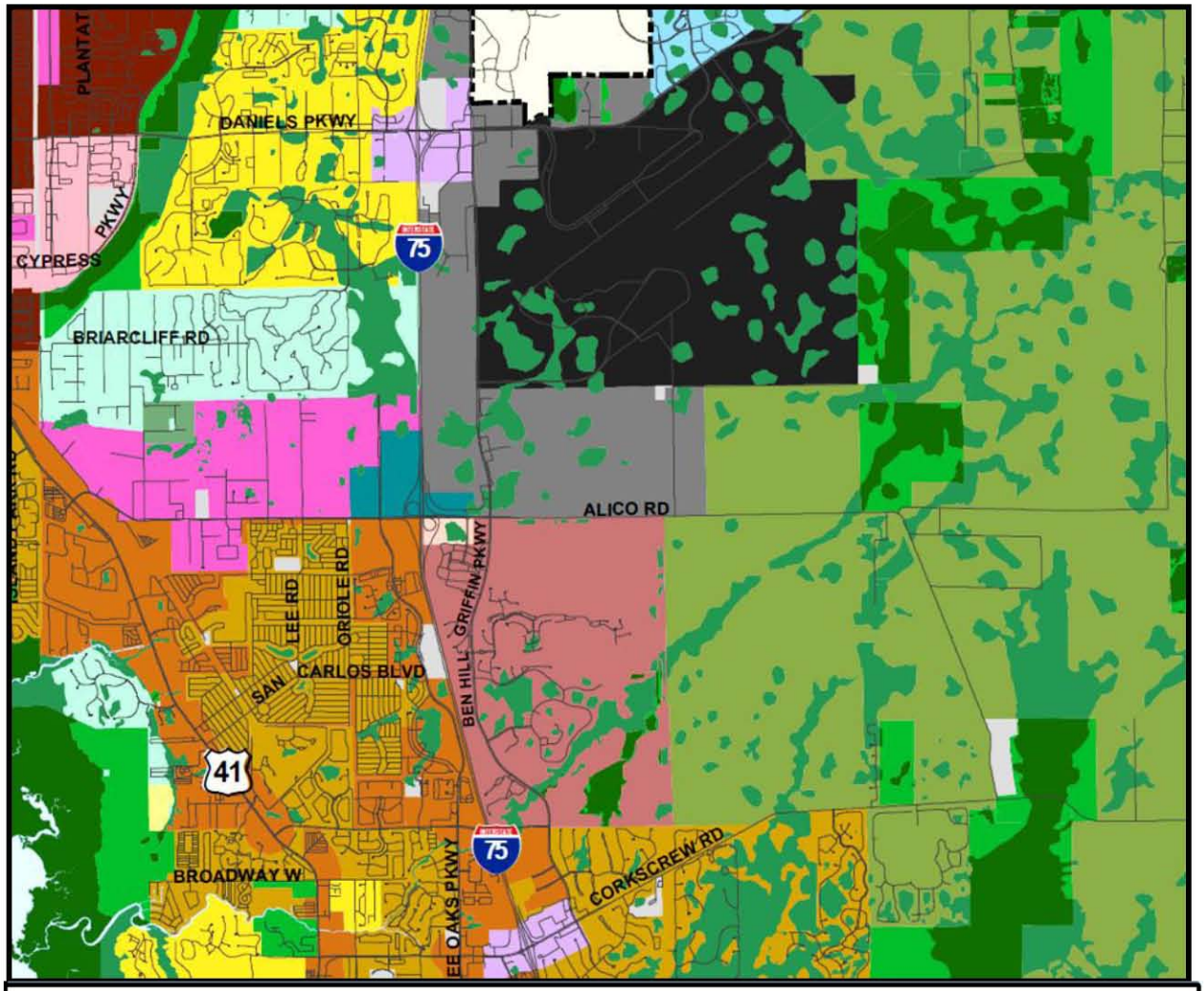



**Figure 4.5.1 Future Land Use Map**




**FUTURE URBAN AREAS**
- Intensive Development
- Central Urban
- Urban Community
- Suburban
- Outlying Suburban
- Sub-Outlying Suburban
- Commercial
- Industrial
- Public Facilities
- University Community
- Burnt Store Marina Village
- Destination Resort Mixed Use Water Dependent

**INTERCHANGE AREAS**
- Industrial Interchange
- General Interchange
- General Commercial Interchange
- Industrial Commercial Interchange
- University Village Interchange

**NEW COMMUNITY**
- New Community

**AIRPORT AREAS**
- Tradeport
- Airport

**NON-URBAN AREAS**
- Rural
- Rural Community Preserve
- Coastal Rural
- Outer Island
- Open Lands
- Density Reduction/Groundwater Resource
- Conservation Lands - Upland

**ENVIRONMENTALLY CRITICAL AREAS (WETLANDS)**
- Wetlands
- Conservation Lands - Wetland

City Limits

*Chapter XIII of this plan contains an administrative process, including a field check, to precisely define the boundaries of a wetland area, and to correct any such boundaries that are based on clear factual error.*

**Figure 4.5.2 Future Land Use Map Inset**

### *4.5.3 Mobility Enhancements*

The proposed widening will increase the capacity of the Alico Road corridor to allow movement of goods and people between the airport, Florida Gulf Coast University, major employment centers (Research and Enterprise Diamond), and residential areas within Lee County. This segment of Alico Road provides the critical link connecting the existing six lane Alico roadway with the approved Alico Road Extension to SR 82 in Lehigh Acres.

Potential mobility enhancements include transportation inter-connections between transit and land development, pedestrian and bicycle accessibility, and traffic circulation with planned collector streets. The planned developments along this corridor are expected to increase the surface transportation demand, particularly along the project corridor. The proposed capacity improvements along the project corridor will provide the necessary roadway, sidewalk and bicycle capacity to meet the anticipated future transportation demand. Further discussion of the sustainability and complete streets features are detailed in the preferred alternative section.

### *4.5.4 Aesthetic Enhancements*

The proposed project is being proposed with landscape and is not anticipated to aesthetically impact the area and its surrounding areas. There are no noise sensitive sites within proximity to the project corridor, therefore noise impacts are not expected as a result of this project. Further discussion of the aesthetics and landscape are detailed in the preferred alternative section.

### *4.5.5 Relocation and Right of Way Issues*

The proposed four lane project is not anticipated to result in displacement of businesses or residences, since there are no existing permanent businesses or residences within the proposed right-of-way. The existing APAC asphalt plant located on the proposed CR 951 corridor has a termination clause in the lease that states they have a certain number of days to vacate upon notice.

There are several easements either active or abandoned which are identified on the Specific Purpose Survey. The easements are related to the mining railroad spur, north ditch, utilities and conservation.

The proposed right of way is anticipated to be acquired through land development impact fee agreements to be conducted in the design phase.

### *4.5.6 Title VI/Civil Rights Issues*

The public involvement program included a workshop. In addition, no groups were denied benefits of, or discriminated against as part of this project. There are not any displacements of residents for this project. Based on the analysis performed, no actions are required for social, economic, land use, mobility, aesthetic, relocation, and Title VI/Civil Rights issues.

### *4.5.7 Contamination Screening*

As part of the corridor study to evaluate long-range options for widening Alico Road, a Contamination Screening Evaluation (CSE) was conducted to identify known or potential contamination sites in the project area. This CSE Technical Memorandum identified and evaluated four potential contamination sites and recommends a Phase 2 environmental site assessment for three sites that were rated as having medium potential for contamination.

A separate detailed support document was prepared by Stanley Consultants. This document was prepared under the guidance of Chapter 22, "Contamination Impacts," of the Florida Department of Transportation's Project Development and Environmental Manual. The evaluation includes database and records searches, interviews and site reconnaissance. On January 23, 2012, a senior environmental scientist performed field reviews of several sites within a 0.25-mile buffer of the project area, which spans the 1.6-mile stretch of Alico Road from Ben Hill Griffin Parkway to Airport Haul Road.

In addition to a detailed review of an APAC asphalt plant located at 12030 Alico Road, the evaluation also investigated a remnant concrete pad and gravel road located north of the plant; a water utility pipe suspected of containing asbestos materials; and the site of a 2011 traffic accident and diesel fuel spill.

Due to a history of petroleum storage, heavy diesel traffic and nearby mining, the APAC asphalt plant site is rated as having Medium potential for contamination, and it is suggested that groundwater monitoring wells located on the site may be used for sampling during the Phase 2 ESA. The remnant concrete pad on the property just north of the APAC asphalt plant is ranked as Medium due to the presence of empty rusted barrels and a small building of unknown historical use.

A 16-inch buried water utility pipe was also given a Medium rating. The evaluation recommends that the pipe be investigated for asbestos during the design stage of the project, especially if construction impacts are anticipated. The site of a 2011 accident in which diesel fuel was spilled received a Low potential rating due to the cleanup efforts by FDOT Hazmat crews.

The CSE recommends a Phase 2 Environmental Site Assessment (ESA) for the APAC asphalt plant, the remnant concrete pad, and the water utility pipe. The contamination screening evaluation is performed in an effort to identify known or potential contamination sites based on reasonably ascertainable documentation and available information. However, environmental conditions may still exist under or adjacent to the project alignment that were not identifiable through this scope of services. The extent of potential contamination at the sites identified in this report and others discovered after the study has been completed should also be evaluated during the final design phase.

### *4.5.8 Summary of Required Permits*

The following permits are anticipated for this project:

- State Environmental Resource Permit (ERP) from SFWMD
- SFWMD Dewatering Permit for Construction Activities
- Section 404 Federal Dredge and Fill Permit
- Plan for possible mitigation of wetland, wood stork and panther habitat impacts.

## 4.6 Evaluation Matrix for Alico Road Alignment Alternatives

Based on the above discussion and the Evaluation Matrix below the preferred Alico Road Alignment is the Center Alignment.

The **Center Alignment Alternative** may potentially require a portion of guardrail along the eastern end of the project on the north side depending on the final design of the north ditch. The existing 24 inch water main could remain within the median in the future condition, until the future six lanes were constructed. This alternative best balanced the right of way across the north and south properties, provided a balanced multimodal cross section for buffer distance and connectivity.

The **North Alignment Alternative** requires guardrail along the face of curb throughout the length of the project and has less available buffer for landscape along the north roadside. The bicycle lane adjacent to the guardrail is required to be five feet wide versus the standard four feet. Both the guardrail and extra pavement width increases roadway costs. Utilities cannot be placed under or near the guardrail posts, which reduces the amount of available locations for utility placement.

The **South Alignment Alternative** has the drainage treatment swale along the north side of Alico Road which increases the drainage cost to convey the water to the north side for treatment then back to the south to the lake outfall. The multiuse pathway is located between the north ditch and swale which limits future connections to adjacent land and to transit roadway connections. Lateral utility connections will be required to pass under both the swale and north ditch within a short distance which may increase directional boring of utilities.

## Table 4.6.1 Evaluation Matrix – Alico Road Alignment

| ALICO ROAD EVALUATION MATRIX - Four Lane Build Alternative | | | | |
|---|---|---|---|---|
| **Evaluation Factors** | **No Build** | **North Alternative** | **Center Alternative** | **South Alternative** |
| | | | | |
| **Potential R/W Impacts *** | | | | |
| R/W Width | 100' | 217' and 250' | 217' and 250' | 217' and 250' |
| Easements impacted | 0 | FPL, RR, Conservation | FPL, RR, Conservation | FPL, RR, Conservation |
| Undeveloped Lots | 0 | 4 | 4 | 4 |
| **Engineering** | | | | |
| Existing North Ditch Changes | None | East End | East End | East End |
| Storm Water Treatment | None | Swale to Lake | Swale to Lake | Swale to Lake |
| Stormwater Conveyance to Lake | None | Above Average | Above Average | Average |
| Property Access | Poor | Average | Above Average | Above Average |
| Guardrail | None | Full Length of Project | East End | None |
| **Utility Corridor** | | | | |
| Width | None | 12' (both sides) and 4' next to south R/W | 12' (both sides) and 4' next to south R/W | 12' (both sides) and 4' next to south R/W |
| Number of Utilities in Utility Corridor | None | 4 | 4 | 4 |
| Clear Maintenance Area | None | None | None | None |
| Ability to Perform Future repairs and connections | Average | Average | Above Average | Above Average |
| Future Lateral Connection | None | Needed for force main and water main | Needed for force main and water main | Directional Drilling under North Ditch |
| Potential Conflicts | None | With Guardrail at Curb Full Length of Project | None | At Additional crossdrains to outfall into the lake |
| Safety | None | High improvement | High improvement | High improvement |
| **Sustainability** | | | | |
| Pedestrian Walkability | None | Above Average | Above Average | Above Average |
| Property Access via Walking or Biking | None | Above Average | Above Average | Above Average |
| Landscaping | Minimal | County Core Level | County Core Level | County Core Level |
| Bicyclist | None | Average | Above Average | Above Average |
| Transit Stops | None | Above Average | Above Average | Above Average |
| **Natural / Physical Environmental Effects** | | | | |
| Potential Threatened & Endangered Species Involvement | None | 3 | 3 | 3 |
| Wetlands (Acres) | 0 | 12.66 | 12.66 | 12.66 |
| Mitigation Required | None | Yes | Yes | Yes |
| Potential Contamination Sites | None | 4 | 4 | 4 |
| **Traffic - Level of Service (LOS**)** | | | | |
| Year 2025 with Four Lane Build Alternative | F | D | D | D |
| Year 2035 with Six Lane Concept | F | D | D | D |
| **Preliminary Estimate Total Cost** | | $25,637,000 | $25,369,000 | $25,523,000 |

* No business or residential relocations

** Levels of Service descriptions - C=Stable flow D=Approaching unstable flow E=Unstable flow F=Forced or breakdown flow

## 4.7 Airport Haul Road Alignment Alternatives

The existing Airport Haul Road connects to the north Alico Road right of way and is located approximately 100 feet east of the FP&L transmission easement. The approved CR 951 corridor is on the south side of Alico Road and located directly adjacent to the west side of the FP&L transmission easement. The two roadways are approximately 400 feet apart. This condition creates an 'offset' intersection configuration that will have poor operational characteristics.

The goal of the Airport Haul Road alignment alternatives is to create a direct connection between the existing Airport Haul Road and the future CR 951 corridor. The proposed alignment would remove the offset intersection condition. Three alignments were evaluated that either shifted Airport Haul Road or CR 951, **Figure 4.7.1, 4.7.2, and 4.7.3.**

The Airport Haul Road alignment alternatives consist of a North Curve Alignment (curve is north of Alico Road) and a South Curve Alignment (curve is south of Alico Road). The Tangent Alignment continues CR 951 northward and creates a second intersection and roadway connection to Airport Haul Road. These alignments have a four lane divide typical section for Airport Haul Road and CR 951. **Appendix D** for the typical sections and concept plans.

The **North Curve Alignment** utilizes curve radii of 955 feet to S-curve through the FP&L easement avoiding the existing FP&L transmission poles and guy anchors. A superelevation of .02 (e=0.02) or reverse crown (RC) is required.

The **South Curve Alignment** utilizes curve radii of 784 feet to S-curve through the FP&L easement avoiding impacts to the existing FP&L transmission poles and guy anchors. A super elevation of 0.034 (e=0.34) is required. The four lane divided typical section fits within 150 feet of right-of-way. In order to minimize CR 951 alignment shift and fill depth of 40 feet in the existing lake, Airport Haul Road is shifted west 100 feet, with a flatter S-curve (with no super elevation required) along the north side of Alico Road.

The **Tangent Alignment** carries CR 951 north 500 feet, creates a 90 degree intersection and new roadway through the FP&L easement. This option creates a second intersection and offset intersection condition which is similar to the existing Airport Haul Road and CR 951 condition. After review of the poor traffic operational characteristics, this alternative was eliminated from further consideration.

## 4.8 Environmental Airport Haul Road Alignment Alternatives

The **North Curve** and **South Curve** Alignments were evaluated for wetland, woodstork and panther habitat impacts and for the acreage of area identified as conservation by the Florida Gulf Coast Technology Park (Benderson) SFWMD Permit No. 36-05238-P. The North Curve Alignment contains approximately 1.7 acres and the South Curve Alignment contains approximately 4.0 acres in areas identified as conservation. The conservation areas identified on the Benderson permit appears to have been used as compensation for wetland impacts using the previously established SFWMD ratios. Taking a look at the




**Figure 4.7.1 Airport Haul Road - North Curve Alignment**




**Figure 4.7.2 Airport Haul Road - South Curve Alignment**




**Figure 4.7.3 Airport Haul Road – Tangent Alignment**

ratios reported in the Benderson SFWMD staff report, it appears that the 1.7 acres of overlay in the North Alignment equates to approximately 1.0 acre of wetland compensation. The 4.0 acres of overlay in the South Alignment equates to approximately 2.3 acres of wetland compensation.

Both the North and South Curve Alignments contain 4.15± acres of wetlands that could potentially be utilized by wood storks for foraging. Additionally, the South Curve Alignment contains 0.96± acre of COE Waters that could potentially be utilized by wood storks; however, the majority of these COE Waters may be excluded as suitable foraging habitat due to water depth.

The portions of the North and South Curve Alignments located north of Alico Road are within the Florida Panther Primary Zone. The North and South Curve Alignments contain 6.19± acres and 5.63± acres within the Panther Primary Zone, respectively.

## 4.9 Airport Haul Road Alignment Alternatives – Build Alternative

The Build alternative that would be constructed with the four lane divided Alico Road project would be a two lane roadway expanded to three lanes at the intersection with Alico Road. The design and layout of this two lane roadway would build half of the ultimate Airport Haul Road typical section on the eastern 75 feet of right of way. This would allow the future two lanes of Airport Haul Road to be built within the west 75 feet of right of way and thereby not impact the first two lanes. During the first phase, the west 75 feet of right of way could be utilized as a stormwater treatment swale as shown in **Figure 4.9.1.**

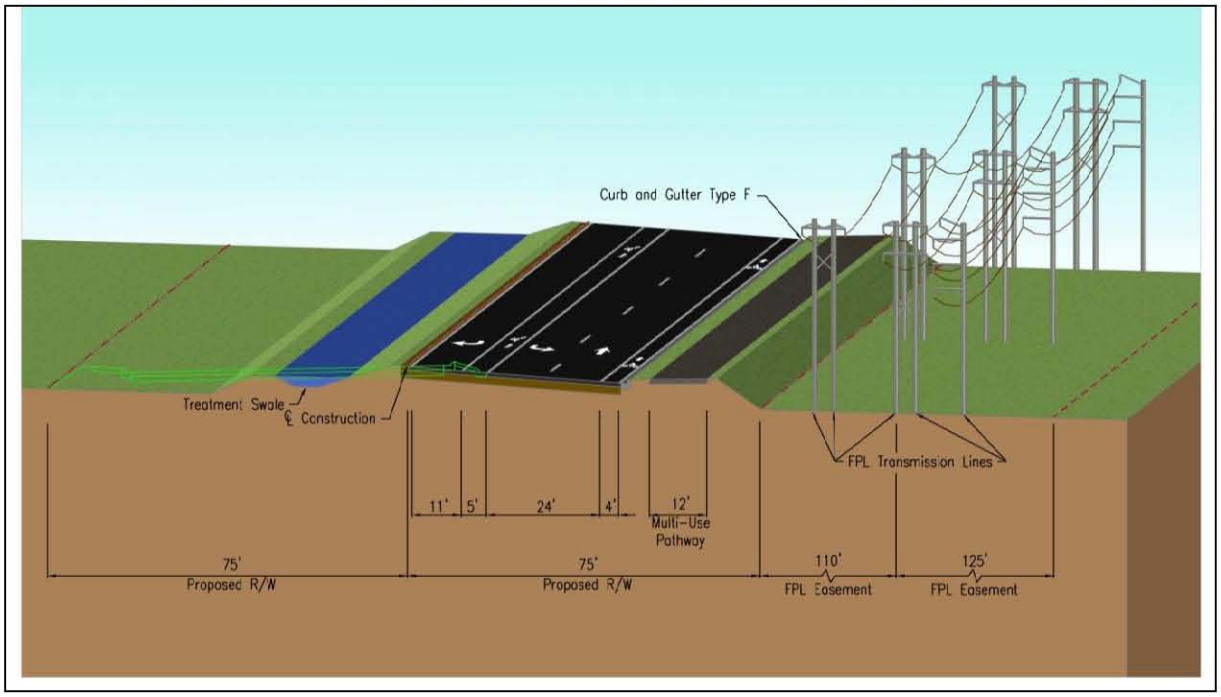



**Figure 4.9.1 Airport Haul Road Build Half Section**

### 4.10 Evaluation Factors and Matrix for Airport Haul Road Connection to CR 951

The factors affecting the alignment of Airport Haul Road were based on the following:

- Consistency with approved CR 951 corridor location
- The ability to provide a direct connection between Airport Haul Road and CR 951
- Horizontal alignment through the FPL transmission easement
- Traffic operations with adjacent intersections
- Access spacing of median openings.
- Wetland woodstork and panther habitat impacts
- Wetland conservation impacts
- Construction costs
- Right of way impacts

The **North Curve Alignment** provides the following benefits. The alignment has a smoother horizontal curve and less superelevation which is more appropriate for intersection connections. The intersection is further west which provides opportunity for better direct access off of Alico Road into the future development east of Airport Haul Road. There are less conservation easement impacts with this alternative, 1.0 acres compared to 2.3 acres for the South Curve. When the existing Airport Haul Road is realigned the existing pavement and embankment could be removed to provide opportunity for a stormwater treatment swale; or could be utilized for replacement land for the conservation easement. The properties west of the alignment will have better access to either Airport Haul Road or CR 951 than with the South Curve Alignment. Pedestrian and bicycle access is better served by the North Curve due to its closer proximity to the available land for development. This alignment connects to the approved CR 951 corridor without modifications to the CR 951 right of way.

The **South Curve Alignment** requires placing fill to a depth of 40 feet into the lake, providing slope stabilization and guardrail along the lake. It also impacts the conservation easement more than the North Curve Alternatives due to the realignment of Airport Haul Road towards the FP&L easement. The South Curve Alignment is further east and provides one additional directional median opening as compared to the North Curve Alignment.

Based on the analysis and evaluation, the North Curve Alignment is the preferred Airport Haul Road alignment.

## Table 4.10.1 Evaluation Matrix – Airport Haul Road Alignment

| EVALUATION MATRIX - AIRPORT HAUL ROAD ALIGNMENT | | |
|---|---|---|
| **Evaluation Factors** | **South Curve Alternative** | **North Curve Alternative** |
| | New Intersection is East of FPL Easement | New Intersection is West of FPL Easement |
| **Right of Way** | | |
| R/W Width | 150' | 150' |
| Easements impacted | FPL | FPL |
| Undeveloped Lots | 1 parcel south of Alico Rd<br>1 parcel north of Alico Rd | 2 parcels north of Alico Rd |
| Consistency with Lee County Plan | No | Yes |
| **Engineering** | | |
| Storm Water Treatment | Swale to Lake | Swale to Lake. Pond opportunity between Airport Haul Rd and FPL Easement. |
| Stormwater Conveyance to Lake | Above Average | Average |
| Property Access | Average | Above Average |
| Embankment | Requires 40 ft height of embankment to fill in lake | Requires standard roadway embankment |
| **Access** | | |
| Existing Airport Haul Road | must be closed | potential as driveway access |
| FPL Maintenance Road Access from Alico Road | Access from Alico Road is unchanged. | Access from Alico Road will shift to center of FPL Easement. |
| FPL Maintenance Road Access from Airport Haul Road | Provide north/south access across the median of the new Airport Haul Road alignment. Due to curve and skew along Airport Haul Road, no right-in/right-out is proposed. | Provide north/south access across the median of the new Airport Haul Road alignment. Due to curve and skew along Airport Haul Road, no right-in/right-out is proposed. |
| Clearance to Existing Utility Poles | Adequate | Adequate |
| Left Turn Access from Alico Road median east of Airport Haul Rd. intersection | reduced opportunity | enhanced opportunity |
| Median Access | Allows one directional median opening between signals | Does not allow for one directional median opening between signals |
| **Sustainability** | | |
| Pedestrian Walkability | New Intersection east of FPL Easement is bordered by the pond. Limited pedestrian usage due to minimal land area. | New Intersection west of FPL Easement has enhanced pedestrian usage and increases connectivity to adjacent land. |
| Bicyclist | Above Average | Above Average |
| Landscaping | County Core Level | County Core Level |
| Bicyclist | Above Average | Above Average |
| Transit Stops | Above Average | Above Average |
| **Natural / Physical Environmental Effects** | | |
| Wetlands (Acres) | 4.15 | 4.15 |
| Conservation Area Impact (Acres) | 4.00 | 1.70 |
| Wood Stork Foraging Area (Acres) | 5.11 | 4.15 |
| Florida Panther Habitat (Acres) | 5.63 | 6.19 |
| **Traffic** | | |
| Year 2035 - Level of Service (LOS**) | C | C |
| Signal Spacing between Airport Haul Rd and Development C Intersection | 1686 ft | 1251 ft |
| **Preliminary Estimate of Total Project Cost** | $4,773,250 | $4,308,650 |
| ** Levels of Service descriptions - C=Stable flow D=Approaching unstable flow E=Unstable flow F=Forced or breakdown flow | | |

## 5.0 PREFERRED ALIGNMENT ALTERNATIVE

Based on the evaluation of the alternatives, the preferred alignment is the Centered Alignment along Alico Road with an Airport Haul Road North Curve alignment to connect to CR 951. The proposed build alternative is a four lane divided roadway with a median width sufficient to allow for an additional lane in each direction in the future to provide a six lane divided roadway. The implementation of intermediate intersections is identified on the six lane alternative and may be implemented on the four lane alternative as economic and land development occurs. Section 5.0 presents the engineering considerations associated with this alternative.

### 5.1 Typical Sections

The preferred alignment along Alico Road consists of 2 typical sections. As shown in **Figure 5.1.1,** the first typical section is a proposed high speed urban typical section consisting of four 12 foot travel lanes, a 54-foot median (expandable to six lanes) with inside Type E curb and gutter and outside Type F curb and gutter, two 4 foot designated on road bike lanes, a 12 foot multi-use path on both sides, and a drainage treatment swale along the south side with inlets. The design speed is 45 mph. The limits of the urban typical section would be from east of the Ben Hill Griffin Parkway Intersection to Station 161+70 where the existing right-of-way width is 100 feet. An additional 42 feet of right-of-way along the north side and 75 feet of right-of-way along the south side would be required to accommodate this typical section for a total width of 217 feet.

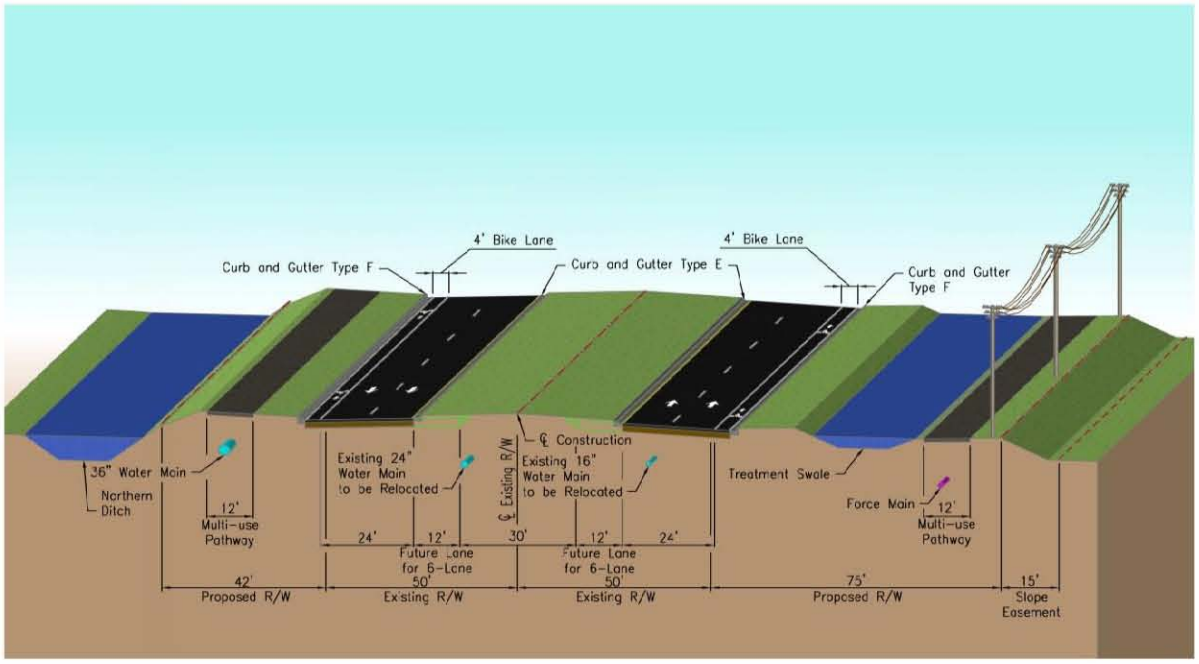



**Figure 5.1.1 Preferred Typical Section – Center Alignment Section 1**

As shown in **Figure 5.1.2,** the second typical section is a proposed high speed urban typical section consisting of four 12 foot travel lanes, a 54-foot median (expandable to 6 lanes) with inside Type E curb and gutter and outside Type F curb and gutter, two 4 foot designated on road bike lanes, a 12 foot multi-use path on both sides, a relocated ditch along the north side and a drainage treatment swale along the south side with inlets. The design speed is 45 mph. The limits of the high speed urban typical section would be from Station 161+70 to approximately 1000 feet east of Airport Haul Road, where the existing right-of-way width is 100 feet. An additional 75 feet of right-of-way along both sides would be required to accommodate this typical section for a total width of 250 feet.

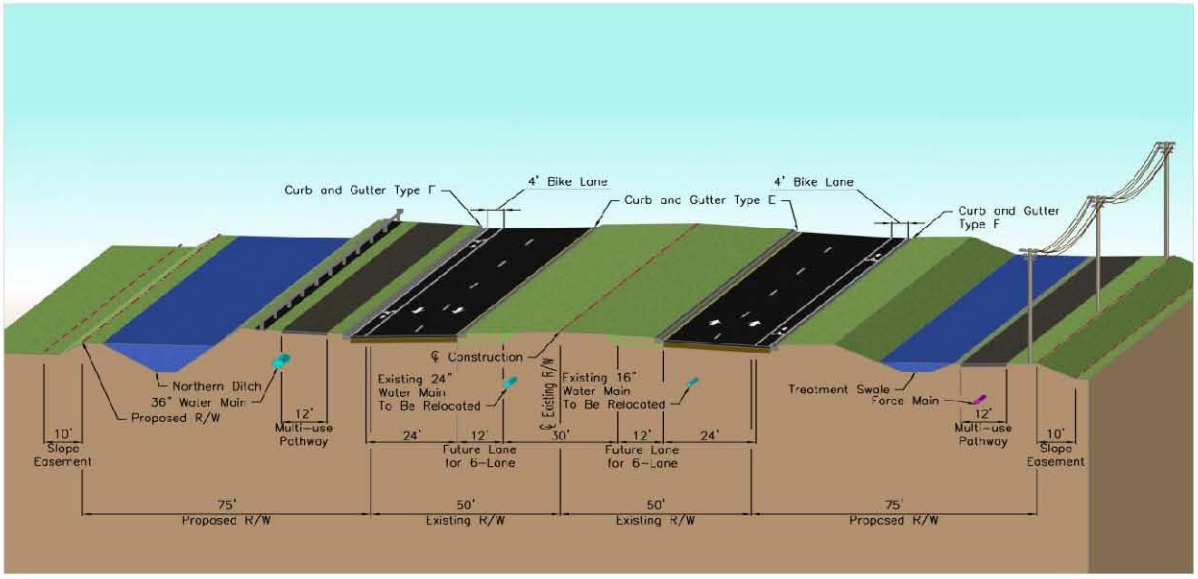



**Figure 5.1.2 Preferred Typical Section – Center Alignment Section 2**

The preferred alignment for Airport Haul Road consists of one typical section that connects Airport Haul Road to Alico Road. As shown in **Figure 5.1.3**, the typical section is a urban typical section consisting of two 12 foot travel lanes expandable to a 4 lane divided section within 150 feet of right-of-way. The two 12 foot travel lanes would be located in the future northbound lanes with Type F curb and gutter along the east side and a two foot stabilized shoulder along the west side. A 4 foot designated on road bike lane, a 12 foot multi-use path along the east side and a drainage treatment swale with inlets along the west side are provided.

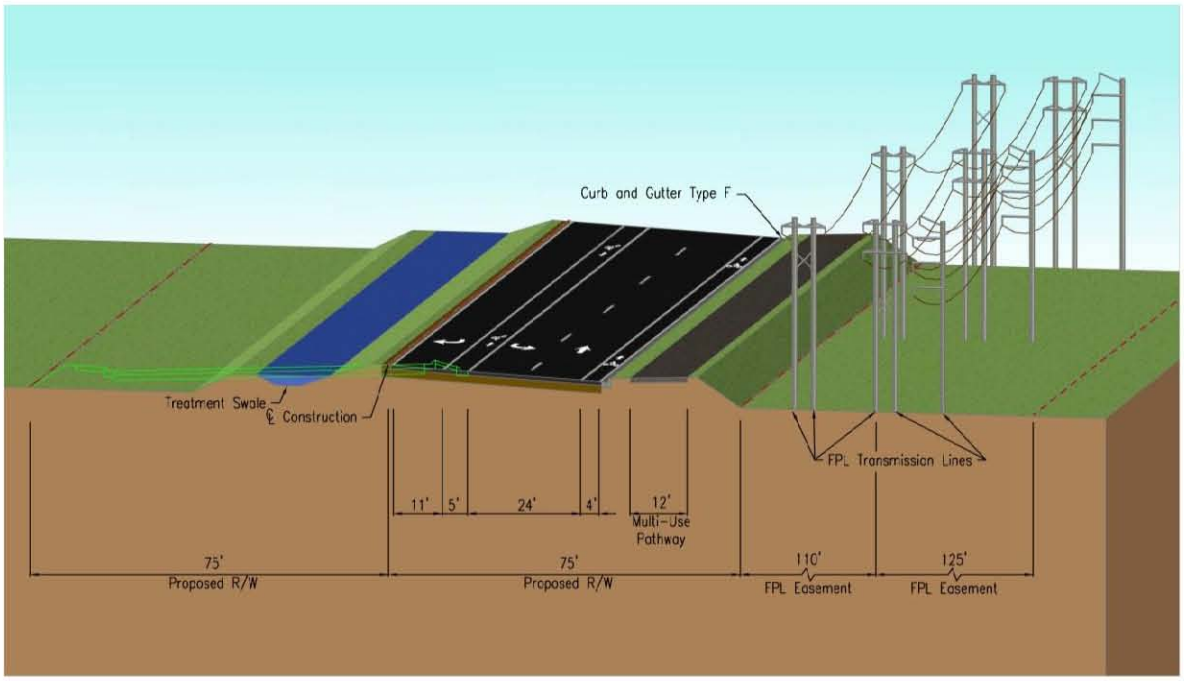



**Figure 5.1.3 Preferred Typical Section – Airport Haul Road Build Half Section**

## 5.2 Sustainability, Multimodal and Aesthetics

The vision for the Alico Road Corridor considers a Complete Streets approach and would incorporate context sensitive solutions for the various opportunities along the corridor. This would include, and not be limited to, an appropriate palette of urban design elements and signature landscape that would enhance and define the character and identity of Alico Road.

Based on the roadway design and transportation framework, the design intent for Alico Road promotes walking, bicycling and transit opportunities. This intent encourages walk ability along the corridor with easy access to future destinations. Ultimately, the Alico Road corridor will project a sense of livability, character, identity, place, and provide sound design objectives for safety, efficiency, mobility and capacity. Implementing these ideas in balance with maintenance obligations, cost and environmental impacts will create a unique experience of place for Lee County users.

**SUSTAINABILITY PRINCIPLES**

**Multimodal**

1. Alternative Transportation- Bicycle Storage
   Intent: To reduce pollution and land development impacts from automobile use.
2. Health and Mobility
   Intent: Bicycle lanes and Multi-use pathways promote non-motorized modes.
3. Transit Connectivity
   Intent: To connect regional transit with residential and employment centers to reduce vehicle miles traveled and improve air quality.
4. Multimodal System

Intent: To reduce personal travel costs and dependency on single driver vehicles.

**Water Efficiency**

5. Water- Efficient Landscaping
   Intent: To limit or eliminate the use of potable or other natural surface or subsurface water resources available on or near the projects site for landscape irrigation.
6. Innovative Wastewater Technologies
   Intent: To reduce wastewater generation and potable water demand while increasing the local aquifer recharge.
7. Stormwater Treatment and Retention
   Intent: To limit disruption and pollution of natural water flows by managing stormwater runoff.

**Energy and Atmosphere**

8. On-Site Renewable Energy
   Intent: To encourage or recognize increasing levels of on-site renewable energy self supply to reduce environmental and economic impacts associated with fossil fuel energy use.
9. Heat Island Effect- Nonroof
   Intent: To reduce heat island's to minimize impacts on microclimates and human and wildlife habitats.
10. Light Pollution Reduction
    Intent: To minimize light trespass from building and site, reduce sky-glow to increase night sky access, improve nighttime visibility through glare reduction and reduce development impact from lighting on nocturnal environments.

**Materials and Resources**

11. Recycled Content
    Intent: To increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.

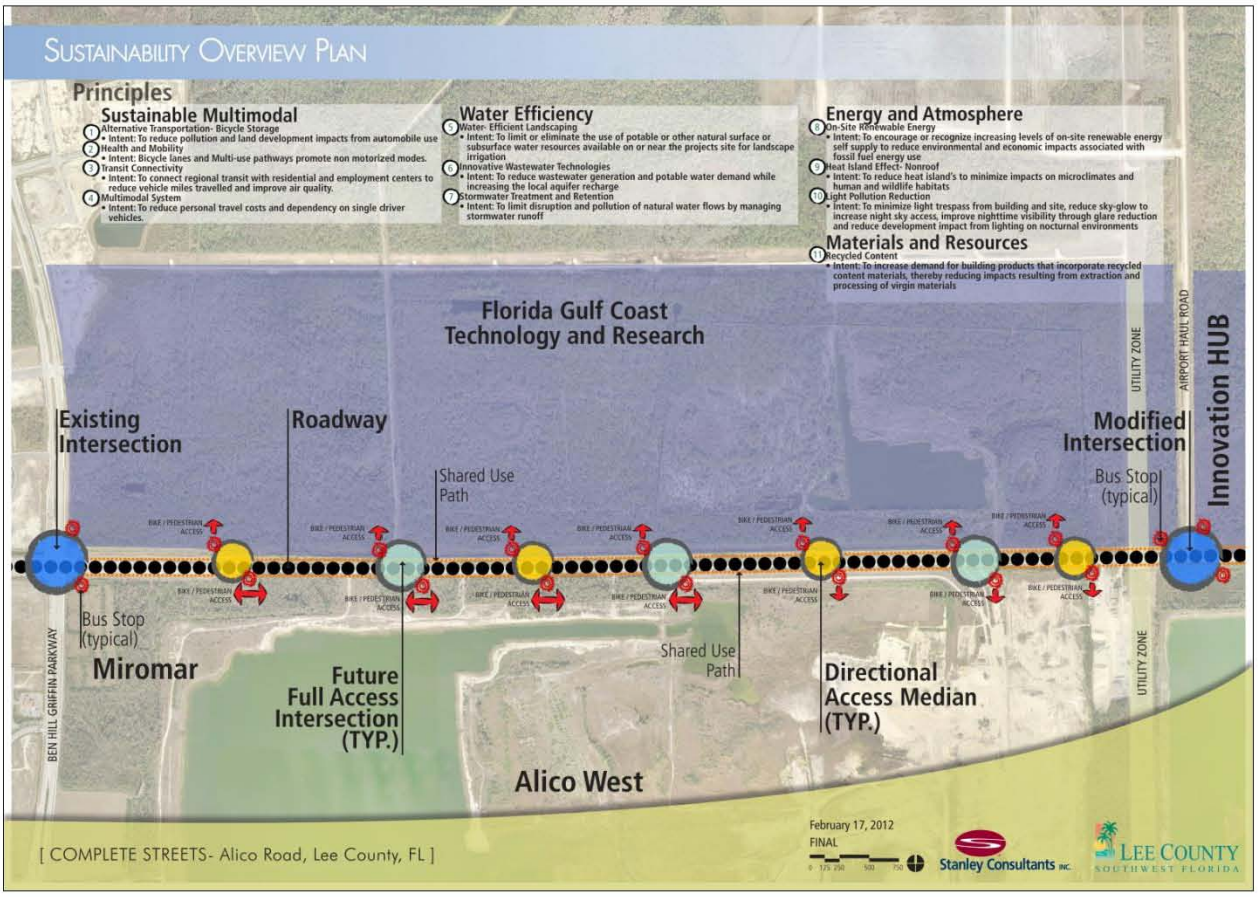



**Figure 5.2.1 Sustainability Overview Plan**

## 5.3 Landscape

A signature landscape approach is appropriate along the Alico Road Corridor now and in the future. As a first phase, implementing a signature median landscape design will develop the character and identity of the corridor and enhance the pedestrian and multimodal experience. As areas develop along the corridor, careful consideration of the landscape design outside the public right of way should take place. In a similar approach to the University Window Overlay District, a consistent and cohesive signature landscape approach should be adopted for the Alico Road Corridor.

In the process of preparing an appropriate median concept, a review was conducted of the Florida DOT Landscape Guide, the LeeScape Master Plan and the University Window Overlay Agreement.

Median landscape plantings along the Alico Road corridor are based upon the following criteria:

- 3 trees per 100 LF
- 30 shrubs for per 100 LF
- ornamental trees
- palm trees
- canopy trees
- shrubs

Palette of Urban Design Elements:

- Bus shelter
- Site furnishings
- Pedestrian lighting
- Street lighting
- Hardscape
- Pathway

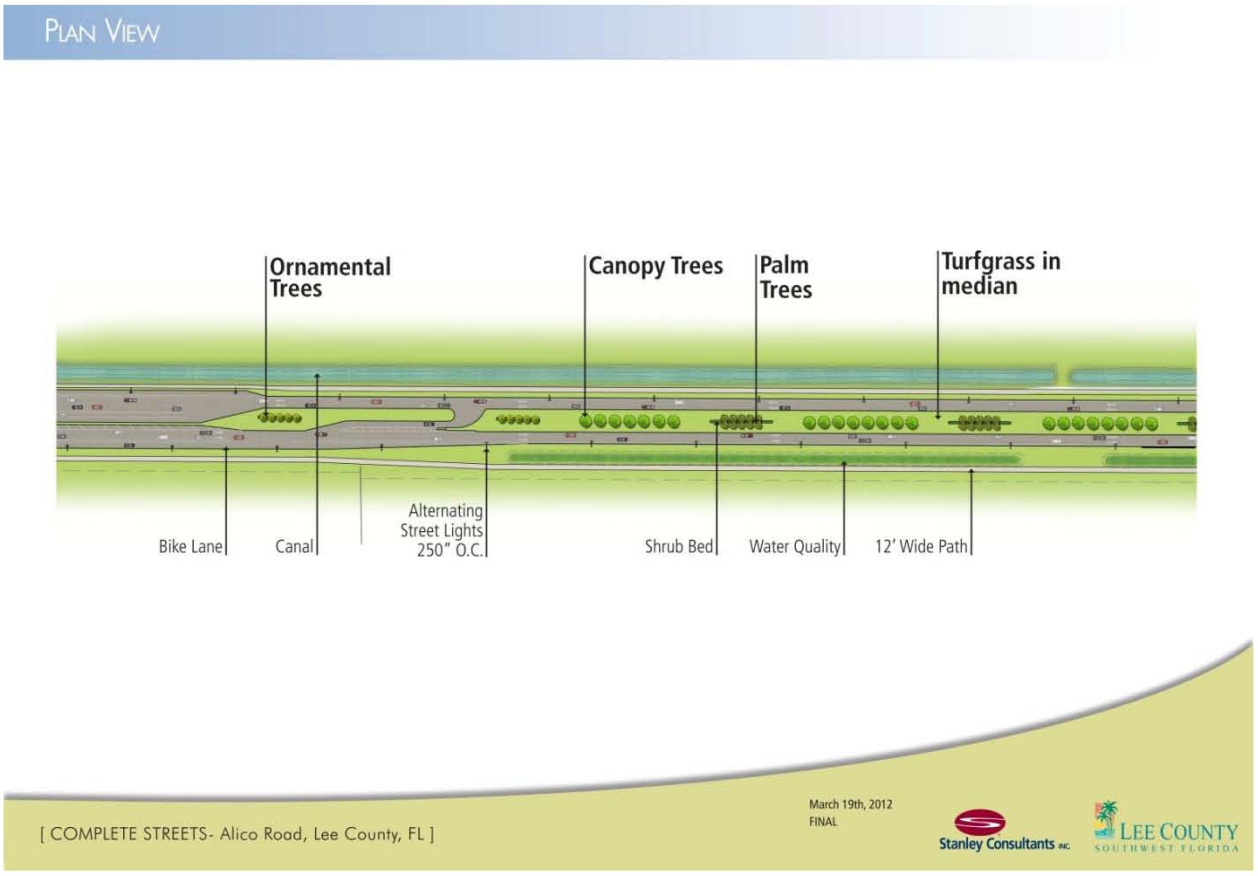



**Figure 5.3.1 Landscape Concept**

## 5.4 Multimodal Pathways and Transit

A key component of Complete Streets is the multimodal component to serve the pedestrian, bicyclist and transit rider. The proposed project includes multiuse pathways on both sides with opportunity for future transit bus pull outs and shelters to be constructed along the corridor. At the time of this report there are not planned transit routes along Alico Road. Once the planning and development moves forward the final locations of the transit stops and pedestrian access points can be finalized.

The Sustainability Overview Plan shown in **Figure 5.2.1** identifies key locations for the multimodal user to connect with either the adjacent properties or with the transit. These points are chosen based on the 2035 traffic projections and six concept plan.




**Figure 5.4.1 Complete Streets Transit and Pathway Concept**

## 5.5 Horizontal and Vertical Alignment

The proposed horizontal alignment along Alico Road generally utilizes the existing horizontal alignment. CR 951 runs along the west side and parallel to the FP&L Transmission easement south of Alico Road. The future Airport Haul Road alignment traverses across the 235 foot wide FP&L Transmission easement using horizontal curvature with radii of 955 feet to avoid impacting the existing transmission poles and

guy wires. A reverse crown (RC) Superelevation rate is required. **Appendix D** includes concept plans illustrating the preferred alternative and anticipated right-of-way needs.

The datum used for this project is the 1988 North American Vertical Datum (NAVD). The vertical alignment remains generally flat with a saw tooth profile set at an elevation consistent with vertical clearance requirements above the design high water. During the study high water marks on established trees were identified, water elevations were measured by the land surveyor and recorded. The roadway is anticipated to be raised approximately one to four feet above the existing ground contour line. The vertical alignment will be evaluated in more detail during the design phase, during which site-specific geotechnical data will be collected and analyzed.

## 5.6 Design Criteria

**Table 5.6.1** presents the roadway design criteria established for the initial and ultimate phases of the project and used in the development of typical sections and alignments that were presented at the Public Information Workshop held on March 27, 2012. The design criteria are based on design parameters outlined in the *FDOT Plans Preparation Manual (PPM), Design Criteria and Process Volume 1* (January 2012 Update).

**Table 5.6.1 Design Criteria Table**

| Design Element | Urban Typical Section | Source |
|---|---|---|
| Design Speed | 45 MPH | PPM Vol. 1, Table 1.9.1 |
| Lane Width | 12 ft. | PPM Vol. 1, Table 2.1.1 |
| Minimum Median Width | 30 ft. | PPM Vol. 1, Table 2.2.1; additional 8 ft. provided for dual lefts along corridor. |
| Outside Shoulder Width | 8 ft. (5ft. paved) | PPM Vol. 1, Table 2.3.2 |
| Border Width | 12 ft. | PPM Vol. 1, Table 2.5.2 |
| Maximum Vertical Deflection | 0.70 | PPM Vol. 1, Table 2.6.2 |
| Base Course Clearance above Water Elevation | 1 ft. | PPM Vol. 1, Table 2.6.3 |
| Minimum Distance Between VPI's | 250 ft. | PPM Vol. 1, Table 2.6.4 |
| Minimum Stopping Sight Distance | 360 ft. | PPM Vol. 1, Table 2.7.1 |
| Maximum Horizontal Deflection | 1°00' | PPM Vol. 1, Table 2.8.1a |
| Length of Horizontal Curve | 15 (V) = 675 ft.<br>Not less than 400 ft. | PPM Vol. 1, Table 2.8.2a |
| Crest Vertical Curve | 98 | PPM Vol. 1, Table 2.8.5 |
| Sag Vertical Curve | 79 | PPM Vol. 1, Table 2.8.6 |
| Maximum Degree of Curve | 8° 15' | PPM Vol. 1, Table 2.9.2 |

| Design Element | Urban Typical Section | Source |
|---|---|---|
| ($e_{max}$=0.05) | | |
| Minimum Vertical Clearance | 17 ft. - 6 inches | PPM Vol. 1, Table 2.10.2 and 2.10.3 |
| Clear Zone | 24 ft. | PPM Vol. 1, Table 2.11.11 |
| Minimum Stds. for Canal Hazards (Urban C&G) | 40 ft. | PPM Vol. 1, Exhibit 4-B |
| Shared Use Path Lateral Obstructions | 4 ft. | PPM Vol. 1, Section 8.6.5 |
| Shared Use Path Width | 10 ft. min. for 2 directional | PPM Vol. 1, Section 8.6.2 |
| Shared Use Path Design Speed | 20 MPH | PPM Vol. 1, Section 8.6.6 |
| Shared Use Path Minimum Radii | 110 ft. | PPM Vol. 1, Table 8.6.8.1 |
| Shared Use Path Separation with Roadway | 4 ft.<br>5 ft at guardrail | PPM Vol. 1, Section 8.6.10 |

In addition to the Design Criteria Table and referencing the Lee County Standard Codes and Policies, we used the following references:

1. FDOT SI#526 Roadway Transitions
2. FDOT SI#527 Directional Median Openings
3. AASHTO A Policy on Geometric Design of Highways and Streets 6th Edition (Green Book 2011) – Chapter 9.6.4 Free Flow Turning Roadways at Intersection

## 5.7 Design Variations

To fulfill the Complete Streets initiative, the project is proposing to provide two multi-use pathways along both sides of Alico Road. FDOT Standards require the minimum width of a 2-way pathway to be 10 feet along with providing 4 feet of clearance to horizontal obstruction along both sides of the path and providing a vertical clearance to obstructions of a minimum of 8 feet. *FHWA's Shared Use Path Level of Service Calculator* was not utilized due to the lack of specific pedestrian and bicycle volume projections. There are two potential design variations from FDOT standards that will need to be considered during the design phase for this project. No exceptions are anticipated.

Along the north side of Alico Road at the east leg of Ben Hill Griffin Parkway intersection the pathway width is reduced to 8 feet due to the expanded intersection footprint and the existing canal. Unless options for modifying the canal at this location are implemented, a design variation for pathway width will be needed. The second potential design variation is for not providing the 4 foot clearance to horizontal

obstructions. New signs and light poles could possibly be located during design within the 4 foot clearance area.

## 5.8 Drainage

### *5.8.1 Center Alignment (Ben Hill Griffin Parkway to Sta 161+00)*

The Center Alignment is located in the center of the existing 100' right-of-way. As previously identified, stormwater from the roadway will be collected in "sag" inlets based on approximately 300' spacing for high and low points of an urban section. Therefore, approximately every 600' of roadway improvements will have an inlet. The inlets will also serve as a point where individual cross drains will be constructed allowing stormwater to flow to the south. This alignment does not impact the existing north ditch outside the right-of-way.

A stormwater treatment facility will be located along the south side of the corridor providing for attenuation and water quality requirements prior to discharge to the Miromar Lakes / Alico West Lake. All sections will be required to provide an additional 50% of water quality treatment per the SFWMD so as not to contribute impairments to the quality of downstream receiving waters. Based on standard SFWMD water management design criteria, the treatment swale should provide a water quality and attenuation volume having a cross sectional area of approximately 63.2 sq ft with a potential control elevation of 19.30' NAVD. Along the swale there will be several discharge locations that will direct the treated stormwater to the existing Miromar Lakes / Alico West Lake. Also, sizing of the swale will include future driveway connections that have been identified on the six lane concept plan as well as Lee County driveway access standards along an arterial facility per the Lee County Land Development Code.

### *5.8.2 Center Alignment (Sta 161+00 to Sta 196+50)*

The Center Alignment is consistent with the typical section from East of Ben Hill Griffin Pkwy to Station 161+00 in that it is aligned on the Center of the existing centerline of the 100' right-of-way. This section also incorporates the existing conveyance ditch and 42" RCP cross drains within the proposed right-of-way.

This section follows the same urban drainage design parameters as the other alignments. Again, stormwater from the roadway will be collected in "sag" inlets based on approximately 300' spacing for high and low points of an urban section design. Therefore, approximately every 600' of roadway improvements will have an inlet. The inlets will also serve as a point where individual cross drains will be constructed allowing stormwater to flow to the south.

A stormwater treatment swale will be located along the south side of the corridor providing for attenuation and water quality requirements prior to discharge. The treatment swales west of proposed CR 951 are assumed to discharge into the Miromar Lakes / Alico West Lake and the treatment swales east of proposed

CR951 are assumed to discharge into the onsite lake on the Fort Myers Mine property. All sections will be required to provide an additional 50% of water quality treatment per the SFWMD so as not to contribute impairments to the quality of the downstream waters. Based on standard SFWMD water management design criteria, the treatment swale east of Station 161+00 should provide a water quality and attenuation volume having a cross sectional area of approximately 49.2 sq ft with a control elevation of 19.30' NAVD.

### *5.8.3 Box Culvert Extension*

A single cell box culvert crosses under Ben Hill Griffin Parkway just north of Alico Road. The culvert has a span of eight feet and a rise of six feet. There is approximately three feet of fill above the top of the culvert. Ben Hill Griffin Parkway and the culvert were constructed around 2005.

This culvert will require lengthening to accommodate improvements to the intersection. For the four lane improvements, the culvert will be extended 55 feet to the east. For the ultimate six lane improvement an extension of 25 feet to the west will be necessary.

To accommodate the ultimate six lane improvement, it may be necessary to raise the profile grade of Ben Hill Griffin Parkway so that the new roadway does not infringe on the top slab of the box culvert. The reinforcement in the existing structure was checked for adequacy using the FDOT Culvert Design Program. The main reinforcement in the culvert is adequate for at least six feet of fill. The culvert extensions can be constructed with the same dimensions as the existing culvert.

The longitudinal reinforcing steel in the existing culvert is spaced 18 inches. Current design codes call for a 12 inch spacing of distribution reinforcement, but 18 inches was acceptable at the time this culvert was designed. It is not necessary to replace the existing culvert, but the extensions will be designed using current codes. The culvert extensions can be constructed using cast-in-place concrete or precast box culvert segments. FDOT standards exist for both methods.

## 5.9 Right of Way Survey and Acquisition

The existing Alico Road right of way is 200 feet wide at Ben Hill Griffin Parkway and reduces to 100 feet wide through most of the project limits.

The proposed right of way required along the Alico Road frontage is approximately forty two (42) feet to seventy five (75) feet of right of way along the north side and seventy five 75 feet of right of way along the south side of Alico Road. It is anticipated this additional right of way will be obtained through donation or impact fee credit.

The initial four lane build project will utilize 10 to 15 foot wide slope easements at the right of way line to blend and harmonize the new construction with the existing ground.

Narrow stormwater pipe easements will accommodate drainage conveyance pipes to offsite stormwater facilities.

Airport Haul Road will be realigned with the future County Road 951 corridor. The required right of way width for the Airport Haul Road and County Road 951 footprint is 150 feet wide.

The right of way requirements for the six lane improvements are the same as the four lane improvements. However the six lane improvements expand further the footprint of the Alico Road and Ben Hill Griffin Parkway intersection thereby requiring additional right of way along all four legs of the intersection.

The proposed project, as presently conceived, will not displace any residences, businesses or business signs within the community. The proposed roadway right-of-way needs for the Alico Road improvements are shown on the concept plans contained in **Appendix C and Appendix E**.

## 5.10 Utilities and Lighting

### *5.10.1 Existing Utilities*

**Table 5.10.1** contains the Utility Agency Owners (UAO) for public and private utilities that were contacted during this study.

**Table 5.10.1 Utility Contacts**

| UAO | Contact | Address | Phone Number | Email Address |
|---|---|---|---|---|
| **Comcast** | Paul Bahizi | 12600 Westlinks Dr., Ft. Myers, FL 33913 | 239-432-1806 | Paul_Bahizi@cable.comcast.com |
| **FPL Distribution** | Greg Coker | 1253 12th Ave East Palmetto, FL 34221 | 941-723-4430 | greg.coker@fpl.com |
| **FPL Transmission** | Mark Byers | PO Box 1119 Sarasota, FL 34230 | 941-316-6288 | Mark.L.Byers@fpl.com |
| **LCDOT Traffic** | Tom Watts | 5650 Enterprise Pkwy. Fort Myers, FL 33905 | 239-533-9500 | twatts@leegov.com |
| **LCDOT Irrigation** | Joe Sulak | 5560 Zip Drive. Fort Myers, FL 33905 | 239-533-9400 | jsulak@leegov.com |
| **LC Utilities** | Tom Mamott | 1500 Monroe St. Fort Myers, FL 33901 | 239-533-8531 | mamottta@leegov.com |
| **TECO People's Gas** | Brock Daniels | 5901 Enterprise Pkwy. Fort Myers, FL 33905 | 239-690-5508 | BHDaniels@tecoenergy.com |
| **CenturyLink** | Ron Popp | 2820 Cargo St. Fort Myers, FL 33916 | 239-362-2003 | ronald.r.popp@embarq.com |

All utilities provided input with record drawings or mark ups in regards to their existing facilities within the project limits. See **Table 5.10.2**.

**Table 5.10.2 Utility Location**

| UAO | Current Location | In R/W or Easement? |
|---|---|---|
| **Comcast** | Underground facilities on the South East corner of Alico and Ben Hill Griffin Pkwy. The fiber runs south from there. There is nothing going East on Alico Rd. There are no plans for future expansion at this time. | R/W |
| **FPL Distribution** | The 23.3 KV line run along the south side of the road and has four (4) overhead crossings to the north. | R/W and Easement |
| **FPL Transmission** | (1) 138 Kv and (3) 230 Kv lines cross the project around Sta. 176+00 | Easement |
| **LCDOT Traffic** | Intersection of Ben Hill Griffin and Alico Road. | R/W |
| **LCDOT** | **Irrigation:** Along north side of Alico Rd. from begin of project to about 500 ft pass Ben Hill Griffin intersection | R/W |
| **LCU** | **Water main:** the 36" DIP water main is located on the north side of Alico Rd. from begin project to approximately Sta. 98+50 where it splits into two water mains, a 24" DIP and a 16" DIP. The first one runs on the north side of the existing road between the edge of pavement and the ditch. The second one runs on the south side of the existing road close to the edge of pavement. Two 30" DIP water mains located one on of each side of Airport Haul Road provide service to the 24" DIP and 16" DIP. Also, a 30" DIP water main runs along the north side of Alico Rd. to the east. | R/W |
| | **Force main:** there is an existing 10" sanitary force main that runs along the east side of Ben Hill Griffin. There is no information of existing force main along Alico Rd. | R/W |
| | **Wellfields:** the Corkscrew Wellfield and the Meadows Wellfield are near the vicinity of the study. (Fig. 3-1 and Fig. 3-2) | Outside of project limits |
| **TECO People's Gas** | A 6" PE gas line runs along the south side of Alico Rd. from begin of project to the east side of the Ben Hill Griffin intersection. Also, a 6" PE gas line runs along the east side of Ben Hill Griffin. | R/W |
| **CenturyLink** | This utility runs along the same FPL distribution poles located on the south side of the existing road. | R/W |

### *5.10.2 Existing Wellfields*

The protection of potable water supplies and operating wellfields are important to the sustainability of the region. The Alico Road study team coordinated with Lee County Utility Department and identified the locations of the Corkscrew and Green Meadows Wellfields. The propose Alico Road project is circled in red and is outside of the wellfield protection zone.

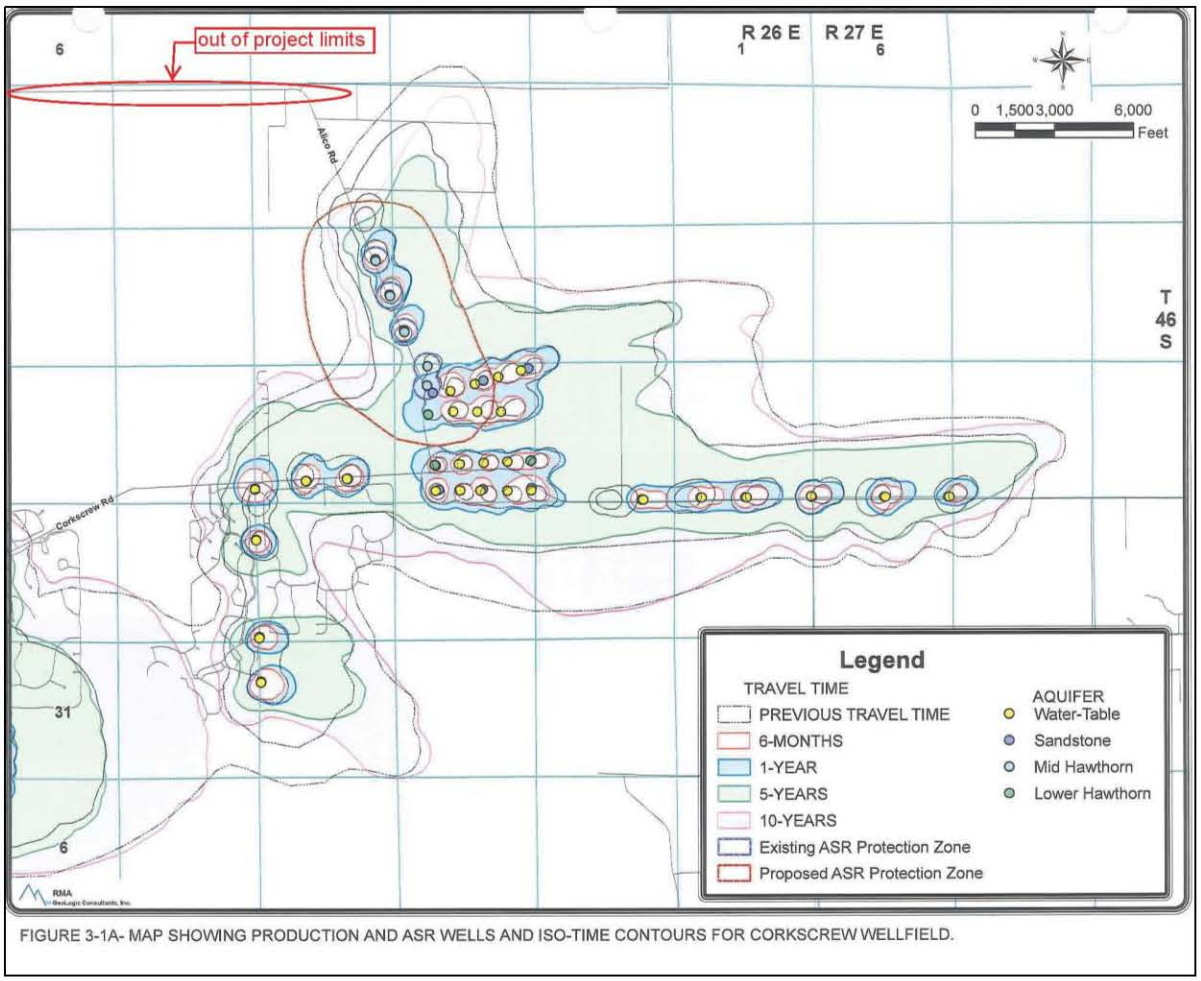



**Figure 5.10.1 Corkscrew Wellfield**

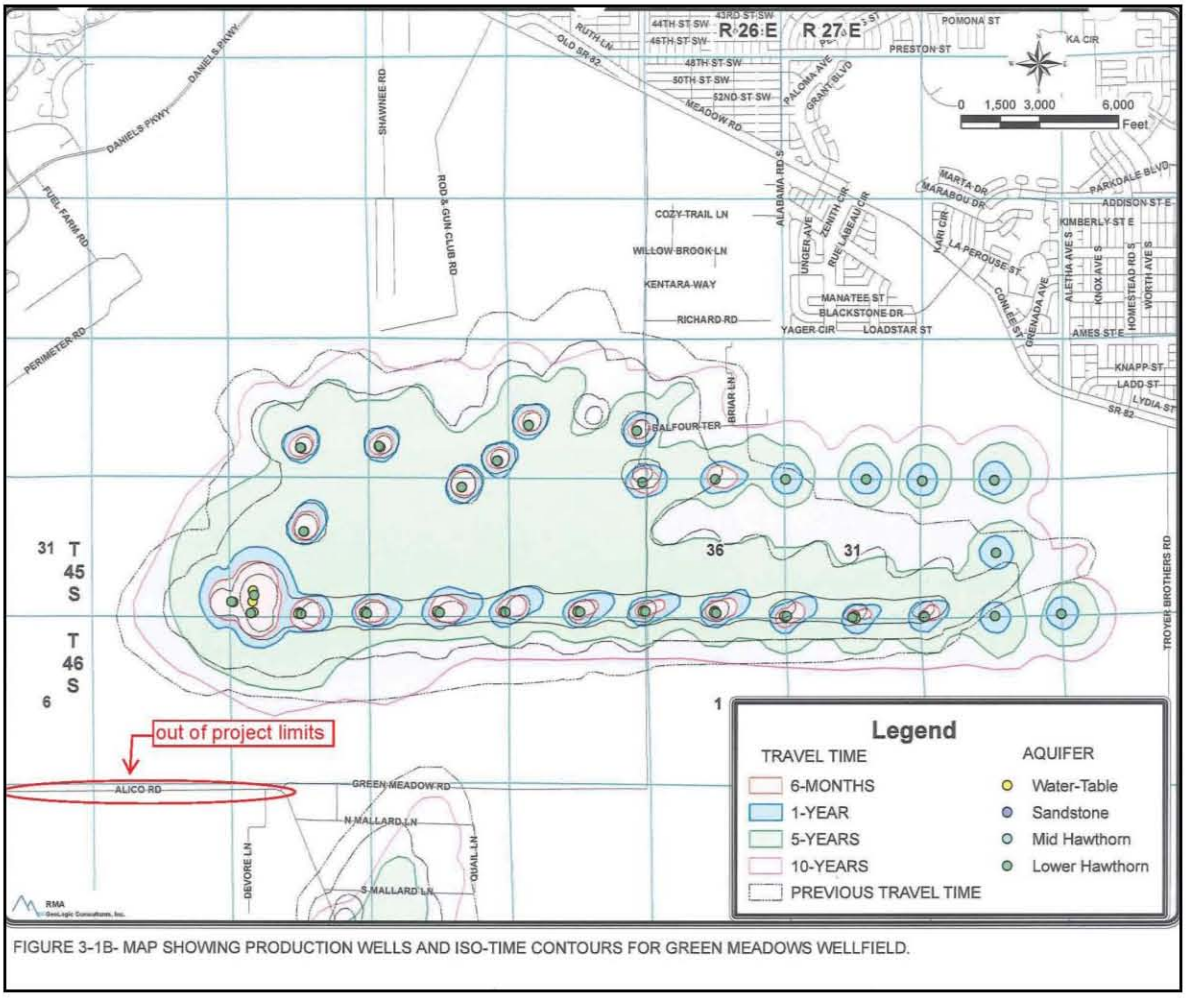



FIGURE 3-1B- MAP SHOWING PRODUCTION WELLS AND ISO-TIME CONTOURS FOR GREEN MEADOWS WELLFIELD.

**Figure 5.10.2 Green Meadows Wellfield**

### *5.10.3 Utility Adjustments*

Based on the preferred alternative, **Table 5.10.3** provides a description of the proposed action for each utility located within the project limits. The Conceptual Utility Plans provide graphic information that illustrates the current utility locations and the proposed relocations.

**Table 5.10.3 Utilities for Preferred Alternative**

| UAO | Relocation Action | New Facilities |
|---|---|---|
| **Comcast** | None | None |
| **FPL Distribution** | Move south, to 2 feet inside the proposed R/W line. | None |
| **FPL Transmission** | Based on a coordination meeting held March 6th, 2012, FP&L has planned improvements to replace the wooden transmission poles. | FPL Transmission to provide future pole locations per the FP&L planned project. |
| **LCDOT Traffic** | Make adjustments to match proposed intersection geometry at Ben Hill Griffin. | None. |
| **LCDOT** | **Irrigation**: None. | Along the project from Sta. 86+00 to Sta 195+00 |
| **LC Utilities** | **Water main:** Abandon the existing 24" DIP and the 16" DIP will be abandoned. | New 36" DIP will run along the north side of the new road from Sta. 98+50 to Sta. 196+50. |
| | **Force main:** None. | New force main will run along the south side of the new road from Sta. 86+00 to Sta.190+00. |
| | **Wellfields:** Not applicable. There are no anticipated impacts to the protection zones based on the Lee County Land Development Code, Chapter 14, Article III, Section 14. | Not applicable. |
| **TECO People's Gas** | Relocation could be required to avoid being under the pavement of the north and south leg of the proposed Ben Hill Griffin intersection geometry. | There are no plans for future expansion. |
| **CenturyLink** | Relocate with the FPL distribution facilities to the south side of the road, 2' inside the proposed R/W line | None. |

Coordination was required with FPL Transmission in order to obtain specific review to the proposed conceptual design at the intersection with the future CR951. Input was provided by FPL on their requirements for the maintenance access road and maximum height for poles and trees (See Appendix G, FPL Coordination Meeting Notes).

Single utility corridor along Alico Road for the water and sewer was not feasible due to the space requirements of locating the force main, irrigation main and the water main under the same multiuse path. Lee County Utilities also expressed concerns about roots from the proposed landscape plantings and indicated a preference for locating the force main and water main under separate paths. FPL and CenturyLink can be relocated 2 feet inside the proposed south R/W line per current conditions.

### *5.10.4 Signals*

Cost estimates for two signalized intersections were developed under this option. The first is a modification to the existing mast arm signal system for Alico Road at Ben Hill Griffin Parkway; and the second is proposed standard mast arm signal system at Alico Road at Airport Haul Road. Note: A signal will be installed only if/when warrants are met.

The modification of the existing signal layout will involve addition of two near-side signal mast arm structures - one facing NB traffic (on Ben Hill Griffin Pkwy) and the other facing WB traffic on Alico Road. The pedestrian signal pole layout will be replaced to accommodate the revised curb ramps within the proposed raised triangular islands (NE and SE quadrants). Placement of the new near-side mast arm poles would require additional signal conduit, pull boxes and a modification to the existing signal controller.

The new four-pole standard mast arm system (with pedestrian signal features) at Alico Road / Airport Haul Road intersection will accommodate the proposed footprint considering the future south leg to CR 951. The significant items will be the standard mast arm pole structures and the new signal controller assembly. Mast arms were used for cost estimating as a "worst case"; strain poles may be used to construct the signal.

***Future Six Lane Center Alignment***

Under this future concept, five (5) new signal systems are considered with pedestrian signal features along the Alico Road study segment (at Ben Hill Griffin Pkwy, A2 Entrance, B1 Entrance, C1 Entrance and CR 951 intersection). Additionally, *signal interconnect* (including conduit and fiber optic cable) connecting the controller boxes at all five intersections, are considered for the cost estimate.

The wide approaches for the proposed intersection footprint at Ben Hill Griffin Parkway make the usage of standard mast arm signal structures (with maximum

78 ft arm length) infeasible. For this reason a steel strain pole system (four poles, one in each quadrant with drop-box span wire) is proposed to accommodate the necessary signal layout. A new controller assembly and a new pedestrian signal system for pedestrian crossings on all four legs are considered.

A standard 4-pole signal mast arm layout (one pole per quadrant) with new controller assembly is considered for the three developments (entrances) as well as the CR 951 intersection.

### *5.10.5 Roadway and Multiuse Path Lighting*

***Roadway Lighting Design Criteria***

The roadway lighting design criteria is based upon the required initial levels of luminance for major arterial streets as published in Table 7.3.1 of the Florida Department of Transportation (FDOT) Plans Preparation Manual (PPM) from Appendix H Lighting Estimate. These requirements are based on the AASHTO Roadway Lighting Design Guide. The design criteria for major arterials taken from Table 7.3.1 is 1.5 initial horizontal foot candles with an average to minimum uniformity ratio of 4:1 or less, a maximum to minimum uniformity ratio of 10:1 or less and a veiling luminance ratio of 0.3:1 or less.

Lighting design criteria for pedestrian pathways is also provided in PPM Table 7.3.1. For pathways that are adjacent to a vehicular roadway, the same light levels are used for the path as the roadway. The shared use path along the south side of Alico Road requires additional path lighting to meet the required light levels. Path lighting is typically mounted at a low mounting height which causes bright spots directly beneath the pole. Therefore the maximum to minimum uniformity ratio is not required to be met for pathway lighting.

***Roadway Lighting Equipment***

The roadway lighting equipment used in this analysis was chosen to match the existing lighting used on Alico Road and Ben Hill Griffin Parkway. The existing luminaries' mounting height was unknown, therefore three mounting heights were tested to determine which height would meet the design requirements while minimizing the number of poles and environmental impacts. Forty foot, 45' and 50' mounting heights were analyzed and the 45' mounting height was chosen to be used throughout the corridor.

The existing luminaries is an offset style luminaries. The General Electric Tiger luminaries was used for the photometric analysis. A 400 watt high pressure sodium Tiger luminaries with flat glass for extra wide roadways and minimal setback was found to provide the best photometry to meet the design requirements while minimizing the number of light poles (Photometric File Number 452942). This fixture was also chosen because it can be tilted upward to throw the light further out in front of the fixture. The wide roadway approaches to the Alico

Road and Ben Hill Griffin Parkway intersection required the luminaries to be tilted 15 degrees upward to provide adequate illumination in the left turn lanes.

The General Electric Decashield 175 luminaire was chosen for the shared use path lighting because the style of this fixture is similar to the Tiger luminaire. A 70 watt high pressure sodium type SPMM fixture with flat glass (Photometric File Number 35-178265) was used in the photometric analysis at a 15' mounting height. Typically the path light poles were spaced midway between the roadway luminaires to fill in where the low light levels were present on the path.

***Photometric Analysis***

The photometric analyses were performed using the Professional Edition of Visual Roadway Lighting software. The project was divided into separate analysis areas dividing direction of travel and roadway segments. Grid points were set at four foot increments across the travel lanes and shared use paths and at ten foot increments longitudinally. The lighting layout was designed for the ultimate six lane cross section. The analysis areas were then modified for the interim four lane condition. It is assumed that the lighting equipment will be installed at the ultimate location when the interim four lane improvements are made. The results of the photometric analysis show that this lighting layout will meet the design requirements for both scenarios.

The offset from Alico Road to the shared use path along the south side of Alico Road varies throughout the project from being adjacent to the roadway to nearly a 50' offset. The roadway light fixtures do not provide enough light behind the fixture to meet the design criteria for path lighting. Therefore, separate path lighting was installed to meet the design requirements. Although a couple sections of the path were adequately illuminated, path lighting was added on the south side of Alico Road for the entire length of the project east of Ben Hill Griffin Parkway for consistency throughout the project. The remaining shared use paths within the project limits meet the design criteria with light contribution from the roadway lighting system.

A few of the analysis areas along the path fall slightly below the required level of 1.5 foot-candles. It is assumed that adjustments during design of the lighting systems on this project will bring these segments into conformity.

***Estimate of Quantities and Costs***

Based upon the preliminary roadway layout, there are 40 existing light poles within the project limits that will be impacted by the roadway widening project. It is assumed that these light poles and luminaries can be removed and reinstalled with this project. However, once the exact catalog number of the luminaries (photometric file) and the mounting heights are known, photometric analysis may show that a revised pole layout is required to meet the design criteria.

Three load center cabinets are included in this estimate. It is assumed that the path lighting system is fed from the same cabinets as the roadway lighting system. If these systems are split apart, additional cabinets will be required for the path lighting system.

The conductor quantities assume that the roadway and path lighting is on alternating circuits. The estimate includes five conductors in each conduit run.

## 5.11 Production Schedule

The project is programmed for design in the 2012-2013 Fiscal Year. The proposed four lane divide alternative is proposed with one intermediate intersection to allow for U-turns. As traffic volumes and development increase additional intersections and access points can be constructed as funding and land use requires.

## 5.12 Costs

The estimated project costs are summarized below. Construction costs were estimated using recent Lee County roadway bids, FDOT's Long Range Estimate (LRE) program for 2011, and FDOT's historical annual cost averages. In addition, landscaping costs were estimated by contacting local landscape nurseries. Preliminary engineering (design) costs were estimated at seven percent of the estimated construction costs and Construction Engineering and Inspection (CEI) costs were estimated at eight percent of the estimated construction costs. Right-of-way is funded with impact fee credits or being donated by adjacent developers. Additional right-of-way requirements for the six lane improvements not adjacent to developers (from Ben Hill Griffin Pkwy to east of Airport Haul Road) will be determined at a later date. **Appendix H** contains supplemental estimates that were used in developing the project cost estimates.

**Table 5.12.1 Estimated Project Costs**

| ALICO ROAD COST MATRIX - 4 Lane Build Alternative | | | | |
|---|---|---|---|---|
| Evaluation Factors | No Build | North Alternative | Center Alternative | South Alternative |
| **Estimated Project Cost** | | | | |
| CONSTRUCTION | | | | |
| ROADWAY | $0 | $13,131,000 | $12,896,000 | $12,952,000 |
| DRAINAGE | $0 | $620,000 | $622,000 | $700,000 |
| LIGHTING | $0 | $1,278,000 | $1,278,000 | $1,278,000 |
| UTILITIES | $0 | $5,666,000 | $5,666,000 | $5,666,000 |
| LANDSCAPING | $0 | $750,000 | $750,000 | $750,000 |
| TOTAL CONSTRUCTION | $0 | $21,445,000 | $21,212,000 | $21,346,000 |
| ENGINEERING @ 7% of Construction | $0 | $1,501,000 | $1,485,000 | $1,494,000 |
| CONSTRUCTION INSPECTION @ 8% of Construction | $0 | $1,716,000 | $1,697,000 | $1,708,000 |
| RIGHT-OF-WAY | $0 | $0 | $0 | $0 |
| WETLAND MITIGATION ($75,000 / Acre) | $0 | $975,000 | $975,000 | $975,000 |
| **Preliminary Estimate of Total Project Cost** | $0 | $25,637,000 | $25,369,000 | $25,523,000 |

## 6.0 FUTURE 6 LANE CONCEPT PLAN

The planned growth through the year 2035 indicates a six lane divided roadway will be required to provide adequate mobility for the region and for future connections eastward to Lehigh Acres and Hendry and Glades Counties that are planned and approved by the Lee County MPO. Based on the planned development, it was prudent to evaluate the corridor for the long term needs to provide a sustainable corridor through the year 2035.

The Alico Road Alignment Study identified and developed a conceptual intersection and access plan that would serve the properties along the corridor and is estimated to meet the required traffic demands. This conceptual plan is a balanced approach that maximizes the property access and maintains adequate traffic flow along Alico Road and the intersections at Ben Hill Griffin Parkway, the three intermediate intersections and at Airport Haul Road / CR 951.

The proposed concept plan is found in Appendix E. During the development of the properties, local planners and permit agencies should coordinate the access spacing with the operational traffic analysis along the roadway. The proposed concept for six lanes provides the base map to further define the improvements as they are identified and permitted.

## 7.0 SUMMARY OF PUBLIC INVOLVEMENT

The community awareness program for the Alico Road Alignment Study included a public workshop and several meetings with the property owners and developers of the properties directly affected by the proposed alternatives and others that are nearby the study corridor. The Alico Road Alignment Study is in an area that is surrounded by parcels in various stages of development approval. LC DOT and their consultants met with the adjacent property owners and their representatives to share information and to receive input regarding the study alternatives. The following property owners and developers participated in the meetings held in August and December, 2011:

- Florida Gulf Coast Technology, Benderson Development Company
  (north side of Alico Road from Ben Hill Griffin Parkway to Airport Haul Road)
- Alico/Agri Inc., Alico West (south side of Alico Road)
- Miromar Lakes, Miromar Development Corporation
  (southeast corner of Ben Hill Griffin Parkway and Alico Road)
- Innovation Hub (northeast corner at Airport Haul Road)
- Premier Airport Park (north on Airport Haul Road)

The Lee County Department of Transportation (LC DOT) held a public information workshop on Tuesday, March 27, 2012 at the Holiday Inn Fort Myers, Airport Town Center, Fort Myers, Florida for the Alico Road Alignment Study. A total of 20 people signed in at the registration table.

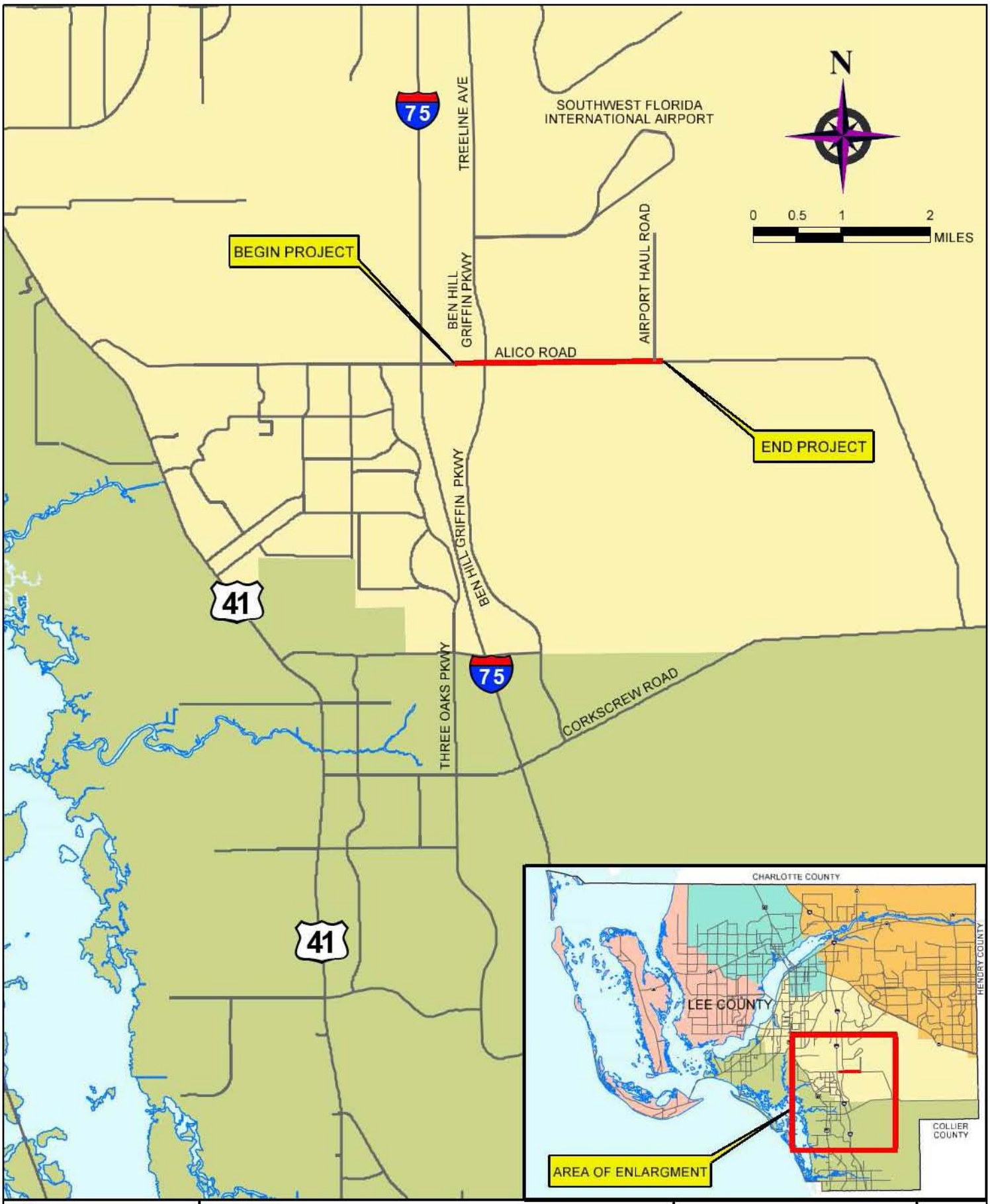
A newsletter announcing the workshop was mailed to property owners within 300 feet of the right-of-way, their representatives and interested parties (Gulf Coast Town Center) and emailed to relevant county elected officials and staff members. The public information workshop was advertised on Lee County's web site, www.leegov.com and was advertised in the News Press. Two variable message boards were placed within the project limits for a period of five days prior to the workshop to inform the traveling public.

The workshop was conducted in an "open house" format that allowed the public to view the project material between 4:30 and 6:30 p.m. Aerial photographs with a project overlay showing the location and initial design of the four-lane concept and the ultimate six-lane concept were on display at the workshop. Representatives from LC DOT and their consultants were present at the workshop to answer questions and discuss the project with the public. A copy of the newsletter was provided as a handout.

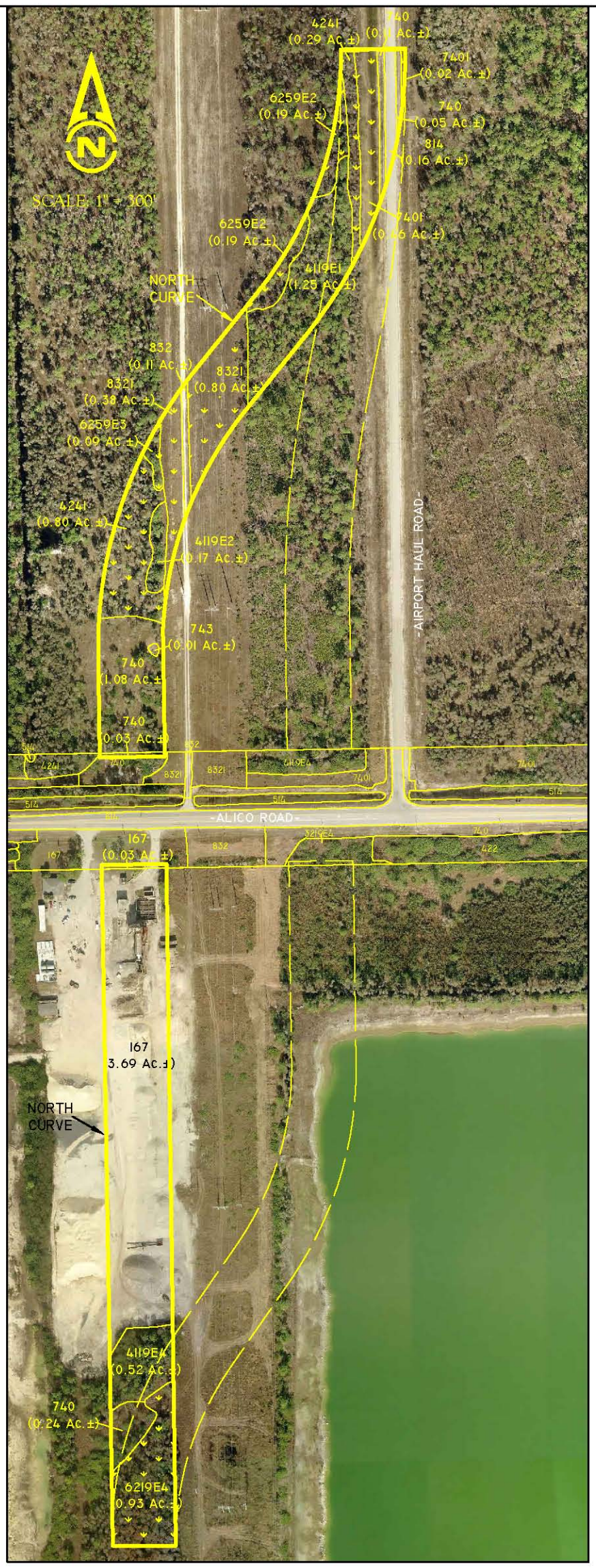
Members of the public were provided comment forms at the workshop in order to have their opinion recorded as public record. A total of five written comments were received at the workshop and in the following 14-day period.

# APPENDIX A

# Location, Land Use, Drainage and Wetlands Maps




| | | | |
|---|---|---|---|
| LEE COUNTY SOUTHWEST FLORIDA | ALICO ROAD ALIGNMENT STUDY<br>FROM BEN HILL GRIFFIN PARKWAY<br>TO AIRPORT HAUL ROAD | PROJECT LOCATION MAP | FIGURE |




## NORTH CURVE ALTERNATIVE

| FLUCFCS CODES | DESCRIPTIONS | ACREAGE | % OF TOTAL |
|---|---|---|---|
| 167 | MINE OPERATIONS FACILITY | 3.72 Ac.± | 32.1% |
| 4119 E1 | PINE FLATWOODS, DISTURBED (0-24% EXOTICS) | 1.25 Ac.± | 10.8% |
| 4119 E2 | PINE FLATWOODS, DISTURBED (25-49% EXOTICS) | 0.17 Ac.± | 1.5% |
| 4119 E4 | PINE FLATWOODS, DISTURBED (76-100% EXOTICS) | 0.52 Ac.± | 4.5% |
| 4241 | MELALEUCA, HYDRIC | 1.09 Ac.± | 9.4% |
| 6219 E4 | CYPRESS, DISTURBED (76-100% EXOTICS) | 0.93 Ac.± | 8.0% |
| 6259 E2 | PINE, HYDRIC, DISTURBED (25-49% EXOTICS) | 0.38 Ac.± | 3.3% |
| 6259 E3 | PINE, HYDRIC, DISTURBED (50-75% EXOTICS) | 0.09 Ac.± | 0.8% |
| 740 | DISTURBED LAND | 1.51 Ac.± | 13.0% |
| 7401 | DISTURBED LAND, HYDRIC | 0.48 Ac.± | 4.1% |
| 743 | SPOIL AREA | 0.01 Ac.± | 0.1% |
| 814 | ROAD | 0.16 Ac.± | 1.4% |
| 832 | ELECTRICAL POWER TRANSMISSION LINE | 0.11 Ac.± | 0.9% |
| 8321 | ELECTRICAL POWER TRANSMISSION LINE, HYDRIC | 1.18 Ac.± | 10.2% |
| | TOTAL | 11.60 Ac.± | 100.0% |

LEGEND:

SFWMD AND COE WETLANDS (4.15 Ac.±)

NOTES:

AERIAL PHOTOGRAPHS WERE ACQUIRED THROUGH THE LEE COUNTY PROPERTY APPRAISER'S OFFICE WITH A FLIGHT DATE OF JANUARY 2010.

NORTH AND SOUTH CURVE ALTERNATIVES PER STANLEY CONSULTANTS, INC. DRAWING NO. ENVIRONMENTAL IMPACT BOUNDARY FOR CR951 SOUTH AND NORTH CURVE ALTERNATIVE.DWG DATED MARCH 29, 2012.

FLUCFCS LINES ESTIMATED FROM 1"=200' AERIAL PHOTOGRAPHS AND LOCATIONS APPROXIMATED.

FLUCFCS PER FLORIDA LAND USE, COVER AND FORMS CLASSIFICATION SYSTEM (FLUCFCS) (FDOT 1999).

UPLAND/WETLAND LIMITS HAVE NOT BEEN REVIEWED BY ANY REGULATORY AGENCY AND ARE SUBJECT TO CHANGE.

## SOUTH CURVE ALTERNATIVE

| FLUCFCS CODES | DESCRIPTIONS | ACREAGE | % OF TOTAL |
|---|---|---|---|
| 3219 E1 | PALMETTO PRAIRIE, DISTURBED (0-24% EXOTICS) | 0.88 Ac.± | 7.7% |
| 3219 E2 | PALMETTO PRAIRIE, DISTURBED (25-49% EXOTICS) | 0.98 Ac.± | 8.5% |
| 3219 E4 | PALMETTO PRAIRIE, DISTURBED (76-100% EXOTICS) | 0.03 Ac.± | 0.3% |
| 4119 E1 | PINE FLATWOODS, DISTURBED (0-24% EXOTICS) | 2.46 Ac.± | 21.4% |
| 4119 E4 | PINE FLATWOODS, DISTURBED (76-100% EXOTICS) | 0.42 Ac.± | 3.7% |
| 4241 | MELALEUCA, HYDRIC | 0.43 Ac.± | 3.7% |
| 514 | DITCH | 0.13 Ac.± | 1.1% |
| 520 | LAKE | 0.83 Ac.± | 7.2% |
| 6219 E4 | CYPRESS, DISTURBED (76-100% EXOTICS) | 0.93 Ac.± | 8.1% |
| 6259 E2 | PINE, HYDRIC, DISTURBED (25-49% EXOTICS) | 0.06 Ac.± | 0.5% |
| 740 | DISTURBED LAND | 1.03 Ac.± | 9.0% |
| 7401 | DISTURBED LAND, HYDRIC | 1.24 Ac.± | 10.8% |
| 747 | BERM | 0.25 Ac.± | 2.2% |
| 814 | ROAD | 0.31 Ac.± | 2.7% |
| 8321 | ELECTRICAL POWER TRANSMISSION LINE, HYDRIC | 1.49 Ac.± | 13.0% |
| | TOTAL | 11.47 Ac.± | 100.0% |

LEGEND:

SFWMD AND COE WETLANDS (4.15 Ac.±)

SFWMD "OTHER SURFACE WATERS" AND COE "WATERS OF THE U.S." (0.96 Ac.±)

J:\2011\11sci2056\2012\Alt Alignments\Aerial with FLUCFCS and Wetlands Map.dwg Tab: 11X17-C TB May 15, 2012 - 2:37pm Plotted By: HoldenH

| DRAWN BY | DATE |
|---|---|
| F.L. | 4/4/12 |
| REVIEWED BY | DATE |
| B.C. | 4/4/12 |
| REVISED | DATE |

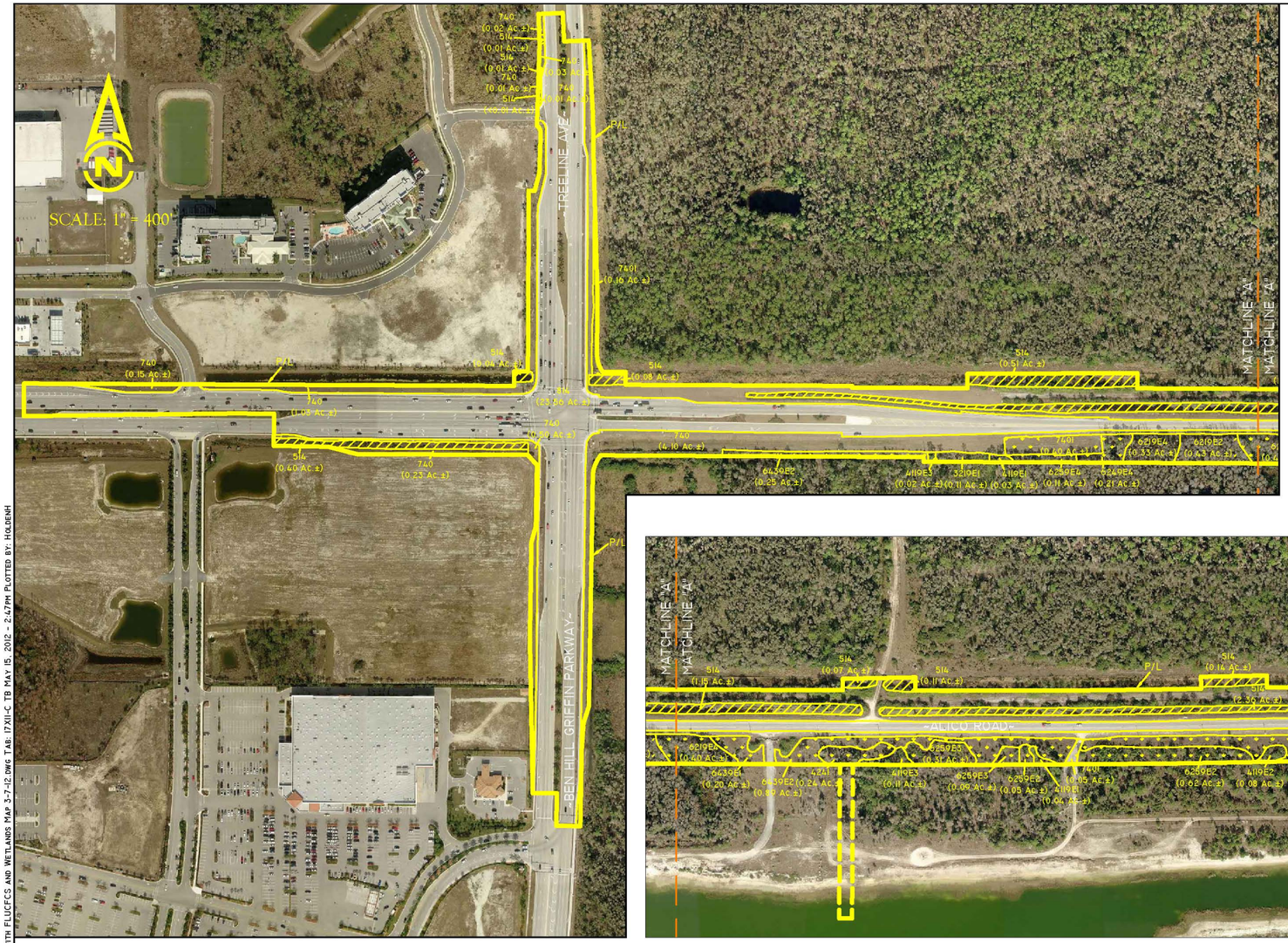
13620 Metropolis Avenue
Suite 200
Fort Myers, Florida 33912
Phone (239) 274-0067
Fax (239) 274-0069

Passarella & Associates, Inc. (Consulting Ecologists)

CR 951
NORTH AND SOUTH CURVE ALTERNATIVES
AERIAL WITH FLUCFCS AND WETLANDS MAP

DRAWING No. 11SCI2056

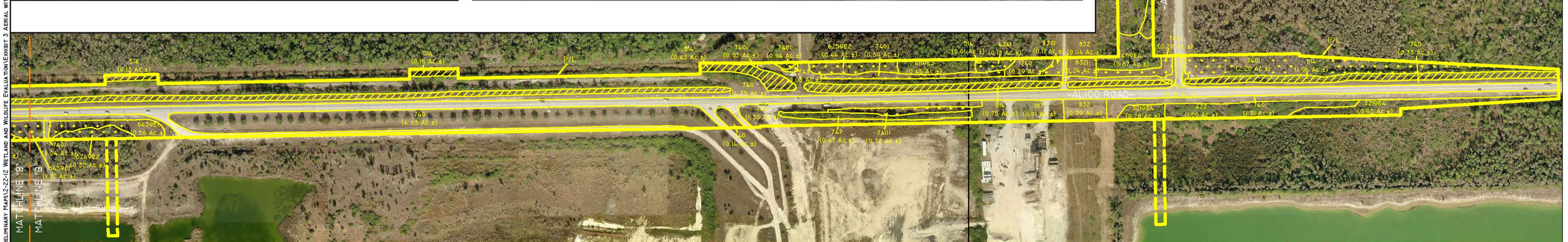
SHEET No. EXHIBIT 13










| FLUCFCS CODE | DESCRIPTION | ACREAGE | % OF TOTAL |
|---|---|---|---|
| 167 | MINE OPERATIONS FACILITY | 0.81 Ac.± | 1.0% |
| 3219 E1 | PALMETTO PRAIRIE, DISTURBED (0-24% EXOTICS) | 0.99 Ac.± | 1.2% |
| 3219 E4 | PALMETTO PRAIRIE, DISTURBED (76-100% EXOTICS) | 1.20 Ac.± | 1.4% |
| 4119 E1 | PINE FLATWOODS, DISTURBED (0-24% EXOTICS) | 2.45 Ac.± | 3.0% |
| 4119 E2 | PINE FLATWOODS, DISTURBED (25-49% EXOTICS) | 0.34 Ac.± | 0.4% |
| 4119 E3 | PINE FLATWOODS, DISTURBED (50-75% EXOTICS) | 0.58 Ac.± | 0.7% |
| 4119 E4 | PINE FLATWOODS, DISTURBED (76-100% EXOTICS) | 0.67 Ac.± | 0.8% |
| 422 | BRAZILIAN PEPPER | 1.00 Ac.± | 1.2% |
| 4241 | MELALEUCA, HYDRIC | 0.85 Ac.± | 1.0% |
| 514 | DRAINAGE CANAL/DITCH | 7.62 Ac.± | 9.2% |
| 6219 E2 | CYPRESS, DISTURBED (25-49% EXOTICS) | 0.43 Ac.± | 0.5% |
| 6219 E4 | CYPRESS, DISTURBED (76-100% EXOTICS) | 0.73 Ac.± | 0.9% |
| 6249 E2 | CYPRESS/PINE/CABBAGE PALM, DISTURBED (25-49% EXOTICS) | 0.32 Ac.± | 0.4% |
| 6249 E4 | CYPRESS/PINE/CABBAGE PALM, DISTURBED (76-100% EXOTICS) | 0.21 Ac.± | 0.3% |
| 6259 E2 | PINE, HYDRIC, DISTURBED (25-49% EXOTICS) | 1.36 Ac.± | 1.6% |
| 6259 E3 | PINE, HYDRIC, DISTURBED (50-75% EXOTICS) | 0.40 Ac.± | 0.5% |
| 6259 E4 | PINE, HYDRIC, DISTURBED (76-100% EXOTICS) | 0.11 Ac.± | 0.1% |
| 6439 E1 | WET PRAIRIES, DISTURBED (0-24% EXOTICS) | 1.98 Ac.± | 2.4% |
| 6439 E2 | WET PRAIRIES, DISTURBED (25-49% EXOTICS) | 1.14 Ac.± | 1.4% |
| 740 | DISTURBED LAND | 29.67 Ac.± | 35.8% |
| 7401 | DISTURBED LAND, HYDRIC | 4.78 Ac.± | 5.8% |
| 743 | SPOIL AREAS | 0.03 Ac.± | 0.0% |
| 747 | DIKES AND LEVEES (BERM) | 0.47 Ac.± | 0.6% |
| 814 | ROAD | 23.87 Ac.± | 28.8% |
| 832 | ELECTRICAL POWER TRANSMISSION LINES | 0.43 Ac.± | 0.5% |
| 8321 | ELECTRICAL POWER TRANSMISSION LINES, HYDRIC | 0.35 Ac.± | 0.4% |
| | **TOTAL** | **82.79 Ac.±** | **100.0%** |

LEGEND:

SFWMD AND COE WETLANDS (12.66 Ac.±)

SFWMD "OTHER SURFACE WATERS" AND COE "WATERS OF THE U.S." (7.62 Ac.±)

PROPOSED FUTURE DRAINAGE EASEMENT

NOTES:

AERIAL PHOTOGRAPHS WERE ACQUIRED THROUGH THE LEE COUNTY PROPERTY APPRAISER'S OFFICE WITH A FLIGHT DATE OF JANUARY 2010.

FLUCFCS LINES ESTIMATED FROM 1"=200' AERIAL PHOTOGRAPHS AND LOCATIONS APPROXIMATED.

FLUCFCS PER FLORIDA LAND USE, COVER AND FORMS CLASSIFICATION SYSTEM (FLUCFCS) (FDOT 1999).

UPLAND/WETLAND LIMITS HAVE NOT BEEN REVIEWED BY ANY REGULATORY AGENCY AND ARE SUBJECT TO CHANGE.

PROPERTY BOUNDARY PER STANLEY CONSULTANTS DRAWING No. ENVIRONMENTAL IMPACT BOUNDARY.DWG DATED FEBRUARY 16, 2012.

J:\2011\11SCI2056\2011\PRELIMINARY MAPS\2-22-12 WETLAND AND WILDLIFE EVALUATION\EXHIBIT 3 AERIAL WITH FLUCFCS AND WETLANDS MAP 3-7-12.DWG TAB: 17X11-C TB MAY 15, 2012 - 2:47PM PLOTTED BY: HOLDENH

| REVISIONS | DATE |
|---|---|
| Added proposed drainage easement | 3/7/12 |
| | |
| | |

| | | DATE |
|---|---|---|
| DRAWN BY | D.B. | 2/17/12 |
| DESIGNED BY | A.W. | 2/17/12 |
| REVIEWED BY | A.W. | 2/17/12 |

13620 Metropolis Avenue
Suite 200
Fort Myers, Florida 33912
Phone (239) 274-0067
Fax (239) 274-0069

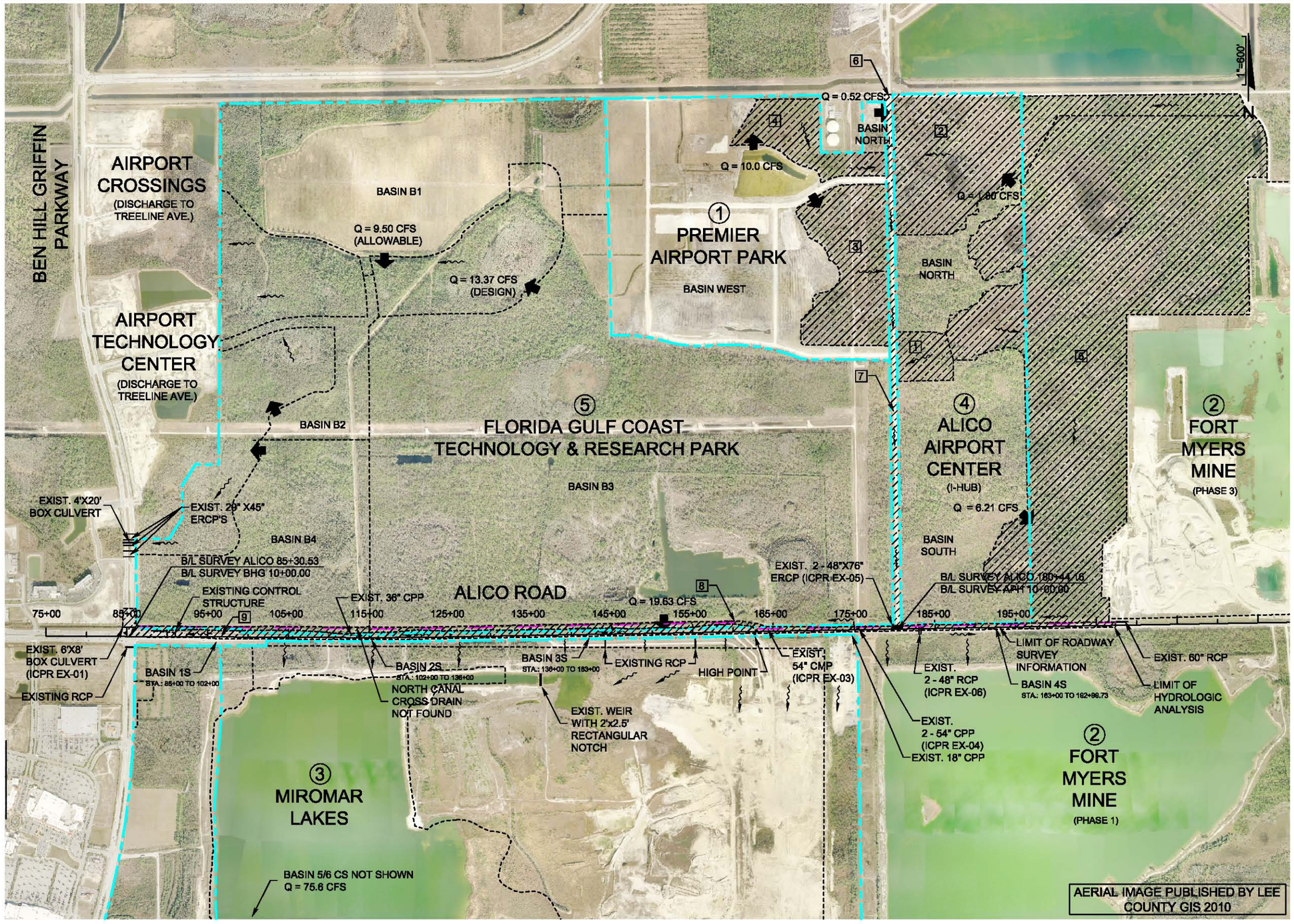
PASSARELLA & ASSOCIATES, INC
Consulting Ecologists

# ALICO ROAD WIDENING

## AERIAL WITH FLUCFCS AND WETLANDS MAP

DRAWING No. 11SCI2056

SHEET No. EXHIBIT 3




NOTES:

1. THE INTENT OF THIS EXHIBIT IS TO SHOW MAXIMUM ALLOWABLE DRAINAGE SYSTEM DISCHARGES AS PERMITTED BY THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD) WHERE PERMITS HAVE BEEN APPROVED AND REPRESENT A POSSIBLE FUTURE CONDITION. THE PERMITTED DISCHARGES MAY NOT BE REPRESENTATIVE OF ACTUAL NATURAL RUNOFF DISCHARGES AND ARE THEREFORE CONSIDERED ONLY FOR INFORMATIONAL PURPOSES.

2. ALL SFWMD PERMIT INFORMATION SHOWN WAS OBTAINED FROM THE SFWMD ONLINE PERMIT FILE HISTORY DATABASE.

**1 PREMIER AIRPORT PARK**

| | |
|---|---|
| ERP NO. 36-05427-P | |
| CONTROL ELEVATION: | 22.00 FT NGVD |
| PERMIT AREA: | 240.59 AC |
| BASIN AREA: | 178.28 AC |
| 25 YR PEAK STAGE: | 26.6 FT NGVD (North)<br>25.2 FT NGVD (West) |
| ALLOWABLE DISCHARGE: | 10.52 CFS (North & West) |

**2 FORT MYERS MINE**

| | |
|---|---|
| ERP NO. 36-00681-S | |
| CONTROL ELEVATION: | 23.0 FT NGVD |
| PERMIT AREA: | 10,600.00 AC |
| BASIN AREA: | 300.80 AC |
| 25 YR PEAK STAGE: | 25.2 FT NGVD |
| ALLOWABLE DISCHARGE: | 42 CSM |

**3 MIROMAR LAKES**

| | |
|---|---|
| ERP NO. 36-03568-P | |
| CONTROL ELEVATION: | 18 FT NGVD |
| PERMIT AREA: | 1,481.1 AC |
| BASIN AREA: | 1,152.35 AC (BASIN 5/6) |
| 25 YR PEAK STAGE: | 18.95 FT NGVD |
| ALLOWABLE DISCHARGE: | 75.6 CFS |

**4 ALICO AIRPORT CENTER**

| | |
|---|---|
| ERP NO. 36-05186-P | |
| CONTROL ELEVATION: | 21.50/22.00 FT NGVD |
| PERMIT AREA: | 240.98 AC |
| BASIN AREA: | 138.32 AC |
| 25 YR PEAK STAGE: | 24.86 FT NGVD |
| ALLOWABLE DISCHARGE: | 8.01 CFS |

**5 FLORIDA GULF COAST TECHNOLOGY AND RESEARCH PARK**

| | |
|---|---|
| ERP NO. 36-05238-P | |
| CONTROL ELEVATION: | 21.7 FT NGVD (B1)<br>21.0 FT NGVD (B3) |
| PERMIT AREA: | 1,048.0 AC |
| BASIN AREA: | 722.2 AC (B1 & B3) |
| 25 YR PEAK STAGE: | 25.3 FT NGVD (B1)<br>23.0 FT NGVD (B3) |
| ALLOWABLE DISCHARGE: | 42.5 CFS (B1 & B3) |

THE ALLOWABLE DISCHARGE SHOWN TO ALICO ROAD (19.63 CFS) IS CALCULATED BY SUBTRACTING THE DESIGN 25 YR 3 DAY DISCHARGE TO THE ONSITE WETLANDS (13.37 CFS) FROM THE ALLOWABLE B3 DISCHARGE (33.0 CFS)

**UNCONTROLLED BASINS**

| | |
|---|---|
| AREA 1 | 9.23 AC |
| AREA 2 | 75.96 AC |
| AREA 3 | 40.81 AC |
| AREA 4 | 20.73 AC |
| AREA 5 | 292.17 AC |
| AREA 6 | 1.48 AC |
| AREA 7 | 13.61 AC |
| AREA 8 | 18.68 AC |
| AREA 9 | 15.83 AC |

**LEGEND:**

- FLOW ARROW
- SFWMD PERMITTED DISCHARGE LOCATION
- PROPERTY BOUNDARY
- NORTH ALICO DITCH
- UNCONTROLLED BASIN
- 5 — RATIONAL METHOD REFERENCE NO.
- 4 — SFWMD REFERENCE NO.


DDAI
DAVID DOUGLAS ASSOCIATES, INC.
1821 Victoria Avenue,
Fort Myers, Florida 33901
Ph. 239-337-3330
Website: www.ddai-engineers.com
Florida Certification of Business # 7568


Project Name:

# ALICO ROAD WIDENING

Project Address:

Alico Road
Fort Myers, Florida 33913

Client/Owner:

Lee County
1500 Monroe Street
P.O. Box 398
Fort Myers, Florida 33902

Contact: Sarah Clarke

DDAI Contact:

Dan Craig, P.E.
Phone: (239) 337-3330
E-Mail: dc@ddai-engineers.com

Project Engineer:

Legal Disclaimer: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Revisions:

| DATE: | DESCRIPTION |
|---|---|

JOB# 10-0115

Site Data:

| | |
|---|---|
| STRAP # | VARIOUS |
| SEC-TWP-RGE | TWP 46S, RANGES 25E,26E |
| CITY PERMIT# | |
| SF PERMIT # | |
| LEE COUNTY # | |

PROJECT MGR : DAN CRAIG
PROJECT # : 10-0115
FILE NAME : 02-10-0115-DRNG-EXHIBIT-2.DWG
ORIGIN DATE : 04.14.11
DESIGNER : STS
CADD : STS
CHECKED BY : DC
PLOT DATE : WED, 2-22-2012 - 3:52 PM
PLOTTED BY : SSTUART

Sheet Title:

# EXISTING DRAINAGE MAP

SHEET NO.
ATTACHMENT 1

Plan Status:


LAYOUT: LAYOUT1
FILE NAME: 02-10-0115-DRNG-EXHIBIT-2.DWG
LOCATION: S:\10-0115 SAR\CADD\DWG\
PLOT BY: SSTUART
PLOT DATE: WED, 2-22-2012 - 3:52 PM

# FUTURE LAND USE MAP

1. This map is a general representation of the Future Land Use Map as adopted by the Board of County Commissioners On: September 17, 1990

**Revised By:**

| ADOPTING ORDINANCE | DATE OF ADOPTION | EFFECTIVE DATE |
|---|---|---|
| 89-02 | 1/31/1989 | 3/1/1989 |
| 90-09 | 3/7/1990 | 3/14/1990 |
| 90-43 | 9/6/1990 | 9/17/1990 |
| 90-44 | 9/12/1990 | 9/17/1990 |
| 91-10 | 4/3/1991 | 4/10/1991 |
| 91-19 | 7/9/1991 | 7/18/1991 |
| 92-35 | 8/7/1992 | 8/18/1992 |
| 92-41 | 9/15/1992 | 9/21/1992 |
| 92-47 | 10/27/1992 | 11/9/1992 |
| 92-48 | 10/27/1992 | 11/9/1992 |
| 92-51 | 12/9/1992 | 12/21/1992 |
| 93-05 | 2/22/1993 | 2/26/1993 |
| 93-25 | 9/20/1993 | 1/24/1994 |
| 94-23 | 8/29/1994 | 11/14/1994 |
| 94-29 | 10/26/1994 | 1/9/1995 |
| 94-30 | 11/1/1994 | 7/25/1996 |
| 95-27 | 12/20/1995 | 1/20/1996 |
| 96-19 | 10/2/1996 | 11/2/1996 |
| 97-05 | 3/5/1997 | 4/2/1997 |
| 97-17 | 8/26/1997 | 9/30/1997 |
| 97-13 | 6/24/1997 | 7/25/1997 |
| 97-22 | 11/25/1997 | 12/26/1997 |
| 98-02 | 1/13/1998 | 2/13/1998 |
| 98-09 | 6/3/1998 | 7/30/1998 |
| 99-02 | 4/13/1999 | 2/4/2000 |
| 98-26 | 11/24/1998 | 12/25/1998 |
| 99-15 | 11/22/1999 | 1/19/2000 |
| 99-16 | 11/22/1999 | 1/19/2000 |
| 99-17 | 11/22/1999 | 1/19/2000 |
| 99-18 | 11/22/1999 | 1/19/2000 |
| 99-19 | 11/22/1999 | 12/23/1999 |
| 00-08 | 5/4/2000 | 6/26/2000 |
| 00-16 | 8/8/2000 | 9/8/2000 |
| 00-22 | 11/1/2000 | 12/26/2000 |
| 01-24 | 12/13/2001 | 1/13/2002 |
| 02-02, 03, 04, 05, 06 | 1/10/2002 | 3/27/2002 |
| 02-29 | 10/21/2002 | 1/9/2003 |
| 03-01, 02, 03, 04, 05, 06, 07 | 1/9/2003 | 4/1/2003 |
| 03-12 | 5/6/2003 | 6/6/2003 |
| 03-19, 03-20, 03-21 | 10/28/2003 | 1/21/2004 |
| 03-26 | 12/15/2003 | 3/12/2004 |
| 04-14 | 9/20/2004 | 12/7/2004 |
| 04-15 | 9/22/2004 | 10/22/2004 |
| 05-19, 05-21 | 10/12/2005 | 01/09/2006 |
| 05-20 | 10/12/2005 | 11/15/2006 |
| 07-07 | 4/24/2007 | 5/24/2007 |
| 07-06 | 4/24/2007 | 5/24/2007 |
| 07-09 thru 07-18 | 5/16/2007 | 8/13/2007 |
| 08-04 | 3/11/2008 | 4/11/2008 |
| 08-05 | 3/11/2008 | 4/11/2008 |
| 09-06 thru 09-17 | 2/25/2009 | 5/15/2009 |
| 10-10, 11, 12, 16 | 3/3/2010 | 6/4/2010 |
| 10-27 | 6/16/2010 | 7/19/2010 |
| 10-34 thru 10-39 | 10/20/2010 | 1/5/2011 |
| 10-33 | 10/18/2010 | 1/11/2011 |
| 10-40 | 10/20/2010 | 3/14/2011 |

2. Please see the Lee Plan for additional information regarding special restrictions, overlays, or allowances in addition to the requirements of the land use categories.

3. The Planning Communities Map and Acreage Allocation Table (see Map 16 and Table 1(b) and Policies 1.1.1 and 2.2.2) depicts the proposed distribution, extent, and location of generalized land uses for the year 2030. Acreage totals are provided for land in each Planning Community in unincorporated Lee County.

LEE COUNTY
SOUTHWEST FLORIDA
DIVISION OF PLANNING

N W E S

1 0.5 0 1 2 3 4
Miles

Map Generated: April 2011

**Lee Plan Map 1**
**Page 1 of 8**

**FUTURE URBAN AREAS**
- Intensive Development
- Central Urban
- Urban Community
- Suburban
- Outlying Suburban
- Sub-Outlying Suburban
- Commercial
- Industrial
- Public Facilities
- University Community
- Burnt Store Marina Village
- Destination Resort Mixed Use Water Dependent

**INTERCHANGE AREAS**
- Industrial Interchange
- General Interchange
- General Commercial Interchange
- Industrial Commercial Interchange
- University Village Interchange

**NEW COMMUNITY**
- New Community

**AIRPORT AREAS**
- Tradeport
- Airport

**NON-URBAN AREAS**
- Rural
- Rural Community Preserve
- Coastal Rural
- Outer Island
- Open Lands
- Density Reduction/Groundwater Resource
- Conservation Lands - Upland

**ENVIRONMENTALLY CRITICAL AREAS (WETLANDS)**
- Wetlands
- Conservation Lands - Wetland

City Limits

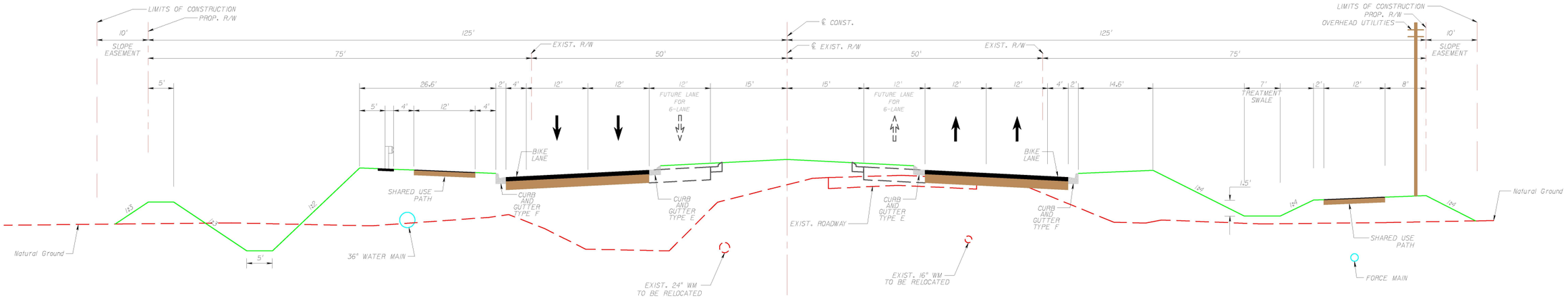
*Chapter XIII of this plan contains an administrative process, including a field check, to precisely define the boundaries of a wetland area, and to correct any such boundaries that are based on clear factual error.*

# APPENDIX B

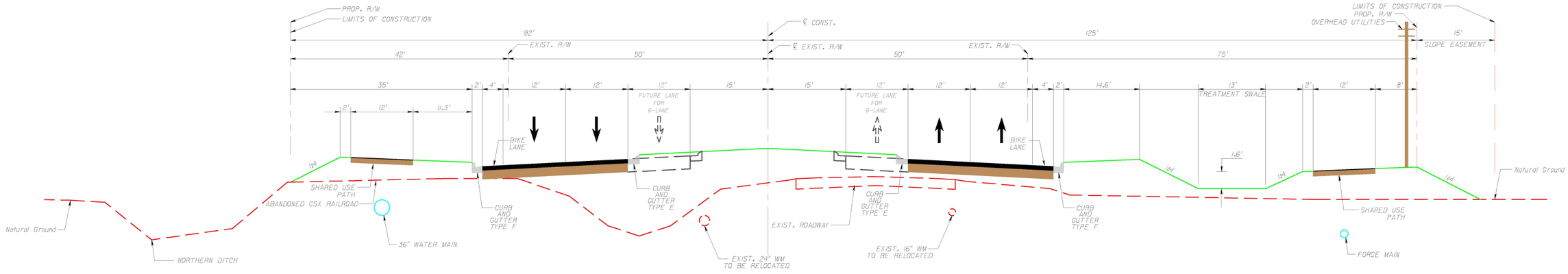
# Typical Section Alternatives

# TYPICAL SECTION
# CENTER ALTERNATIVE

*Alico Road*
*4 Lane High Speed Urban*
*Design Speed 45 mph*




*From ±Sta. 161+70 To West of CR 951*
*250 Feet R/W*




*From East Of Ben Hill Griffin Pkwy. To ±Sta. 161+70*
*217 Feet R/W*

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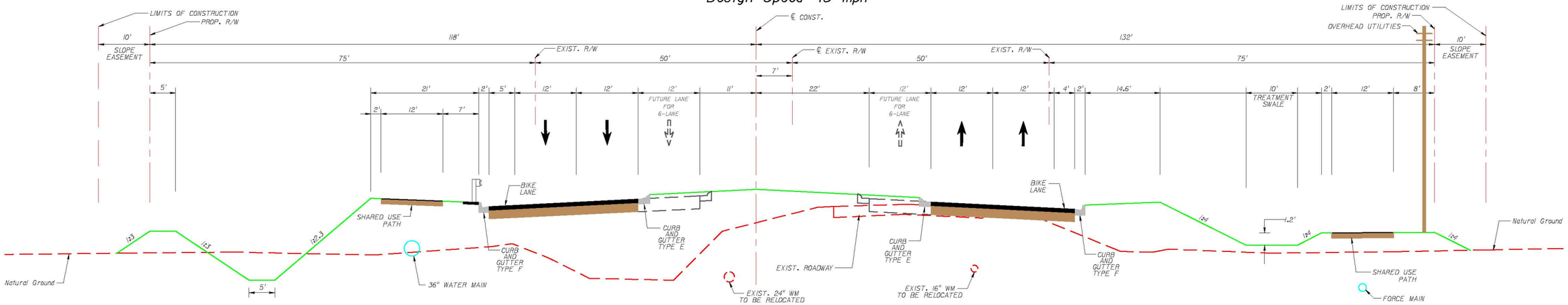
## ALICO ROAD STUDY
## TYPICAL SECTION

LEE COUNTY PROJECT NUMBER 6076

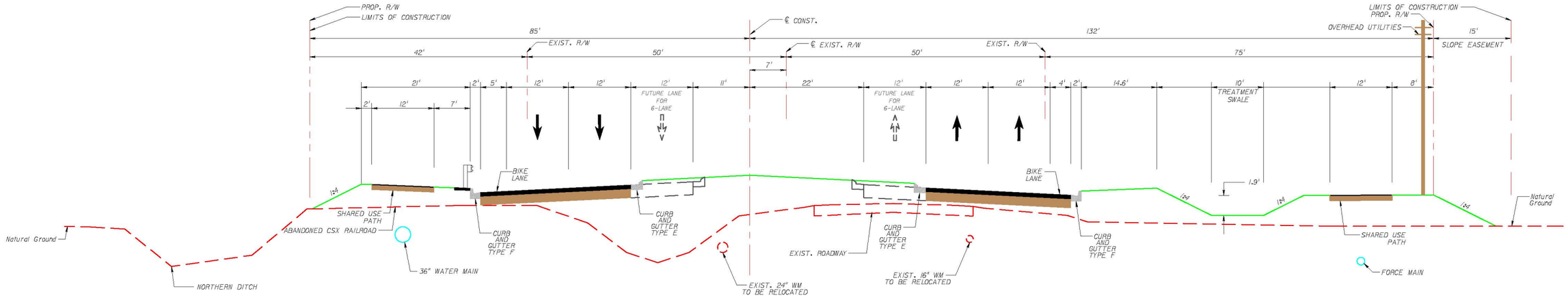
**4-27-2012**

# TYPICAL SECTION
# NORTH ALTERNATIVE

*Alico Road*
*4 Lane High Speed Urban*
*Design Speed 45 mph*




*From ±Sta. 161+70 To West of CR 951*
*250 Feet R/W*




*From East Of Ben Hill Griffin Pkwy. To ±Sta. 161+70*
*217 Feet R/W*

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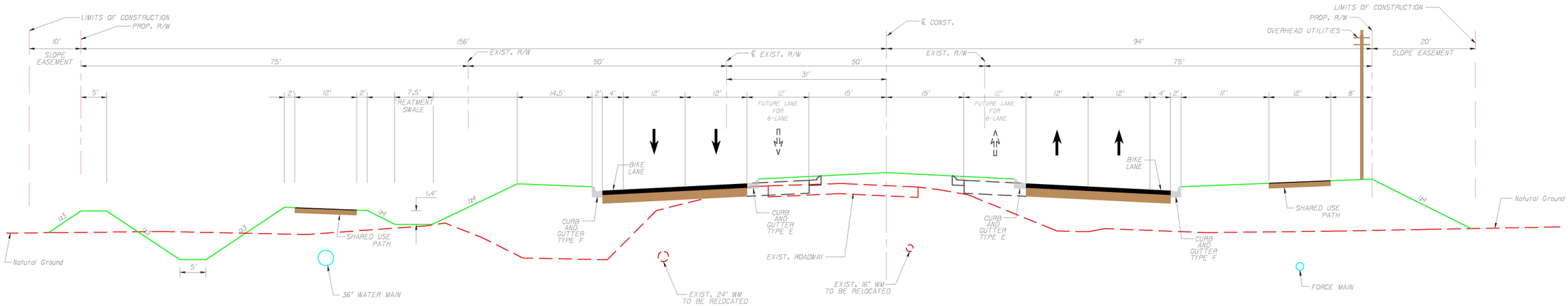
## ALICO ROAD STUDY
## TYPICAL SECTION

LEE COUNTY PROJECT NUMBER 6076

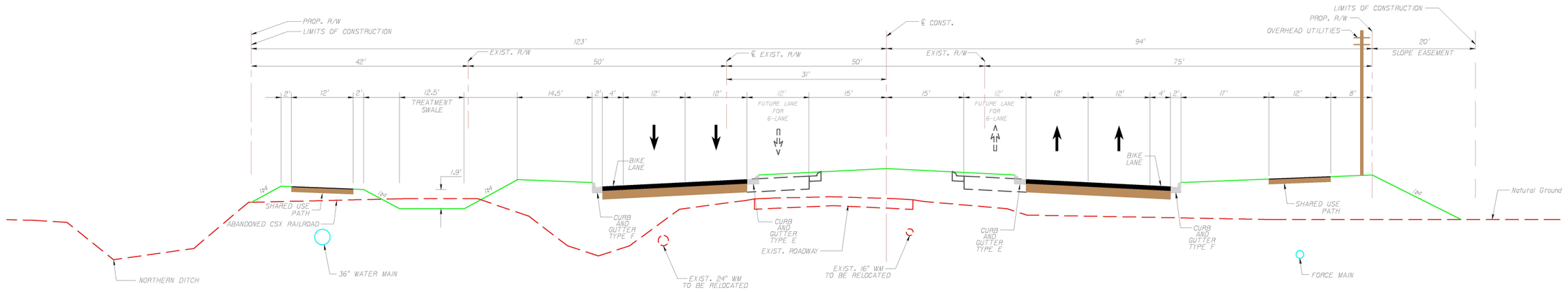
**4-27-2012**

# TYPICAL SECTION
# SOUTH ALTERNATIVE

*Alico Road*
*4 Lane High Speed Urban*
*Design Speed 45 mph*




*From ±Sta. 161+70 To West of CR 951*
*250 Feet R/W*




*From East Of Ben Hill Griffin Pkwy. To ±Sta. 161+70*
*217 Feet R/W*

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## ALICO ROAD STUDY
## TYPICAL SECTION

LEE COUNTY PROJECT NUMBER 6076

**4-27-2012**

# APPENDIX C

# Alico Road Preferred 4 Lane Alignment

# LEE COUNTY BOARD OF COUNTY COMMISSIONERS
# LEE COUNTY DEPARTMENT OF TRANSPORTATION

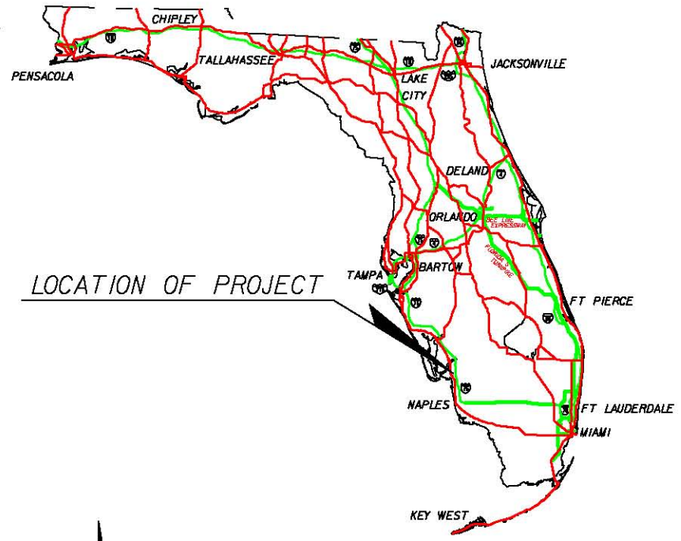
## 4 LANE CONCEPT PLANS

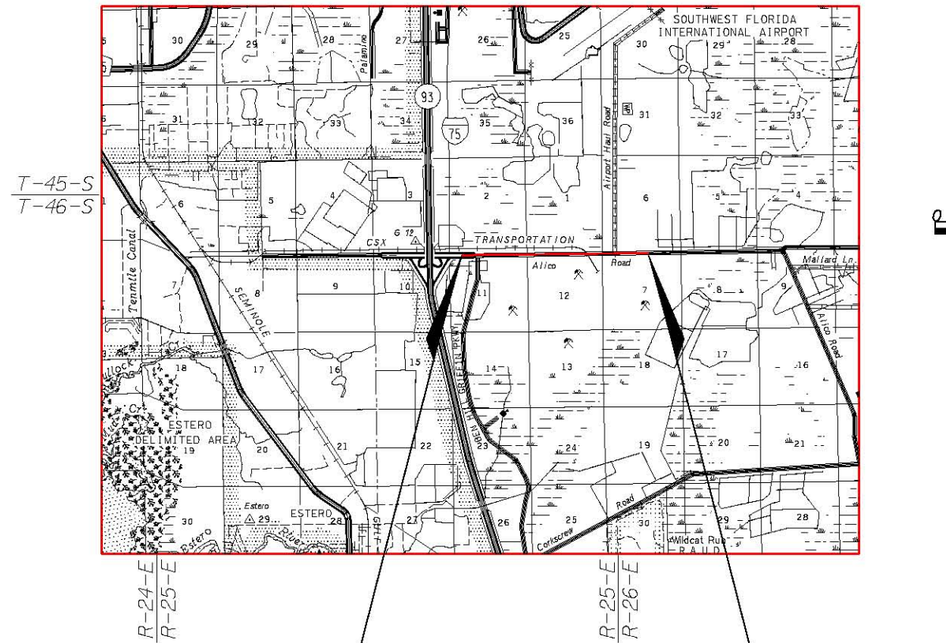
ALICO ROAD ALIGNMENT STUDY
FROM BEN HILL GRIFFIN PKWY. TO AIRPORT HAUL ROAD

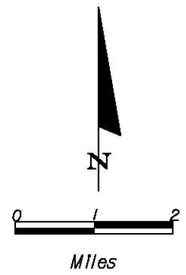
LEE COUNTY CONTRACT NO. 6076

INDEX OF ROADWAY PLANS


| SHEET NO. | SHEET DESCRIPTION |
|---|---|
| 1 | KEY SHEET |
| 2-4 | TYPICAL SECTION |
| 5-12 | ROADWAY PLAN |
| 13-17 | UTILITY RELOCATION PLAN |
| 18 | BOX CULVERT EXTENSION |



PLANS PREPARED BY:

Stanley Consultants INC.
27300 RIVERVIEW CENTER BLVD.
SUITE 101
BONITA SPRINGS, FLORIDA
34134
(239) 947-1771
CONTRACT NO. 11-05
VENDOR NO. VF-421320758-001
CERTIFICATE OF AUTHORIZATION NO. 1978


NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

CONCEPT PLANS
NOT FOR CONSTRUCTION

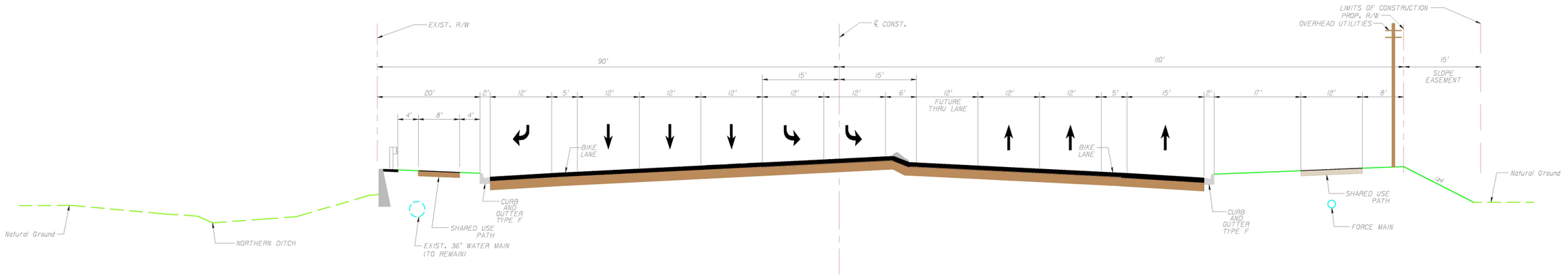
GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION,
DESIGN STANDARDS DATED 2012, AND
STANDARD SPECIFICATIONS FOR ROAD AND
BRIDGE CONSTRUCTION DATED 2010,
AS AMENDED BY CONTRACT DOCUMENTS.

COUNTY PROJECT MANAGER: SARAH CLARKE

| FISCAL YEAR | SHEET NO. |
|---|---|
| | 1 |

# TYPICAL SECTION
# CENTER ALTERNATIVE

*Alico Road / Ben Hill Griffin Pkwy. Intersection*
*6 Lane High Speed Urban*
*Design Speed 45 mph*




*East Leg*
*200 Feet R/W*
*Section at Station 91+00*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**ALICO ROAD STUDY**
**TYPICAL SECTION**

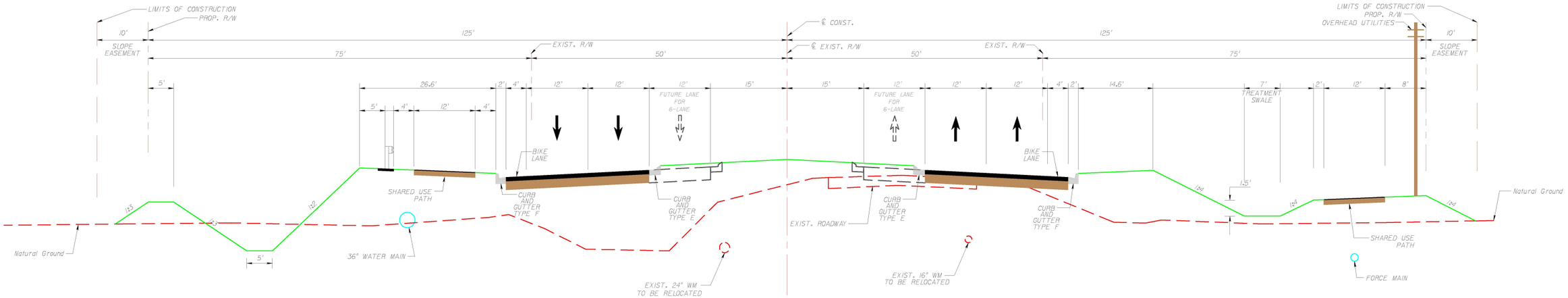
LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 2

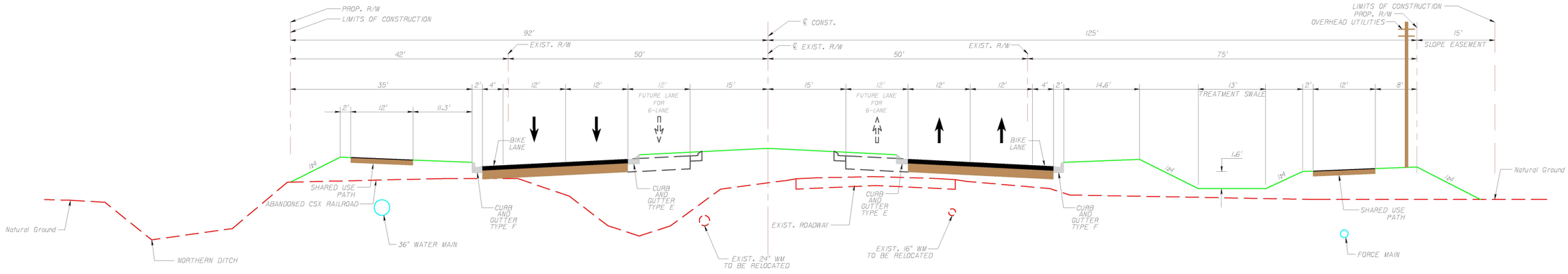
**4-27-2012**

# TYPICAL SECTION
# CENTER ALTERNATIVE

*Alico Road*
*4 Lane High Speed Urban*
*Design Speed 45 mph*




*From ±Sta. 161+70 To West of CR 951*
*250 Feet R/W*




*From East Of Ben Hill Griffin Pkwy. To ±Sta. 161+70*
*217 Feet R/W*

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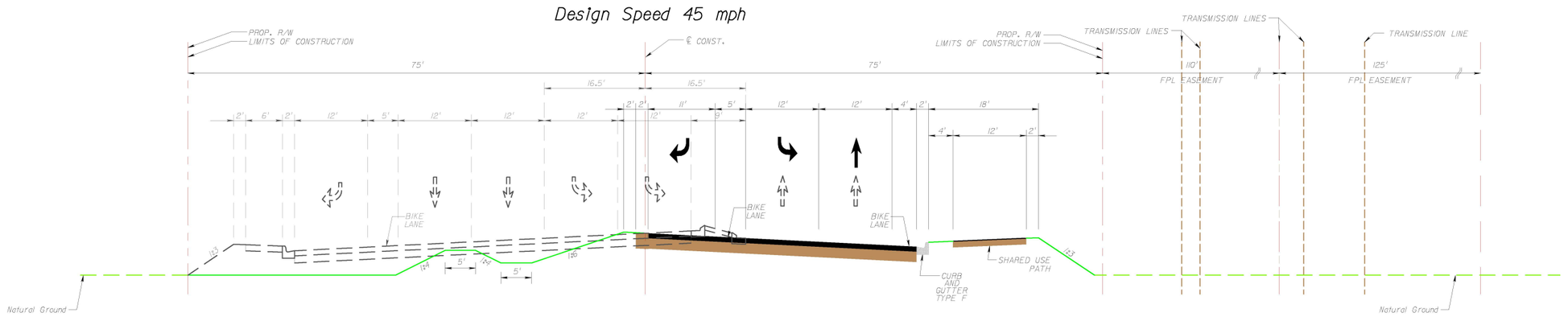
**ALICO ROAD STUDY**
**TYPICAL SECTION**

LEE COUNTY PROJECT NUMBER 6076

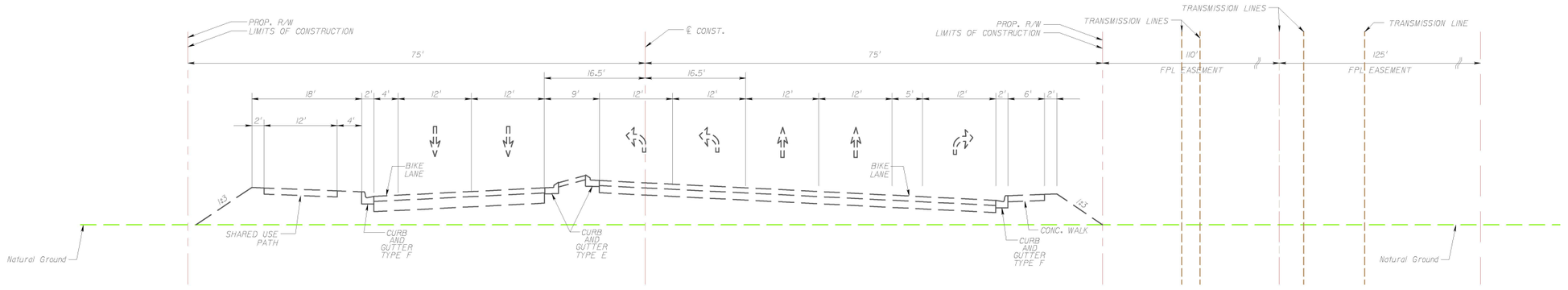
SHEET NO. 3

**4-27-2012**

# TYPICAL SECTION
# CR 951 NORTH CURVE ALTERNATIVE




2 Lane Interim High Speed Urban
(4 Lane Ultimate High Speed Urban)
North Leg of CR951 / Alico Road Intersection
150 Feet R/W
(Looking North)




Future 4 Lane High Speed Urban
South Leg of CR951 / Alico Road Intersection
150 Feet R/W
(Looking North)

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**ALICO ROAD STUDY**
**TYPICAL SECTION**

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 4

5-11-2012

Scale: 1"= 100

Interstate Commerce Dr

PI Sta. 75+00.01

EXIST. R/W

ALICO RD.

B/L SURVEY & C/L CONST.

69+00 70+00 71+00 72+00 73+00 74+00 75+00 76+00 77+00 78+00 79+00 80+00 81+00 82+00 83+00

N 89°17'12" E

S 89°43'43" E

90'

VARIES

EXTEND LEFT TURN LANES

Begin Project

Royal Queen Blvd

EXIST. R/W

LEGEND

PROP. TOB

PROP. TOS

SHARED USE PATH

CONC. SIDEWALK

Scale: 1"= 100

200'

5'

12+00

N 00°17'32" E

POT Sta. 85+30.53 ALICO RD. =

POT Sta. 10+00.00 BHG PKWY.

72" RCP

PROP. R/W

EXTEND CULVERT 55' +/-

6' X 8' BOX CULVERT

11+00

EXIST. DITCH TO REMAIN

TOE

EXIST. R/W

FI Sta. 92+61.70

8'

12'

SHARED USE PATH

84+00 85+00 86+00 87+00 88+00 89+00 90+00 91+00 92+00 93+00 94+00 95+00 96+00 97+00 98+00

CR90'

CR95'

10+00

CR90'

CR90'

B/L SURVEY & C/L CONST.

S 89°43'43" E

N 89°43'07" W

ALICO RD.

90'

110'

N 01°00'04" E

9+00

SHARED USE PATH

BEN HILL GRIFFIN PKWY.

R115' TYP.

PROP. SLOPE EASEMENT

15'

12'

EXIST. R/W

PROP. R/W

8+00

150'

CONCEPTUAL PLANS - NOT FOR CONSTRUCTION

LEE COUNTY SOUTHWEST FLORIDA


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# ALICO ROAD STUDY
## PLAN SHEET - 4-LANE CENTER ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 5

4-27-2012

LEGEND
PROP. TOB
PROP. TOS
SHARED USE PATH

Scale: 1"= 100

C/L CONST. DEVELOPMENT A1
PROP. R/W
EXIST. R/W
C/L CONST. DEVELOPMENT A2
EXIST. DITCH TO REMAIN
SHARED USE PATH
ALICO RD.
N 89°43'07" W
B/L SURVEY & C/L CONST.
PROP. TREATMENT SWALE
SHARED USE PATH
EXIST. R/W
PROP. R/W
PROP. SLOPE EASEMENT
PROP. DRAINAGE EASEMENT
POT Sta. 99+30.53 ALICO RD.
FUTURE DIRECTIONAL LEFT TURNS
POT Sta. 113+30.53 ALICO RD.
FUTURE FULL MEDIAN

42' 50' 50' 75' 15' 12' 12' 40'

+00 100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00

CURVE DATA:
D = 00°11'33" PI = 118+96.59
R = 29,770.02' PC = 115+59.07
L = 675.00' PT = 122+34.07
T = 337.53' e = NC

PC Sta. 115+59.07
PT Sta. 122+34.07
C/L CONST. DEVELOPMENT A3
PROP. R/W
EXIST. DITCH TO REMAIN
EXIST. R/W
SHARED USE PATH
N 89°43'07" W
ALICO RD.
B/L SURVEY & C/L CONST.
N 88°58'56" E
EXIST. R/W
PROP. TREATMENT SWALE
SHARED USE PATH
PROP. R/W
POT Sta. 124+50.53 ALICO RD.
FUTURE DIRECTIONAL LEFT TURNS
PROP. TREATMENT SWALE
PROP. SLOPE EASEMENT

42' 50' 50' 75' 15' 12' 12'

115+00 116+00 117+00 118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00

CONCEPTUAL PLANS - NOT FOR CONSTRUCTION

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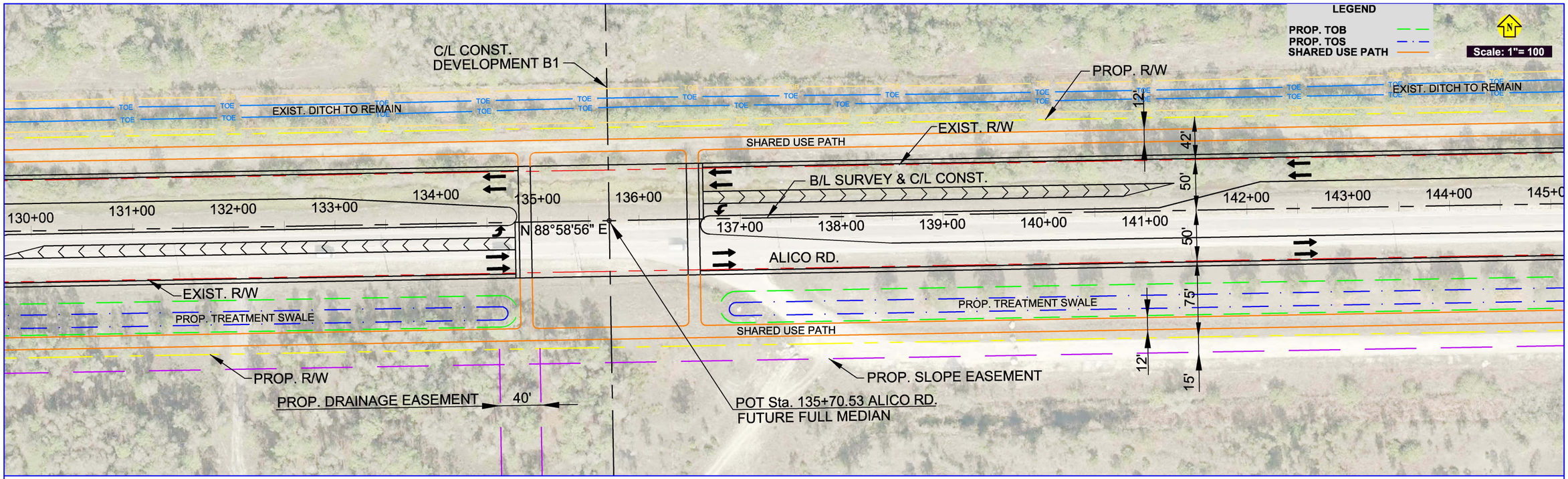
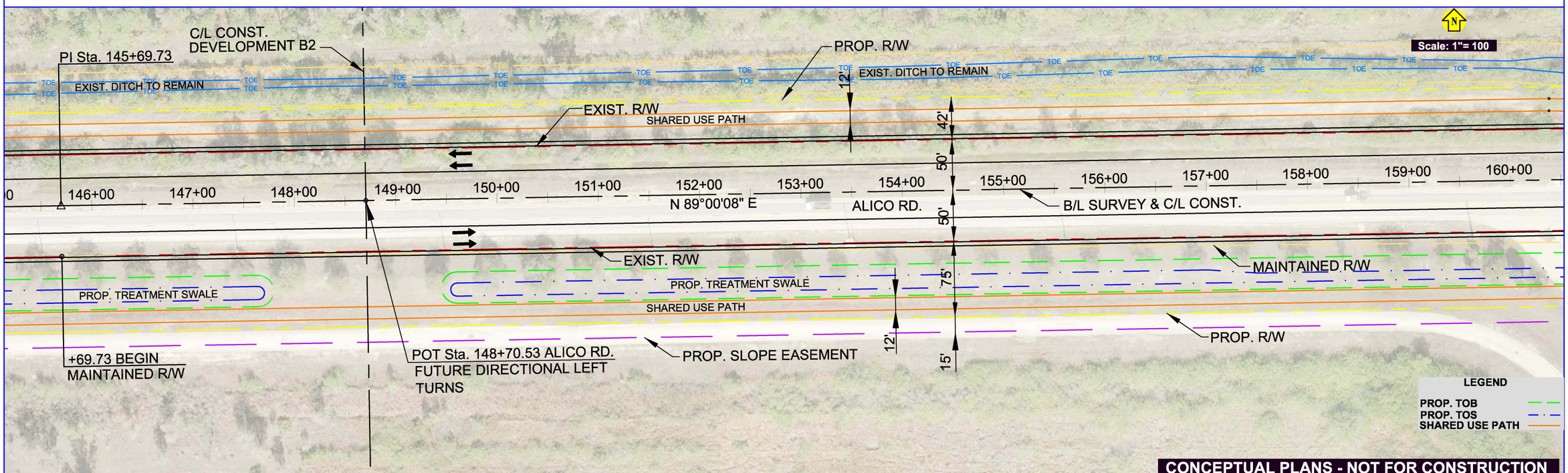
# ALICO ROAD STUDY
## PLAN SHEET - 4-LANE CENTER ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 6

4-27-2012

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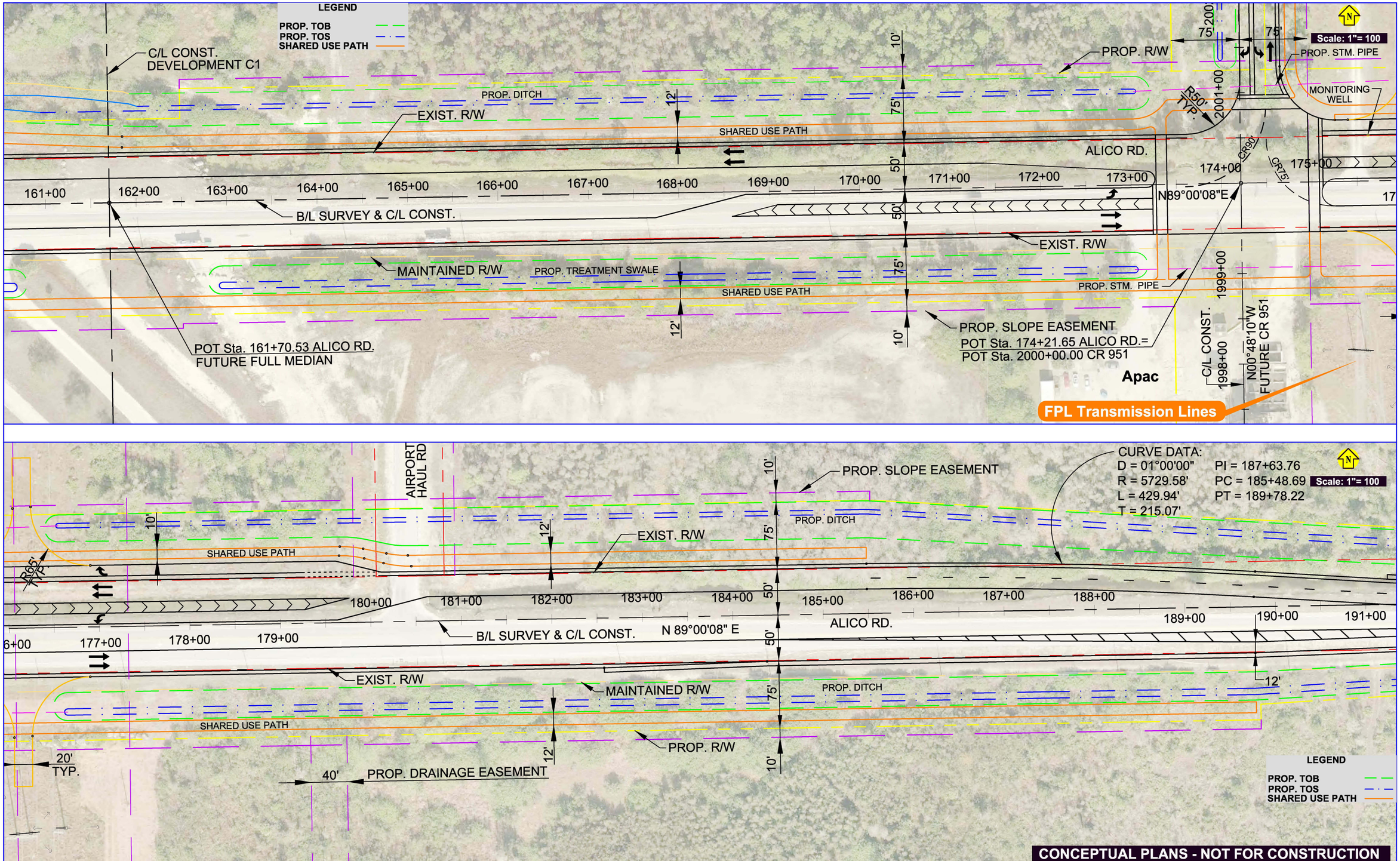
# ALICO ROAD STUDY
## PLAN SHEET - 4-LANE CENTER ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 7

4-27-2012

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# ALICO ROAD STUDY
# PLAN SHEET - 4-LANE CENTER ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 8

4-27-2012

LEGEND

PROP. TOB

PROP. TOS

Scale: 1"= 100

PROP. R/W

PROP. DITCH

B/L SURVEY & C/L CONST.

EXIST. R/W

EXIST. DITCH

192+00 193+00 194+00 195+00 196+00 197+00 198+00 199+00 200+00 201+00 202+00 203+00 204+00 205+00 206+00

N 89°00'08" E

ALICO RD.

EXIST. DITCH

PROP. DITCH

End Project

MAINTAINED R/W

EXIST. R/W

PROP. R/W

Scale: 1"= 100

Quarry Entrance

EXIST. R/W

B/L SURVEY

207+00 208+00 209+00 210+00 211+00 212+00 213+00 214+00 215+00 216+00 217+00 218+00 219+00 220+00 221+00 222+0

ALICO RD.

EXIST. R/W

MAINTAINED R/W

CONCEPTUAL PLANS - NOT FOR CONSTRUCTION

LEE COUNTY SOUTHWEST FLORIDA

Stanley Consultants INC.
27300 Riverview Center Boulevard, Suite 101
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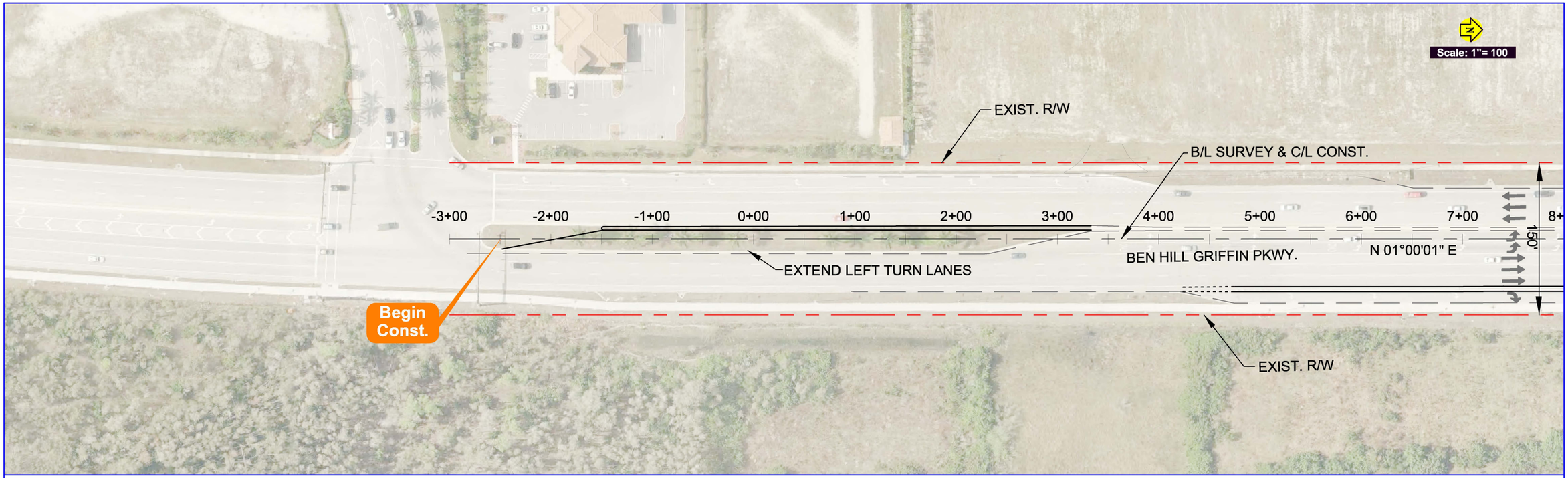
Certificate of Authorization No. 1978

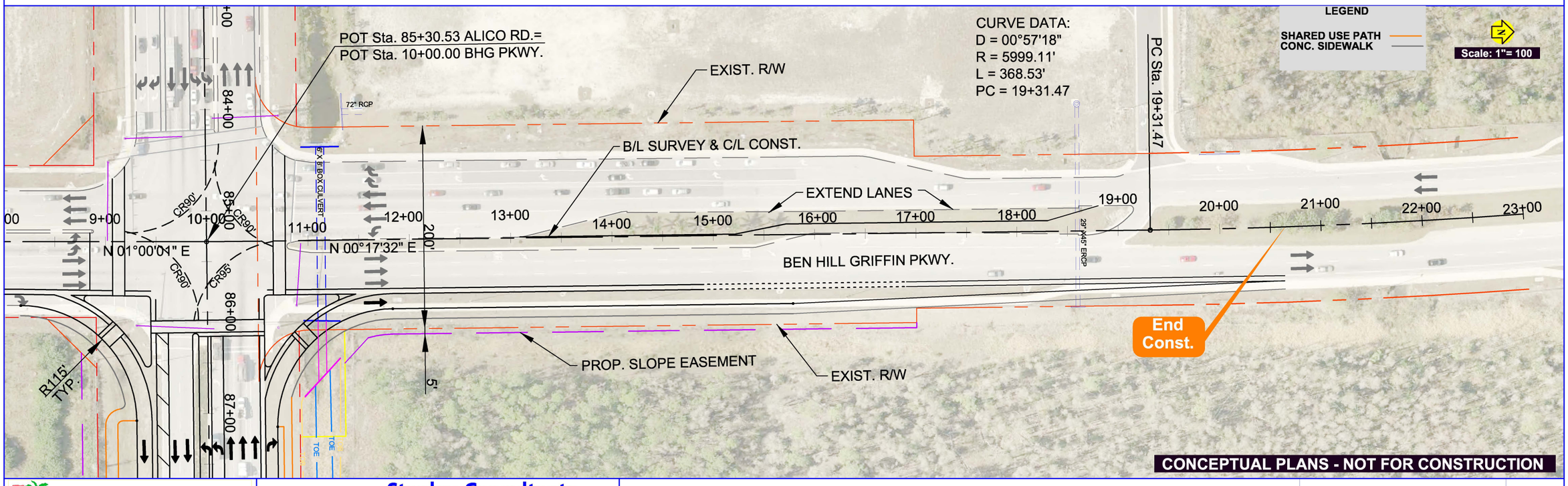
# ALICO ROAD STUDY
## PLAN SHEET - 4-LANE CENTER ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 9

4-27-2012

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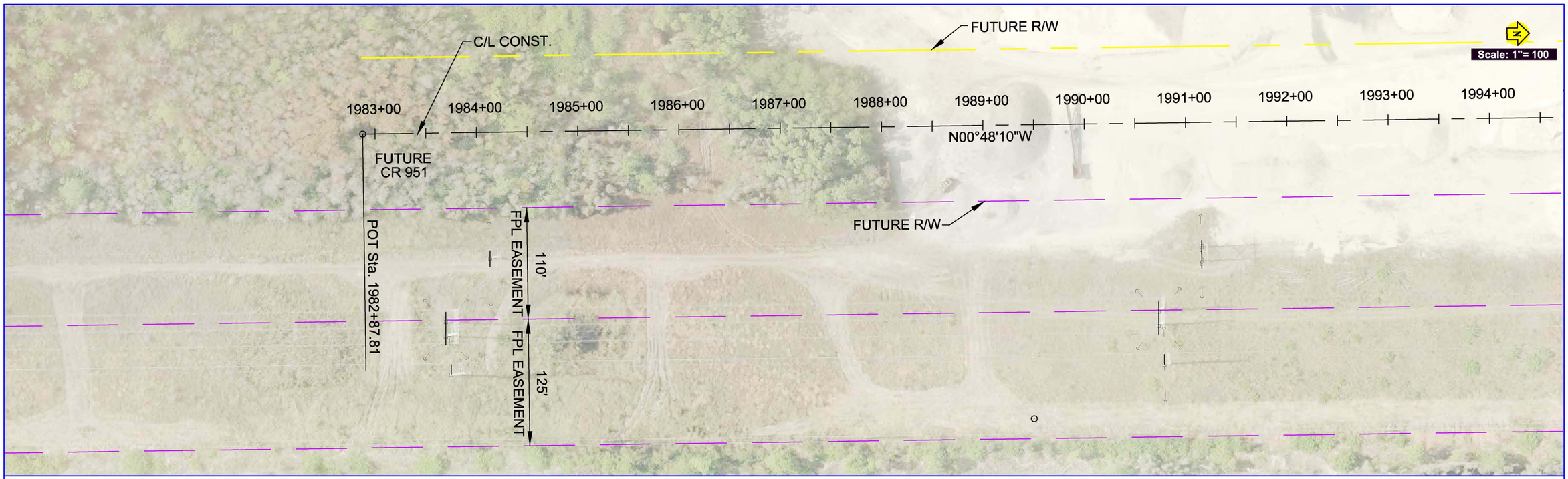
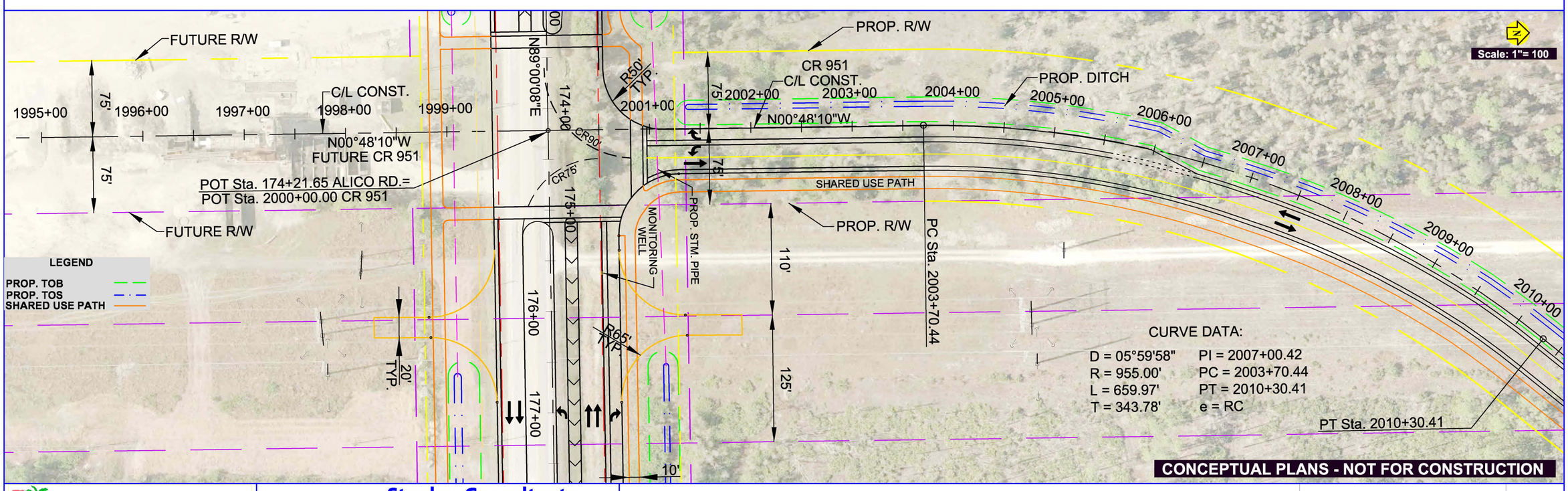
# ALICO ROAD STUDY
## PLAN SHEET - 4-LANE CENTER ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 10

4-27-2012

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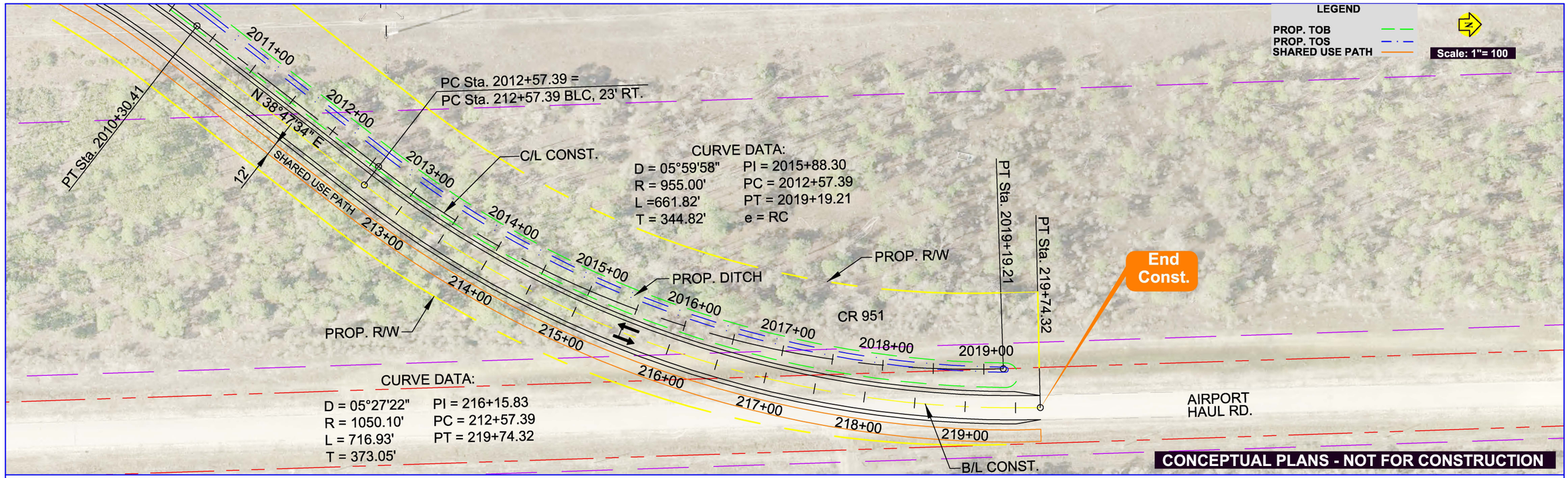
# ALICO ROAD STUDY
## PLAN SHEET - 4-LANE CENTER ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 11

4-27-2012

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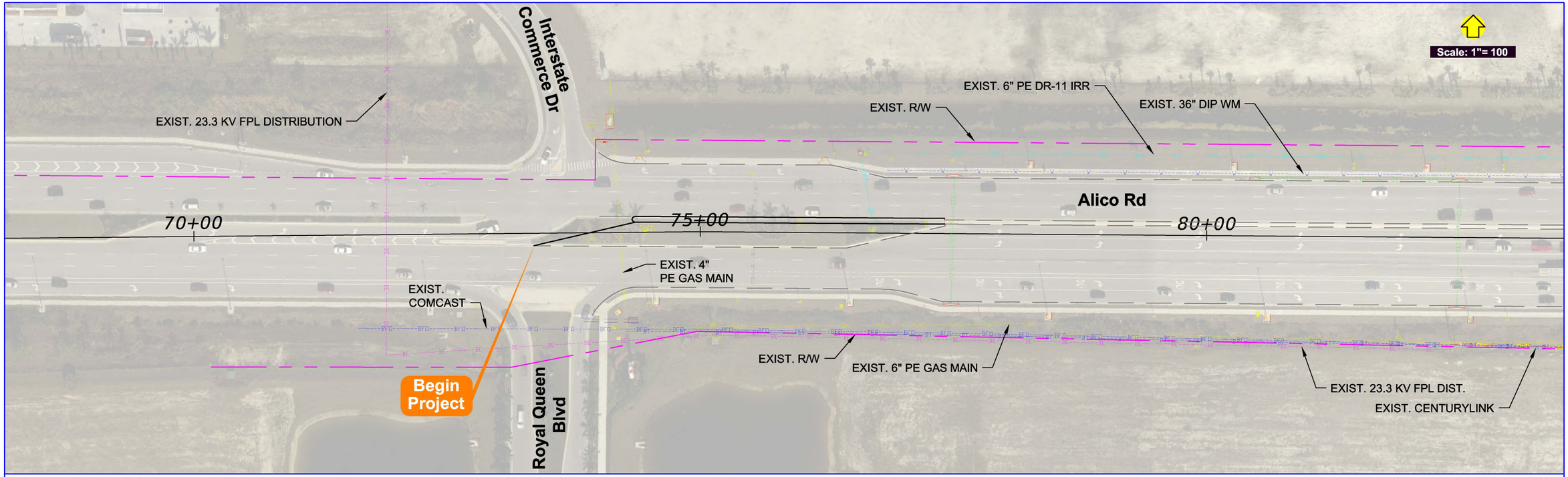
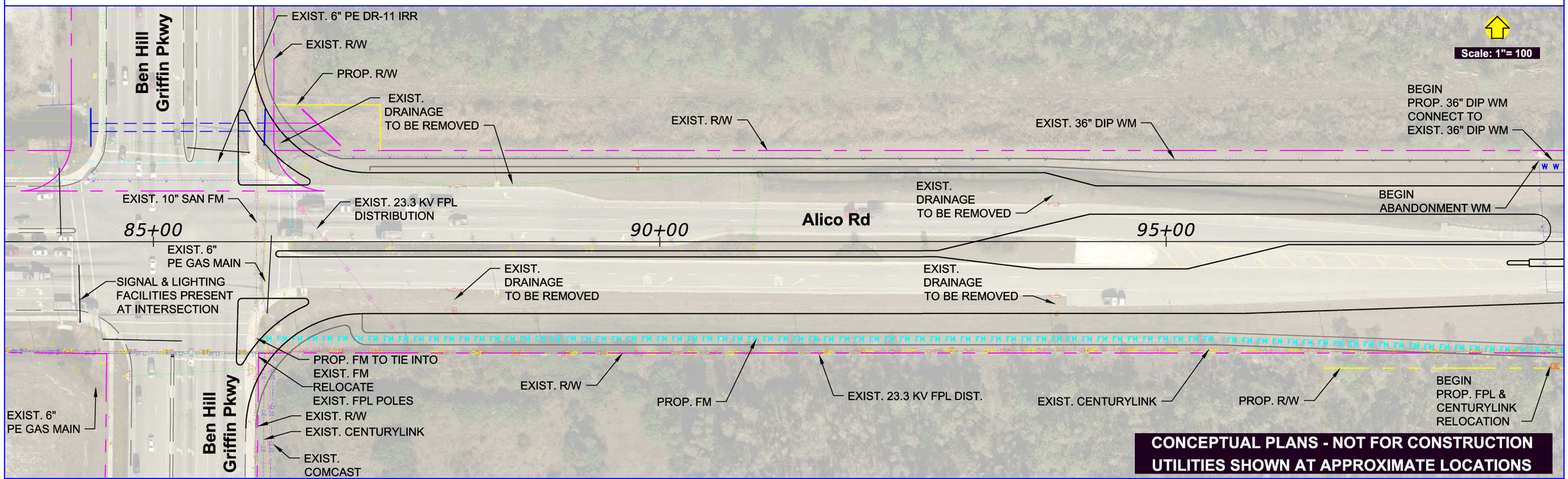
# ALICO ROAD STUDY
## PLAN SHEET - 4-LANE CENTER ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 12

4-27-2012

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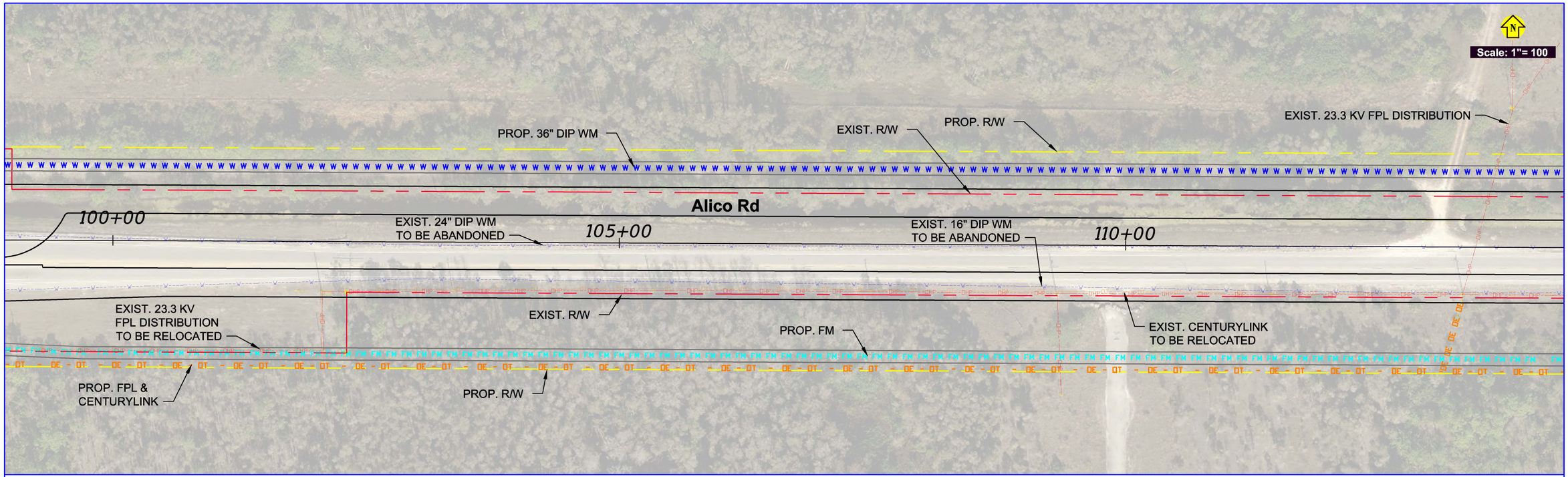
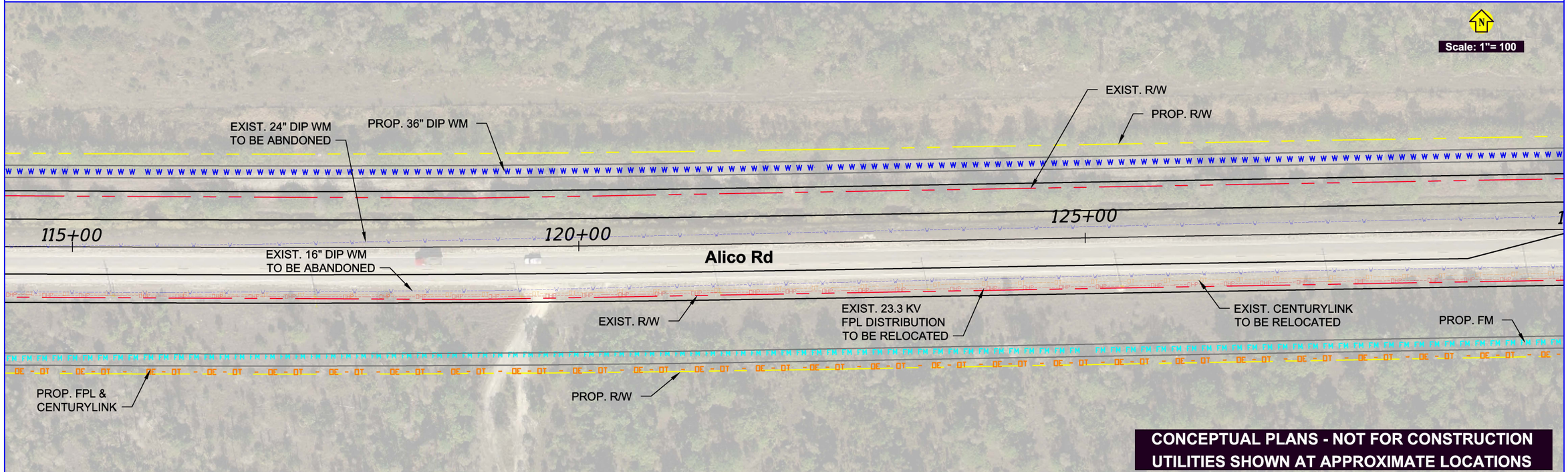
# ALICO ROAD STUDY
# UTILITY RELOCATION SHEET

LEE COUNTY PROJECT NUMBER 6076

APRIL, 2012

SHEET NO. 13

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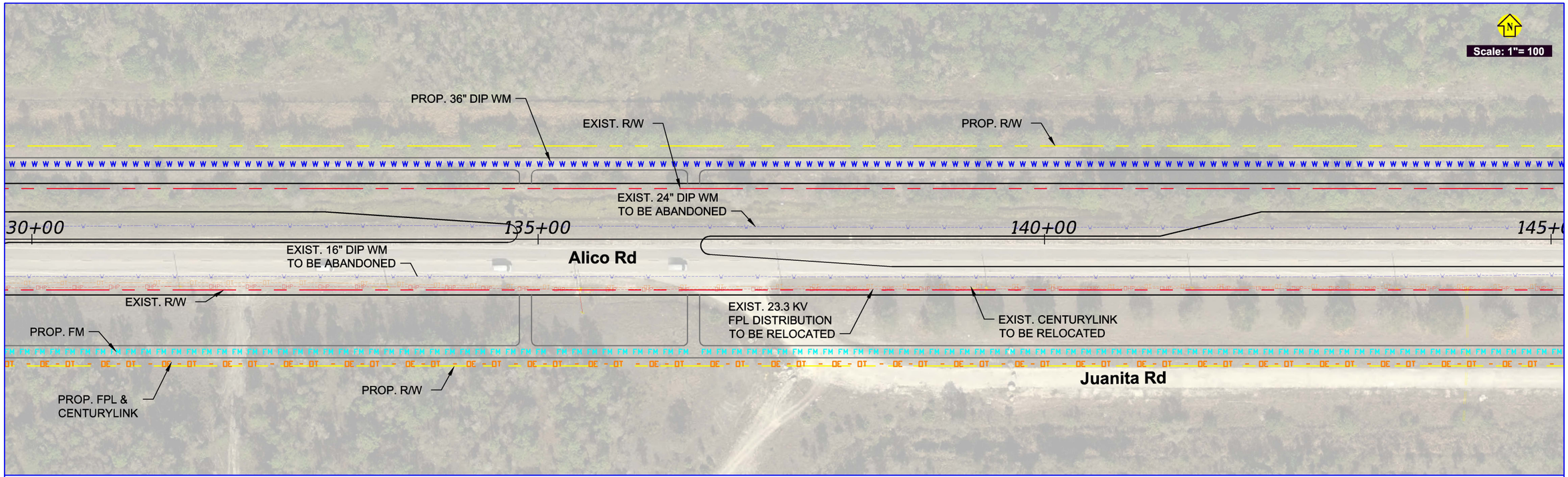
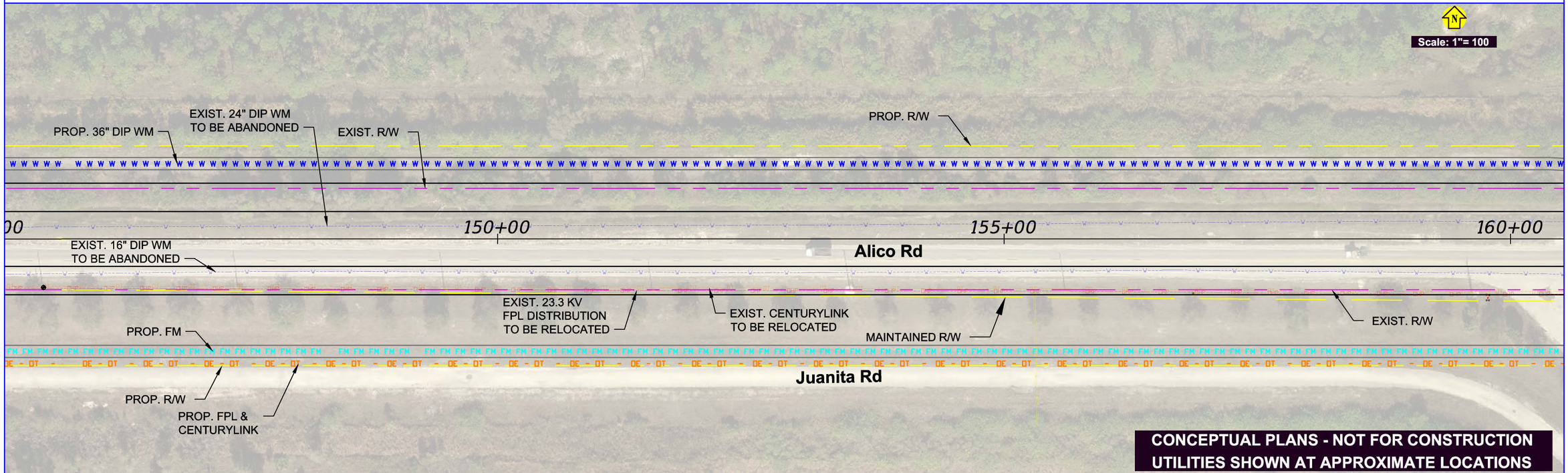
# ALICO ROAD STUDY
# UTILITY RELOCATION SHEET

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 14

APRIL, 2012




**CONCEPTUAL PLANS - NOT FOR CONSTRUCTION**
**UTILITIES SHOWN AT APPROXIMATE LOCATIONS**

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SOUTHWEST FLORIDA


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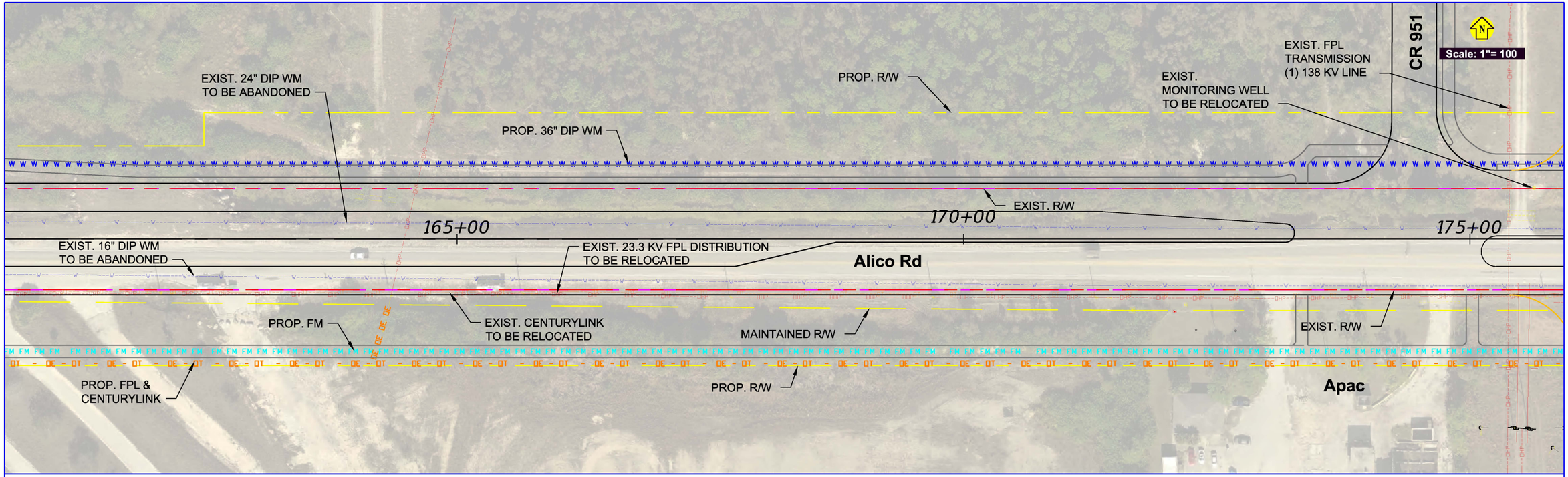
# ALICO ROAD STUDY
# UTILITY RELOCATION SHEET

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 15

APRIL, 2012

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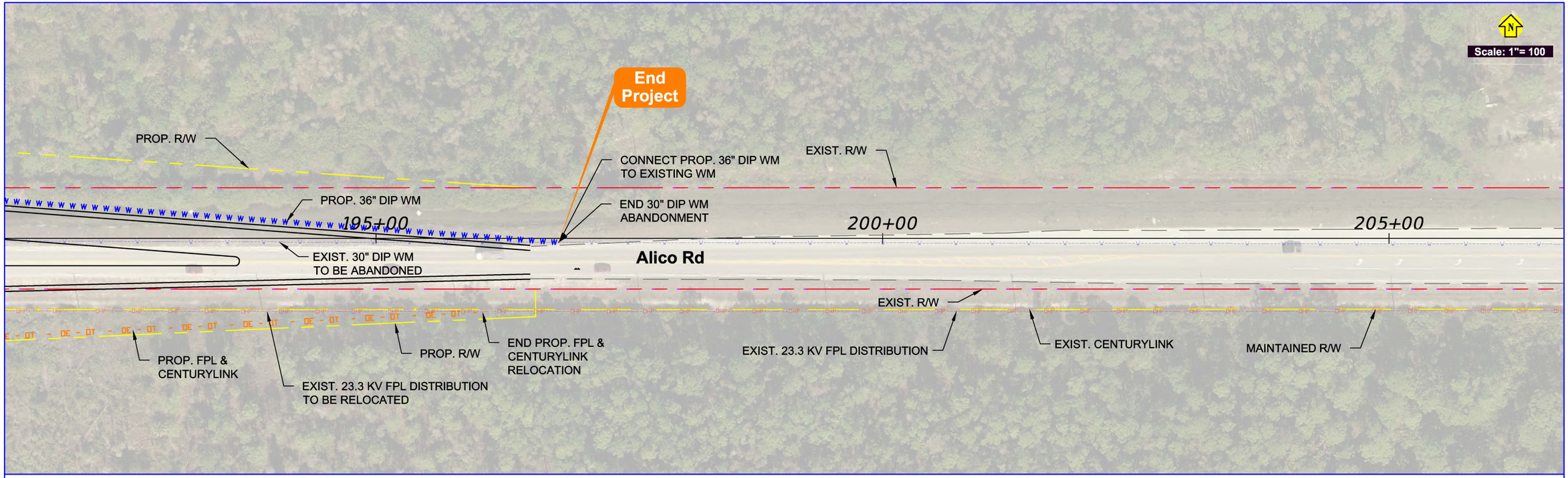
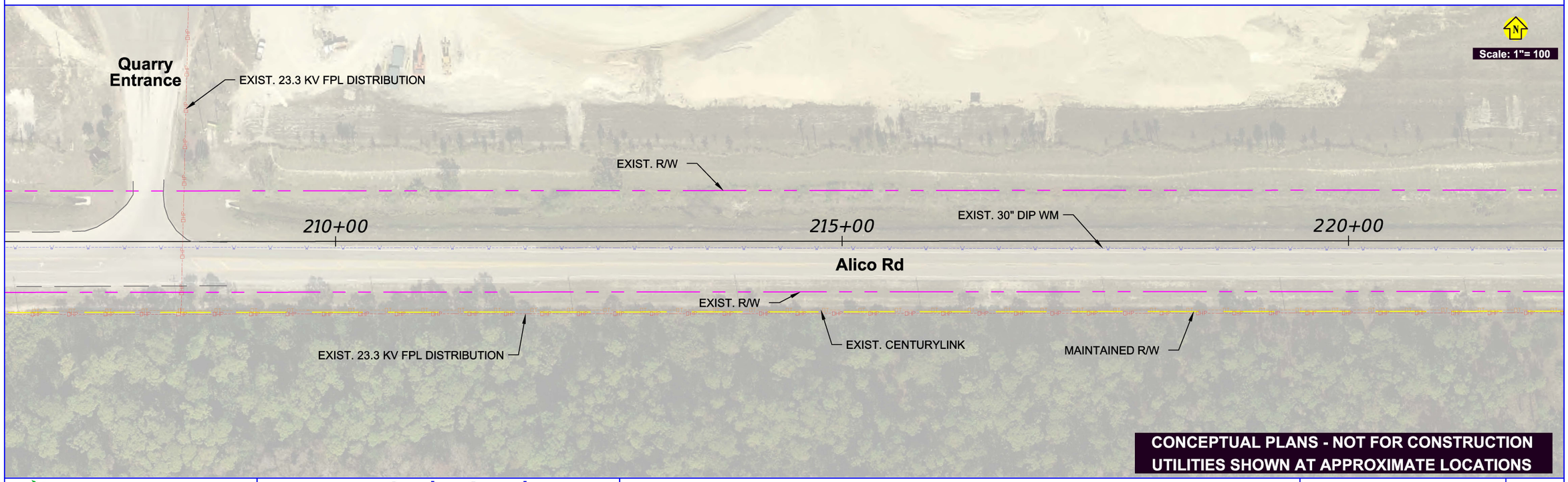
# ALICO ROAD STUDY
# UTILITY RELOCATION SHEET

LEE COUNTY PROJECT NUMBER 6076

APRIL, 2012

SHEET NO. 16

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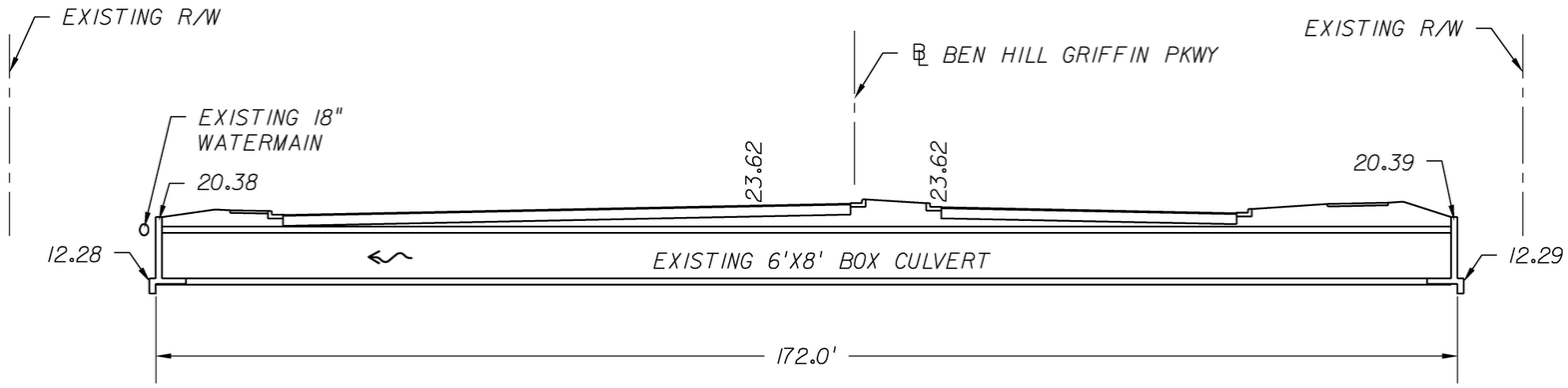
# ALICO ROAD STUDY
# UTILITY RELOCATION SHEET

LEE COUNTY PROJECT NUMBER 6076

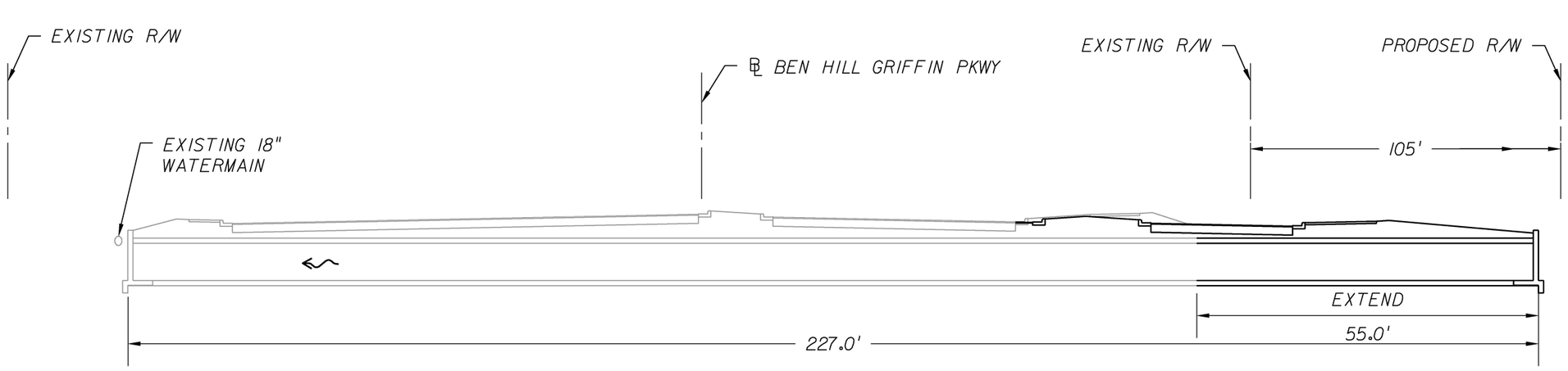
APRIL, 2012

SHEET NO. 17




EXISTING CULVERT ELEVATION

NTS LOOKING NORTH




4 LANE IMPROVEMENTS

NTS LOOKING NORTH

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**ALICO ROAD STUDY**
**BOX CULVERT CONCEPT (4-LANE)**

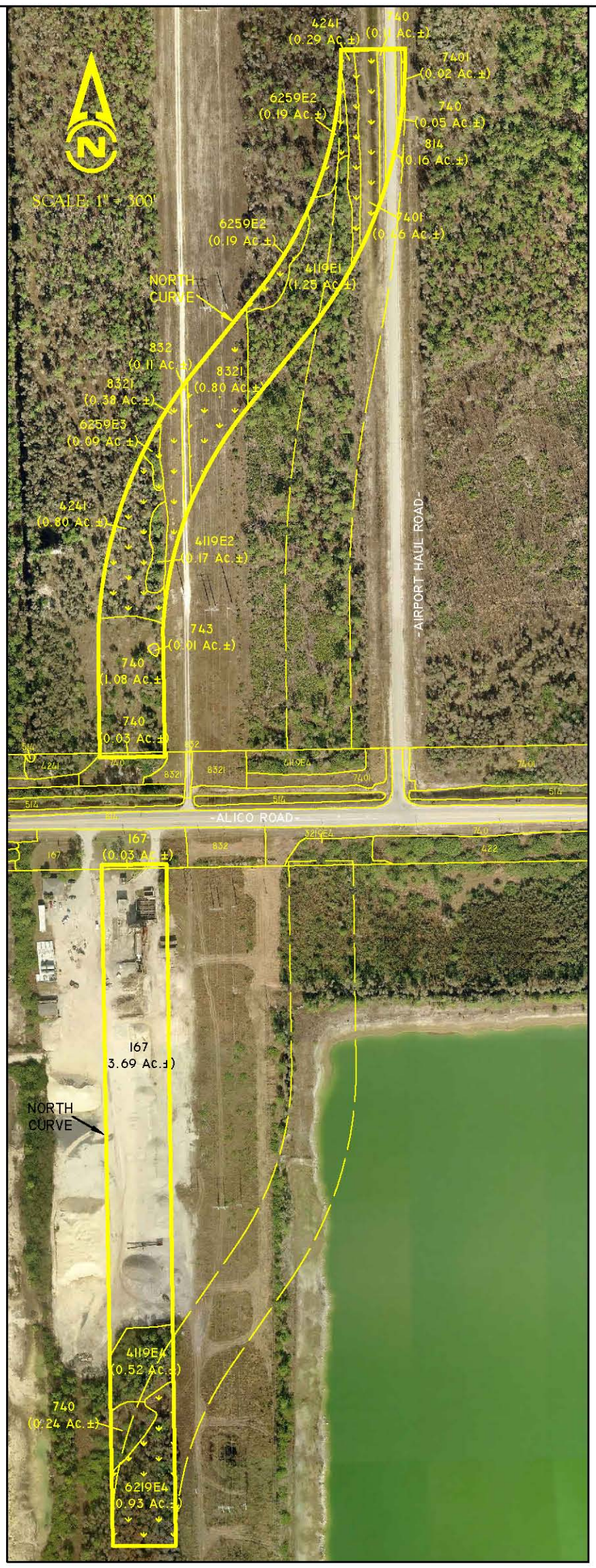
LEE COUNTY PROJECT NUMBER 6076

APRIL, 2012

SHEET NO. 18

# APPENDIX D

# Airport Haul Road Intersection Alternatives




## NORTH CURVE ALTERNATIVE

| FLUCFCS CODES | DESCRIPTIONS | ACREAGE | % OF TOTAL |
|---|---|---|---|
| 167 | MINE OPERATIONS FACILITY | 3.72 Ac.± | 32.1% |
| 4119 E1 | PINE FLATWOODS, DISTURBED (0-24% EXOTICS) | 1.25 Ac.± | 10.8% |
| 4119 E2 | PINE FLATWOODS, DISTURBED (25-49% EXOTICS) | 0.17 Ac.± | 1.5% |
| 4119 E4 | PINE FLATWOODS, DISTURBED (76-100% EXOTICS) | 0.52 Ac.± | 4.5% |
| 4241 | MELALEUCA, HYDRIC | 1.09 Ac.± | 9.4% |
| 6219 E4 | CYPRESS, DISTURBED (76-100% EXOTICS) | 0.93 Ac.± | 8.0% |
| 6259 E2 | PINE, HYDRIC, DISTURBED (25-49% EXOTICS) | 0.38 Ac.± | 3.3% |
| 6259 E3 | PINE, HYDRIC, DISTURBED (50-75% EXOTICS) | 0.09 Ac.± | 0.8% |
| 740 | DISTURBED LAND | 1.51 Ac.± | 13.0% |
| 7401 | DISTURBED LAND, HYDRIC | 0.48 Ac.± | 4.1% |
| 743 | SPOIL AREA | 0.01 Ac.± | 0.1% |
| 814 | ROAD | 0.16 Ac.± | 1.4% |
| 832 | ELECTRICAL POWER TRANSMISSION LINE | 0.11 Ac.± | 0.9% |
| 8321 | ELECTRICAL POWER TRANSMISSION LINE, HYDRIC | 1.18 Ac.± | 10.2% |
| | TOTAL | 11.60 Ac.± | 100.0% |

LEGEND:

SFWMD AND COE WETLANDS (4.15 Ac.±)

NOTES:

AERIAL PHOTOGRAPHS WERE ACQUIRED THROUGH THE LEE COUNTY PROPERTY APPRAISER'S OFFICE WITH A FLIGHT DATE OF JANUARY 2010.

NORTH AND SOUTH CURVE ALTERNATIVES PER STANLEY CONSULTANTS, INC. DRAWING NO. ENVIRONMENTAL IMPACT BOUNDARY FOR CR951 SOUTH AND NORTH CURVE ALTERNATIVE.DWG DATED MARCH 29, 2012.

FLUCFCS LINES ESTIMATED FROM 1"=200' AERIAL PHOTOGRAPHS AND LOCATIONS APPROXIMATED.

FLUCFCS PER FLORIDA LAND USE, COVER AND FORMS CLASSIFICATION SYSTEM (FLUCFCS) (FDOT 1999).

UPLAND/WETLAND LIMITS HAVE NOT BEEN REVIEWED BY ANY REGULATORY AGENCY AND ARE SUBJECT TO CHANGE.

## SOUTH CURVE ALTERNATIVE

| FLUCFCS CODES | DESCRIPTIONS | ACREAGE | % OF TOTAL |
|---|---|---|---|
| 3219 E1 | PALMETTO PRAIRIE, DISTURBED (0-24% EXOTICS) | 0.88 Ac.± | 7.7% |
| 3219 E2 | PALMETTO PRAIRIE, DISTURBED (25-49% EXOTICS) | 0.98 Ac.± | 8.5% |
| 3219 E4 | PALMETTO PRAIRIE, DISTURBED (76-100% EXOTICS) | 0.03 Ac.± | 0.3% |
| 4119 E1 | PINE FLATWOODS, DISTURBED (0-24% EXOTICS) | 2.46 Ac.± | 21.4% |
| 4119 E4 | PINE FLATWOODS, DISTURBED (76-100% EXOTICS) | 0.42 Ac.± | 3.7% |
| 4241 | MELALEUCA, HYDRIC | 0.43 Ac.± | 3.7% |
| 514 | DITCH | 0.13 Ac.± | 1.1% |
| 520 | LAKE | 0.83 Ac.± | 7.2% |
| 6219 E4 | CYPRESS, DISTURBED (76-100% EXOTICS) | 0.93 Ac.± | 8.1% |
| 6259 E2 | PINE, HYDRIC, DISTURBED (25-49% EXOTICS) | 0.06 Ac.± | 0.5% |
| 740 | DISTURBED LAND | 1.03 Ac.± | 9.0% |
| 7401 | DISTURBED LAND, HYDRIC | 1.24 Ac.± | 10.8% |
| 747 | BERM | 0.25 Ac.± | 2.2% |
| 814 | ROAD | 0.31 Ac.± | 2.7% |
| 8321 | ELECTRICAL POWER TRANSMISSION LINE, HYDRIC | 1.49 Ac.± | 13.0% |
| | TOTAL | 11.47 Ac.± | 100.0% |

LEGEND:

SFWMD AND COE WETLANDS (4.15 Ac.±)

SFWMD "OTHER SURFACE WATERS" AND COE "WATERS OF THE U.S." (0.96 Ac.±)

J:\2011\11sci2056\2012\Alt Alignments\Aerial with FLUCFCS and Wetlands Map.dwg Tab: 11X17-C TB May 15, 2012 - 2:37pm Plotted By: HoldenH

| DRAWN BY | DATE |
|---|---|
| F.L. | 4/4/12 |
| REVIEWED BY | DATE |
| B.C. | 4/4/12 |
| REVISED | DATE |

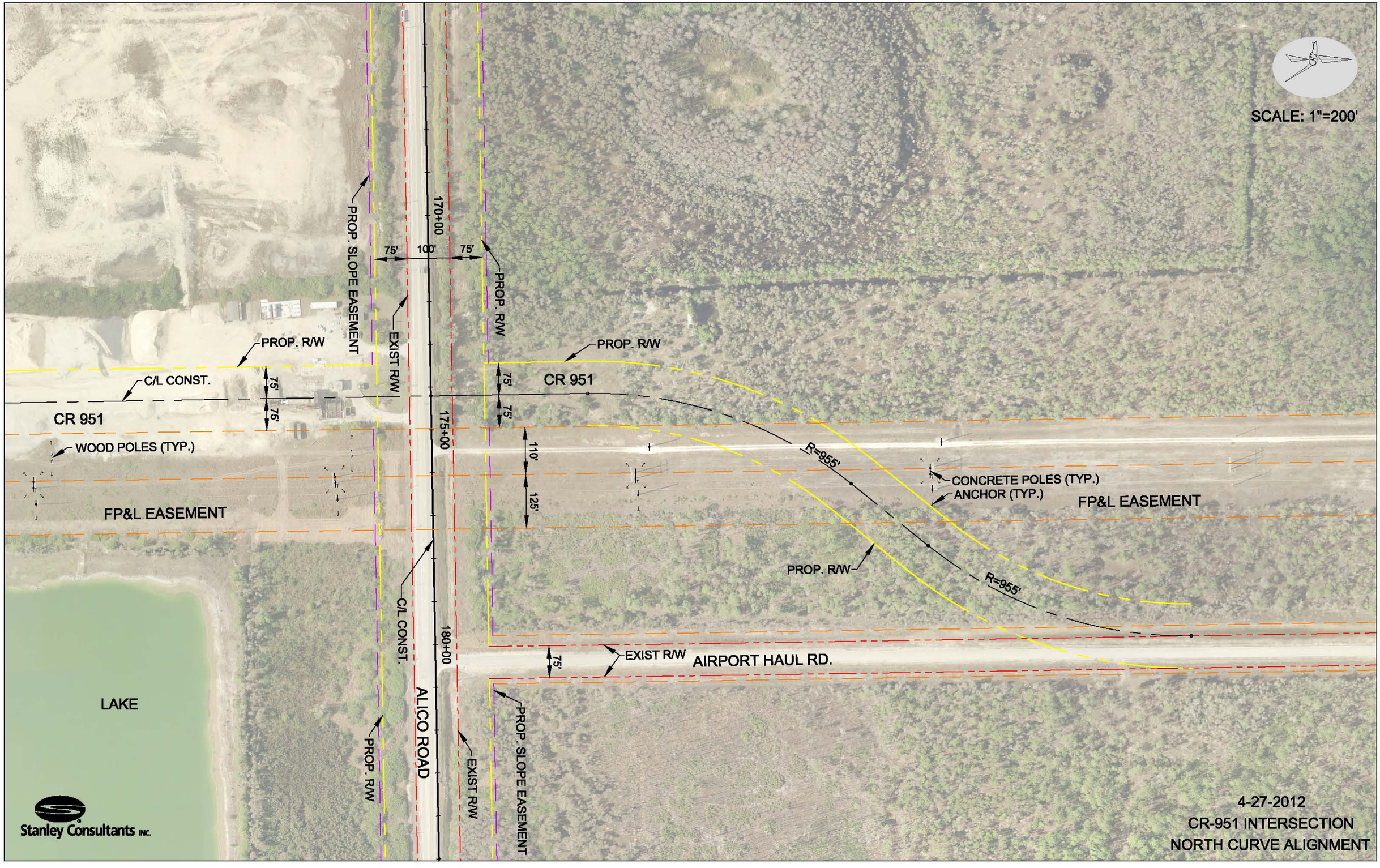
13620 Metropolis Avenue
Suite 200
Fort Myers, Florida 33912
Phone (239) 274-0067
Fax (239) 274-0069

Passarella & Associates, Inc. (Consulting Ecologists)

CR 951
NORTH AND SOUTH CURVE ALTERNATIVES
AERIAL WITH FLUCFCS AND WETLANDS MAP

DRAWING No. 11SCI2056

SHEET No. EXHIBIT 13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PROP. SLOPE EASEMENT
170+00
75'
100'
75'
PROP. R/W
EXIST R/W
PROP. R/W
PROP. R/W
C/L CONST.
75'
75'
CR 951
75'
75'
175+00
110'
125'
WOOD POLES (TYP.)
FP&L EASEMENT
R=955'
CONCRETE POLES (TYP.)
ANCHOR (TYP.)
FP&L EASEMENT
PROP. R/W
R=955'
C/L CONST.
180+00
75'
EXIST R/W
AIRPORT HAUL RD.
LAKE
ALICO ROAD
PROP. R/W
EXIST R/W
PROP. SLOPE EASEMENT
Stanley Consultants INC.
4-27-2012
CR-951 INTERSECTION
NORTH CURVE ALIGNMENT

SCALE: 1"=200'

CR 951

R=784'

WOOD POLES (TYP.)

CONCRETE POLES (TYP.)

ANCHOR (TYP.)

FP&L EASEMENT

PROP. SLOPE EASEMENT

EXIST R/W

PROP. R/W

75'

100'

75'

170+00

175+00

110'

125'

FP&L EASEMENT

PROP. R/W

75'

75'

C/L CONST.

75'

75'

PROP. R/W

R=784'

R=2500'

CR 951

R=3187'

180+00

75'

EXIST R/W

AIRPORT HAUL RD.

ALICO ROAD

LAKE

PROP. R/W

C/L CONST.

185+00

EXIST R/W

PROP. SLOPE EASEMENT

Stanley Consultants INC.

4-27-2012

CR-951 INTERSECTION

SOUTH CURVE ALIGNMENT

SCALE: 1"=200'

PROP. SLOPE EASEMENT

170+00

75' 100' 75'

PROP. R/W

EXIST R/W

PROP. R/W

PROP. R/W

C/L CONST.

75'

75'

CR 951

75'

75'

175+00

110'

125'

100'

FP&L EASEMENT

WOOD POLES (TYP.)

CONCRETE POLES (TYP.)

ANCHOR (TYP.)

FP&L EASEMENT

PROP. R/W

C/L CONST.

ALICO ROAD

180+00

75'

EXIST R/W

AIRPORT HAUL RD.

PROP. R/W

EXIST R/W

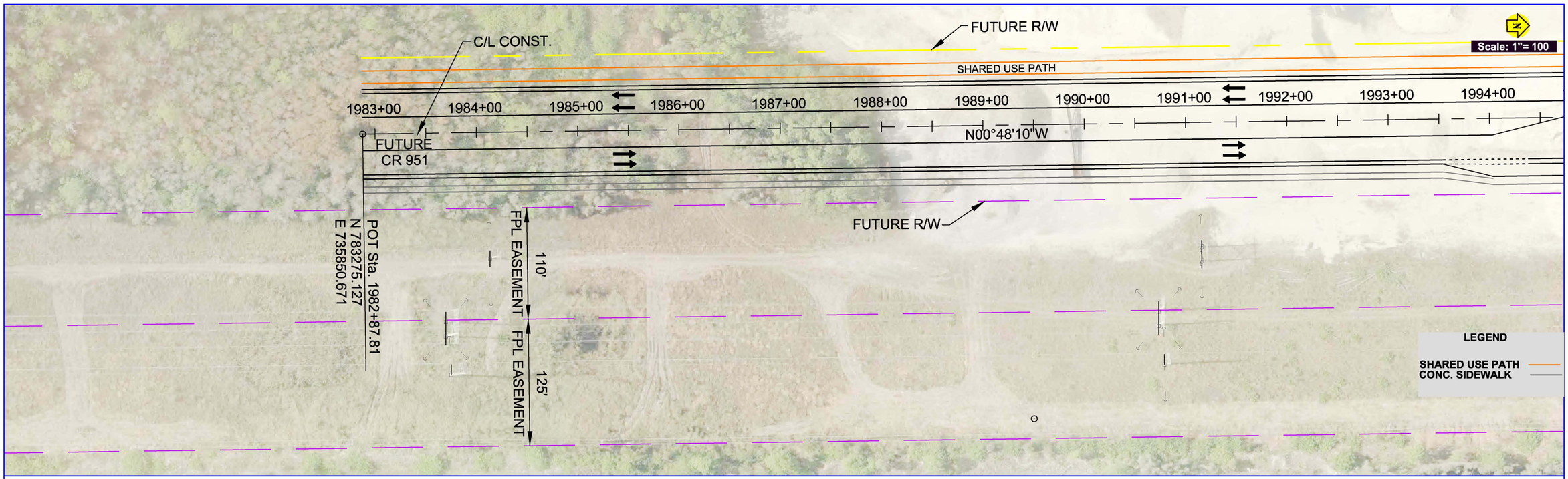
PROP. SLOPE EASEMENT

Stanley Consultants INC.

4-27-2012

CR-951 INTERSECTION

TANGENT ALIGNMENT







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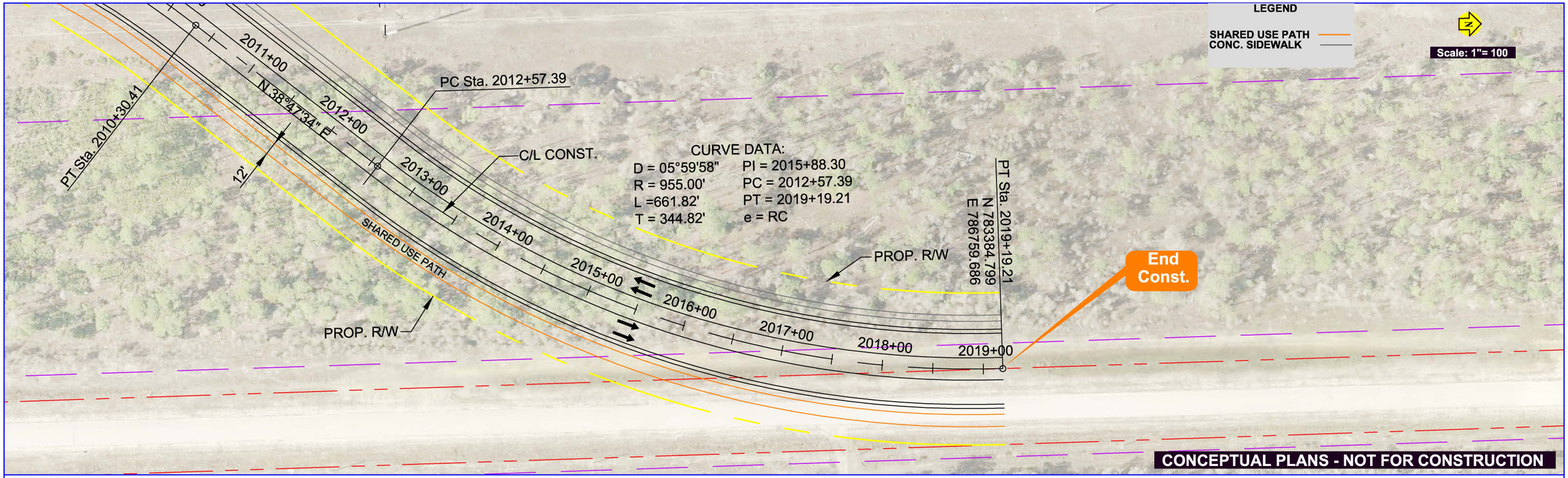
# ALICO ROAD STUDY
## PLAN SHEET - FUTURE CR951 NORTH CURVE ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 1

4-27-2012

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# ALICO ROAD STUDY
## PLAN SHEET - FUTURE CR951 NORTH CURVE ALIGNMENT

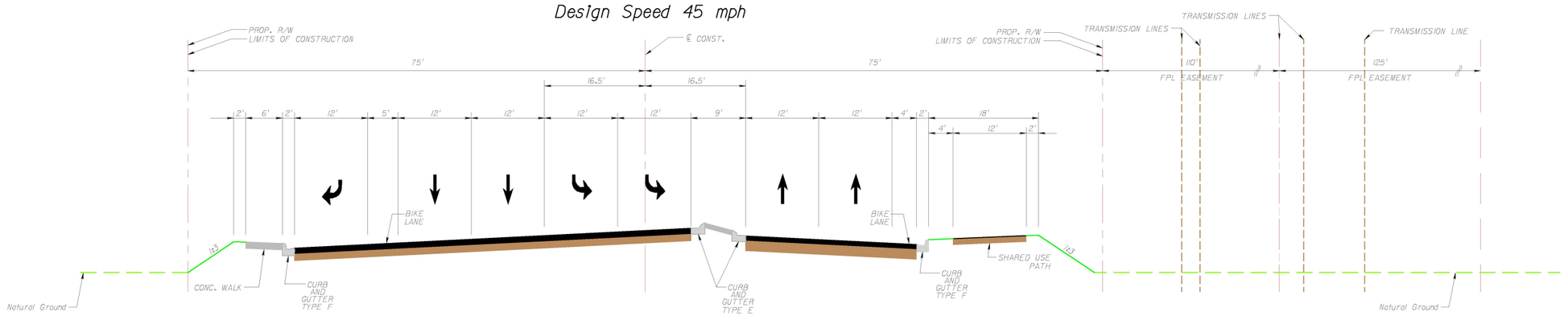
LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 2

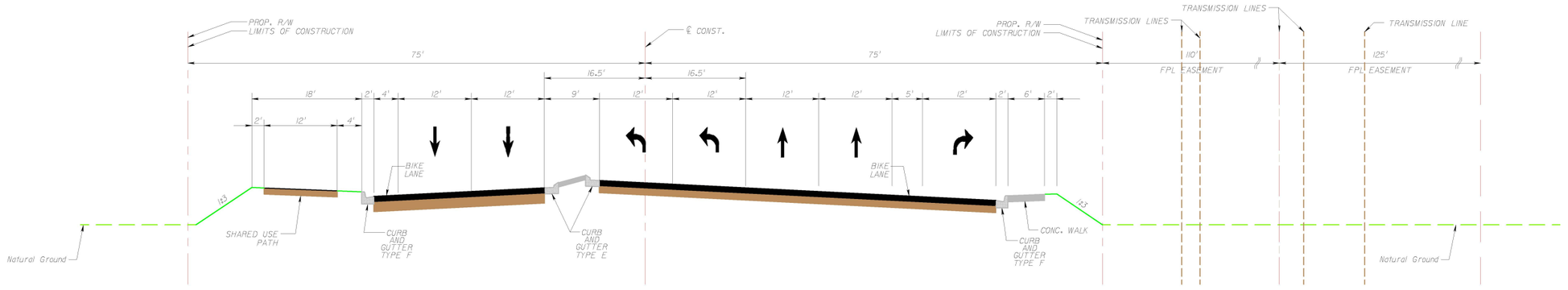
4-27-2012

# TYPICAL SECTION
# FUTURE CR 951 NORTH CURVE ALTERNATIVE

Design Speed 45 mph




4 Lane High Speed Urban
North Leg of CR951 / Alico Road Intersection
150 Feet R/W
(Looking North)




4 Lane High Speed Urban
South Leg of CR951 / Alico Road Intersection
150 Feet R/W
(Looking North)

LEE COUNTY
SOUTHWEST FLORIDA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## ALICO ROAD STUDY
## FUTURE TYPICAL SECTION

LEE COUNTY PROJECT NUMBER 6076

5-11-2012

LEGEND

SHARED USE PATH
CONC. SIDEWALK

CURVE DATA:

D = 07°18'30" PI = 1984+21.60
R = 784.00' PC = 1981+79.59
L = 484.02' PT = 1986+63.61
T = 250.00' e = 0.034

Scale: 1"= 100

C/L CONST.

SHARED USE PATH

1982+00 1983+00 1984+00 1985+00 1986+00 1987+00 1988+00 1989+00 1990+00 1991+00 1992+00 1993+0

FUTURE CR 951

FUTURE R/W

PC Sta. 1981+79.59
N 783275.127
E 735850.671

FPL EASEMENT 110'

FPL EASEMENT 125'

PT Sta. 1986+63.61

N 34°34'09" E

PC Sta. 1989+15.06

CURVE DATA:

D = 07°18'30" PI = 1991+57.07
R = 784.00' PC = 1989+15.06
L = 484.02' PT = 1993+99.08
T = 250.00' e = 0.034

FUTURE R/W

LEGEND

PROP. TOB
PROP. TOS
SHARED USE PATH
CONC. SIDEWALK

Scale: 1"= 100

PT Sta. 1993+99.08

FUTURE R/W

SHARED USE PATH

3+00 1994+00 1995+00 1996+00 1997+00 1998+00 1999+00 2001+00 2002+00 2003+00 2004+00 2005+00 2006+00 2007+00 2008+00

75' 75' 40'

N00°48'10"W
CR 951

C/L CONST.

FUTURE R/W

PROP. DRAINAGE EASEMENT

POT Sta. 178+56.65 ALICO RD. =
POT Sta. 2000+00.00 CR 951

177+00

N 89°00'08" E

178+00

179+00

180+00

181+00

R50' TYP.

CR90'

CR115'

EXIST. R/W

C/L CONST.

PROP. STM. PIPE

AIRPORT HAUL RD.

50'

75'

75'

12'

PROP. R/W

CR 951

C/L CONST.

N00°48'10"W

SHARED USE PATH

PROP. R/W

PC Sta. 2004+63.04

25'

75'

12'

EXIST. R/W

EASEMENT

CURVE DATA:

D = 02°17'31" PI = 2007+48.75
R = 2500.00' PC = 2004+63.04
L = 571.42' PRC = 2010+34.46
T = 286.96' e = NC

FPL EASEMENT

CONCEPTUAL PLANS - NOT FOR CONSTRUCTION

LEE COUNTY
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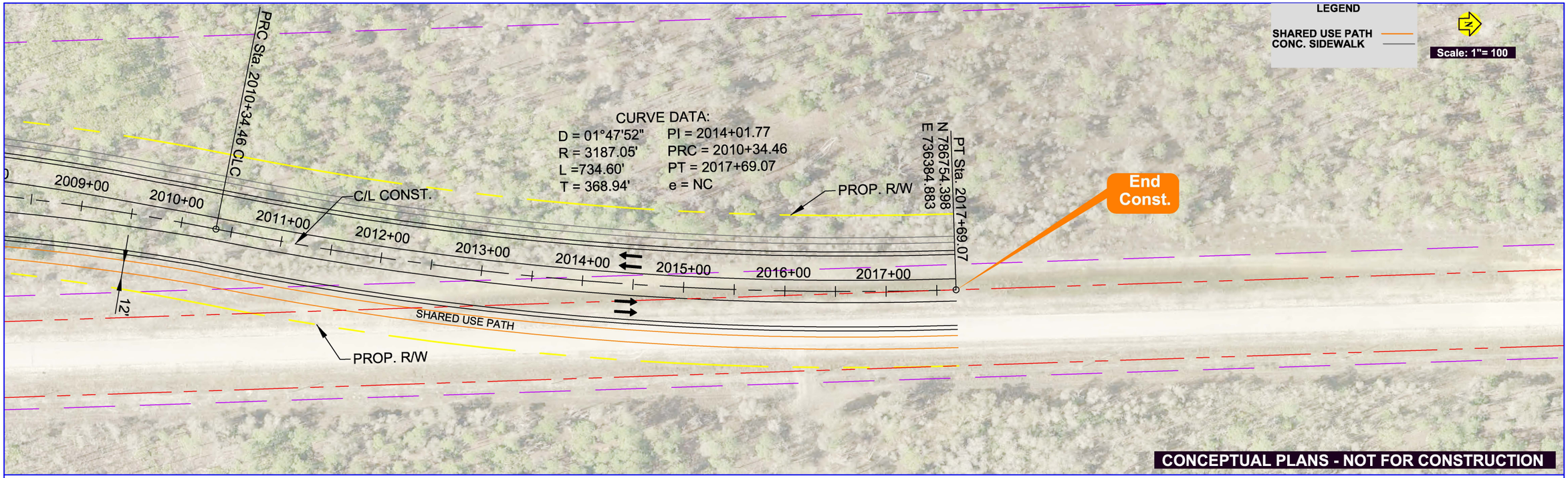
# ALICO ROAD STUDY
## PLAN SHEET - FUTURE CR951 SOUTH CURVE ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 1

4-27-2012

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# ALICO ROAD STUDY
## PLAN SHEET - FUTURE CR951 SOUTH CURVE ALIGNMENT

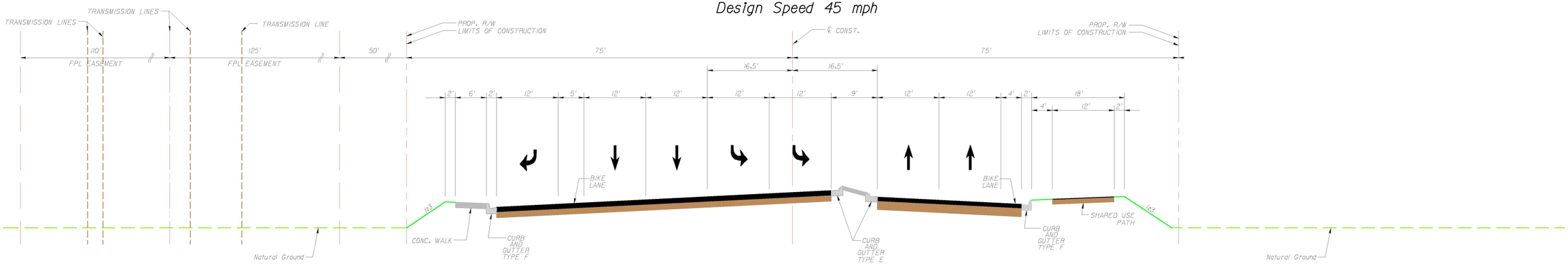
LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 2

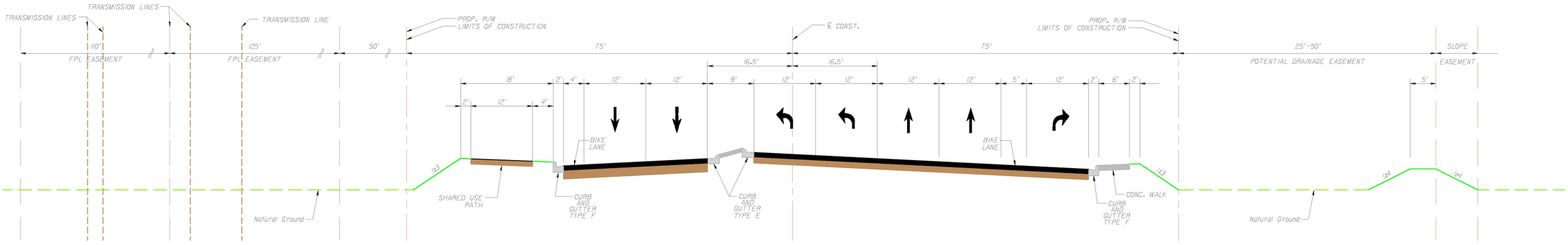
4-27-2012

# TYPICAL SECTION
# CR 951 SOUTH CURVE ALTERNATIVE

Design Speed 45 mph




4 Lane High Speed Urban
North Leg of CR951 / Alico Road Intersection
150 Feet R/W
(Looking North)




4 Lane High Speed Urban
South Leg of CR951 / Alico Road Intersection
150 Feet R/W
(Looking North)

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## ALICO ROAD STUDY
## FUTURE TYPICAL SECTION

LEE COUNTY PROJECT NUMBER 6076

5-11-2012

# APPENDIX E

# Future 6 Lane Concept Plan

# LEE COUNTY BOARD OF COUNTY COMMISSIONERS
# LEE COUNTY DEPARTMENT OF TRANSPORTATION

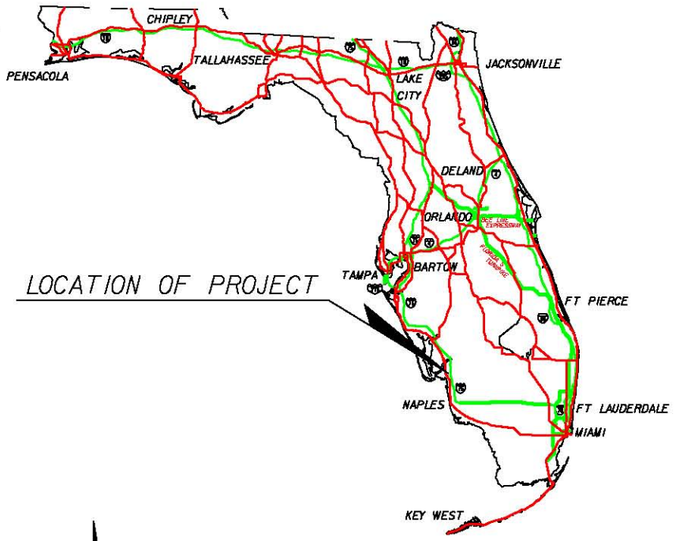
# FUTURE 6 LANE CONCEPT PLANS

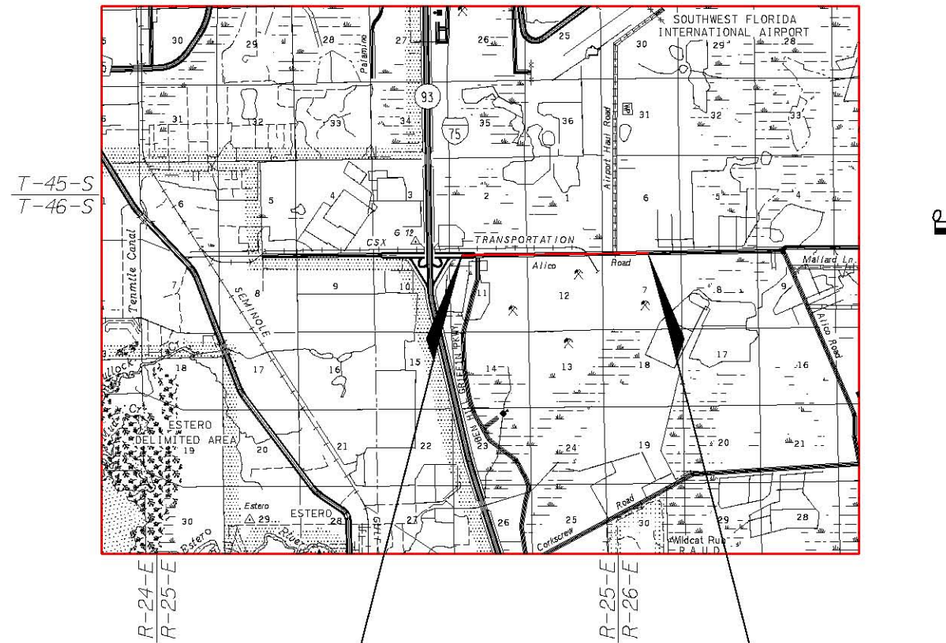
## ALICO ROAD ALIGNMENT STUDY
## FROM BEN HILL GRIFFIN PKWY. TO AIRPORT HAUL ROAD

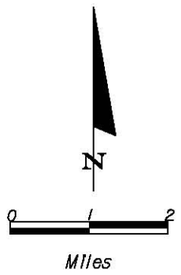
## LEE COUNTY CONTRACT NO. 6076

### INDEX OF ROADWAY PLANS


| SHEET NO. | SHEET DESCRIPTION |
|---|---|
| 1 | KEY SHEET |
| 2-7 | TYPICAL SECTION |
| 8-15 | ROADWAY PLAN |
| 16 | BOX CULVERT EXTENSION |


PLANS PREPARED BY:


**Stanley Consultants INC.**
27300 RIVERVIEW CENTER BLVD.
SUITE 101
BONITA SPRINGS, FLORIDA
34134
(239) 947-1771
CONTRACT NO. 11-05
VENDOR NO. VF-421320758-001
CERTIFICATE OF AUTHORIZATION NO. 1978


NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

**CONCEPT PLANS NOT FOR CONSTRUCTION**

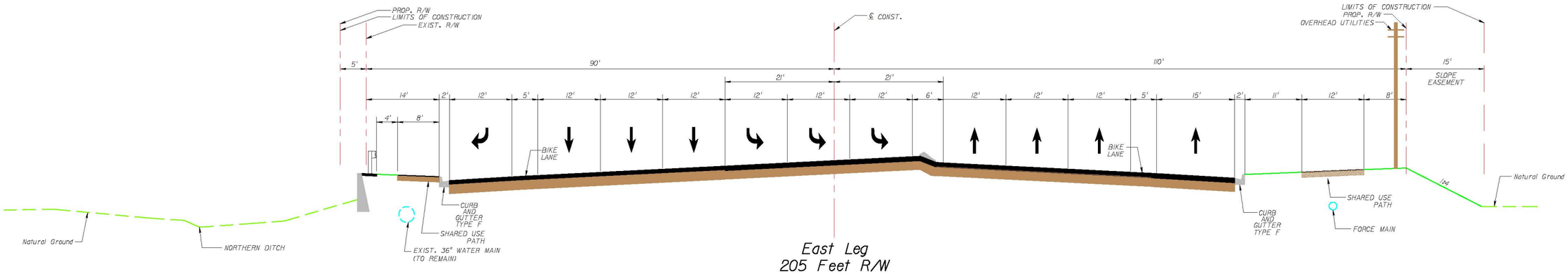
GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION,
DESIGN STANDARDS DATED 2012, AND
STANDARD SPECIFICATIONS FOR ROAD AND
BRIDGE CONSTRUCTION DATED 2010,
AS AMENDED BY CONTRACT DOCUMENTS.

COUNTY PROJECT MANAGER: SARAH CLARKE

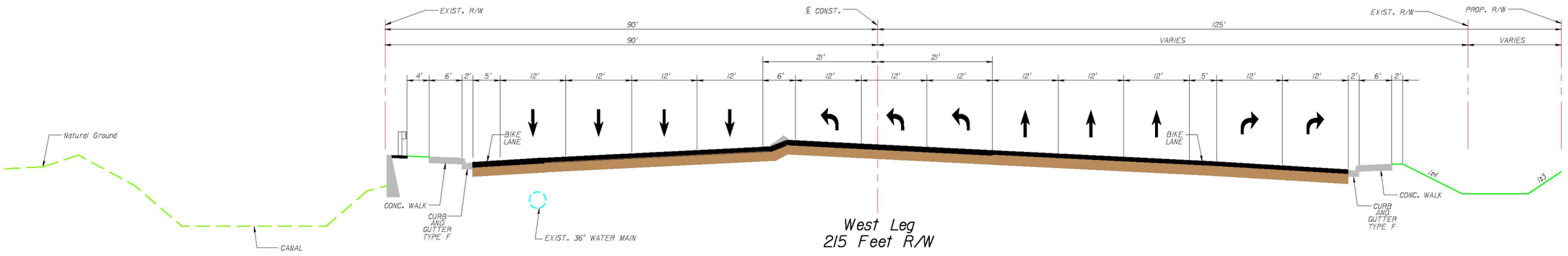
| FISCAL YEAR | SHEET NO. |
|---|---|
| | 1 |

# TYPICAL SECTION
# CENTER ALTERNATIVE

*FUTURE IMPROVEMENT Alico Road / Ben Hill Griffin Pkwy. Intersection*
*6 Lane High Speed Urban*
*Design Speed 45 mph*




*East Leg*
*205 Feet R/W*




*West Leg*
*215 Feet R/W*

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## ALICO ROAD STUDY
## FUTURE TYPICAL SECTION

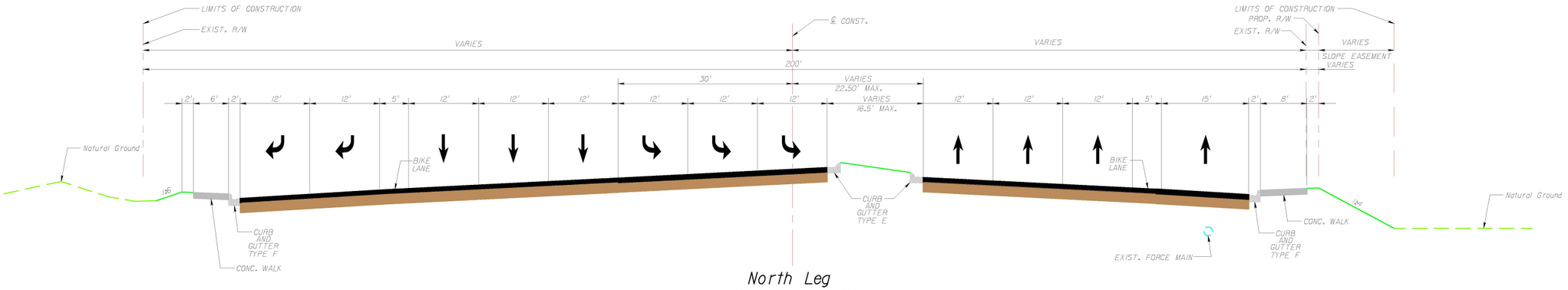
LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 2

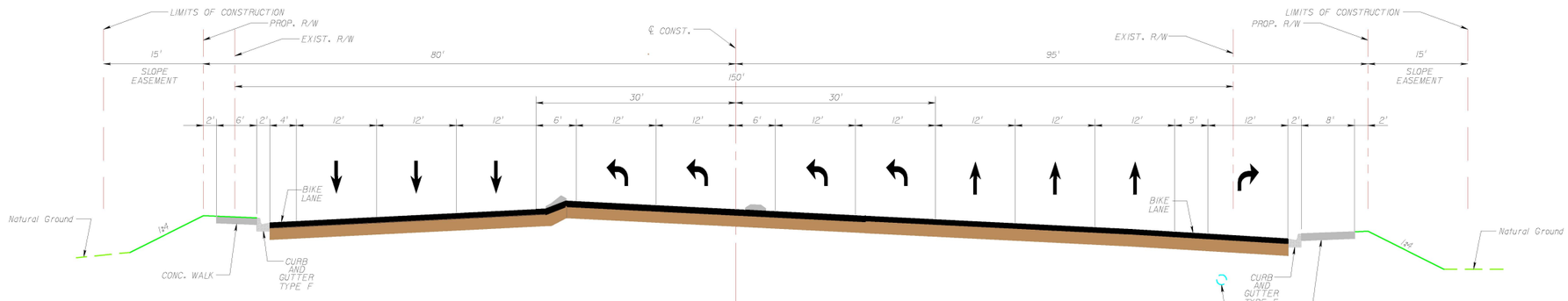
4-27-2012

# TYPICAL SECTION
# CENTER ALTERNATIVE

*FUTURE IMPROVEMENT Alico Road / Ben Hill Griffin Pkwy. Intersection*
*6 Lane High Speed Urban*
*Design Speed 45 mph*




*North Leg*
*200 Feet R/W*




*South Leg*
*175 Feet R/W*

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## ALICO ROAD STUDY
## FUTURE TYPICAL SECTION

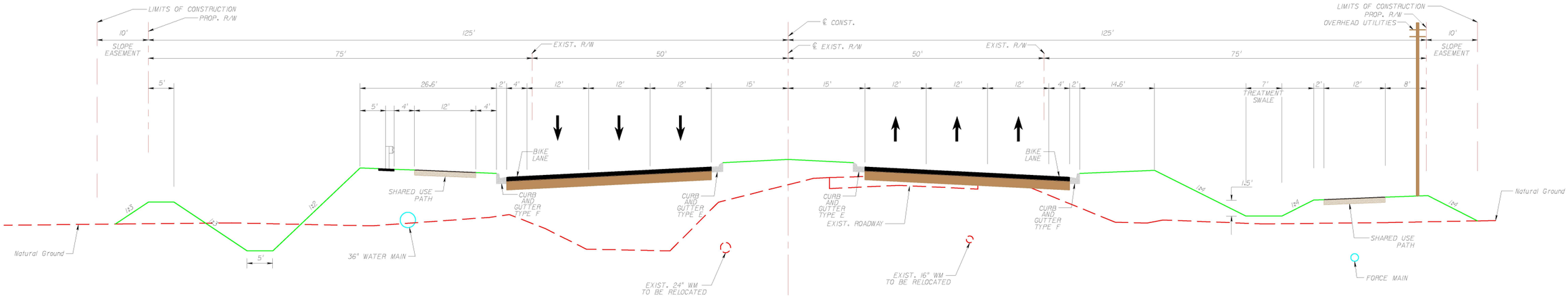
LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 3

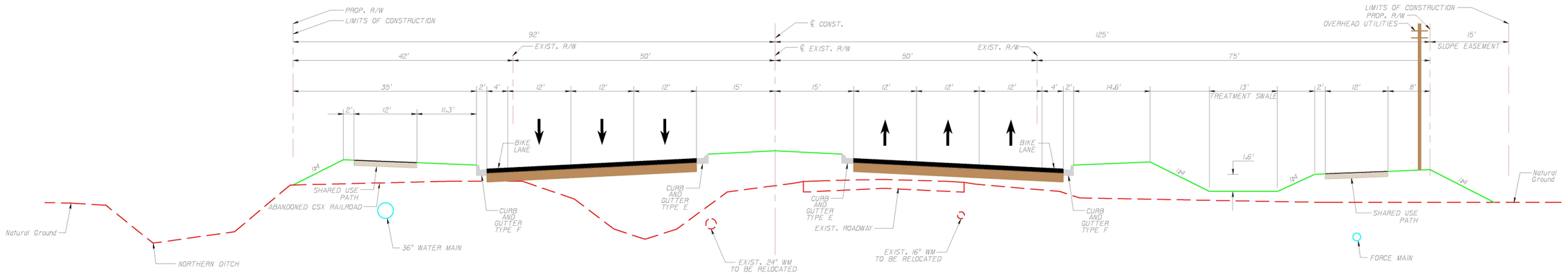
4-27-2012

# TYPICAL SECTION
# CENTER ALTERNATIVE

*Alico Road*
*FUTURE 6 Lane High Speed Urban*
*Design Speed 45 mph*




*From ±Sta. 161+70 To West of CR 951*
*250 Feet R/W*




*From East Of Ben Hill Griffin Pkwy. To ±Sta. 161+70*
*217 Feet R/W*

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## ALICO ROAD STUDY
## FUTURE TYPICAL SECTION

LEE COUNTY PROJECT NUMBER 6076

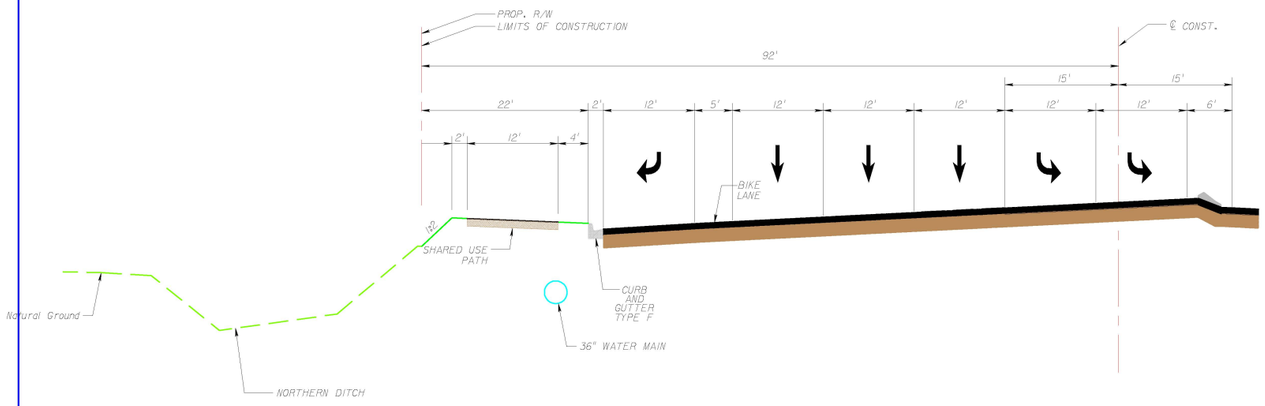
SHEET NO. 4

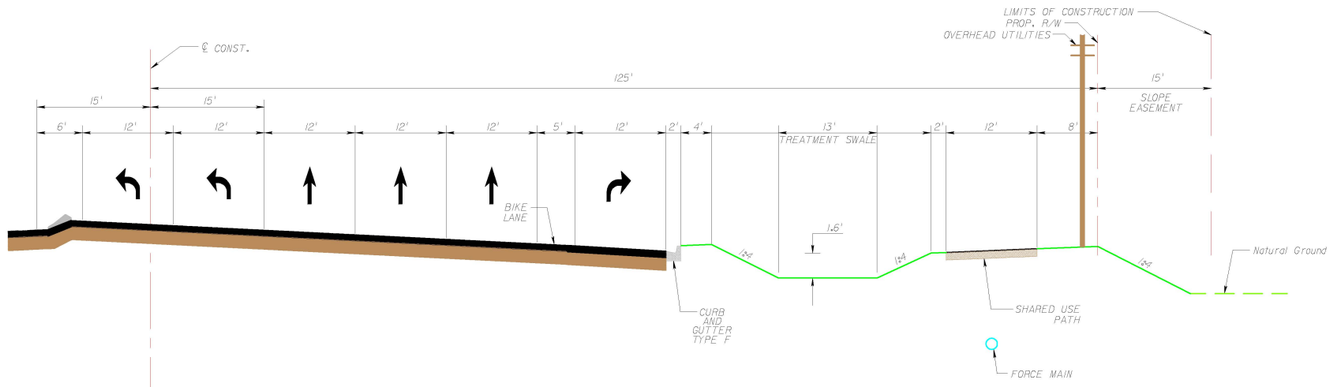
4-27-2012

# TYPICAL SECTION
# CENTER ALTERNATIVE

*Alico Road*
*FUTURE 6 Lane High Speed Urban*
*Design Speed 45 mph*

*From East Of Ben Hill Griffin Pkwy. To ±Sta. 161+70*
*SECTIONS AT TURN LANES*

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## ALICO ROAD STUDY
## FUTURE TYPICAL SECTION

LEE COUNTY PROJECT NUMBER 6076

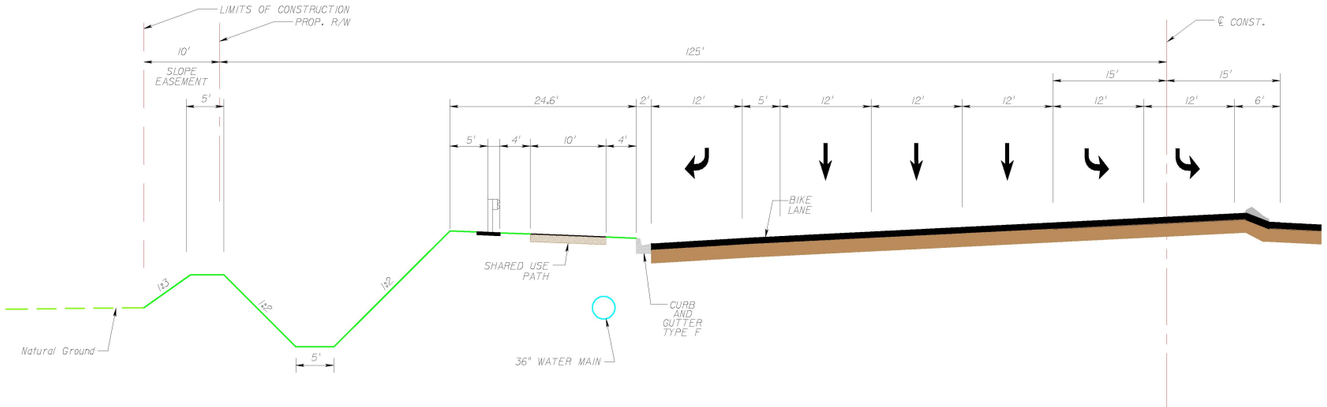
SHEET NO. 5

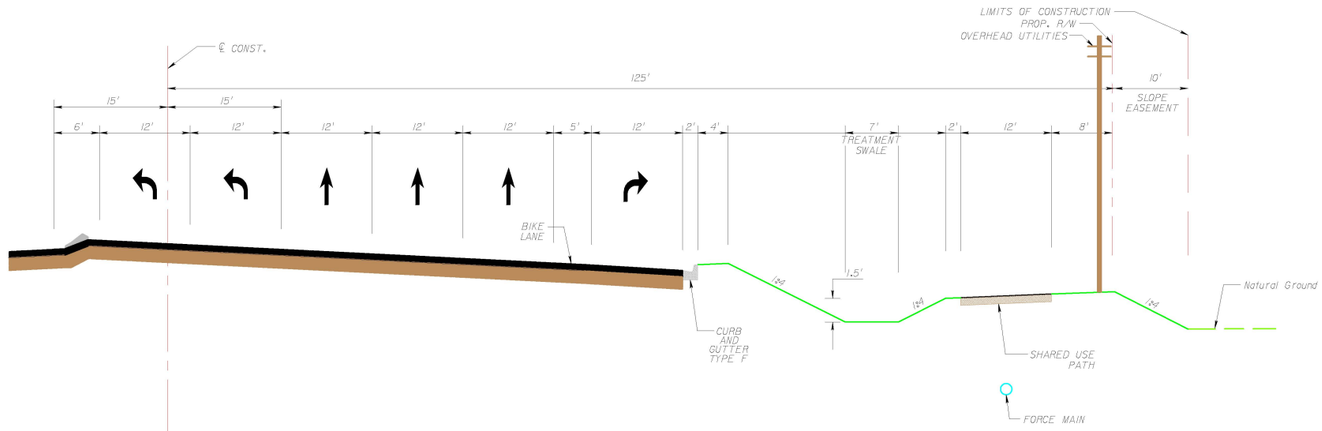
4-27-2012

# TYPICAL SECTION
# CENTER ALTERNATIVE

*FUTURE 6 Lane High Speed Urban*
*Design Speed 45 mph*

*From ±Sta. 161+70 To West of CR 951*
*SECTIONS AT TURN LANES*

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## ALICO ROAD STUDY
## FUTURE TYPICAL SECTION

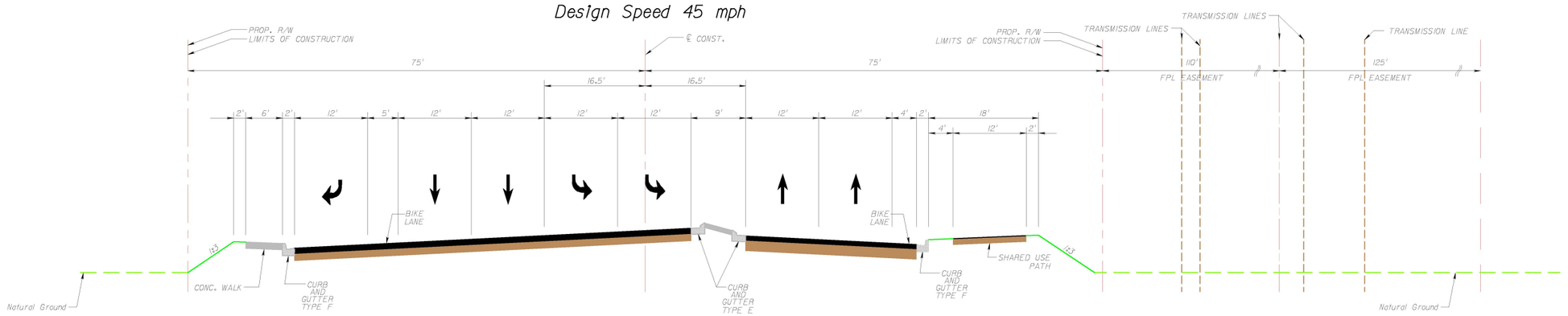
LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 6

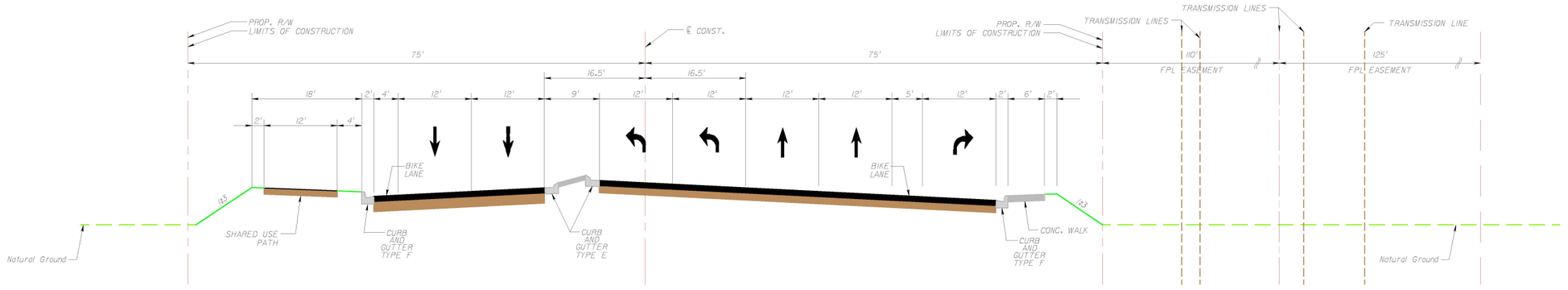
4-27-2012

# TYPICAL SECTION
# FUTURE CR 951 NORTH CURVE ALTERNATIVE

Design Speed 45 mph




4 Lane High Speed Urban
North Leg of CR951 / Alico Road Intersection
150 Feet R/W
(Looking North)




4 Lane High Speed Urban
South Leg of CR951 / Alico Road Intersection
150 Feet R/W
(Looking North)

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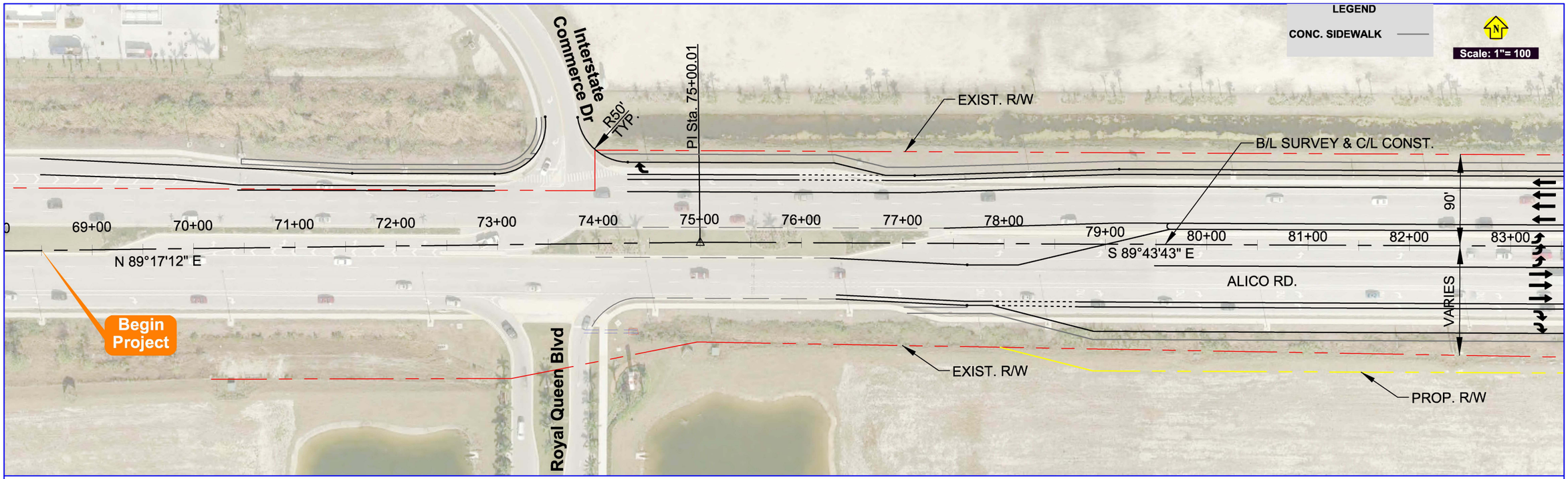
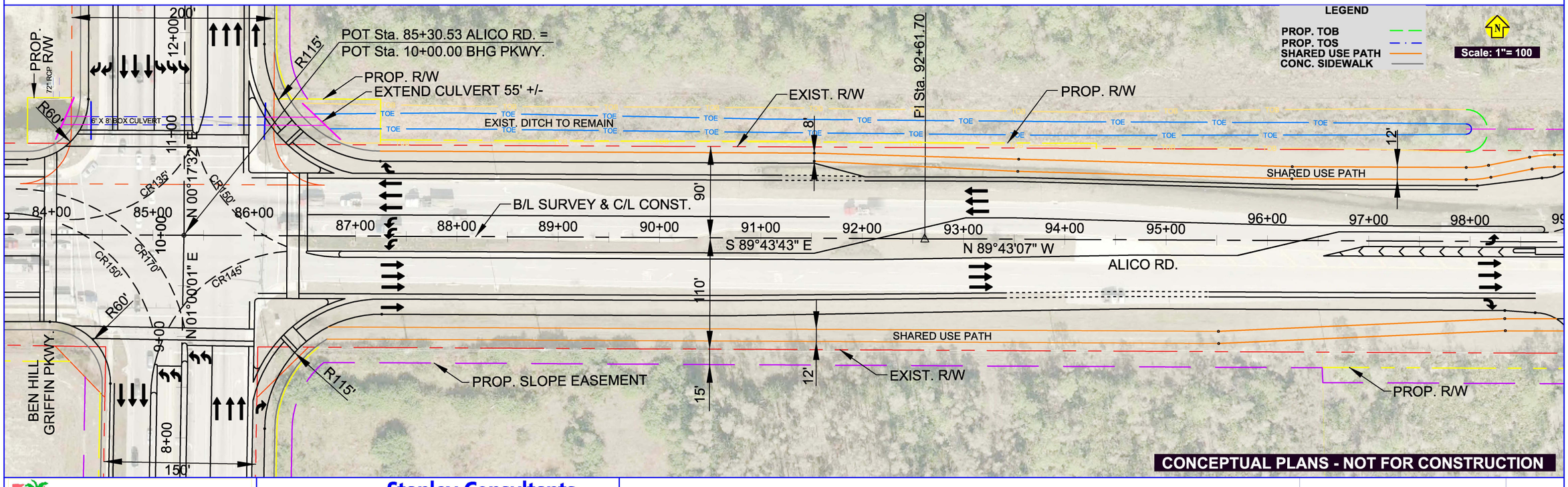
## ALICO ROAD STUDY
## FUTURE TYPICAL SECTION

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 7

5-11-2012

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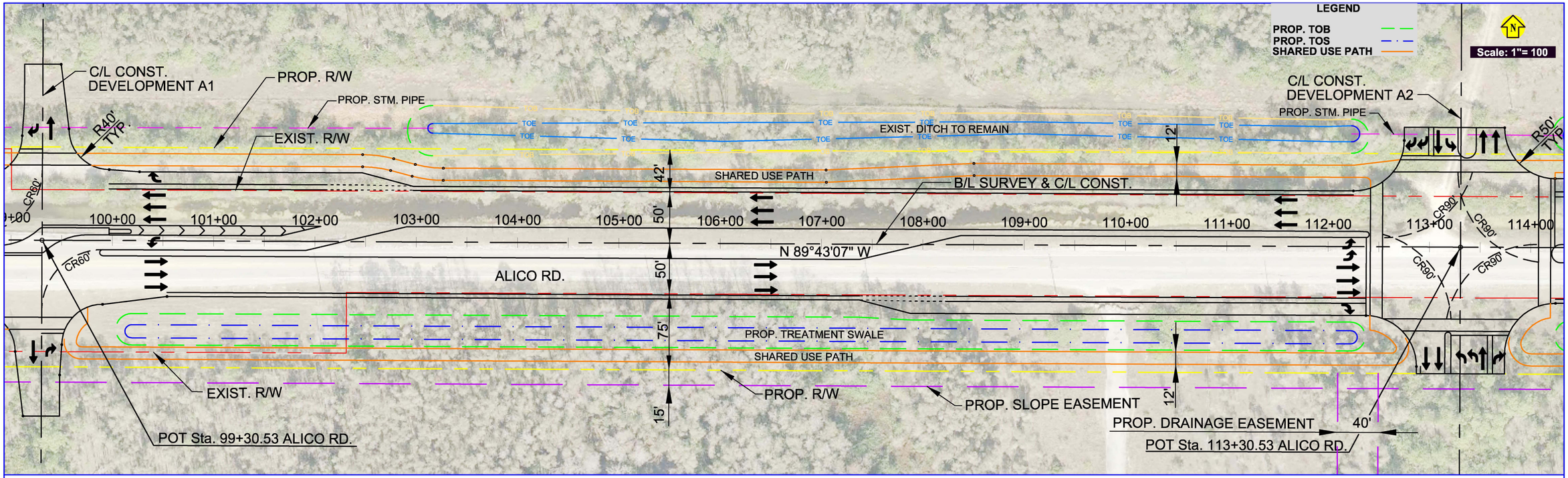
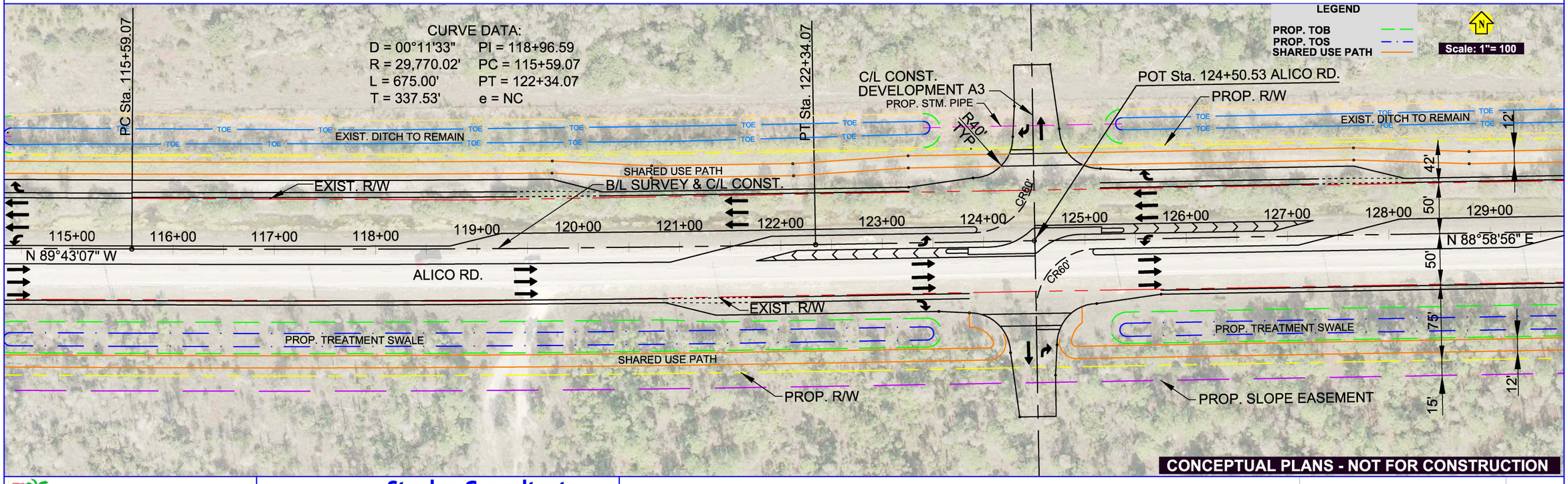
# ALICO ROAD STUDY
## PLAN SHEET - FUTURE 6-LANE CENTER ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 8

4-27-2012

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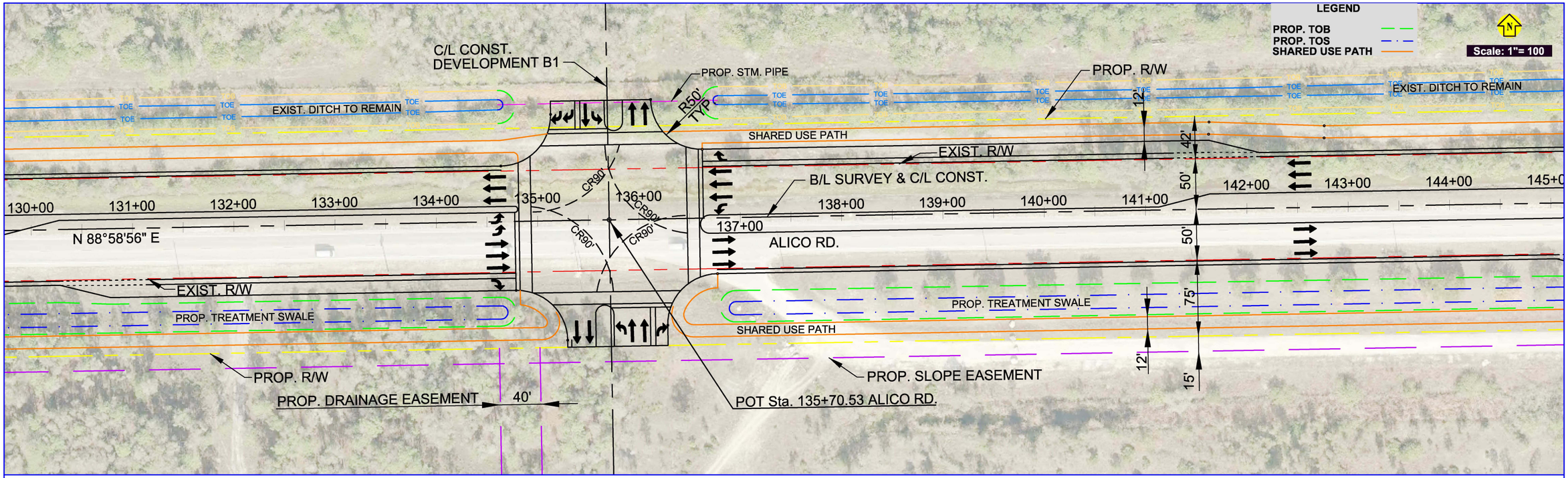
# ALICO ROAD STUDY
## PLAN SHEET - FUTURE 6-LANE CENTER ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 9

4-27-2012

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# ALICO ROAD STUDY
## PLAN SHEET - FUTURE 6-LANE CENTER ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 10

4-27-2012

LEGEND
PROP. TOB
PROP. TOS
SHARED USE PATH
CONC. SIDEWALK

C/L CONST. DEVELOPMENT C1
PROP. STM. PIPE
R50' TYP.
CR90'
PROP. DITCH
SHARED USE PATH
EXIST. R/W
B/L SURVEY & C/L CONST.
MAINTAINED R/W
PROP. TREATMENT SWALE
POT Sta. 161+70.53 ALICO RD.
PROP. R/W
ALICO RD.
N 89°00'08" E
PROP. SLOPE EASEMENT
POT Sta. 174+21.65 ALICO RD.=
POT Sta. 2000+00.00 CR 951
MONITORING WELL
CR115
CR 951
N00°48'10"W
C/L CONST.
SHARED USE PATH
Apac
FPL Transmission Lines
Scale: 1"= 100

AIRPORT HAUL RD
R65' TYP.
20' TYP.
40' PROP. DRAINAGE EASEMENT
CURVE DATA:
D = 01°00'00"
R = 5729.58'
L = 429.94'
T = 215.07'
PI = 187+63.76
PC = 185+48.69
PT = 189+78.22

LEGEND
PROP. TOB
PROP. TOS
SHARED USE PATH

CONCEPTUAL PLANS - NOT FOR CONSTRUCTION

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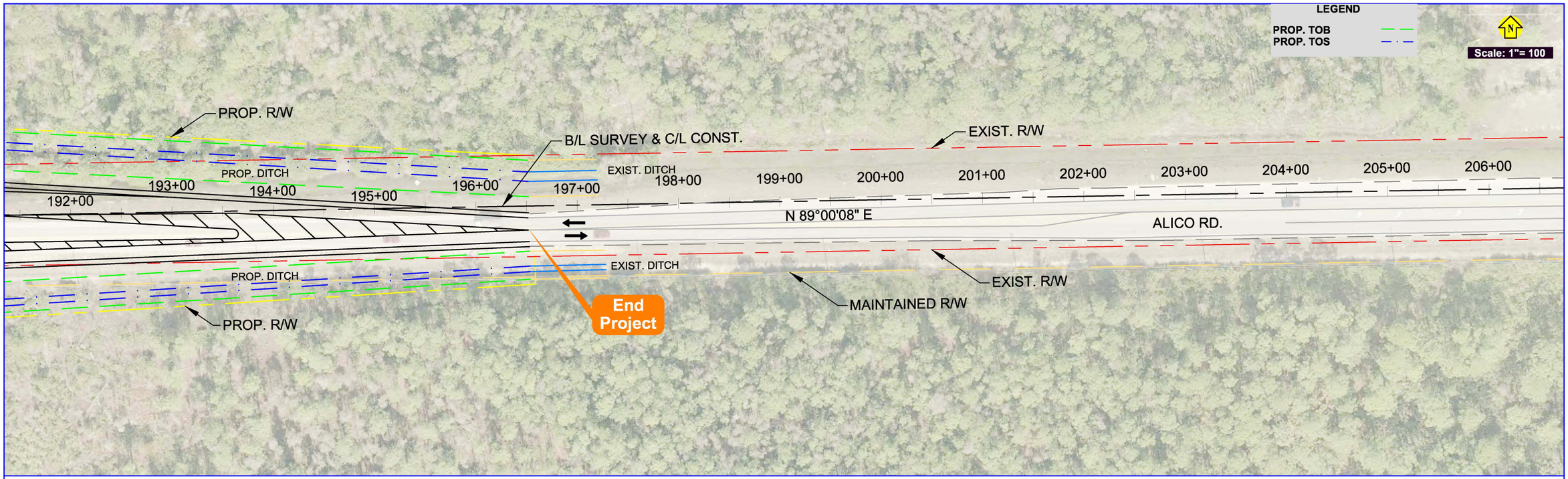
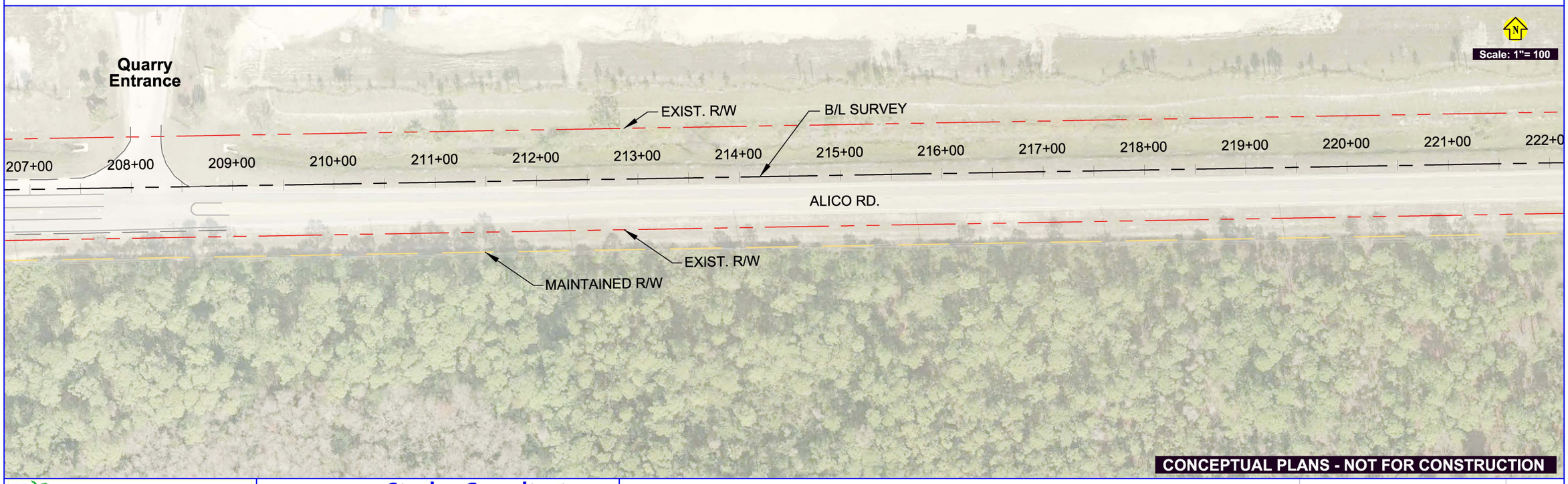
# ALICO ROAD STUDY
## PLAN SHEET - FUTURE 6-LANE CENTER ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076
SHEET NO. 11
4-27-2012

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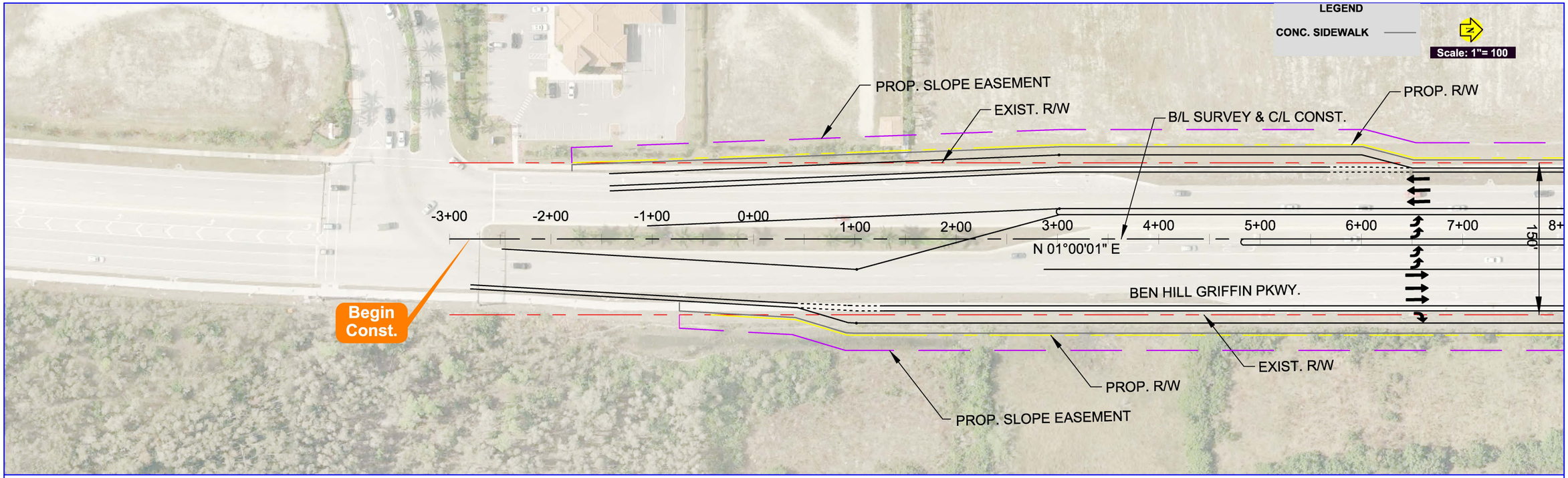
# ALICO ROAD STUDY
## PLAN SHEET - FUTURE 6-LANE CENTER ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 12

4-27-2012

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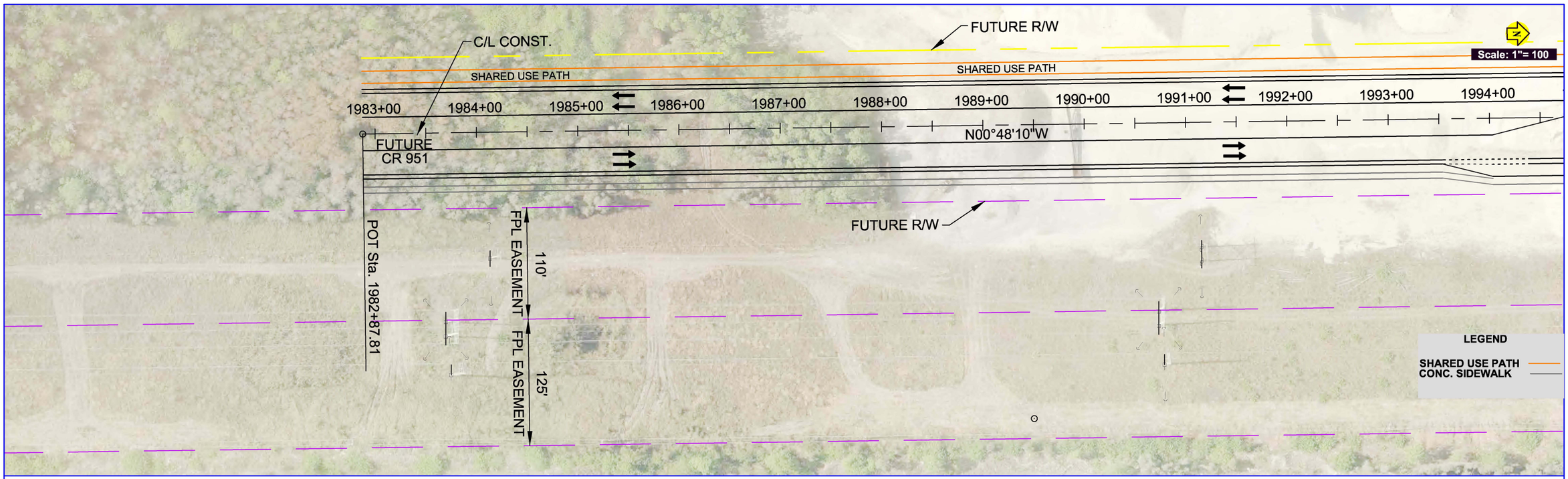
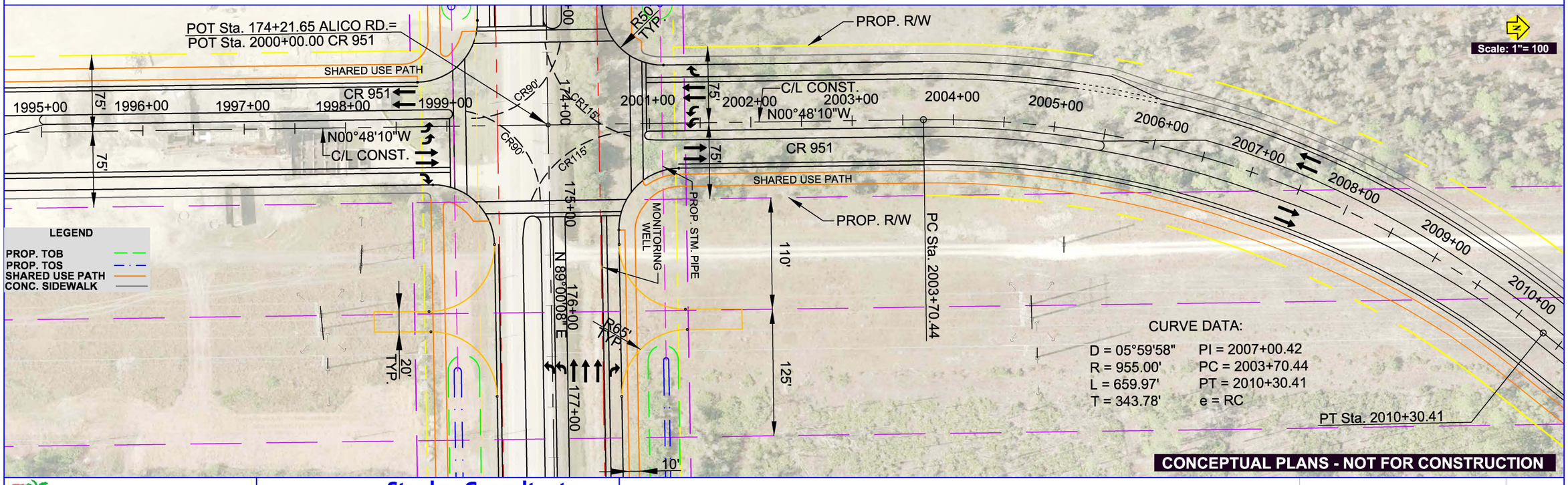
# ALICO ROAD STUDY
## PLAN SHEET - FUTURE 6-LANE CENTER ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 13

4-27-2012

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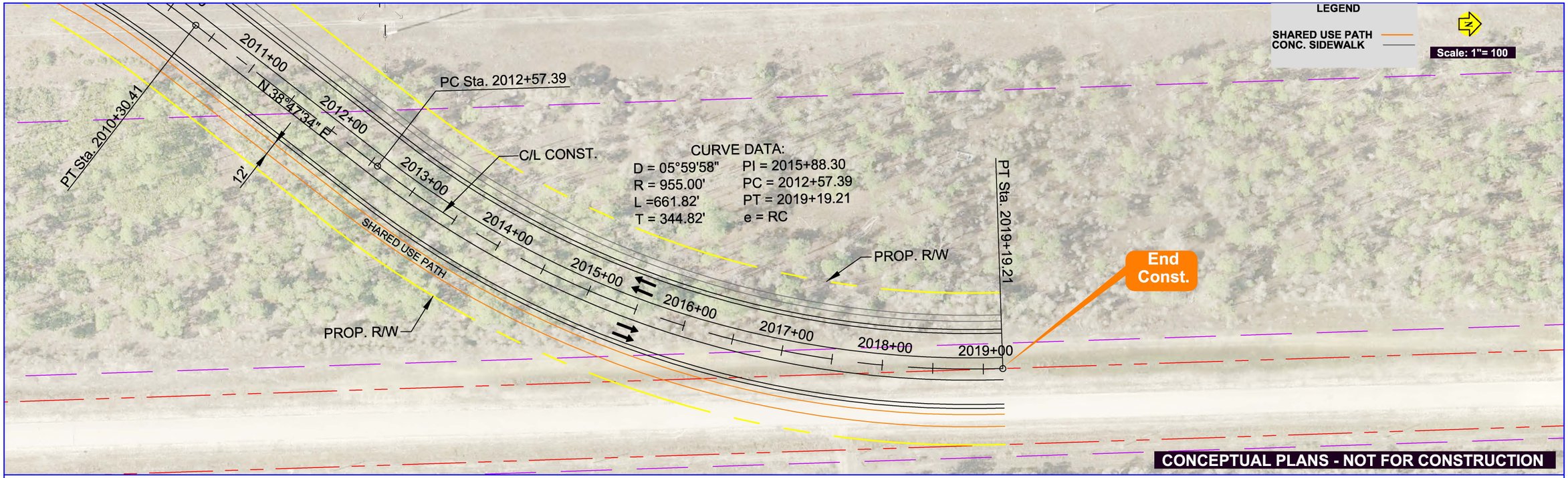
# ALICO ROAD STUDY
## PLAN SHEET - FUTURE 6-LANE CENTER ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 14

4-27-2012

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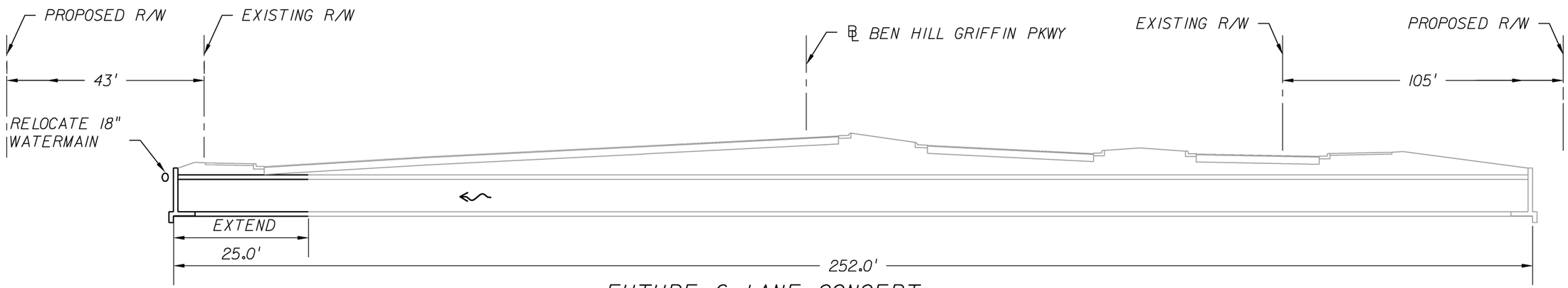
# ALICO ROAD STUDY
## PLAN SHEET - FUTURE 6-LANE CENTER ALIGNMENT

LEE COUNTY PROJECT NUMBER 6076

SHEET NO. 15

4-27-2012




FUTURE 6 LANE CONCEPT

NTS LOOKING NORTH

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# ALICO ROAD STUDY
# BOX CULVERT CONCEPT
# (FUTURE 6-LANE CONCEPT)

LEE COUNTY PROJECT NUMBER 6076

APRIL, 2012

SHEET NO. 16

# APPENDIX F

# Complete Streets

# RESEARCH DIAMOND
## MULTIMODAL CONNECTIVITY NETWORK

TERMINAL ACCESS RD
Rte. 50
TERMINAL ACCESS
AIRPORT HAUL
RESTRICTIVE ACCESS
LEE COUNTY WATER PLANT
BEN HILL GRIFFIN PKWY
AIRKRAFT
RADAR
AIRPORT CROSSINGS
AIRPORT CROSSING
PREMIERE AIRPORT
PREMIERE AIRPORT PARK
AIRPORT TECHNOLOGY CENTER
FLORIDA GULF COAST TECHNOLOGY AND RESEARCH PARK
INNOVATION HUB
I-75
JETWAY TRADEPORT
INTERSTATE COMMERCE
CORPORATE COMMERCE
Internal Transit Connectors
UNIVERSITY PLAZA
ALICO RD
UNIVERSITY PLAZA
CLEVELAND CLINIC
CO
W.M.
REGIONAL SHOPPING
Rte. 60
FLORIDA GULF COAST TOWN CENTER
GULF CENTER
COLLEGE CLUB
R
ALICO WEST
To Airport
FUTURE CR 951
THREE OAKS PKWY
BROOKVILLE
WINDY HOLLOW
CHERRY RIDGE
BRICKSTONE
ROUNDSTONE
PITTSBURGH
MIDDLE OAK
OAKMONT RIDGE
CASTLE HARBOR
BERMUDA DUNES
HORSESHOE BAY
THREE OAKS PARK
Future Route: Treeline/Ben Hill Griffin
ISOLA
RIMINI
ST MORITZ
MONTELAGO
VIA MILANO
VIA LOMBARDIA
MIRASOL
VIA TUSCANY
MIROMAR LAKES
VIA SORRENTO
VIA PORTOFINO
VIA NOVELLI
VIA BELLAMARE
VIA CAPRINI
VIVALDI
ISOLA BELLA
MIROMAR LAKES
VERONA LAKES
VISCONTI
VERONA LAGO
VALIANT
FGCU LAKE
FGCU
WE GOU TV
FGCU SOUTH
FGCU GIFT PLEMS
FGCU PARKING LOT 7
FLORIDA GULF COAST UNIVERSITY
FPL EASEMENT
CYPRESS CHASE
PINE RUN
PINE CHASE
WIND LAKE
DEVONWOOD
COUNTRY OAKS
OAK FOREST
KILSHAW
AKRON
SKIDMORE
SHEPHARD
SYRACUSE
PORTO ROMANO
VIA ROMANO
MARINO PONTE
MARINO LAKE
TUSCANY PARK
ESTERO PKWY
HEATHERSTONE
LISMORE
LISERON
SUN RIVER
ROCKERY
VILLAGIO GARDENS
OAK BRIDGE
MOORING
SANDY COVE
SEVILLE
CYPRESS VISTA
PINE GLEN
TANGELO
PINEAPPLE
TEMPLE
KING
MANDARIN
SHADDOCK
POMELO
TANGERINE
TANGLIN
CASA VERONA
ASTONIA
LA BIANCOSTA
TESORO
IRVING
BRYANT
HENRY
FRANK
SAN CARLOS
EASTSHORE
ORLANDO
TAMPA
OCALA
BARTON
CROCUS
CYPRESS
ASTER
GRAPE
CALOOSA
LA MANCHA
GARDENIA

### Legend

- Bicycle Racks/Stations
- Bicycle Network
- Internal Circulator #1
- Internal Circulator #2
- Internal Circulator #3
- Planned Bus Route
- LeeTran Route #50
- LeeTran Route #60
- Airport Interchange
- Airport Access Road
- Roads

0 800 1,600 3,200
Feet

N W E S

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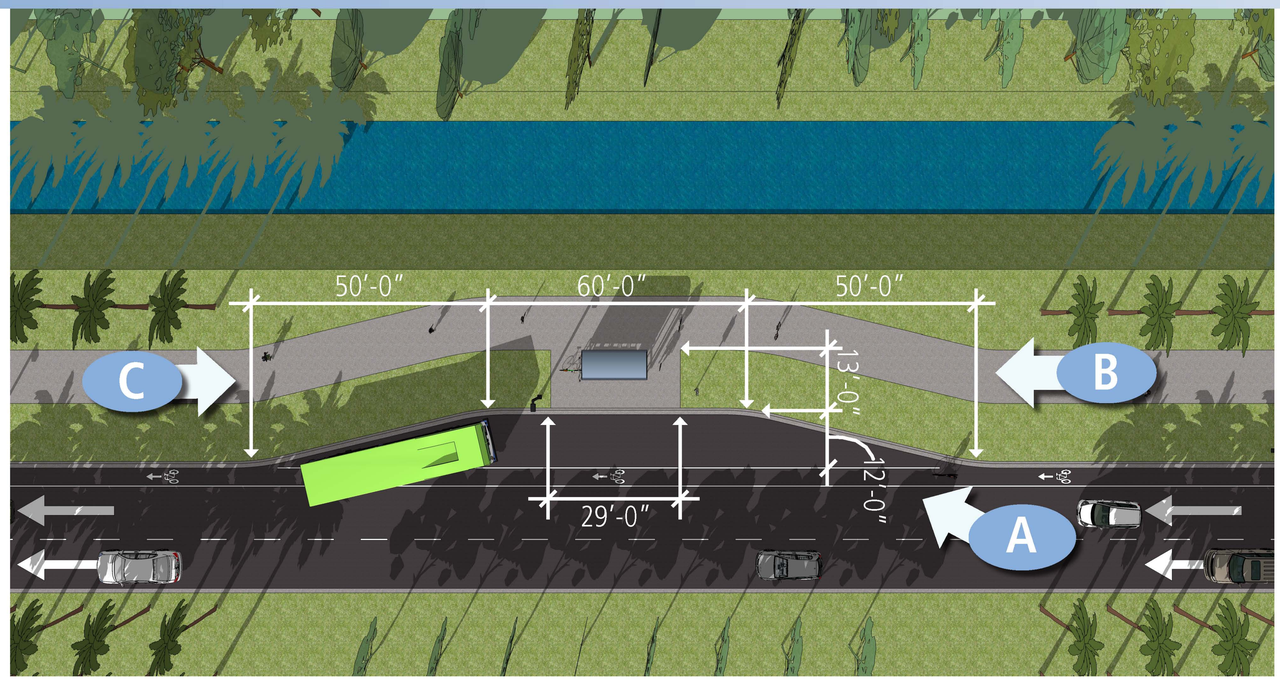
Engineering, Environmental and Construction Services - Worldwide

Note: Base data obtained from Lee County GIS.

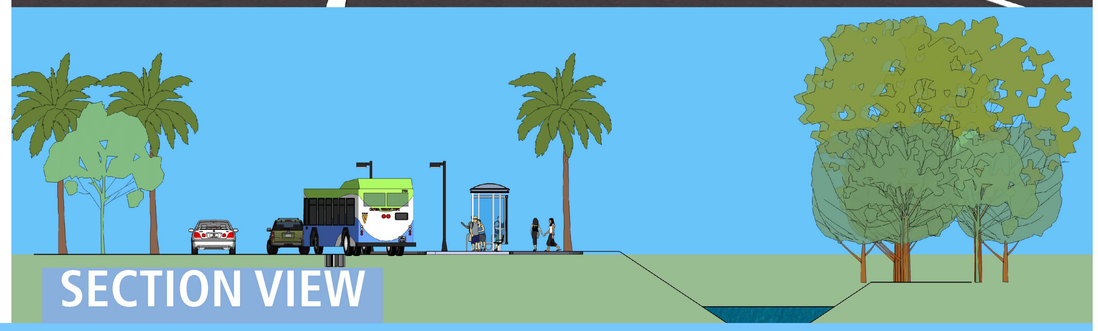
Revised March 2012

# Bus Pull Out Typical




A






B

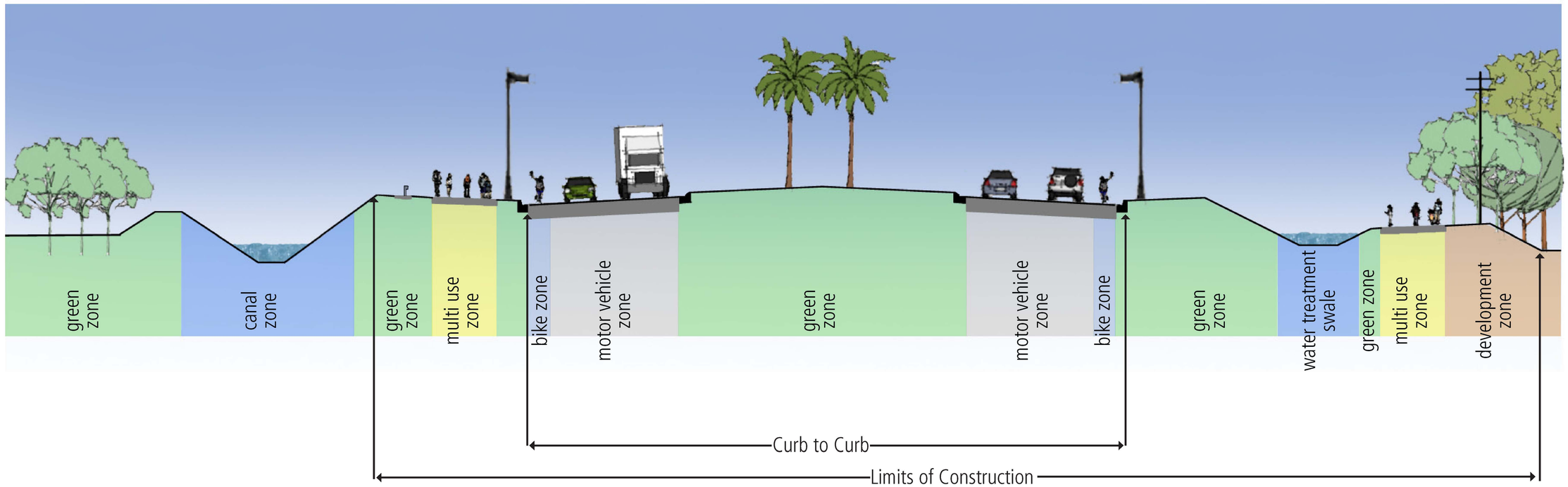


C



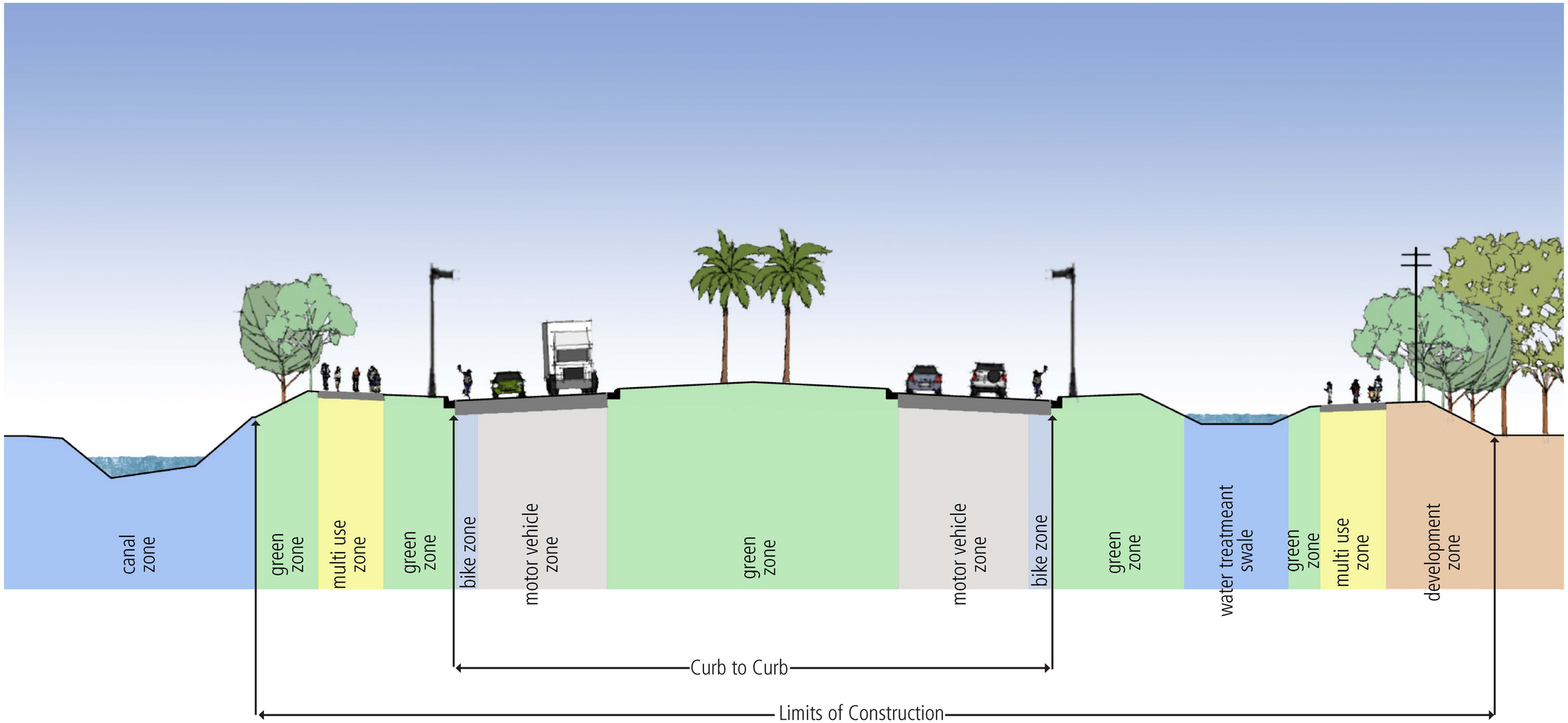
# TYPICAL SECTION CENTER ALTERNATIVE

From +Sta. 161+70 To West of CR 951 250 Feet R/W



# TYPICAL SECTION CENTER ALTERNATIVE

From East of Ben Hill Griffin Pkwy. To +Sta. 161+70 217 Feet R/W

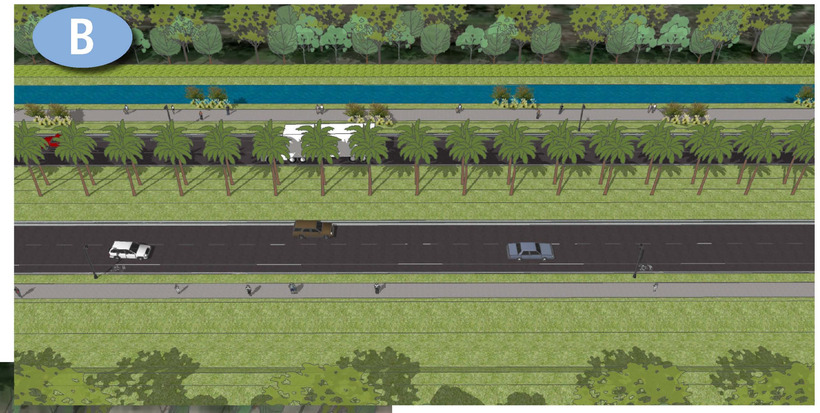


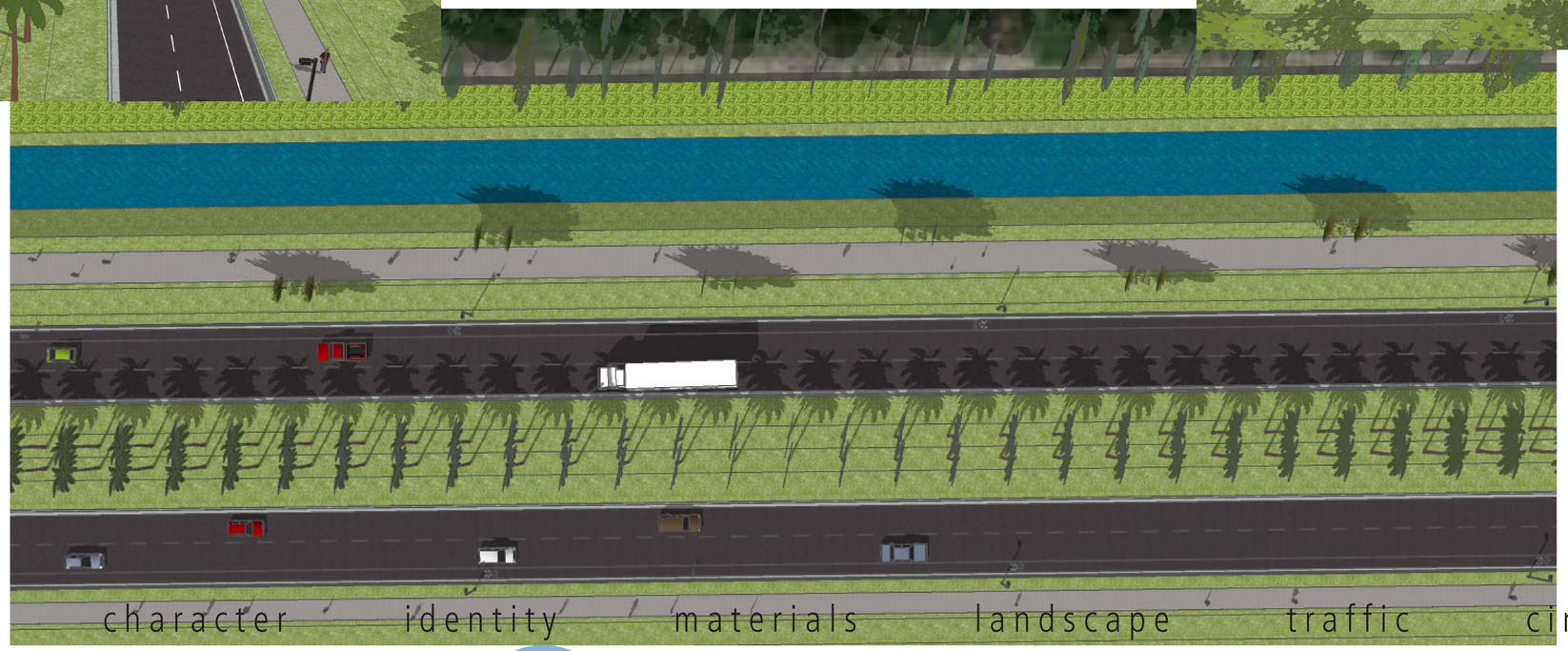
# Basis for Framework Design

A



B





context character identity materials landscape traffic circulation

C



D



# Sustainability Overview Plan

## Principles

### Sustainable Multimodal

1. Alternative Transportation- Bicycle Storage
   - Intent: To reduce pollution and land development impacts from automobile use
2. Health and Mobility
   - Intent: Bicycle lanes and Multi-use pathways promote non motorized modes.
3. Transit Connectivity
   - Intent: To connect regional transit with residential and employment centers to reduce vehicle miles travelled and improve air quality.
4. Multimodal System
   - Intent: To reduce personal travel costs and dependency on single driver vehicles.

### Water Efficiency

5. Water- Efficient Landscaping
   - Intent: To limit or eliminate the use of potable or other natural surface or subsurface water resources available on or near the projects site for landscape irrigation
6. Innovative Wastewater Technologies
   - Intent: To reduce wastewater generation and potable water demand while increasing the local aquifer recharge
7. Stormwater Treatment and Retention
   - Intent: To limit disruption and pollution of natural water flows by managing stormwater runoff

### Energy and Atmosphere

8. On-Site Renewable Energy
   - Intent: To encourage or recognize increasing levels of on-site renewable energy self supply to reduce environmental and economic impacts associated with fossil fuel energy use
9. Heat Island Effect- Nonroof
   - Intent: To reduce heat island's to minimize impacts on microclimates and human and wildlife habitats
10. Light Pollution Reduction
    - Intent: To minimize light trespass from building and site, reduce sky-glow to increase night sky access, improve nighttime visibility through glare reduction and reduce development impact from lighting on nocturnal environments

### Materials and Resources

11. Recycled Content
    - Intent: To increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials

Florida Gulf Coast Technology and Research

Inno

AIRPORT HAUL ROAD

UTILITY ZONE

UTILITY ZONE

Existing Intersection

Roadway

Modified Intersection

Shared Use Path

Bus Stop (typical)

BIKE / PEDESTRIAN ACCESS

BEN HILL GRIFFIN PARKWAY

Bus Stop (typical)

Miromar

Future Full Access Intersection (TYP.)

Shared Use Path

Directional Access Median (TYP.)

Alico West

[ COMPLETE STREETS- Alico Road, Lee County, FL ]

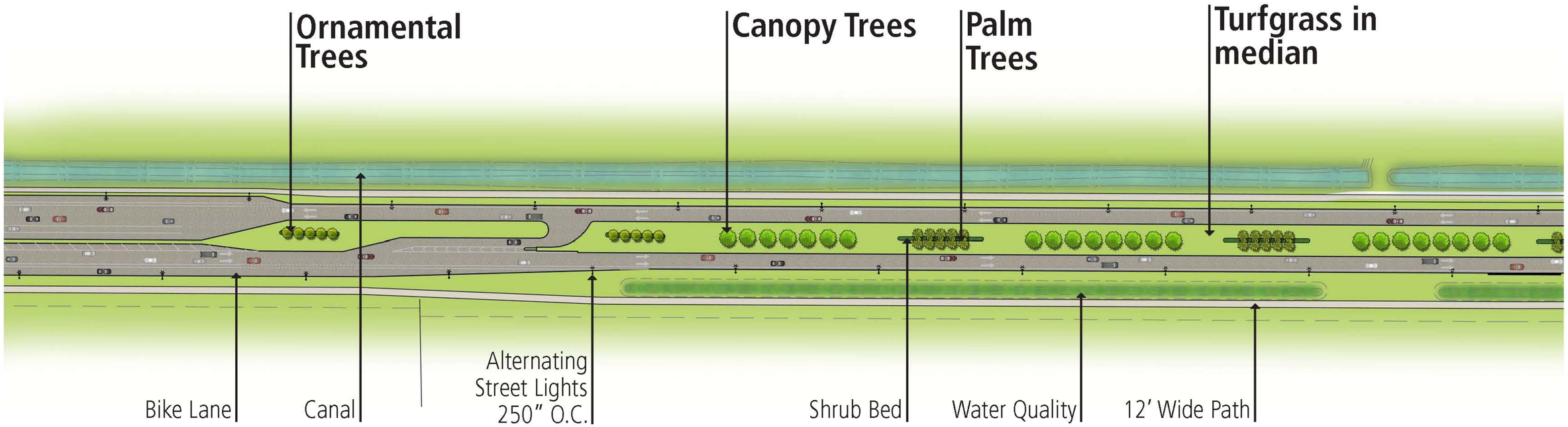
February 17, 2012
FINAL

0 125 250 500 750

Stanley Consultants INC.

LEE COUNTY
SOUTHWEST FLORIDA

# Plan View


Ornamental Trees
Canopy Trees
Palm Trees
Turfgrass in median
Bike Lane
Canal
Alternating Street Lights 250" O.C.
Shrub Bed
Water Quality
12' Wide Path

| COMMON NAME | SCIENTIFIC NAME |
|---|---|
| CANOPY TREE | |
| BUMBO LIMBO | BURSERA SIMARUBA |
| MASTIC | MASTICHODENDRON FOETISDISSIYM |
| MAHOGANY | SWIETENIA MAHOGONI |
| SATIN LEAF | CHRYOSLPHYLLUM OLIVIFORME |
| LAUREL OAK | QUERCUS LAURIFOLIA |
| FLORIDA ELM | ULMUS AMERICANA VAR. FLORIDANA |
| ACCENT TREE | |
| PITCH APPLE | CLUSIA ROSEA |
| PIGEON PLUM | COCCOLOBA DIVERSIFOLIA |
| SILVER BUTTONWOOD | CONOCARPUS ERECTUS |
| GEIGER TREE | CORDIA SEBESTENA |
| PALM TREE | |
| CABBAGE PALM | SABAL PALMETTO |
| FLORIDA ROYAL PALM | ROYSTONEA ELATA |
| SHRUBS | |
| COCO PLUM | CHRYSOBALANUS ICACO |
| COONTIE | ZAMIA FLOIDANA |
| FIREBUSH | HAMELIA PATENS |
| GALLBERRY | ILEX GLABRA |
| GROUNDSEL TREE | BACCHARIS HALIMIFOLIA |
| LANTANA | LANTANA DEPRESSA |
| WALTERS VIBURNUM | VIBURNUM OBOVATIUM |

# APPENDIX G

# Utility Coordination

Stanley Consultants INC.

A Stanley Group Company
Engineering, Environmental and Construction Services - Worldwide

January 4, 2012

Mark Byers
FPL Corporate Real Estate
West Area Real Estate Manager
PO Box 1119
Sarasota, FL, 34230

**Re: Application for Preliminary Review of R/W Use on**
**Alico Road Alignment Study**
From Ben Hill Griffin Parkway to Airport Haul Road
Lee DOT Project Number: 6076
Description: Roadway Reconstruction and Widening
County: Lee County

Dear Mr. Byers:

As we discussed previously in our telephone conversation, Lee County Department of Transportation (Department) would like to initiate a **preliminary review** of the above referenced project. The Department has started the Alico Road Alignment Study to identify the typical section and alignment for reconstructing Alico Road to a four or six lane divided roadway, from 1000 feet west of Ben Hill Griffin Parkway to 1000 feet east of Airport Haul Road. The alternatives will evaluate expanding the right of way approximately 75 feet north and south of the existing Alico Road right of way. Also included is the evaluation of intersection alignment alternatives to connect Airport Haul Road to the future CR 951. These proposed improvements involve the FPL Transmission corridor which parallels Airport Haul Road.

Stanley Consultants is under contract with Lee County DOT and Sarah Clarke is the Lee DOT Project Manager of this study. She may be reached at (239) 533-8718 or via email at sclarke@leegov.com .

The following items are submitted with this letter:

1) Review Application Form
2) Check for $500.00
3) Three (3) sets of the Draft Alico Road Typical Section (3 sheets)
4) Three (3) sets of Existing Utilities (1 sheet)
5) Three (3) sets of the Draft Intersection Alignment Alternatives (South Curve and North Curve Alternatives) to connect the future CR 951 to Airport Haul Road (4 sheets)

Landscaping, grading, lighting and other design information is not available at this time, but will be submitted at final design stage. We understand that the check attached will cover the review fee for the final design review of this project.

You may contact Sarah Clarke at (239) 533-8718 or Wilson Garcia at (239) 949-7905 if you have any questions on this application.

Sincerely,

Stanley Consultants, Inc.

Wilson Garcia, PE
Senior Engineer

Attachments
cc: Sarah Clarke, Lee County DOT
Bill Evans, PE, AICP, Stanley Consultants
File: 23548.01

| For Internal Use Only | |
|---|---|
| Tracking #: | |
| Date Received: | |

**APPLICANT INFORMATION:** Date of Application: 1-4-12

| Sarah Clarke | Lee County DOT | Alico Rd Study |
|---|---|---|
| Individual | Company | Project |
| 1500 Monroe Street, Ft Myers, FL 33902 | (239) 533-8718 | sclarke@leegov.com |
| Address | Telephone Number | E-Mail |

## THE FOLLOWING INFORMATION MUST BE SUBMITTED WITH THIS APPLICATION

1. ☒ A letter requesting and describing the proposed use along with the estimated start and end date of construction.
2. ☒ An application fee *up to* $500 made in the form of a check made payable to Florida Power & Light Company. **The application fee is non-refundable.** The amount of the check is determined by the complexity of consent request. In no event shall the fee be more than $500. Consult with the designated FPL real estate office to determine the appropriate application fee. **(See Page 3 for Contact Information)**
3. Three copies of a detailed scalable site plan that includes the following:
   - ☒ Accurate depiction of the proposed use for the site.
   - ☒ Accurate depiction of all transmission and distribution facilities (i.e. poles, guy wires and anchors, patrol road area) adjacent to or in the proposed use area including the limits of the FPL easement.
   - ☐ Transmission pole/structure numbers of all poles/structures within 600ft of the proposed use. **Note** - Pole/structure #'s are generally in a number-letter- number sequence (243M4) located at eye level.
   - ☐ Accurate distances of proposed use from the easement boundaries.
   - ☒ Locations of existing swales, ditches, ponds, rivers and/or canals located within the easement.
4. ☐ Three copies of a grading plan including profiles, showing existing and proposed elevation changes within easement, and the height of the conductor at the insulator attachment point above existing grade. Clearly show the maximum elevation change proposed in the easement and the location.
5. ☐ Three copies of landscaping plan with planting list, depicting maximum maturity height of all proposed vegetation.
6. ☐ Three copies of lighting plan with material list, depicting fixture/pole heights from original grade and grounding specification.
7. ☐ Three copies of the utility plan with material list and method of installation (directional bore or trench).
8. ☐ Copy of the legal description of the subject parcel and the correct name of the person or persons or organization to which the Right of Way Consent Agreement is to be issued.
9. ☐ The type of equipment, if any, that will be used during construction and/or stored after construction on the Florida Power & Light Right of Way (bulldozer, cranes, front-end loaders, etc.).

Simple right-of-way uses might not require all the documentation listed above. For simple uses, please contact the designated FPL real estate office. **(See Page 3 for Contact Information)**

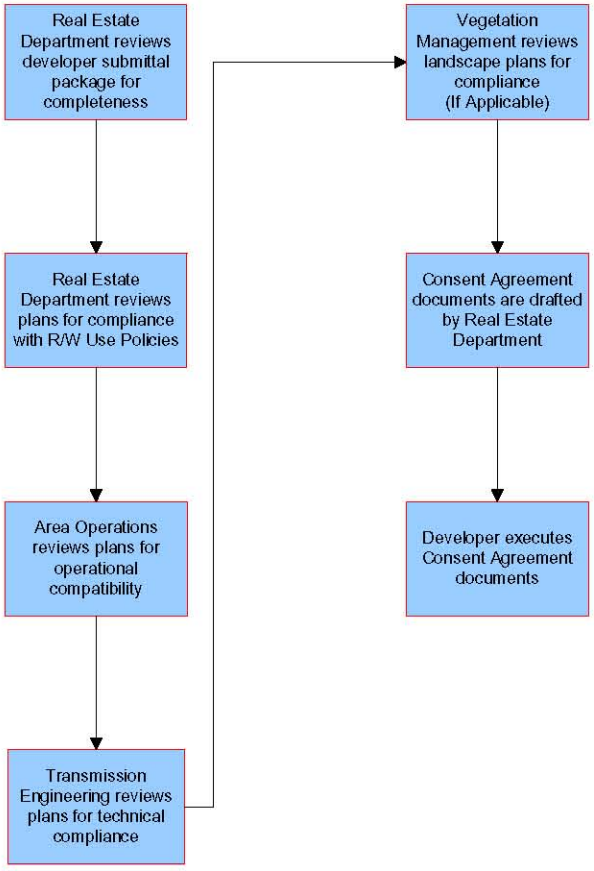
After the receipt of all needed information, Florida Power & Light Company typically requires a period of six (6) weeks for processing the request. **(See Page 2 for Process Map)**

By my signature below, I agree that I received the latest version of Florida Power & Light Company's Transmission Right-of-Way Use Policies and have read, understand and agree that my proposed use for the site will comply with same. Upon completion of the application process, the applicant or any representative thereof will have the sole responsibility for scheduling a safety meeting with an authorized FPL representative. I agree that the information provided in this application and the attachments submitted therewith are accurate and complete. I understand that any incomplete application may delay commencement of, processing of, or invalidate the application. I understand and agree that the application fee is non-refundable.

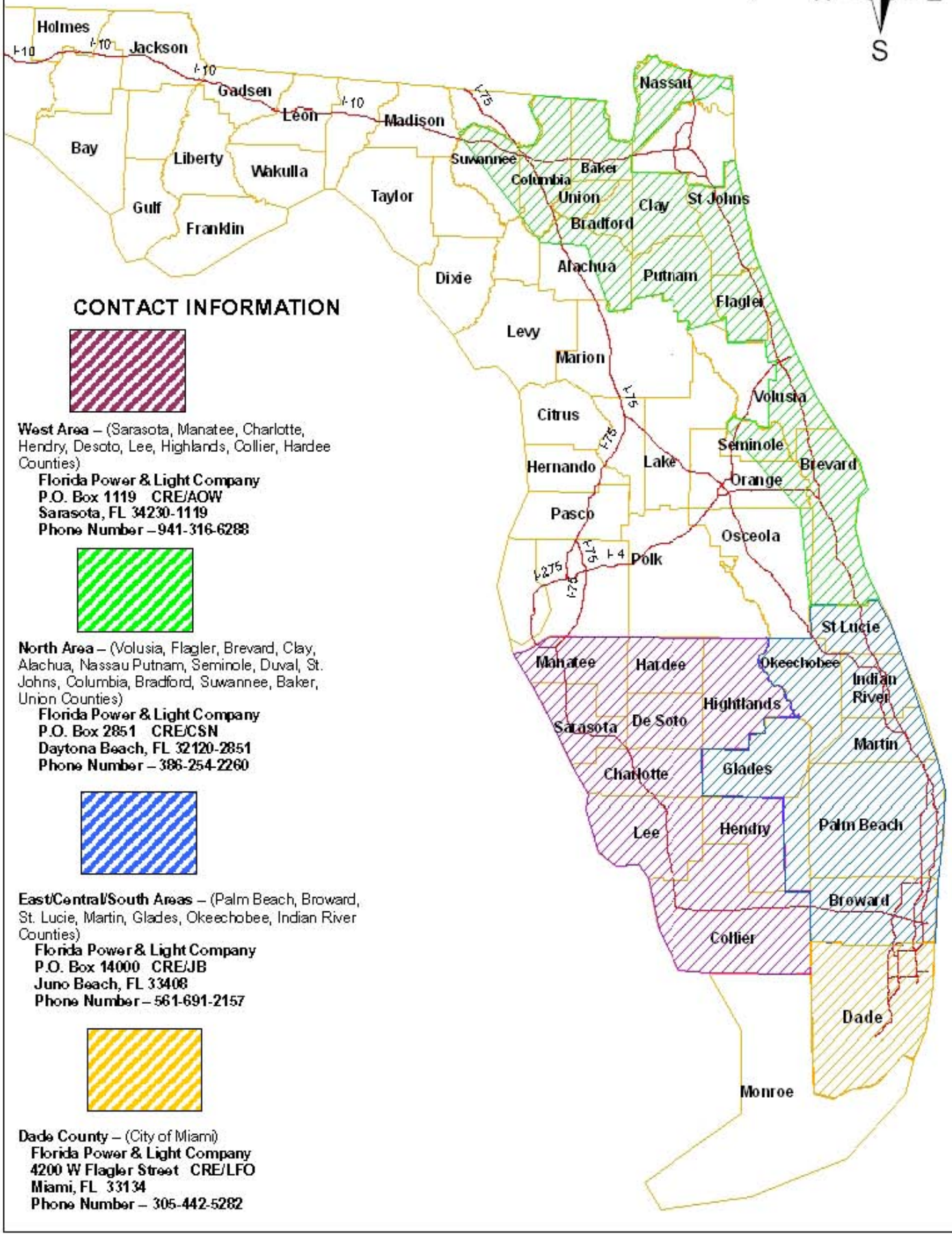
_____ _____

Signature of Applicant Date

# Right of Way Consent Process



# FPL Transmission Service Territory




## CONTACT INFORMATION

**West Area** – (Sarasota, Manatee, Charlotte, Hendry, Desoto, Lee, Highlands, Collier, Hardee Counties)

**Florida Power & Light Company**
**P.O. Box 1119 CRE/AOW**
**Sarasota, FL 34230-1119**
**Phone Number – 941-316-6288**

**North Area** – (Volusia, Flagler, Brevard, Clay, Alachua, Nassau Putnam, Seminole, Duval, St. Johns, Columbia, Bradford, Suwannee, Baker, Union Counties)

**Florida Power & Light Company**
**P.O. Box 2851 CRE/CSN**
**Daytona Beach, FL 32120-2851**
**Phone Number – 386-254-2260**

**East/Central/South Areas** – (Palm Beach, Broward, St. Lucie, Martin, Glades, Okeechobee, Indian River Counties)

**Florida Power & Light Company**
**P.O. Box 14000 CRE/JB**
**Juno Beach, FL 33408**
**Phone Number – 561-691-2157**

**Dade County** – (City of Miami)

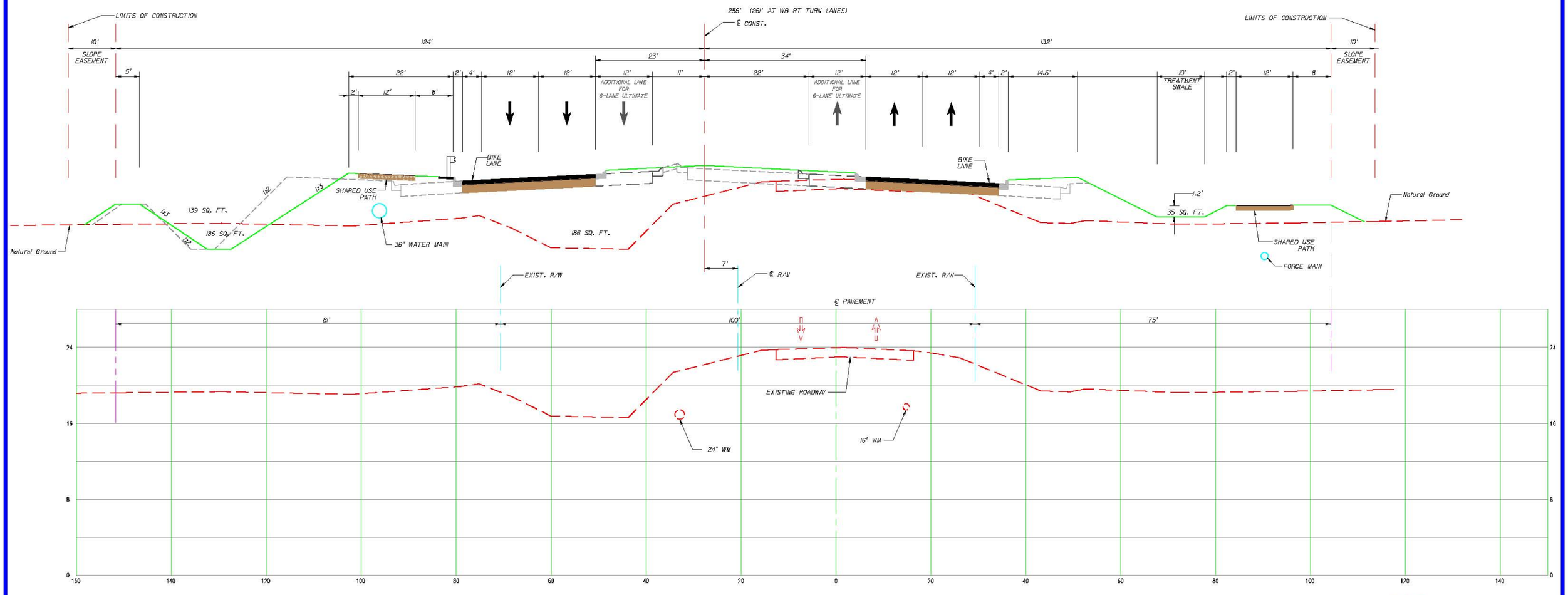
**Florida Power & Light Company**
**4200 W Flagler Street CRE/LFO**
**Miami, FL 33134**
**Phone Number – 305-442-5282**

2010

# ALICO ROAD
# DRAFT TYPICAL SECTION
# NORTH ALTERNATIVE

PROJECT # 6076
12-13-2011

FROM ±STA. 165+00 TO ±STA. 191+00



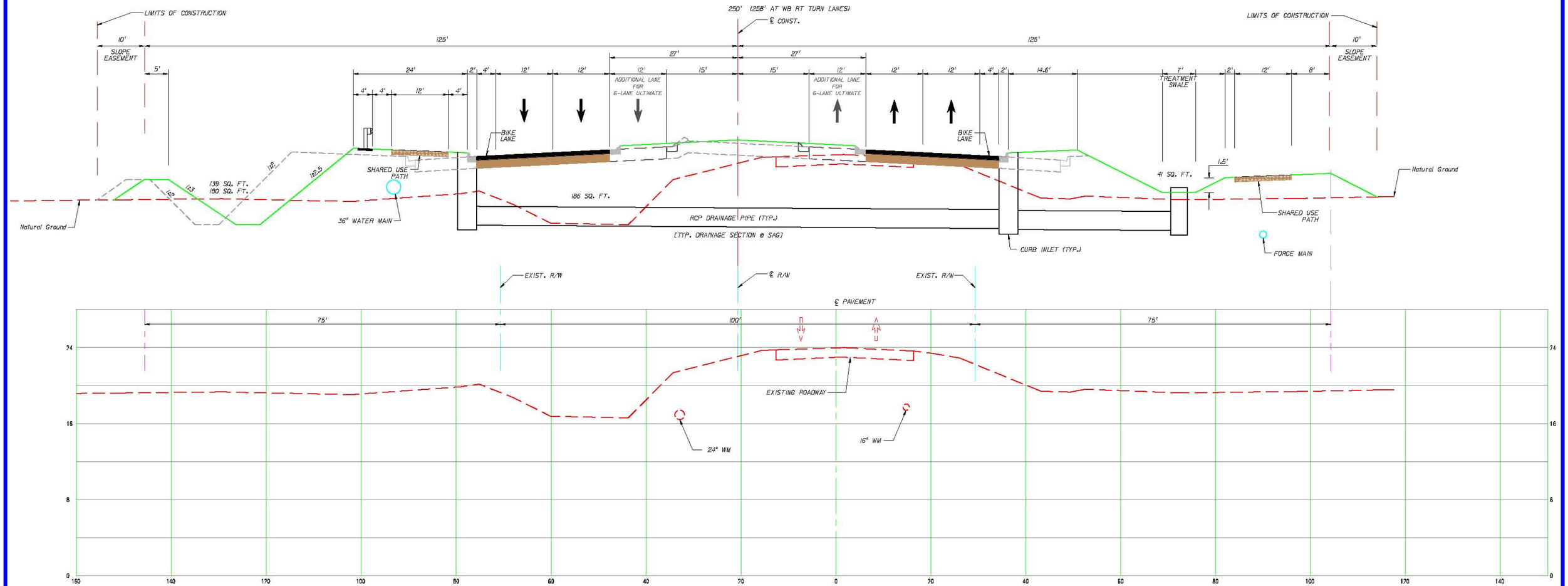

Section @ Station 184+00

Stanley Consultants INC.

# ALICO ROAD
# DRAFT TYPICAL SECTION
# CENTER ALTERNATIVE

**PROJECT # 6076**
**12-21-2011**

FROM ±STA. 165+00 TO ±STA. 191+00



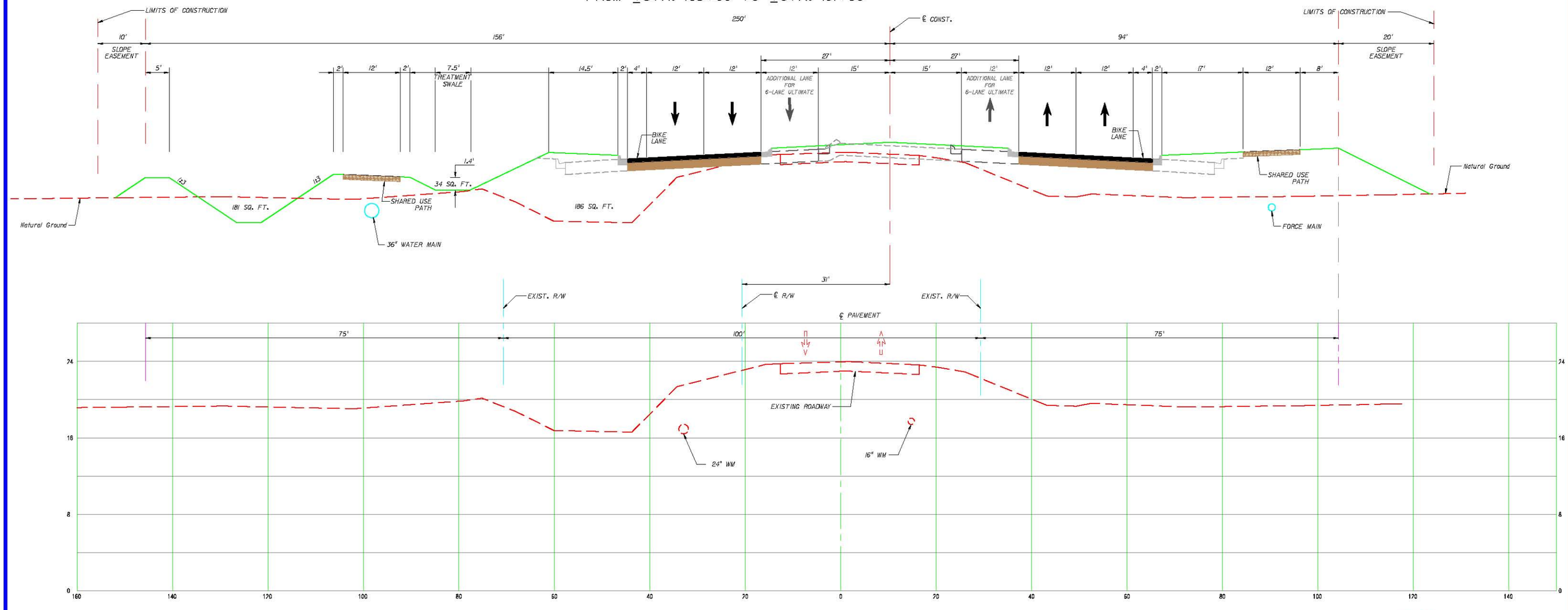

Section @ Station 184+00

Stanley Consultants INC.

# ALICO ROAD
# DRAFT TYPICAL SECTION
# SOUTH ALTERNATIVE

**PROJECT # 6076**
**12-13-2011**

FROM ±STA. 165+00 TO ±STA. 191+00

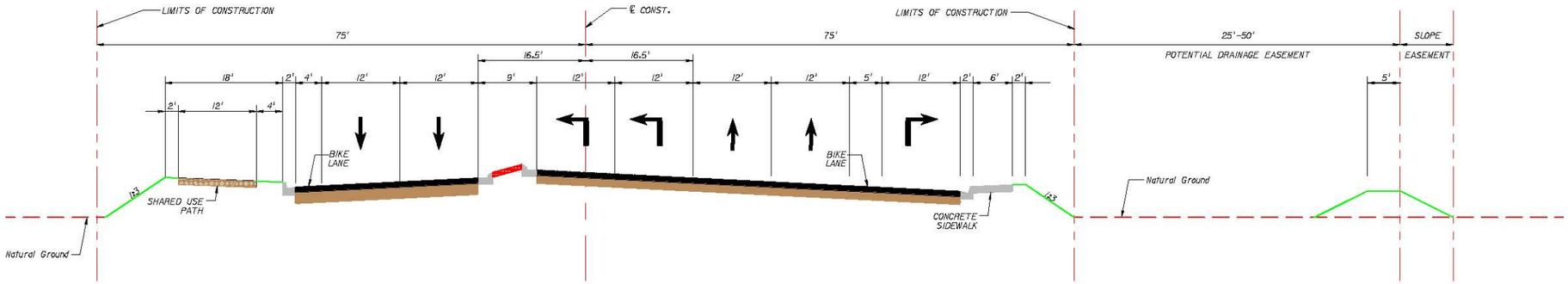


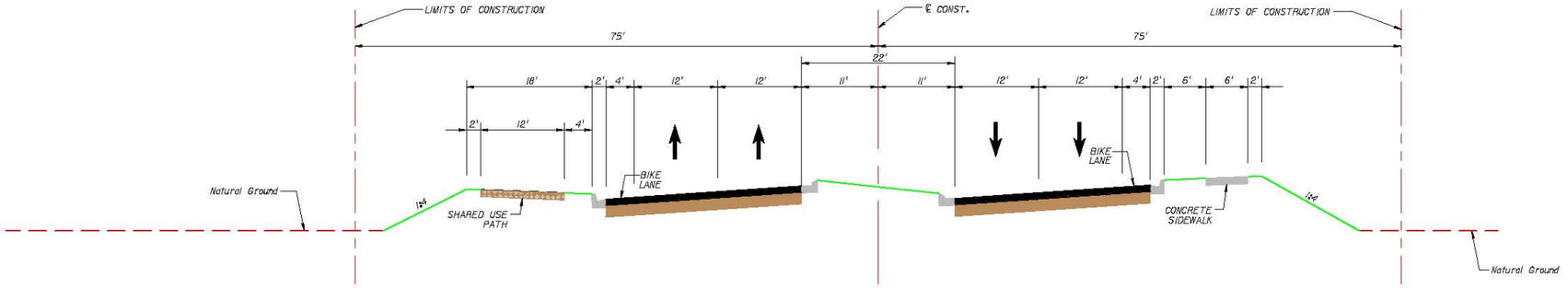

Section @ Station 184+00

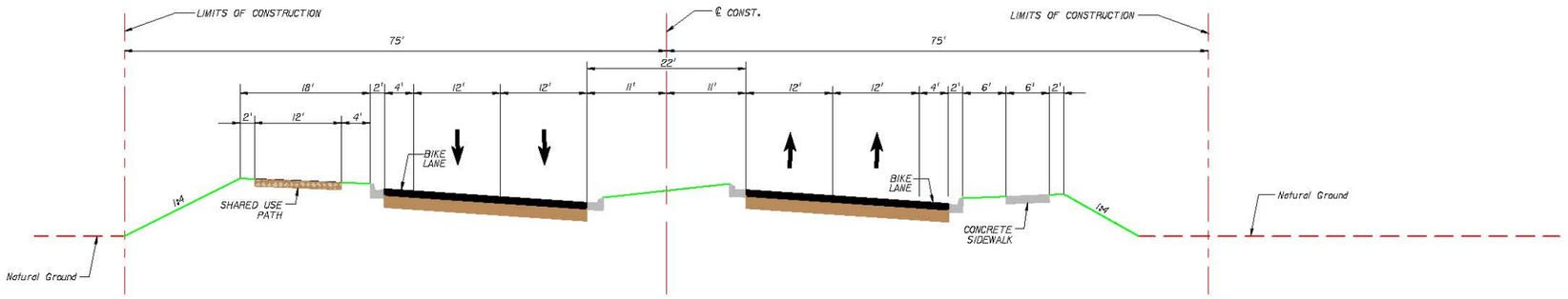
Stanley Consultants INC.

# CR 951 SOUTH ALTERNATIVE
# DRAFT TYPICAL SECTIONS
# SOUTH APPROACH

**PROJECT # 6076**
**12-02-2011**




Stanley Consultants INC.

Scale: 1"= 100

APPROXIMATE FUTURE R/W

EXISTING R/W

24" DIP WM

165+00

170+00

175+00

Alico Rd

16" DIP WM

23.3 KV FPL DISTRIBUTION

MAINTAINED R/W

CENTURYLINK

EXISTING R/W

APPROXIMATE FUTURE R/W

Apac

Scale: 1"= 100

FPL TRANSMISSION
(1) 138 KV LINE
(3) 230 KV LINE

WATER VALVE

Airport Haul Rd

23.3 KV FPL DISTRIBUTION

APPROXIMATE FUTURE R/W

EXISTING R/W

24" DIP WM

FIRE HYDRANT

180+00

185+00

30" DIP WM

190+00

Alico Rd

EXISTING R/W

16" DIP WM

23.3 KV FPL DISTRIBUTION

MAINTAINED R/W

CENTURYLINK

23.3 KV FPL DISTRIBUTION

APPROXIMATE FUTURE R/W

**CONCEPTUAL PLANS - NOT FOR CONSTRUCTION**
**UTILITIES ARE SHOWN ON APPROXIMATE LOCATION**

LEE COUNTY
SOUTHWEST FLORIDA

**Stanley Consultants** INC.
27300 Riverview Center Boulevard, Suite 101
Bonita Springs, Florida 34134
www.stanleyconsultants.com
Certificate of Authorization No. 1978

# ALICO ROAD STUDY
# UTILITY COORDINATION SHEET

LEE COUNTY PROJECT NUMBER 6076

NOV 15, 2011

SHEET NO. 4




Stanley Consultants INC.

1-04-2012
CR-951 INTERSECTION
NORTH CURVE ALIGNMENT

SCALE: 1"=200'

CR 951

PROP. R/W

WOOD POLES (TYP.)

PROP. SLOPE EASEMENT

PROP. SWALE (TYP.)

PROP. R/W

FP&L EASEMENT

ALICO RD. CENTERLINE CLEARANCE ELEVATION POINTS

FIELD MEASURED ON
AUGUST 29, 2011
FROM 11:32 AM TO 11:45 AM
EXIST. MIN. CLEARANCE: 30.4' TO 40.1'

LOW LINE ELEVATION POINTS

FIELD MEASURED ON
OCTOBER 11, 2011
FROM 11:00 AM TO 11:50 AM
EXIST. MIN. CLEARANCE: 31.4' - 40.7'

LOW LINE ELEVATION POINTS

FIELD MEASURED ON
OCTOBER 11, 2011
FROM 12:30 PM TO 1:10 PM
EXIST. MIN. CLEARANCE : 31.4' - 37.9'

FP&L EASEMENT

CONCRETE POLES (TYP.)

ANCHOR (TYP.)

R=955'

R=955'

EXIST R/W

AIRPORT HAUL RD.

LAKE

PROP. R/W

EXIST R/W

ALICO ROAD

PROP. SLOPE EASEMENT

Stanley Consultants INC.

1-04-2012
CR-951 INTERSECTION
NORTH CURVE ALIGNMENT

SCALE: 1"=200'

LOW LINE ELEVATION POINTS
(REFER TO SPREADSHEET)
FIELD MEASURED ON
DECEMBER 27, 2011
FROM 10:55 AM TO 11:49 AM
EXIST. MIN. CLEARANCE: 28.8' - 36.8'

ALICO RD. CENTERLINE CLEARANCE
ELEVATION POINTS
(REFER TO SPREADSHEET)
FIELD MEASURED ON
AUGUST 29, 2011
FROM 11:32 AM TO 11:45 AM
EXIST. MIN. CLEARANCE: 30.4' TO 40.1'

LOW LINE ELEVATION POINTS
(REFER TO SPREADSHEET)
FIELD MEASURED ON
OCTOBER 11, 2011
FROM 11:00 AM TO 11:50 AM
EXIST. MIN. CLEARANCE: 31.4' - 40.7'

CR 951

R=784'

WOOD POLES (TYP.)

CONCRETE POLES (TYP.)

ANCHOR (TYP.)

FP&L EASEMENT

PROP. SLOPE EASEMENT

EXIST R/W

PROP. SWALE (TYP.)

PROP. R/W

168+00
169+00
170+00
171+00
172+00
173+00
174+00
175+00
176+00
177+00
178+00
179+00
180+00
181+00
182+00
183+00
184+00
185+00
186+00
187+00
188+00

PROP. R/W

R=2500'

R=3187'

CR 951

EXIST R/W

AIRPORT HAUL RD.

LAKE

ALICO ROAD

PROP. R/W

EXIST R/W

PROP. SLOPE EASEMENT

Stanley Consultants INC.

1-04-2012
CR-951 INTERSECTION
SOUTH CURVE ALIGNMENT

SCALE: 1"=200'

CR 951

R=784'

LOW LINE ELEVATION POINTS
(REFER TO SPREADSHEET)
FIELD MEASURED ON
DECEMBER 27, 2011
FROM 10:55 AM TO 11:49 AM
EXIST. MIN. CLEARANCE: 28.8' - 36.8'

WOOD POLES (TYP.)

CONCRETE POLES (TYP.)

ANCHOR (TYP.)

FP&L EASEMENT

ALICO RD. CENTERLINE CLEARANCE
ELEVATION POINTS
(REFER TO SPREADSHEET)
FIELD MEASURED ON
AUGUST 29, 2011
FROM 11:32 AM TO 11:45 AM
EXIST. MIN. CLEARANCE: 30.4' TO 40.1'

PROP. SLOPE EASEMENT

EXIST R/W

PROP. R/W

PROP. SWALE (TYP.)

75'

50'

50'

75'

LOW LINE ELEVATION POINTS
(REFER TO SPREADSHEET)
FIELD MEASURED ON
OCTOBER 11, 2011
FROM 11:00 AM TO 11:50 AM
EXIST. MIN. CLEARANCE: 31.4' - 40.7'

110'

125'

FP&L EASEMENT

PROP. R/W

75'

75'

CR 951

R=2500'

R=3187'

PROP. R/W

25'

75'

12'

EXIST R/W

AIRPORT HAUL RD.

ALICO ROAD

168+00
169+00
170+00
171+00
172+00
173+00
174+00
175+00
176+00
177+00
178+00
179+00
180+00
181+00
182+00
183+00
184+00
185+00
186+00
187+00

LAKE

PROP. R/W

EXIST R/W

PROP. SLOPE EASEMENT

Stanley Consultants INC.

1-04-2012
CR-951 INTERSECTION
SOUTH CURVE ALIGNMENT

# MEETING NOTES

**Date:** March 6, 2012

**Place:** FPL, Ortiz Service Center

**Project/Purpose:** Alico Road Study. Discuss requirements from FPL for the conceptual design of the future roadway improvements.

**Attendees:** Lee County, FPL and Stanley Consultants staff. Please see attached sign-in sheet.

**Notes By:** Bill Evans, Wilson Garcia and David Dowling.

---

The following meeting notes set forth our understanding of the discussions and decisions made at this meeting. If no objections, questions, additions, or comments are received within 5 working days from issuance of the meeting notes, we will assume that our understandings are correct. We are proceeding based on the contents of these meeting notes.

---

| ITEM | SUBJECT | DISCUSSION | ACTION |
|---|---|---|---|
| 1 | Files | Send design and survey CAD files to Mark Byers | Files were e-mailed on 3-20-12 to Mark Byers. FPL to establish low clearance elevations based off the information provided. |
| 2 | Access | FPL needs access from Alico Rd. eastbound and westbound. Line up access points across Alico Road. | Will be provided |
| 3 | CR951 | FPL prefers future CR951 to cross transmission lines south of Alico Rd. No specific reasons provided. | Noted |
| 4 | Gates | Need gates along Alico Rd. at the access points. | Will be provided during the design phase |
| 5 | Pole replacement | FPL has scheduled replacement of SW pole | Noted |
| 7 | Turn out | 65' radii, 120' depth., 20' wide | Will be provided |
| 8 | Light poles and trees | 14' max. height in FPL easement | Noted |
| 9 | Fence | Provide fence along Alico Road and around the access points | Will be provided during the design phase |
| 10 | Maintenance Road | Hold north alignment of FPL maintenance road and continue south across Alico median to south of Alico R/W. | Noted |
| 11 | 10:1 slope | Required profile for turn outs. | Will be provided during the design phase |
| 12 | Future FPL Substation on FPL Parcel | Is located towards the north by Premier Park and Airport Haul Rd. | FPL will provide sketch of parcel and exact |

| | | | |
|---|---|---|---|
| | | | location to determine if there are right-of-way impacts with the realignment of Airport Haul Road |
| 13 | Construction Schedule | Anticipated Lee County Fiscal year 2015 – 2016. | |
| | | | |

**Distribution:**

All attendees
File

# Meeting Attendance Sheet
## Alico Road Alignment Study
From Ben Hill Griffin Parkway
To Airport Haul Road

| Name | Organization | Phone | E-Mail |
|---|---|---|---|
| BILL EVANS | STANLEY CONSULTANTS | cell 561 3525662 239 947 1771 | EVANSB.11@STANLEYGROUP.COM |
| David Dowling | Stanley Consultants | 239 949 7909 239 961 5872 cell | dowling.david@stanleygroup.com |
| Dave Lippincott | FPL Transmission | (941) 483-2040 | dave_lippincott@fpl.com |
| DEWEY JAKUBUWSKI | FPL TRANSMISSION | (239) 229-2090 | DEWEY_JAKUBUWSKI@FPL.COM |
| MARK BYERS | FPL ~~CORPORATE~~ REAL ESTATE | (941) 316-6288 | MARK.L.BYERS@FPL.COM |
| phone PETE WASHO | FPL TRANSMISSION | (561) 904.3093 | PETER.H.WASHO@FPL.COM |
| phone SHAWN HANSEN | FPL TRANSMISSION | (561) 904-3034 | SHAWN.HANSEN@FPL.COM |
| WILSON GARCIA | STANLEY CONSULTANTS | 239-949-7905 | garciawilson@stanleygroup.com |
| SCOTT BREWER | FPL TRANSMISSION | 941-650-9297 | SCOTT.B.BREWER@FPL.COM |
| [illegible] | FPL TRAN. | 941)650-2578 | WES_CROCHETT@FPL.COM |
| SARAH CLARKE | LCDOT | 239-533-8718 | sclarke@leegov.com |
| | | | |
| | | | |

Stanley Consultants INC.

## Garcia, Wilson

**From:** Hansen, Shawn [Shawn.Hansen@fpl.com]
**Sent:** Monday, March 19, 2012 4:25 PM
**To:** Garcia, Wilson
**Cc:** Dowling, David; Byers, Mark L; Lippincott, Dave; Washio, Peter H
**Subject:** RE: ALICO RD STUDY

Wilson,
The minimum NESC Vertical Clearance required over a road for a 230kV transmission line is 22'-8". Please note that your construction contractor is responsible to maintain the required OSHA safety distances away from the 230 kV line with any equipment.

Please let me know if you need any additional information.

Thanks,

Shawn Hansen
FPL Transmission
(561) 904-3634

*"Driving Performance Excellence"*

This document contains non-public transmission information and must be treated in accordance with the FERC Standards of Conduct. This message may contain confidential and/or privileged information of Florida Power & Light. If you are not the intended recipient please: 1.) do not discuss, copy, distribute or use this information, 2.) advise the sender by return e-mail and 3.) delete all copies from your computer. Your cooperation is greatly appreciated.

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**From:** Garcia, Wilson [mailto:GarciaWilson@stanleygroup.com]
**Sent:** Monday, March 19, 2012 11:20 AM
**To:** Washio, Peter H; Hansen, Shawn
**Cc:** Dowling, David; Byers, Mark L
**Subject:** ALICO RD STUDY
**Importance:** High

Hi Peter and Shawn,

We appreciate your participation during the review meeting of March 6th.

Could you please remind us what is the minimum vertical clearance for us to keep from the proposed road grade to the transmission lines ?

Thank you!

**Wilson A. Garcia, P.E., LEED GA**
**Senior Engineer**

**Stanley Consultants, Inc.**

27300 Riverview Center Boulevard, Suite 101
Bonita Springs, Florida 34134

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# Lee Property Appraiser GeoView Map




Map printed: 4/9/2012 7:50 AM

600m
2000ft

**Aerial Imagery**
2012 Hi-Res (1/2 foot)
**Parcels and Streets**
Parcel Lines
Street Centerlines
Delinquent Tax Parcels

Disclaimer: Maps and documents made available to public by the Lee County Property Appraiser's office are not legally recorded maps or surveys and therefore are not intended to be used as such. The maps and documents are created as part of a Geographic Information System (GIS) that compiles records, information and data from various departments, cities, county, state and federal sources. The source data may contain errors. Users are encouraged to examine the doucmentation or metadata associated with the data on which the map is based for information related to its accuracy, currentness, and limitations.

# APPENDIX H

# Cost Estimates

## Alico Road Study - Interim 4-Lane Center Alignment Signals OOM Cost Estimate

### *Alico Rd/Ben Hill Griffin Pkwy Signal Modification*

| Item | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| CONDUIT-SIGNALS, F& I, UNDERGROUND | 200 | LF | $3.21 | $642.00 |
| CONDUIT-SIGNALS,F& I, UG JACKED | 100 | LF | $11.34 | $1,134.00 |
| CABLE, SIGNAL, FURNISH & INSTALL | 1 | PI | $3,630.69 | $3,630.69 |
| PULL & JUNCTION BOXES, F&I, PULL BOX | 8 | EA | $276.42 | $2,211.36 |
| SIGNAL,ELECT POWER SERV,UG | 1 | AS | $1,116.42 | $1,116.42 |
| SIGNAL,ELECTRICAL SERVICE WIRE | 60 | LF | $1.39 | $83.40 |
| M/ARM,F&I, WS-150,SINGLE ARM,W/0 LUM-78 * | 2 | EA | $28,168.99 | $56,337.98 |
| TRAFFIC SIGNAL, F&I, 3 SECT, 1 WAY, STD | 8 | AS | $689.04 | $5,512.32 |
| PEDESTRIAN SIGNAL, F&I, LED-COUNT DWN, 1 | 4 | AS | $599.70 | $2,398.80 |
| LOOP DETECTOR INDUCTIVE, F&I, TYPE 2 | 20 | EA | $178.24 | $3,564.80 |
| LOOP ASSEMBLY, F&I, TYPE F | 20 | AS | $793.51 | $15,870.20 |
| PED DET, F&I, DET STA POLE OR CAB MTD | 4 | EA | $134.58 | $538.32 |
| INTERNAL ILLUM SIGN, FURNISH & INST, NA | 2 | EA | $2,781.68 | $5,563.36 |
| SIGN PANELS, F & I, 15 OR < | 2 | EA | $313.80 | $627.60 |
| TRAF CNTL ASSEM, MOD, NEMA | 1 | AS | $1,044.01 | $1,044.01 |
| Sub total | | | | **$100,275.26** |

** two nearside mast arms at NB & WB approaches*

### *Alico Rd/CR 951 New Mast Arm Signal*

| Item | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| CONDUIT-SIGNALS, F& I, UNDERGROUND | 700 | LF | $3.21 | $2,247.00 |
| CONDUIT-SIGNALS,F& I, UG JACKED | 300 | LF | $11.34 | $3,402.00 |
| CABLE, SIGNAL, FURNISH & INSTALL | 1 | PI | $3,630.69 | $3,630.69 |
| PULL & JUNCTION BOXES, F&I, PULL BOX | 22 | EA | $276.42 | $6,081.24 |
| SIGNAL,ELECT POWER SERV,UG,PUR CONT | 1 | AS | $1,116.42 | $1,116.42 |
| SIGNAL,ELECTRICAL SERVICE WIRE | 60 | LF | $1.39 | $83.40 |
| PREST CNC POLE,F&I,TYP P-II,PEDESTAL | 1 | EA | $720.15 | $720.15 |
| STEEL STRAIN POLE, F&I, PEDESTAL | 1 | EA | $750.00 | $750.00 |
| M/ARM,F&I, WS-150,SINGLE ARM,W/0 LUM-78 | 4 | EA | $28,168.99 | $112,675.96 |
| TRAFFIC SIGNAL, F&I, 3 SECT, 1 WAY, STD | 20 | AS | $689.04 | $13,780.80 |
| PEDESTRIAN SIGNAL, F&I, LED-COUNT DWN, 1 | 6 | AS | $599.70 | $3,598.20 |
| LOOP DETECTOR INDUCTIVE, F&I, TYPE 2 | 7 | EA | $178.24 | $1,247.68 |
| LOOP ASSEMBLY, F&I, TYPE F | 9 | AS | $793.51 | $7,141.59 |
| PED DET, F&I, DET STA POLE OR CAB MTD | 6 | EA | $134.58 | $807.48 |
| TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT | 1 | AS | $19,571.31 | $19,571.31 |
| INTERNAL ILLUM SIGN, FURNISH & INST, NA | 3 | EA | $2,781.68 | $8,345.04 |
| SIGN PANELS, F & I, 15 OR < | 3 | EA | $313.80 | $941.40 |
| Sub total | | | | **$186,140.36** |

| | |
|---|---|
| Total | $286,415.62 |
| Contingencies (15% of Construction Cost) | $42,962.34 |
| Grand Total | **$329,377.96** |

## Alico Road Study - Ultimate 6-Lane Center Alignment Signals OOM Cost Estimate

***Alico Rd/Ben Hill Griffin Pkwy Signal Replacement ****

| Item | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| CONDUIT-SIGNALS, F& I, UNDERGROUND | 700 | LF | $3.21 | $2,247.00 |
| CONDUIT-SIGNALS,F& I, UG JACKED | 250 | LF | $11.34 | $2,835.00 |
| CABLE, SIGNAL, FURNISH & INSTALL | 1 | PI | $3,630.69 | $3,630.69 |
| SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX | 1 | PI | $2,049.76 | $2,049.76 |
| PULL & JUNCTION BOXES, F&I, PULL BOX | 20 | EA | $276.42 | $5,528.40 |
| SIGNAL,ELECTRICAL POWER SRV,OHD | 1 | AS | $1,132.49 | $1,132.49 |
| SIGNAL,ELECTRICAL SERVICE WIRE | 30 | LF | $1.39 | $41.70 |
| PREST CNC POLE,F&I,TYP P-II,PEDESTAL | 1 | EA | $720.15 | $720.15 |
| TRAFFIC SIGNAL, F&I, 3 SECT, 1 WAY, STD | 20 | AS | $689.04 | $13,780.80 |
| PEDESTRIAN SIGNAL, 12 IN, INCANDES,1 WAY | 8 | AS | $400.00 | $3,200.00 |
| LOOP DETECTOR INDUCTIVE, F&I, TYPE 2 | 20 | EA | $178.24 | $3,564.80 |
| LOOP ASSEMBLY, F&I, TYPE F | 27 | AS | $793.51 | $21,424.77 |
| PED DET, F&I, DET STA POLE OR CAB MTD | 8 | EA | $134.58 | $1,076.64 |
| TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT | 1 | AS | $19,571.31 | $19,571.31 |
| INTERNAL ILLUM SIGN, FURNISH & INST, NA | 4 | EA | $2,781.68 | $11,126.72 |
| SIGN PANELS, F & I, 15 OR < | 4 | EA | $313.80 | $1,255.20 |
| STEEL STRAIN POLE, F&I, TYPE PS- VIII | 4 | EA | $19,917.09 | $79,668.36 |
| Sub total | | | | **$172,853.79** |

** Span Wire System proposed to accommodate wide intersection approaches*

***Alico Rd/Dev. A2 Entrance New Mast Arm Signal***

| Item | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| CONDUIT-SIGNALS, F& I, UNDERGROUND | 700 | LF | $3.21 | $2,247.00 |
| CONDUIT-SIGNALS,F& I, UG JACKED | 300 | LF | $11.34 | $3,402.00 |
| CABLE, SIGNAL, FURNISH & INSTALL | 1 | PI | $3,630.69 | $3,630.69 |
| PULL & JUNCTION BOXES, F&I, PULL BOX | 22 | EA | $276.42 | $6,081.24 |
| SIGNAL,ELECT POWER SERV,UG,PUR CONT | 1 | AS | $1,116.42 | $1,116.42 |
| SIGNAL,ELECTRICAL SERVICE WIRE | 60 | LF | $1.39 | $83.40 |
| PREST CNC POLE,F&I,TYP P-II,PEDESTAL | 1 | EA | $720.15 | $720.15 |
| STEEL STRAIN POLE, F&I, PEDESTAL | 1 | EA | $750.00 | $750.00 |
| M/ARM,F&I, WS-150,SINGLE ARM,W/0 LUM-78 | 4 | EA | $28,168.99 | $112,675.96 |
| TRAFFIC SIGNAL, F&I, 3 SECT, 1 WAY, STD | 20 | AS | $689.04 | $13,780.80 |
| PEDESTRIAN SIGNAL, F&I, LED-COUNT DWN, 1 | 8 | AS | $599.70 | $4,797.60 |
| LOOP DETECTOR INDUCTIVE, F&I, TYPE 2 | 10 | EA | $178.24 | $1,782.40 |
| LOOP ASSEMBLY, F&I, TYPE F | 17 | AS | $793.51 | $13,489.67 |
| PED DET, F&I, DET STA POLE OR CAB MTD | 8 | EA | $134.58 | $1,076.64 |
| TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT | 1 | AS | $19,571.31 | $19,571.31 |
| INTERNAL ILLUM SIGN, FURNISH & INST, NA | 4 | EA | $2,781.68 | $11,126.72 |
| Sub total | | | | **$196,332.00** |

***Alico Rd/Dev. B1 Entrance New Mast Arm Signal***

| Item | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| CONDUIT-SIGNALS, F& I, UNDERGROUND | 700 | LF | $3.21 | $2,247.00 |
| CONDUIT-SIGNALS,F& I, UG JACKED | 300 | LF | $11.34 | $3,402.00 |
| CABLE, SIGNAL, FURNISH & INSTALL | 1 | PI | $3,630.69 | $3,630.69 |
| PULL & JUNCTION BOXES, F&I, PULL BOX | 22 | EA | $276.42 | $6,081.24 |
| SIGNAL,ELECT POWER SERV,UG,PUR CONT | 1 | AS | $1,116.42 | $1,116.42 |
| SIGNAL,ELECTRICAL SERVICE WIRE | 60 | LF | $1.39 | $83.40 |
| PREST CNC POLE,F&I,TYP P-II,PEDESTAL | 1 | EA | $720.15 | $720.15 |
| STEEL STRAIN POLE, F&I, PEDESTAL | 1 | EA | $750.00 | $750.00 |
| M/ARM,F&I, WS-150,SINGLE ARM,W/0 LUM-78 | 4 | EA | $28,168.99 | $112,675.96 |
| TRAFFIC SIGNAL, F&I, 3 SECT, 1 WAY, STD | 20 | AS | $689.04 | $13,780.80 |
| PEDESTRIAN SIGNAL, F&I, LED-COUNT DWN, 1 | 8 | AS | $599.70 | $4,797.60 |
| LOOP DETECTOR INDUCTIVE, F&I, TYPE 2 | 10 | EA | $178.24 | $1,782.40 |
| LOOP ASSEMBLY, F&I, TYPE F | 17 | AS | $793.51 | $13,489.67 |
| PED DET, F&I, DET STA POLE OR CAB MTD | 8 | EA | $134.58 | $1,076.64 |
| TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT | 1 | AS | $19,571.31 | $19,571.31 |
| INTERNAL ILLUM SIGN, FURNISH & INST, NA | 4 | EA | $2,781.68 | $11,126.72 |
| Sub total | | | | **$196,332.00** |

***Alico Rd/Dev. C1 Entrance New Mast Arm Signal***

| Item | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| CONDUIT-SIGNALS, F& I, UNDERGROUND | 700 | LF | $3.21 | $2,247.00 |
| CONDUIT-SIGNALS,F& I, UG JACKED | 300 | LF | $11.34 | $3,402.00 |
| CABLE, SIGNAL, FURNISH & INSTALL | 1 | PI | $3,630.69 | $3,630.69 |
| PULL & JUNCTION BOXES, F&I, PULL BOX | 22 | EA | $276.42 | $6,081.24 |
| SIGNAL,ELECT POWER SERV,UG,PUR CONT | 1 | AS | $1,116.42 | $1,116.42 |
| SIGNAL,ELECTRICAL SERVICE WIRE | 60 | LF | $1.39 | $83.40 |
| PREST CNC POLE,F&I,TYP P-II,PEDESTAL | 1 | EA | $720.15 | $720.15 |
| STEEL STRAIN POLE, F&I, PEDESTAL | 1 | EA | $750.00 | $750.00 |
| M/ARM,F&I, WS-150,SINGLE ARM,W/0 LUM-78 | 4 | EA | $28,168.99 | $112,675.96 |
| TRAFFIC SIGNAL, F&I, 3 SECT, 1 WAY, STD | 20 | AS | $689.04 | $13,780.80 |
| PEDESTRIAN SIGNAL, F&I, LED-COUNT DWN, 1 | 8 | AS | $599.70 | $4,797.60 |
| LOOP DETECTOR INDUCTIVE, F&I, TYPE 2 | 10 | EA | $178.24 | $1,782.40 |
| LOOP ASSEMBLY, F&I, TYPE F | 17 | AS | $793.51 | $13,489.67 |
| PED DET, F&I, DET STA POLE OR CAB MTD | 8 | EA | $134.58 | $1,076.64 |
| TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT | 1 | AS | $19,571.31 | $19,571.31 |
| INTERNAL ILLUM SIGN, FURNISH & INST, NA | 4 | EA | $2,781.68 | $11,126.72 |
| Sub total | | | | **$196,332.00** |

**Stanley Consultants, Inc.** 3/2/2012

***Alico Rd/CR 951 New Mast Arm Signal***

| Item | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| CONDUIT-SIGNALS, F& I, UNDERGROUND | 700 | LF | $3.21 | $2,247.00 |
| CONDUIT-SIGNALS,F& I, UG JACKED | 300 | LF | $11.34 | $3,402.00 |
| CABLE, SIGNAL, FURNISH & INSTALL | 1 | PI | $3,630.69 | $3,630.69 |
| PULL & JUNCTION BOXES, F&I, PULL BOX | 22 | EA | $276.42 | $6,081.24 |
| SIGNAL,ELECT POWER SERV,UG,PUR CONT | 1 | AS | $1,116.42 | $1,116.42 |
| SIGNAL,ELECTRICAL SERVICE WIRE | 60 | LF | $1.39 | $83.40 |
| PREST CNC POLE,F&I,TYP P-II,PEDESTAL | 1 | EA | $720.15 | $720.15 |
| STEEL STRAIN POLE, F&I, PEDESTAL | 1 | EA | $750.00 | $750.00 |
| M/ARM,F&I, WS-150,SINGLE ARM,W/0 LUM-78 | 4 | EA | $28,168.99 | $112,675.96 |
| TRAFFIC SIGNAL, F&I, 3 SECT, 1 WAY, STD | 20 | AS | $689.04 | $13,780.80 |
| PEDESTRIAN SIGNAL, F&I, LED-COUNT DWN, 1 | 8 | AS | $599.70 | $4,797.60 |
| LOOP DETECTOR INDUCTIVE, F&I, TYPE 2 | 10 | EA | $178.24 | $1,782.40 |
| LOOP ASSEMBLY, F&I, TYPE F | 19 | AS | $793.51 | $15,076.69 |
| PED DET, F&I, DET STA POLE OR CAB MTD | 8 | EA | $134.58 | $1,076.64 |
| TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT | 1 | AS | $19,571.31 | $19,571.31 |
| INTERNAL ILLUM SIGN, FURNISH & INST, NA | 4 | EA | $2,781.68 | $11,126.72 |
| Sub total | | | | **$197,919.02** |

***Signal Interconnect between 5 Signals***

| Item | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| CONDUIT-SIGNALS, F& I, UNDERGROUND | 8,640.00 | LF | $3.21 | $27,734.40 |
| CONDUIT-SIGNALS, F&I, UNDER EXIST PAVT | 960 | LF | $18.65 | $17,904.00 |
| CAB-FIB OPT, F&I, UG, COMP, 26- 50 PR | 9,600.00 | LF | $2.31 | $22,176.00 |
| CAB-FIB OPT, F&I,DROP,MULTI MODE,1 -25PR | 90 | LF | $3.65 | $328.50 |
| PULL & JUNCTION BOX, F&I, FIBER OPTICS | 14 | EA | $941.30 | $13,178.20 |
| PULL & JUNCTION BOX, F&I, SPECIAL | 5 | EA | $1,659.24 | $8,296.20 |
| Sub total | | | | **$89,617.30** |

| | |
|---|---|
| Total | **$1,049,386.11** |
| Contingencies (15% of Construction Cost) | $157,407.92 |
| Grand Total | **$1,206,794.03** |

# Culvert Cost Estimate

## Description

Determine cost of culvert extension

## References

Include References to any codes or standards that were used or followed. This would include books that formulas were taken from, etc

*1. Southwest Florida Internatioinal Airport, Midfield Terminal Complex, Treeline Avenue/ Ben Hill Griffin Parkway. Construction plans from Lee County Port Authority.*

*2. FDOT Construction Cost History.*

## Design Criteria

$CY := 27ft^3$

$L_{culvert.plans} := 135 \cdot ft$ $L_{culvert.survey} := 172 \cdot ft$

From construction plans, Sheet T-86 (Use quantities for preliminary cost estimate)

$V_{conc.barrel} := 0.968 \frac{CY}{ft}$ $V_{conc.ww} := 24.225 \cdot CY$ Includes wingwalls at both ends.

$Wt_{steel.barrel} := 16494 \cdot lbf$ $Wt_{steel.ww} := 1811 \cdot lbf$ Includes wingwalls at both ends.

$wt_{steel.barrel} := \frac{Wt_{steel.barrel}}{L_{culvert.plans}}$ $wt_{steel.barrel} = 122.178 \cdot \frac{lbf}{ft}$

Check Wingwall Quantities

$L_{ww} := 14 \cdot ft$ $H_{ww} := 7.833 \cdot ft$ $t_{ww} := 10 \cdot in$

$V_{ww} := L_{ww} \cdot H_{ww} \cdot t_{ww}$ $V_{ww} = 3.385 \cdot CY$

## Extend East End

$L_{culv.ext.east} := 55 \cdot ft$

$V_{conc.barrel.ext.east} := L_{culv.ext.east} \cdot V_{conc.barrel}$

$V_{conc.barrel.ext.east} = 53.24 \cdot CY$

$V_{conc.ww.ext.east} := \frac{V_{conc.ww}}{2}$

$V_{conc.ww.ext.east} = 12.113 \cdot CY$

$V_{conc.ext.east} := V_{conc.barrel.ext.east} + V_{conc.ww.ext.east}$

$V_{conc.ext.east} = 65.353 \cdot CY$

$Wt_{steel.barrel.ext.east} := L_{culv.ext.east} \cdot wt_{steel.barrel}$

$Wt_{steel.barrel.ext.east} = 6719.778 \cdot lbf$

$Wt_{steel.ww.ext.east} := \frac{Wt_{steel.ww}}{2}$

$Wt_{steel.ww.ext.east} = 905.5 \cdot lbf$

$Wt_{steel.ext.east} := Wt_{steel.barrel.ext.east} + Wt_{steel.ww.ext.east}$

$Wt_{steel.ext.east} = 7625.278 \cdot lbf$

## Extend West End

$L_{culv.ext.west} := 25 \cdot ft$

$V_{conc.barrel.ext.west} := L_{culv.ext.west} \cdot V_{conc.barrel}$

$V_{conc.barrel.ext.west} = 24.2 \cdot CY$

$V_{conc.ww.ext.west} := \frac{V_{conc.ww}}{2}$

$V_{conc.ww.ext.west} = 12.113 \cdot CY$

$V_{conc.ext.west} := V_{conc.barrel.ext.west} + V_{conc.ww.ext.west}$

$V_{conc.ext.west} = 36.313 \cdot CY$

$Wt_{steel.barrel.ext.west} := L_{culv.ext.west} \cdot wt_{steel.barrel}$

$Wt_{steel.barrel.ext.west} = 3054.444 \cdot lbf$

$Wt_{steel.ww.ext.west} := \frac{Wt_{steel.ww}}{2}$

$Wt_{steel.ww.ext.west} = 905.5 \cdot lbf$

$Wt_{steel.ext.west} := Wt_{steel.barrel.ext.west} + Wt_{steel.ww.ext.west}$

$Wt_{steel.ext.west} = 3959.944 \cdot lbf$

## Cost Estimate

$UnitPrice_{culv.concr} := 1550 \cdot \frac{\$}{CY}$ From FDOT 2011 average unit prices for Area 10

$UnitPrice_{culv.steel} := 1 \cdot \frac{\$}{lbf}$ Conservative

### East Extension

$Cost_{culv.ext.east.conc} := V_{conc.ext.east} \cdot UnitPrice_{culv.concr}$ $Cost_{culv.ext.east.conc} = 101296\,\$$

$Cost_{culv.ext.east.steel} := Wt_{steel.ext.east} \cdot UnitPrice_{culv.steel}$ $Cost_{culv.ext.east.steel} = 7625\,\$$

$Cost_{culv.ext.east} := Cost_{culv.ext.east.conc} + Cost_{culv.ext.east.steel}$ $Cost_{culv.ext.east} = 108922\,\$$

### West Extension

$Cost_{culv.ext.west.conc} := V_{conc.ext.west} \cdot UnitPrice_{culv.concr}$ $Cost_{culv.ext.west.conc} = 56284\,\$$

$Cost_{culv.ext.west.steel} := Wt_{steel.ext.west} \cdot UnitPrice_{culv.steel}$ $Cost_{culv.ext.west.steel} = 3960\,\$$

$Cost_{culv.ext.west} := Cost_{culv.ext.west.conc} + Cost_{culv.ext.west.steel}$ $Cost_{culv.ext.west} = 60244\,\$$

$Cost_{ultimate} := Cost_{culv.ext.east} + Cost_{culv.ext.west}$ $Cost_{ultimate} = 169166\,\$$

### Use for PD&E cost estimate

| | |
|---|---|
| East Extension | $ 110,000 |
| West Extension | $ 60,000 |
| Total Culvert | $ 170,000 |

# ALICO ROAD DRAINAGE IMPROVEMENTS
## Order of Magnitude Opinion of Probable Construction Costs
## For Center, North & South Alternative Alignments

### Center Alternative

| Item No. | Item Description | Unit | Quantity | Unit Cost | Total Cost |
|---|---|---|---|---|---|
| | **DRAINAGE** | | | | |
| 100 | DRAINAGE PIPE, 18" RCP | LF | 4067 | $45.00 | $183,015.00 |
| 101 | DRAINAGE PIPE, 24" RCP | LF | 928 | $55.00 | $51,040.00 |
| 102 | DRAINAGE PIPE, 42" RCP | LF | 328 | $95.00 | $31,160.00 |
| 103 | DRAINAGE STRUCTURE, TYPE "9" INLET | EA | 38 | $3,200.00 | $121,600.00 |
| 104 | DRAINAGE STRUCTURE, TYPE "D" INLET (CONTROL STRUCTURE) | EA | 8 | $2,500.00 | $20,000.00 |
| 105 | DRAINAGE STRUCTURE, TYPE "D" INLET (BUBBLE UP) | EA | 19 | $2,100.00 | $39,900.00 |
| 106 | MES, 24" (1:4) | EA | 8 | $1,800.00 | $14,400.00 |
| 107 | INLET PROTECTION | EA | 65 | $300.00 | $19,500.00 |
| | **SUBTOTAL** | | | | **$480,615.00** |
| | **DRAINAGE REMOVAL** | | | | |
| 107 | DRAINAGE PIPE, REMOVAL 42" CMP | LF | 54 | $30.00 | $1,620.00 |
| 108 | DRAINAGE PIPE, REMOVAL 54" CMP | LF | 93 | $35.00 | $3,255.00 |
| 109 | DRAINAGE PIPE, REMOVAL 18" RCP | LF | 582 | $30.00 | $17,460.00 |
| 110 | DRAINAGE PIPE, REMOVAL 36" RCP | LF | 296 | $35.00 | $10,360.00 |
| 111 | DRAINAGE PIPE, REMOVAL 48"x72" RCP | LF | 116 | $50.00 | $5,800.00 |
| 112 | DRAINAGE PIPE, REMOVAL, 18" CPP | LF | 40 | $20.00 | $800.00 |
| 113 | DRAINAGE PIPE, REMOVAL 36" CPP | LF | 60 | $25.00 | $1,500.00 |
| 114 | DRAINAGE STRUCTURE, REMOVAL | EA | 18 | $1,100.00 | $19,800.00 |
| | **SUBTOTAL** | | | | **$60,595.00** |
| | | | | | |
| | SUBTOTAL | | | | $541,210.00 |
| | CONTINGENCY 15% | | | | $81,181.50 |
| | **TOTAL** | | | | **$622,391.50** |

### North Alternative

| Item No. | Item Description | Unit | Quantity | Unit Cost | Total Cost |
|---|---|---|---|---|---|
| | **DRAINAGE** | | | | |
| 100 | DRAINAGE PIPE, 18" RCP | LF | 4010 | $45.00 | $180,450.00 |
| 101 | DRAINAGE PIPE, 24" RCP | LF | 928 | $55.00 | $51,040.00 |
| 102 | DRAINAGE PIPE, 42" RCP | LF | 328 | $95.00 | $31,160.00 |
| 102 | DRAINAGE STRUCTURE, TYPE "9" INLET | EA | 38 | $3,200.00 | $121,600.00 |
| 103 | DRAINAGE STRUCTURE, TYPE "D" INLET (CONTROL STRUCTURE) | EA | 8 | $2,500.00 | $20,000.00 |
| 104 | DRAINAGE STRUCTURE, TYPE "D" INLET (BUBBLE UP) | EA | 19 | $2,100.00 | $39,900.00 |
| 105 | MES, 24" (1:4) | EA | 8 | $1,800.00 | $14,400.00 |
| 106 | INLET PROTECTION | EA | 65 | $300.00 | $19,500.00 |
| | **SUBTOTAL** | | | | **$478,050.00** |
| | **DRAINAGE REMOVAL** | | | | |
| 107 | DRAINAGE PIPE, REMOVAL 42" CMP | LF | 54 | $30.00 | $1,620.00 |
| 108 | DRAINAGE PIPE, REMOVAL 54" CMP | LF | 93 | $35.00 | $3,255.00 |
| 109 | DRAINAGE PIPE, REMOVAL 18" RCP | LF | 582 | $30.00 | $17,460.00 |
| 110 | DRAINAGE PIPE, REMOVAL 36" RCP | LF | 296 | $35.00 | $10,360.00 |
| 111 | DRAINAGE PIPE, REMOVAL 48"x72" RCP | LF | 116 | $50.00 | $5,800.00 |
| 112 | DRAINAGE PIPE, REMOVAL, 18" CPP | LF | 40 | $20.00 | $800.00 |
| 113 | DRAINAGE PIPE, REMOVAL 36" CPP | LF | 60 | $25.00 | $1,500.00 |
| 114 | DRAINAGE STRUCTURE, REMOVAL | EA | 18 | $1,100.00 | $19,800.00 |
| | **SUBTOTAL** | | | | **$60,595.00** |
| | | | | | |
| | SUBTOTAL | | | | $538,645.00 |
| | CONTINGENCY 15% | | | | $80,796.75 |
| | **TOTAL** | | | | **$619,441.75** |

### South Alternative

| Item No. | Item Description | Unit | Quantity | Unit Cost | Total Cost |
|---|---|---|---|---|---|
| | **DRAINAGE** | | | | |
| 100 | DRAINAGE PIPE, 18" RCP | LF | 4010 | $45.00 | $180,450.00 |
| 101 | DRAINAGE PIPE, 24" RCP | LF | 2208 | $55.00 | $121,440.00 |
| 102 | DRAINAGE PIPE, 42" RCP | LF | 328 | $95.00 | $31,160.00 |
| 102 | DRAINAGE STRUCTURE, TYPE "9" INLET | EA | 38 | $3,200.00 | $121,600.00 |
| 103 | DRAINAGE STRUCTURE, TYPE "D" INLET (CONTROL STRUCTURE) | EA | 8 | $2,500.00 | $20,000.00 |
| 104 | DRAINAGE STRUCTURE, TYPE "D" INLET (BUBBLE UP) | EA | 19 | $2,100.00 | $39,900.00 |
| 105 | MES, 24" (1:4) | EA | 8 | $1,800.00 | $14,400.00 |
| 106 | INLET PROTECTION | EA | 65 | $300.00 | $19,500.00 |
| | **SUBTOTAL** | | | | **$548,450.00** |
| | **DRAINAGE REMOVAL** | | | | |
| 107 | DRAINAGE PIPE, REMOVAL 42" CMP | LF | 54 | $30.00 | $1,620.00 |
| 108 | DRAINAGE PIPE, REMOVAL 54" CMP | LF | 93 | $35.00 | $3,255.00 |
| 109 | DRAINAGE PIPE, REMOVAL 18" RCP | LF | 582 | $30.00 | $17,460.00 |
| 110 | DRAINAGE PIPE, REMOVAL 36" RCP | LF | 296 | $35.00 | $10,360.00 |
| 111 | DRAINAGE PIPE, REMOVAL 48"x72" RCP | LF | 116 | $50.00 | $5,800.00 |
| 112 | DRAINAGE PIPE, REMOVAL, 18" CPP | LF | 40 | $20.00 | $800.00 |
| 113 | DRAINAGE PIPE, REMOVAL 36" CPP | LF | 60 | $25.00 | $1,500.00 |
| 114 | DRAINAGE STRUCTURE, REMOVAL | EA | 18 | $1,100.00 | $19,800.00 |
| | **SUBTOTAL** | | | | **$60,595.00** |
| | | | | | |
| | SUBTOTAL | | | | $609,045.00 |
| | CONTINGENCY 15% | | | | $91,356.75 |
| | **TOTAL** | | | | **$700,401.75** |

Notes:

1.) The above estimates have been prepared without benefit of complete plans and are subject to change with more detailed construction information.

2) The above unit cost estimates are based upon current approximate construction costs as of February 2012 and do not account for possible future changes in material or labor costs.

# ALICO ROAD - PRELIMINARY COST ESTIMATE

**FOUR LANE CONCEPT**

Prepared by: Stanley Consultants, Inc.
Prepared for:

**March 1, 2012**

| Item | Quantity | Unit | Cost | Total | Notes |
|---|---|---|---|---|---|
| **Landscape** | | | | | |
| Soil Prep + Fine Grading | 6,659 | CY | $15.00 | $99,885.34 | All Shrub Beds and Sod Areas |
| Canopy Tree | 79 | EA | $250.00 | $19,750.00 | 10' ht. min., 2" cal. |
| Palm Tree | 80 | EA | $500.00 | $40,000.00 | 10' CT |
| Ornamental Tree | 30 | EA | $175.00 | $5,250.00 | 10' ht. min., 2" cal. |
| Shrub Bed | 7,824 | EA | $10.00 | $78,240.00 | 3 gal. |
| Sod | 1,070,722 | SF | $0.21 | $224,851.62 | Bahia Sod |
| Mulch + Fabric | 7,824 | SF | $0.30 | $2,347.20 | Pine Bark Mulch |
| Steel landscape edger | 3,546 | LF | $5.00 | $17,730.00 | 4" |
| | | | **Category Subtotal** | **$488,054.16** | |
| **Irrigation*** | | | | | |
| Spray-Turf | 1,070,722 | SF | $0.90 | $963,649.80 | |
| Drip-Shrub Beds | 7,824 | SF | $1.00 | $7,824.00 | |
| | | | **Category Subtotal** | **$971,473.80** | |
| | | | **SUBTOTAL** | **$1,459,527.96** | |
| | | | 15% Contingency | $218,929.19 | |
| | | | **GRAND TOTAL** | **$1,678,457.16** | |

# ALICO ROAD - PRELIMINARY COST ESTIMATE

**SIX LANE CONCEPT**

Prepared by: Stanley Consultants, Inc.
Prepared for:

**March 1, 2012**

| Item | Quantity | Unit | Cost | Total | Notes |
|---|---|---|---|---|---|
| **Landscape** | | | | | |
| Soil Prep + Fine Grading | 4,210 | CY | $15.00 | $63,151.98 | All Shrub Beds and Sod Areas |
| Canopy Tree | 28 | EA | $250.00 | $7,000.00 | 10' ht. min., 2" cal. |
| Palm Tree | 0 | EA | $500.00 | $0.00 | 10' CT |
| Ornamental Tree | 30 | EA | $175.00 | $5,250.00 | 10' ht. min., 2" cal. |
| Shrub Bed | 3,662 | EA | $10.00 | $36,620.00 | 3 gal. |
| Sod | 678,243 | SF | $0.21 | $142,431.03 | Bahia Sod |
| Mulch + Fabric | 3,662 | SF | $0.30 | $1,098.60 | Pine Bark Mulch |
| Steel landscape edger | 1,296 | LF | $5.00 | $6,480.00 | 4" |
| | | | **Category Subtotal** | **$262,031.61** | |
| **Irrigation*** | | | | | |
| Spray-Turf | 678,243 | SF | $0.90 | $610,418.70 | |
| Drip-Shrub Beds | 3,662 | SF | $1.00 | $3,662.00 | |
| | | | **Category Subtotal** | **$614,080.70** | |
| | | | **SUBTOTAL** | **$876,112.31** | |
| | | | 15% Contingency | $131,416.85 | |
| | | | **GRAND TOTAL** | **$1,007,529.16** | |

* Irrigation Assumptions: Irrigation to be provided by pump station to the west utilizing the existing controller.

# ALICO ROAD STUDY

# LEE COUNTY, FLORIDA

# BASIS OF ESTIMATE FOR

# ROADWAY AND SHARED USE PATH LIGHTING

# MARCH 2, 2012

## Roadway Lighting Design Criteria

The roadway lighting design criteria is based upon the required initial levels of illuminance for major arterial streets as published in Table 7.3.1 of the Florida Department of Transportation (FDOT) Plans Preparation Manual (Attachment A). These requirements are based on the AASHTO Roadway Lighting Design Guide. The design criteria for major arterials taken from Table 7.3.1 is 1.5 initial horizontal footcandles with an average to minimum uniformity ratio of 4:1 or less, a maximum to minimum uniformity ratio of 10:1 or less and a veiling luminance ratio of 0.3:1 or less.

Lighting design criteria for pedestrian pathways is also provided in Table 7.3.1. For pathways that are adjacent to a vehicular roadway, the same light levels are used for the path as the roadway. The shared use path along the south side of Alico Road requires additional path lighting to meet the required light levels. Path lighting is typically mounted at a low mounting height which causes bright spots directly beneath the pole. Therefore the maximum to minimum uniformity ratio is not required to be met for pathway lighting.

## Roadway Lighting Equipment

The roadway lighting equipment used in this analysis was chosen to match the existing lighting used on Alico Road and Ben Hill Griffen Parkway. The existing luminaire mounting height was unknown, therefore three mounting heights were tested to determine which height would meet the design requirements while minimizing the number of poles and environmental impacts. Forty foot, 45' and 50' mounting heights were analyzed and the 45' mounting height was chosen to be used throughout the corridor.

The existing luminaire is an offset style luminaire. The General Electric Tiger luminaire was used for the photometric analysis. A 400 watt high pressure sodium Tiger luminaire with flat glass for extra wide roadways and minimal setback was found to provide the best photometry to meet the design requirements while minimizing the number of light poles (Photometric File Number 452942). This fixture was also chosen because it can be tilted upward to throw the light further out in front of the fixture. The wide roadway approaches to the Alico Road and Ben

Hill Griffen Parkway intersection required the luminaires to be tilted 15 degrees upward to provide adequate illumination in the left turn lanes. The specifications for this fixture are included as Attachment B.

The General Electric Decashield 175 luminaire was chosen for the shared use path lighting because the style of this fixture is similar to the Tiger luminaire. A 70 watt high pressure sodium type SPMM fixture with flat glass (Photometric File Number 35-178265) was used in the photometric analysis at a 15' mounting height. Typically the path light poles were spaced midway between the roadway luminaires to fill in where the low light levels were present on the path. Specifications for this luminaire are included as Attachment C.

## Photometric Analysis

The photometric analyses were performed using the Professional Edition of Visual Roadway Lighting software. The project was divided into separate analysis areas dividing direction of travel and roadway segments. Grid points were set at four foot increments across the travel lanes and shared use paths and at ten foot increments longitudinally. The lighting layout was designed for the ultimate six lane cross section. The analysis areas were then modified for the interim four lane condition. It is assumed that the lighting equipment will be installed at the ultimate location when the interim four lane improvements are made. The results of the photometric analysis show that this lighting layout will meet the design requirements for both scenarios.

The offset from Alico Road to the shared use path along the south side of Alico Road varies throughout the project from being adjacent to the roadway to nearly a 50' offset. The roadway light fixtures do not provide enough light behind the fixture to meet the design criteria for path lighting. Therefore, separate path lighting was installed to meet the design requirements. Although a couple sections of the path were adequately illuminated, path lighting was added on the south side of Alico Road for the entire length of the project east of Ben Hill Griffen Parkway for consistency throughout the project. The remaining shared use paths within the project limits meet the design criteria with light contribution from the roadway lighting system.

The results of the photometric analyses for roadway lighting are shown on Attachment D and the results for the shared use path lighting are shown on Attachment E. A few of the analysis areas along the path fall slightly below the required level of 1.5 footcandles. It is assumed that adjustments during design of the lighting systems on this project will bring these segments into conformity.

## Estimate of Quantities and Costs

Based upon the preliminary roadway layout, there are 40 existing light poles within the project limits that will be impacted by the roadway widening project. It is assumed that these light poles and luminaires can be removed and reinstalled with this project. However, once the exact

catalog number of the luminaire (photometric file) and the mounting heights are known, photometric analysis may show that a revised pole layout is required to meet the design criteria.

Three load center cabinets are included in this estimate. It is assumed that the path lighting system is fed from the same cabinets as the roadway lighting system. If these systems are split apart, additional cabinets will be required for the path lighting system.

The conductor quantities assume that the roadway and path lighting is on alternating circuits. The estimate includes five conductors in each conduit run.

The quantity and cost estimate for the roadway and path lighting is included as Attachment F.

Attachment A



## 7.3 Lighting

The designer responsible for a highway lighting project should be aware that the design must comply with various standards. In addition to the Department's Standard Specifications, the following standards should be consulted:

***Roadway Lighting Design Guide, AASHTO*** - This is the basic guide for highway lighting. It includes information on warranting conditions and design criteria.

***AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals,*** **and FDOT Structures Manual** - This specification contains the strength requirements of the poles and bracket arms for the various wind loadings in Florida as well as the breakaway requirements. All luminaire supports, poles and bracket arms must be in compliance with these specifications.

***Design Standards*** - These indexes are composed of a number of standard drawings or indexes which address specific situations that occur on a large majority of construction projects.

### 7.3.1 Design Criteria

The ***AASHTO Roadway Lighting Design Guide*** permits either the illuminance technique or the luminance technique to be used in the design of highway lighting. The luminance technique requires a more complex design process and knowledge of the reflective characteristics of the pavement surface used. These reflective characteristics change as the pavement ages and with variations in weather conditions. The Department has elected to use the illuminance technique for lighting design. The design values for light levels given by the ***AASHTO Roadway Lighting Design Guide*** are maintained values. The light levels given in this criteria have been adjusted and are listed as average initial foot candle. This, in effect, sets the maintenance factor to be used in the calculation process to a value of 1. Lighting criteria is contained in ***Tables 7.3.1 – 7.3.6***.

Mounting height (M.H.) for conventional lighting is the vertical distance from the roadway to the light source, regardless of lateral placement of the pole. Pole setback is the horizontal distance from the edge of the travel lane to the pole.

Refer to ***Chapter 29*** of this volume for more information.

## Table 7.3.1 Conventional Lighting - Roadways

| ROADWAY CLASSIFICATIONS | ILLUMINATION LEVEL AVERAGE INITIAL HORIZONTAL FOOT CANDLE (H.F.C.) | UNIFORMITY RATIOS | | VEILING LUMINANCE RATIO |
|---|---|---|---|---|
| | | Lavg/Lmin | Lmax/Lmin | Lv(max)/Lavg |
| INTERSTATE, EXPRESSWAY, FREEWAY & MAJOR ARTERIALS | 1.5 | 4:1 or Less | 10:1 or Less | 0.3:1 or Less |
| ALL OTHER ROADWAYS | 1.0 | 4:1 or Less | 10:1 or Less | 0.3:1 or Less |
| * PEDESTRIAN WAYS AND BICYCLE LANES | 2.5 | 4:1 or Less | 10:1 or Less | ------ |

**Note:** These values should be considered standard, but should be increased if necessary to maintain an acceptable uniformity ratio. The maximum value should be one and one-half values.

* This assumes a separate facility. Facilities adjacent to a vehicular roadway should use the levels for that roadway.

## Table 7.3.2 Highmast Lighting - Roadways

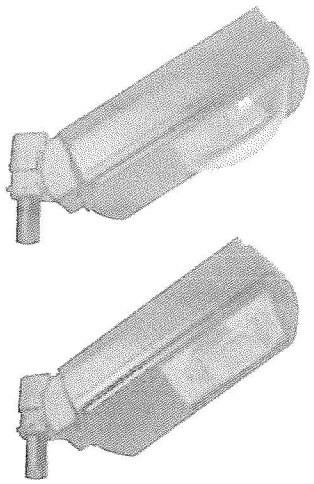
| ROADWAY CLASSIFICATIONS | ILLUMINATION LEVEL AVERAGE INITIAL (H.F.C.) | UNIFORMITY RATIOS | |
|---|---|---|---|
| | | AVG./MIN. | MAX./MIN. |
| INTERSTATE, EXPRESSWAY, FREEWAY & MAJOR ARTERIALS | 0.8 to 1.0 | 3:1 or Less | 10:1 or Less |
| ALL OTHER ROADWAYS | 0.8 to 1.0 | 3:1 or Less | 10:1 or Less |

## Table 7.3.3 Sign Lighting

| AMBIENT LUMINANCE | ILLUMINATION LEVEL AVERAGE INITIAL (H.F.C.) | UNIFORMITY RATIOS |
|---|---|---|
| | | MAX./MIN. |
| LOW | 15 - 20 | 6:1 |
| MEDIUM & HIGH | 25 - 35 | 6:1 |

Attachment B

# TIGER™



## APPLICATIONS

- For roadways, highways, parkways, and commercial applications. Flexible design allows for glare control and offset lighting. Ideal for interchanges and toll booths.

## SPECIFICATION FEATURES

### Common Features

- Die cast aluminum housing with electrocoat primer and powder paint standard
- Concealed continuous door gasket seals entire fixture against dirt, dust and insects
- Tool-less entry
- Charcoal filter
- Integral mounting features for shielding
- Low profile hinges and latches
- Alglas reflector finish
- Electrical components mounted in housing (not on door)
- Multiple photometric configurations and distributions (flat, sag and prismatic)
- Tenon mounting w/ full range of adjustability from 0 to 45 degrees
- Tether for slipfitter cap
- 2g vibration standard (3g contact factory)
- Bi-Level System 3 available – contact factory – horizontal mounting

### TIGER with SNAPDRIVE

- Multiple options on one platform
- Cuts inventory and maintenance cost
- Removes quickly, reducing weight for installation, re-installs quickly
- Quick configuration of multiple wattages and voltages
- Autoreg ballast
- 250, 400 watt HPS or Metal Halide
- UL 1598 Listed Wet Location
- cUL Listed to Canadian standards and codes

### TIGER with TRAY MOUNTED BALLAST

- Wide array of ballast types, wattages and voltages available
- All electricals removable for repair/replacement
- Optional UL 1598 Listed Wet Location
- Optional cUL Listed to Canadian standards and codes

## ORDERING NUMBER LOGIC — TIGER with SnapDrive™

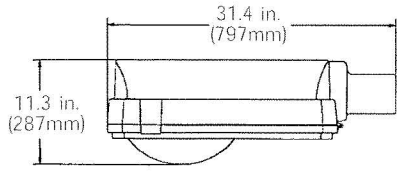
| TGSM | 25 | S | 1 | A | 2 | BF | 1K | XX | XXX |
|---|---|---|---|---|---|---|---|---|---|
| PRODUCT IDENT | WATTAGE | LIGHT SOURCE | VOLTAGE | BALLAST TYPE | PE FUNCTION | PHOTOMETRIC DISTRIBUTION | MOUNTING | COLOR | OPTIONS |
| XXXX | XX | X | X | X | X | XX | XX | XX | XXX |
| **TGSM** = Tiger with SnapDrive<br><br>**TCSM** = Tiger with SnapDrive (for CANADA) | **25** = 250<br>**40** = 400 | **S** = HPS<br>**M** = MH | 60Hz<br>**0** = MV<br>**1** = 120<br>**2** = 208<br>**3** = 240<br>**4** = 277<br>**5** = 480<br>**7** = 120/240<br>CANADA ONLY:<br>**D** = 347v<br>**P** = 120/277/347 | **A** = AUTOREG | **1** = None<br>**2** = PE Recp. | **AF** = Narrow Roadway/Flat Glass<br>**BF** = Medium Roadway/Flat Glass<br>**CF** = Forward Throw/ Flat Glass<br>**DG** = Wide Roadway Staggered/ Sag Glass<br>**EG** = Wide Roadway opposite/ Sag Glass<br>**DR** = Wide Roadway/ Prismatic Glass/ Staggered<br>**FF** = Extra Wide Roadway / Flat Glass<br>**FG** = Extra Wide Roadway / Sag Glass<br>**ER** = Wide roadway prismatic opposite | **1K** = Aimed Low - Adjustable Tenon Mount (Set @ Zero)<br>**2K** = Aimed High - Adjustable Tenon Mount (Set @ 45°)<br>**ES** = External slipfitter for 2 3/8" OD<br>**H4** = Horizontal, 4 bolt external slipfitter | **BL** = Black<br>**DB** = Dark Bronze<br>**GR** = Gray<br>**WH** = White<br>**XX** = Special | **B** = Time Delay Switched Quartz<br>**F** = Fusing (Not available in Multivolt)<br>**XXX** = SPECIAL OPTIONS |

## ORDERING NUMBER LOGIC — TIGER with TRAY MOUNTED BALLAST

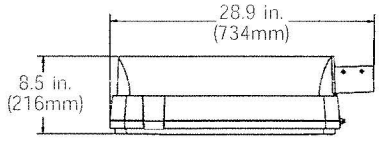
| TGTM | 25 | S | 1 | N | 1 | BF | 1K | XX | XXX |
|---|---|---|---|---|---|---|---|---|---|
| PRODUCT IDENT | WATTAGE | LIGHT SOURCE | VOLTAGE | BALLAST TYPE | PE FUNCTION | PHOTOMETRIC DISTRIBUTION | MOUNTING | COLOR | OPTIONS |
| XXXX | XX | X | X | X | X | XX | XX | XX | XXX |
| **TGTM** = Tiger with Tray Mounted Ballast | **25** = 250<br>**40** = 400 | **S** = HPS<br>**M** = MH | 60Hz<br>**0** = MV<br>**1** = 120<br>**2** = 208<br>**3** = 240<br>**4** = 277<br>**5** = 480<br>CANADA ONLY:<br>**D** = 347v<br>**P** = 120/277/347 | **A** = AUTOREG<br>**G** = Mag-reg with grounded socket shell<br>**H** = HPF Reactor or Lag<br>**M** = Mag-reg<br>**N** = NPF Reactor or Lag<br>**P** = CWI with Grounded socket shell | **1** = None<br>**2** = PE Recp. | **AF** = Narrow Roadway/Flat Glass<br>**BF** = Medium Roadway/Flat Glass<br>**CF** = Forward Throw/ Flat Glass<br>**DG** = Wide Roadway Staggered/ Sag Glass<br>**EG** = Wide Roadway opposite/ Sag Glass<br>**DR** = Wide Roadway/ Prismatic Glass<br>**FF** = Extra Wide Roadway / Flat Glass<br>**FG** = Extra Wide Roadway / Sag Glass<br>**ER** = Wide roadway prismatic opposite | **1K** = Aimed Low - Adjustable Tennon Mount<br>**2K** = Aimed High - Adjustable Tennon Mount<br>**ES** = External slipfitter for 2 3/8" OD<br>**H4** = Horizontal, 4 bolt external slipfitter | **BL** = Black<br>**DB** = Dark Bronze<br>**GR** = Gray<br>**WH** = White<br>**XX** = Special | **B** = Time Delay Switched Quartz<br>**F** = Fusing (Not available in Multivolt)<br>**U** = cUL/UL Listed<br>**002** = Ignitor Shut-off Device (ISD) protected ignitor<br>**XXX** = SPECIAL OPTIONS |

# *TIGER* ™

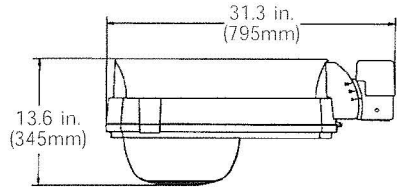
FIXTURE DIMENSIONS — EXAMPLES OF DIFFERENT OPTICS AND MOUNTINGS AVAILABLE




SHALLOW GLASS WITH H4 MOUNTING (2 3/8"OD)




FLAT GLASS WITH ES MOUNTING (2 3/8"OD)




PRISMATIC GLASS WITH 1K (or 2K) MOUNTING (2 3/8" OD)

## PHOTOMETRIC SELECTION TABLE

NON-OFFSET APPLICATIONS (MINIMAL SETBACK <20')

| Wattage | Light Source | Narrow Roadway-A | | Medium Roadway-B | | Wide Roadway-C | | Extra Wide Roadway-F | |
|---|---|---|---|---|---|---|---|---|---|
| | | AF-Flat Glass | AG-Clear Drop | BF-Flat Glass | BG-Clear Drop | CF-Flat Glass | CG-Clear Drop | FF-Flat Glass | FG-Clear Drop |
| 250 | HPS | 452916 | 452997 | 452914 | 452998 | 452912 | 452995 | 453007 | 452996 |
| 250 | MH | 452915 | 453002 | 452913 | 453001 | 452911 | 453000 | 453008 | 452999 |
| 400 | HPS | 452910 | 452945 | 452919 | 452944 | 452918 | 452943 | 452942 | 452941 |
| 400 | MH | 452920* | 453006 | 452917* | 452989 | 452909* | 452988 | 453009* | 452991 |

*Requires us of ED-28 Lamp

## PHOTOMETRIC SELECTION TABLE

OFFSET ROADWAY APPLICATIONS (SETBACK >20')

| Wattage | Light Source | Offset Roadway-Opposite | | Offset Roadway-Staggered | |
|---|---|---|---|---|---|
| | | EG-Clear Drop | ER-Refractor | DG-Clear Drop | DR-Refractor |
| 250 | HPS | 452903 | 453010 | 452904 | 453013 |
| 250 | MH | 452907 | 453011 | 452908 | 453014 |
| 400 | HPS | 452901 | 453005 | 452902 | 453004 |
| 400 | MH | 452906 | 453012 | 452905 | 453015 |

TIGER with TRAY MOUNTED BALLAST

## BALLAST SELECTION TABLE

| Fixture | Wattage | Ballast Type 60 Hz: Light Source | 120/208 240/277 | 120 | 208 | 240 | 277 | 480 | 120/240 | 347 120/347 120/277/347 |
|---|---|---|---|---|---|---|---|---|---|---|
| TGTM | 250 | HPS | A,M,P | A,G,H,M,N,P | A,G,H,M,N,P | A,G,H,M,N,P | A,G,M,P | A,G,M,P | A,G,M,P | A,M,P |
| TGTM | 400 | HPS | A,M | A,G,M | A,G,H,M,N | A,G,H,M,N | A,G,M | A,G,M | A,G,M | A,G,M |
| TGTM | 250 | MH | A | A | A | A | A | A | A | A |
| TGTM | 400 | MH | A | A,P | A,P | A,P | A,P | A,P | A,P | A,P |

TIGER with SNAPDRIVE

## BALLAST SELECTION TABLE

| Fixture | Wattage | Ballast Type 60 Hz: Light Source | 120/208 240/277 | 120 | 208 | 240 | 277 | 480 | 347 | 120/277/ 347 |
|---|---|---|---|---|---|---|---|---|---|---|
| TGSM | 250, 400 | HPS | A | A | A | A | A | A | N/A | N/A |
| TGSM | 250, 400 | MH | A | A | A | A | A | A | N/A | N/A |
| TCSM | 250, 400 | HPS | N/A | A | N/A | N/A | A | N/A | A | A |
| TCSM | 250, 400 | MH | N/A | A | N/A | N/A | A | N/A | A | A |

## DATA

| | | |
|---|---|---|
| Approximate Net Weight | lbs | kgs |
| Flat | 35-45 | 16-20 kg |
| Sag/Prismatic | 40-50 | 18-23 kg |
| Effective Projected Area | | |
| Flat | 1.8 sq. ft. | .167 sq m |
| Sag/Prismatic | 2.2 sq. ft. | .204 sq m |



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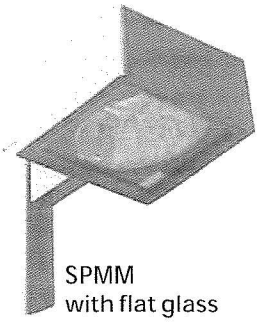
™ Trademark of General Electric Company
Data subject to change without notice

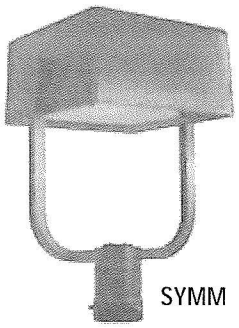
Attachment C

# DECASHIELD® 175 LUMINAIRE





SPMM
with flat glass



SYMM

## APPLICATIONS

- Entranceways, walkways and parking areas
- Driveways, malls and cutoff wall lighting (with wall mounting plate)

## SPECIFICATION FEATURES

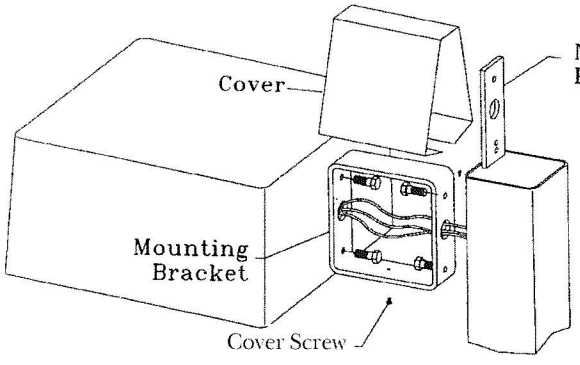
- ⓊL/cⓊL 1598 Listed
  Suitable For Wet Locations
- Cutoff optics
- Enclosed and gasketed
- Heat and impact resistant tempered flat glass lens (standard)
- UV stabilized polycarbonate or acrylic prismatic drop lens (optional)
- Heavy-duty die-cast aluminum housing
- For cutoff wall lighting applications, order wall mounting plate **WMPDB-SP** separately
- Shipped assembled with medium base – E26 standard – with lamp installed in socket
- Plug-in ignitor
- Unit shipped complete in one carton (Ballast secured to housing)
- Magnapack packaging available

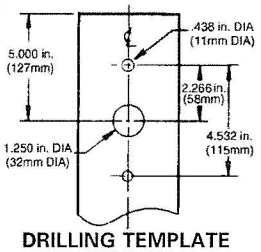
## ORDERING NUMBER LOGIC

| SPMM | 15 | S | 0 | H | 1 | G | MC3 | DB | F |
|---|---|---|---|---|---|---|---|---|---|
| PRODUCT IDENT | WATTAGE | LIGHT SOURCE | VOLTAGE | BALLAST TYPE | PE FUNCTION | LENS TYPE | IES DISTRIBUTION TYPE | COLOR | OPTIONS |
| XXXX | XX | X | X | X | X | X | XXX | XX | XXX |
| SPMM = Square Pole Mount<br><br>SYMM = Pole Top Yoke Mount | 05 = 50<br>07 = 70<br>10 = 100<br>15 = 150 (55V)<br>17 = 175 | S = HPS<br>M = MH or Merc Standard: Medium base lamp installed in socket | 60Hz<br>0 = 120/ 208/ 240/ 277 Multivolt<br>1 = 120<br>2 = 208<br>3 = 240<br>4 = 277<br>5 = 480<br>D = 347<br>F = 120X347<br>T = 220<br><br>50Hz<br>6 = 220<br><br>NOTE: Dual voltage connected for lower voltage | See Ballast and Photometric Selection Table<br><br>A = Autoreg<br><br>D = Bi-Level<br><br>G = Mag-Reg with Grounded Socket Shell<br><br>H = HPF Reactor or Lag<br><br>M = Mag-Reg (Use only for 50, 70, 100, 150 watt HPS 480 volt) | 1 = None<br>2 = PE Receptacle<br><br>NOTE: Receptacle connected same voltage as unit. Order PE Control separately. | A = Acrylic 2-in. (51mm) Drop Lens<br>G = Flat Tempered Glass<br>L = Polycarbonate 2-in. (51mm) Drop Lens (Required for Switched Quartz) | See Ballast and Photometric Selection Table<br><br>SC3 = Short Cutoff Type III<br><br>SC5 = Short Cutoff Type V<br><br>MC3 = Medium Cutoff Type III<br><br>MC5 = Medium Cutoff Type V | AL = Aluminum<br>BL = Black<br>DB = Dark Bronze<br>G = Gray<br>WH = White | B = Time Delay Switched (Drop Lens only)<br>F = Fusing (Not available with multivolt or dual voltage)<br>Q = Non Time Delay Switched Quartz (Drop Lens only) |

## QUICK AND EASY INSTALLATION

(Housing access not required)



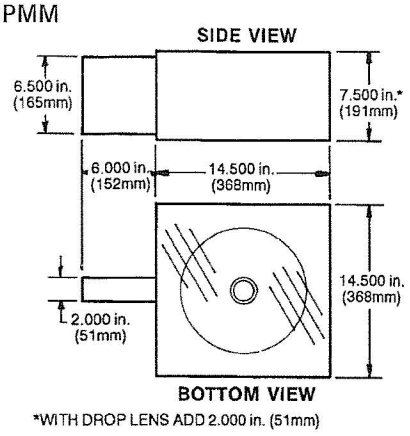




**DRILLING TEMPLATE FOR SQUARE and ROUND POLES**

1. Pull power supply cable through nut plate hole and secure with strain relief assembly.
2. Attach mounting bracket to pole and nut plate.
3. Attach mounting bracket to luminaire housing. Pull luminaire leads into pole through wire access holes and connect leads according to wiring instructions. Install pole cap.
4. Install cover and secure with cover screw.

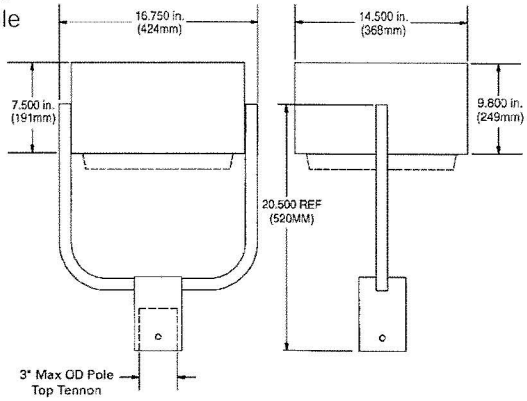
## FIXTURE DIMENSIONS

SPMM



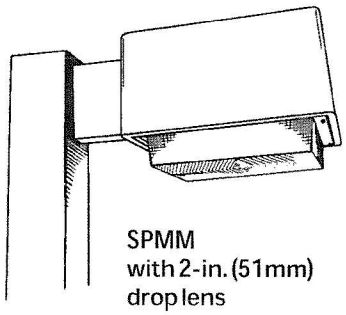

*WITH DROP LENS ADD 2.000 in. (51mm)

SYMM
For mounting on 3.000 in. (76mm) pole tenon




## DATA

| | | |
|---|---|---|
| Approximate Net Weight | 20 lbs | 9 kgs |
| Suggested Mounting Height | 12-20 ft. | 4-6 M |
| Effective Projected Area | 1.0 sq ft max | 0.09 sq M max |



SPMM with 2-in. (51mm) drop lens

## BALLAST AND PHOTOMETRIC SELECTION TABLE

All light sources are clear unless otherwise indicated.

| Wattage | Light Source | Ballast Type/Voltage: 60Hz: Multi-volt | 60Hz: 120, 208 240, 277 480 | 60Hz: 347, 120X347 | 60Hz: 220 | 50Hz | Amb. °C | Photometric Curve Number 35-17 - - - - : Flat Glass: IES Distribution Type: MC3 | Flat Glass: SC5** | 2-in. (51mm) Drop: Acrylic: SC5** | 2-in. (51mm) Drop: Polycarb.: SC5** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPMM** | | | | | | | | | | | |
| 50 | HPS | H | H | H | N/A | N/A | 25 | 8265 | 8307 | 8305 | 8306 |
| 70, 100, 150 (55V) | HPS | H | G, H*, M | H | N/A | H | 25 | 8265 | 8307 | 8305 | 8306 |
| 70, 100 | MH | H | H | C/F | N/A | N/A | 25 | 8271 | 8665 | 8666 | 8667 |
| 175 | MH | A | A | A | A | A | 25 | 8271 | 8665 | N/A | N/A |
| **SYMM** | | | | | | | | | | | |
| 50 | HPS | H | H | H | N/A | N/A | 25 | 8526 | 8522 | N/A | N/A |
| 70, 100, 150 (55V) | HPS | H | G, H*, M | H | N/A | H | 25 | 8526 | 8522 | N/A | N/A |
| 70, 100 | MH | H | H | C/F | N/A | N/A | 25 | 8527 | 8524 | N/A | N/A |
| 175 | MH | A | A | A | A | A | 25 | 8527 | 8524 | N/A | N/A |

**NOTE:** N/A = Not Available C/F = Contact Factory
**NOTE:** *480 volt is **A** or **M**
**NOTE:** **Coated lamp standard for **SC5**

## REFERENCES

See Page A-16 for start of Accessories.
See Page A-22 for Explanation of Options and Other Terms Used.
See Pole and Bracket Section Page P-2 for pole selection.

**ATTACHMENT D**

**ALICO ROAD STUDY**
**RESULTS OF PHOTOMETRIC ANALYSIS FOR ROADWAY LIGHTING**

| Analysis Area | | | Ultimate 6-Lane Section | | | Interim 4-Lane Section | | |
|---|---|---|---|---|---|---|---|---|
| | | | Illumination | Uniformity Ratios | | Illumination | Uniformity Ratios | |
| Roadway | Location | Direction of Travel | Level (fc) | Avg/Min | Max/Min | Level (fc) | Avg/Min | Max/Min |
| Alico Road | Sta. 75 to Sta. 86 | Eastbound | 1.68 | 2.6:1 | 5.5:1 | 1.60 | 2.5:1 | 5.5:1 |
| Alico Road | Sta. 86 to Sta. 100 | Eastbound | 1.80 | 3.0:1 | 6.7:1 | 1.93 | 2.8:1 | 6.0:1 |
| Alico Road | Sta. 100 to Sta. 113 | Eastbound | 1.80 | 3.0:1 | 6.0:1 | 1.96 | 2.8:1 | 4.9:1 |
| Alico Road | Sta. 113 to Sta. 135 | Eastbound | 1.82 | 2.7:1 | 6.4:1 | 1.92 | 3.2:1 | 6.7:1 |
| Alico Road | Sta. 135 to Sta. 161 | Eastbound | 1.92 | 3.0:1 | 8.7:1 | 2.04 | 3.0:1 | 7.2:1 |
| Alico Road | Sta. 161 to Sta. 178 | Eastbound | 1.68 | 3.0:1 | 10.1:1 | 1.78 | 3.1:1 | 8.5:1 |
| Alico Road | Sta. 178 to Sta. 197 | Eastbound | 1.81 | 3.0:1 | 6.0:1 | 1.84 | 3.0:1 | 5.8:1 |
| Alico Road | Sta. 76 to Sta. 84 | Westbound | 1.66 | 2.3:1 | 5.2:1 | 1.47 | 2.1:1 | 5.2:1 |
| Alico Road | Sta. 84 to Sta. 100 | Westbound | 1.64 | 2.4:1 | 6.1:1 | 1.68 | 2.4:1 | 6.1:1 |
| Alico Road | Sta. 100 to Sta. 113 | Westbound | 1.53 | 2.7:1 | 6.3:1 | 1.68 | 3.2:1 | 6.1:1 |
| Alico Road | Sta. 113 to Sta. 135 | Westbound | 1.78 | 2.8:1 | 8.6:1 | 1.58 | 2.9:1 | 6.5:1 |
| Alico Road | Sta. 135 to Sta. 161 | Westbound | 1.69 | 2.9:1 | 7.1:1 | 1.76 | 2.8:1 | 6.7:1 |
| Alico Road | Sta. 161 to Sta. 178 | Westbound | 1.60 | 2.9:1 | 7.3:1 | 1.66 | 3.1:1 | 8.2:1 |
| Alico Road | Sta. 178 to Sta. 197 | Westbound | 1.54 | 3.0:1 | 6.9:1 | 1.62 | 3.2:1 | 7.1:1 |
| Ben Hill Griffin Pkwy | Sta. 0 to Sta. 9 | Southbound | 1.69 | 3.0:1 | 6.3:1 | 1.60 | 1.8:1 | 3.3:1 |
| Ben Hill Griffin Pkwy | Sta. 11 to Sta. 22 | Southbound | 1.67 | 2.7:1 | 5.8:1 | 1.60 | 2.6:1 | 5.8:1 |
| Ben Hill Griffin Pkwy | Sta. 0 to Sta. 9 | Northbound | 1.52 | 2.8:1 | 6.6:1 | 1.46 | 1.9:1 | 4.7:1 |
| Ben Hill Griffin Pkwy | Sta. 11 to Sta. 22 | Northbound | 1.55 | 2.4:1 | 5.9:1 | 1.49 | 2.3:1 | 5.9:1 |
| Alico Road | Ben Hill Griffin Pkwy | Intersection | 2.12 | 2.8:1 | 5.3:1 | 2.12 | 2.8:1 | 5.3:1 |

**ATTACHMENT E**

**ALICO ROAD STUDY**
**RESULTS OF PHOTOMETRIC ANALYSIS FOR SHARED USE PATH**

| Analysis Area | | | Illumination | Uniformity Ratios | |
|---|---|---|---|---|---|
| Roadway | Location | Direction of Travel | Level (fc) | Avg/Min | Max/Min |
| Alico Road | Sta. 77 to Sta. 84 | Eastbound | 2.02 | 2.5:1 | N/A |
| Alico Road | Sta. 87 to Sta. 113 | Eastbound | 1.60 | 3.9:1 | N/A |
| Alico Road | Sta. 114 to Sta. 124 | Eastbound | 1.47 | 3.7:1 | N/A |
| Alico Road | Sta. 125 to Sta. 135 | Eastbound | 1.55 | 3.8:1 | N/A |
| Alico Road | Sta. 137 to Sta. 148 | Eastbound | 1.53 | 3.7:1 | N/A |
| Alico Road | Sta. 148 to Sta. 161 | Eastbound | 1.53 | 3.7:1 | N/A |
| Alico Road | Sta. 163 to Sta. 170 | Eastbound | 1.49 | 3.7:1 | N/A |
| Alico Road | Sta. 170 to Sta. 178 | Eastbound | 1.61 | 3.5:1 | N/A |
| Alico Road | Sta. 179 to Sta. 190 | Eastbound | 1.43 | 3.5:1 | N/A |
| Alico Road | Sta. 74 to Sta. 84 | Westbound | 1.89 | 3.5:1 | N/A |
| Alico Road | Sta. 86 to Sta. 99 | Westbound | 1.66 | 3.3:1 | N/A |
| Alico Road | Sta. 100 to Sta. 112 | Westbound | 1.60 | 4.0:1 | N/A |
| Alico Road | Sta. 114 to Sta. 124 | Westbound | 1.65 | 3.9:1 | N/A |
| Alico Road | Sta. 125 to Sta. 135 | Westbound | 1.48 | 3.7:1 | N/A |
| Alico Road | Sta. 137 to Sta. 148 | Westbound | 1.47 | 4.0:1 | N/A |
| Alico Road | Sta. 149 to Sta. 160 | Westbound | 1.46 | 3.4:1 | N/A |
| Alico Road | Sta. 162 to Sta. 170 | Westbound | 1.79 | 3.7:1 | N/A |
| Alico Road | Sta. 171 to Sta. 178 | Westbound | 2.06 | 3.1:1 | N/A |
| Alico Road | Sta. 179 to Sta. 186 | Westbound | 1.82 | 4.0:1 | N/A |
| Ben Hill Griffin Pkwy | Sta. 0 to Sta. 9 | Southbound | 1.68 | 3.2:1 | N/A |
| Ben Hill Griffin Pkwy | Sta. 11 to Sta. 22 | Southbound | 2.15 | 2.4:1 | N/A |
| Ben Hill Griffin Pkwy | Sta. 0 to Sta. 9 | Northbound | 1.53 | 3.1:1 | N/A |
| Ben Hill Griffin Pkwy | Sta. 11 to Sta. 22 | Northbound | 1.72 | 3.1:1 | N/A |

ATTACHMENT F

ALICO ROAD STUDY
QUANTITY AND COST ESTIMATE OF ROADWAY AND SHARED USE PATH LIGHTING

| | Item Description | Unit | Qantity | Unit Cost | Total |
|---|---|---|---|---|---|
| 1 | 45' Aluminum Light Pole | Each | 118 | $4,000.00 | $472,000.00 |
| 2 | Relocate Existing Light Pole | Each | 40 | $1,000.00 | $40,000.00 |
| 3 | 15' Aluminum Light Pole | Each | 54 | $2,000.00 | $108,000.00 |
| 4 | Pull Box | Each | 215 | $500.00 | $107,500.00 |
| 5 | Pole Conductor Distribution System | Each | 212 | $400.00 | $84,800.00 |
| 6 | 2" PVC Conduit | L. Ft. | 39,600 | $8.00 | $316,800.00 |
| 7 | Conductors | L. Ft. | 198,000 | $0.60 | $118,800.00 |
| 8 | Load Center Cabinet | Each | 3 | $10,000.00 | $30,000.00 |
| | | | | Total | $1,277,900.00 |

Assumptions

1 45' Aluminum light pole includes pole, luminaire, foundation and transformer base.

2 15' Aluminum light pole includes pole, luminaire and foundation.

3 Conduit quantity:
Alico Rd. Sta 72+00 to Sta 196+00 = 12,400LF
Ben Hill Griffen Pkwy Sta -1+00 to Sta 21+00 = 2,200LF
Both sides of roadway = (12,400 + 2,200) X 2 = 29,200LF
Path lighting Sta 86+00 to Sta 190+00 = 10,400LF
Total = 29,200 + 10400 = 39,600LF

4 Conductor quantity:
Conduit quantity X 5 wires (2 circuits)
39,600 X 5 = 198,000

Alico Road Alignment Study
Roadway
Construction Cost Estimate
Order of Magnitude

| | | | | 4-Lane | 6-Lane | 4-Lane North | 4-Lane Center | 4-Lane South | 6-Lane North | 6-Lane Center | 6-Lane South |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ITEM NO. | DESCRIPTION | UNIT | UNIT COST | QUANTITY | QUANTITY | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL |
| | | | | | | | | | | | |
| 1 | Clearing and Grubbing | AC | $10,000 | 70.6 | 83.5 | $706,000 | $706,000 | $706,000 | $835,000 | $835,000 | $835,000 |
| 2 | Embankment | CY | $7 | | | $1,697,500 | $1,697,500 | $1,779,000 | $1,594,800 | $1,594,800 | $1,676,400 |
| 3 | Milling & Resurfacing | SY | $2 | 14700 | 39400 | $25,725 | $25,725 | $25,725 | $68,950 | $68,950 | $68,950 |
| 4 | Roadway Pavement | SY | $40 | 97800 | 165950 | $3,960,000 | $3,912,000 | $3,912,000 | $6,670,000 | $6,638,000 | $6,638,000 |
| 5 | Curb & Gutter | LF | $10 | 46300 | 58400 | $463,000 | $463,000 | $463,000 | $584,000 | $584,000 | $584,000 |
| 6 | Multi Use Path & Concrete Sidewalk | SY | $22 | 30400 | 35850 | $668,800 | $668,800 | $668,800 | $788,700 | $788,700 | $788,700 |
| 7 | Guardrail | LF | $16 | | | $173,800 | $66,000 | $14,400 | $168,000 | $77,300 | $17,600 |
| 8 | Structures (Box Culvert Extension) | LS | | | | $110,000 | $110,000 | $110,000 | $170,000 | $170,000 | $170,000 |
| 9 | Signalized Intersections | LS | | | | $330,000 | $330,000 | $330,000 | $1,207,000 | $1,207,000 | $1,207,000 |
| 10 | Signing & Striping (10% of Items 1-6) | LS | | | | $752,103 | $747,303 | $755,453 | $1,054,145 | $1,050,945 | $1,059,105 |
| 11 | Temporary Erosion Control | LS | $100,000 | 1 | 1 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 | $100,000 |
| 12 | Mobilization (10% of Items 1-11) | LS | | | | $898,693 | $882,633 | $886,438 | $1,324,060 | $1,311,470 | $1,314,476 |
| 13 | Maintenance of Traffic (5% of Items 1-12) | LS | | | | $494,281 | $485,448 | $487,541 | $728,233 | $721,308 | $722,962 |
| 14 | Items Not Estimated (10% Items 1-13) | LS | | | | $1,037,990 | $1,019,441 | $1,023,836 | $1,529,289 | $1,514,747 | $1,518,219 |
| | Construction Cost | | | | | $11,417,891 | $11,213,849 | $11,262,192 | $16,822,176 | $16,662,220 | $16,700,411 |
| | Contingencies (15% of Construction Cost) | LS | | | | $1,712,684 | $1,682,077 | $1,689,329 | $2,523,326 | $2,499,333 | $2,505,062 |
| | TOTAL CONSTRCUTION COST | | | | | $13,130,575 | $12,895,926 | $12,951,520 | $19,345,502 | $19,161,553 | $19,205,473 |
| | | | | | | | | | | | |

Notes: the 4-Lane estimate includes only signal modification at BHG and a new mast arm signal at CR951. The 6-Lane estimate includes new mast arms at all additional full median openings. BHG, for the 6-Lane improvements, will be a box span signal system due to the footprint of the intersection.

Alico Road Alignment Study
Utilities
Construction Cost Estimate
Order of Magnitude

**UTILITIES**

| | | | | 6-Lane | 6-Lane |
|---|---|---|---|---|---|
| ITEM NO. | DESCRIPTION | UNIT | UNIT COST | QUANTITY | TOTAL |
| | | | | | |
| 1 | Comcast | | N/A | N/A | N/A |
| 2 | FPL Distribution | | N/A | N/A | N/A |
| 3 | FPL Transmission | | N/A | N/A | N/A |
| 4 | LDOT Signalization | | Included in ROADWAY costs | Included in ROADWAY costs | Included in ROADWAY costs |
| 5 | 6" Irrigation main | LF | $40 | 10900 | $436,000 |
| 6 | 36" DIP WM | LF | $250 | 9800 | $2,450,000 |
| 7 | Relocate 36" DIP WM west of Ben Hill Griffin Pkwy to be outside of pavement. | LF | $250 | 750 | $187,500 |
| 8 | Grout fill for water main pipe abandonment (9,800 LF of 24", 9,800 LF of 16" and 750 LF of 36") | CY | $120 | 1844 | $221,280 |
| 9 | 16" Force Main | LF | $75 | 10400 | $780,000 |
| 10 | Relocate 10" DIP WM along Ben Hill Griffin Pkwy to be outside of pavement | LF | $110 | 1680 | $184,800 |
| 11 | Stormwater | | Included in DRAINAGE costs | Included in DRAINAGE costs | Included in DRAINAGE costs |
| 12 | Teco Gas | | N/A | N/A | N/A |
| 13 | CenturyLink | | N/A | N/A | N/A |
| | | | | | |
| | Mobilization (10% of Items 5 thru 8) | | | | $425,958 |
| | Items Not Estimated (10% of Items 5 thru 8) | | | | $425,958 |
| | Construction Cost | | | | $4,926,696 |
| | Contingencies (15% of Construction Cost) | | | | $739,004 |
| | TOTAL COST | | | | $5,665,700 |

**Notes:**

1. Since utilities will be relocated for the Ultimate 6-Lane scenario there are no differences in cost with the interim 4-Lane scenario.

2. N/A: the costs of relocation or adjustments will be paid by that particular private utility, per the FL Statutes - Title XXVI Public Transportation, Section 337.403.

Alico Road Alignment Study
Order of Magnitude
Project Cost Estimate

| ITEM NO. | ESTIMATED PROJECT COSTS | 4-LANE | | | 6-LANE | | |
|---|---|---|---|---|---|---|---|
| | | NORTH | CENTER | SOUTH | NORTH | CENTER | SOUTH |
| | | | | | | | |
| 1 | CONSTRUCTION | | | | | | |
| | ROADWAY | $13,131,000 | $12,896,000 | $12,952,000 | $19,346,000 | $19,162,000 | $19,206,000 |
| | DRAINAGE | $620,000 | $622,000 | $700,000 | $1,120,000 | $1,122,000 | $1,200,000 |
| | LIGHTING | $1,278,000 | $1,278,000 | $1,278,000 | $1,278,000 | $1,278,000 | $1,278,000 |
| | UTILITIES | $5,666,000 | $5,666,000 | $5,666,000 | $5,666,000 | $5,666,000 | $5,666,000 |
| | LANDSCAPING | $750,000 | $750,000 | $750,000 | $750,000 | $750,000 | $750,000 |
| | TOTAL CONSTRUCTION | $21,445,000 | $21,212,000 | $21,346,000 | $28,160,000 | $27,978,000 | $28,100,000 |
| 2 | ENGINEERING @ 7% of Construction | $1,501,000 | $1,485,000 | $1,494,000 | $1,971,000 | $1,958,000 | $1,967,000 |
| 3 | CONSTRUCTION ENGINEERING AND INSPECTION @ 8% of Construction | $1,716,000 | $1,697,000 | $1,708,000 | $2,253,000 | $2,238,000 | $2,248,000 |
| 4 | RIGHT-OF-WAY | $0 | $0 | $0 | TBD | TBD | TBD |
| 5 | WETLAND MITIGATION ($75,000 / Acre) | $975,000 | $975,000 | $975,000 | $975,000 | $975,000 | $975,000 |
| | | | | | | | |
| | TOTAL ESTIMATED PROJECT COST | $25,637,000 | $25,369,000 | $25,523,000 | $33,359,000 | $33,149,000 | $33,290,000 |

Construction costs include County Road 951 from Alico Road to Airport Haul Road. Construction costs for the 4-Lane improvement includes a 2 lane CR951 and for the 6-Lane improvement includes a 4 lane CR951. No lighting was included for CR951.

Utility costs include a new 16" force main, a new 36" water main, and a new 6" irrigation main.

The right-of-way requirements for the 4-Lane improvements are anticipated to be acquired by adjacent developers through donation or impact fee credits.
The 6-Lane improvements show an expanded intersection at Ben Hill Griffin Parkway which require additional right-of-way along all 4 legs of the intersection.
The right-of-way cost for the 6-Lane improvements at the Alico Road / Ben Hill Griffin Parkway intersection will be determined at a later date.

Alico Road Alignment Study
CR951 Order of Magnitude
Project Cost Estimate

| ITEM NO. | ESTIMATED PROJECT COSTS | NORTH CURVE | SOUTH CURVE |
|---|---|---|---|
| | | | |
| 1 | CONSTRUCTION | | |
| | ROADWAY | $3,196,000 | $3,535,000 |
| | UTILITIES | $80,000 | $145,000 |
| | LANDSCAPING | $200,000 | $200,000 |
| | TOTAL CONSTRUCTION | $3,476,000 | $3,880,000 |
| 2 | ENGINEERING @ 7% of Construction | $243,320 | $271,600 |
| 3 | CONSTRUCTION ENGINEERING AND INSPECTION @ 8% of Construction | $278,080 | $310,400 |
| 4 | RIGHT-OF-WAY | $0 | $0 |
| 5 | WETLAND MITIGATION ($75,000 / Acre) | $311,250 | $311,250 |
| | | | |
| | TOTAL ESTIMATED PROJECT COST | $4,308,650 | $4,773,250 |

Note: includes cost of relocating existing 30 inch water main from under proposed 951 pavement

Alico Road Alignment Study
CR 951 Roadway
Construction Cost Estimate
Order of Magnitude

| | | | | North Curve | South Curve | North Curve | South Curve |
|---|---|---|---|---|---|---|---|
| ITEM NO. | DESCRIPTION | UNIT | UNIT COST | QUANTITY | QUANTITY | TOTAL | TOTAL |
| | | | | | | | |
| 1 | Clearing and Grubbing | AC | $10,000 | 11.6 | 11.5 | $116,000 | $115,000 |
| 2 | Embankment | CY | $7 | 37000 | 67000 | $259,000 | $469,000 |
| 3 | Roadway Pavement | SY | $40 | 24750 | 24500 | $990,000 | $980,000 |
| 4 | Curb & Gutter | LF | $10 | 13550 | 13370 | $135,500 | $133,700 |
| 5 | Multi Use Path & Concrete Sidewalk | SY | $22 | 6775 | 6725 | $149,050 | $147,950 |
| 6 | Signalized Intersections | LS | | | | $215,000 | $215,000 |
| 7 | Drainage (25% of Items 1-5) | LS | | | | $164,955 | $184,565 |
| 8 | Signing & Striping (10% of Items 1-5) | LS | | | | $164,955 | $184,565 |
| 9 | Temporary Erosion Control | LS | $25,000 | 1 | 1 | $25,000 | $25,000 |
| 10 | Mobilization (10% of Items 1-6) | LS | | | | $186,455 | $206,065 |
| 11 | Maintenance of Traffic (5% of Items 1-10) | LS | | | | $120,296 | $133,042 |
| 12 | Items Not Estimated (10% Items 1-11) | LS | | | | $252,621 | $279,389 |
| | Construction Cost | | | | | $2,778,832 | $3,073,276 |
| | Contingencies (15% of Construction Cost) | LS | | | | $416,825 | $460,991 |
| | TOTAL CONSTRCUTION COST | | | | | $3,195,657 | $3,534,267 |

Notes: the estimate includes a new mast arm signal at CR951.

# APPENDIX I

# Public Involvement

LEE COUNTY
SOUTHWEST FLORIDA

# Alico Road Alignment Study
# from Ben Hill Griffin Parkway to Airport Haul Road

## Comments and Coordination

## Technical Memorandum

**Lee County Contract Number: 5647**

**Prepared for:**
**Lee County Board of County Commissioners**
**Lee County Department of Transportation**
**P.O. Box 398**
**Fort Myers, Florida 33902-0398**

**Prepared by:**

CELLAMOLNAR
& ASSOCIATES, INC

1631 Hendry Street
Fort Myers, Florida 33901

**May 2012**

# Alico Road Alignment Study
# From Ben Hill Griffin Parkway to Airport Haul Road

## Comments and Coordination Technical Memorandum

The Lee County Department of Transportation (LC DOT) recently conducted a study to determine the alignment and right-of-way requirements to widen Alico Road from Ben Hill Griffin Parkway to Airport Haul Road. The improvements to Alico Road are included in the Lee County Metropolitan Planning Organization's 2035 Transportation Needs Plan and 2035 Transportation Cost Feasible Plan. The Alico Road Alignment Study is in an area that is surrounded by parcels in various stages of development approval. LC DOT and their consultants met with the adjacent property owners and their representatives to share information and to receive input regarding the study. The following property owners/developers participated in the meetings held in August and December, 2011:

- Florida Gulf Coast Technology-Benderson Development Company (north side of Alico Road from Ben Hill Griffin Parkway to Airport Haul Road)
- Alico/Agri Inc.- Alico West (south side of Alico)
- Miromar Lakes- Miromar Development Corporation (southeast corner of Ben Hill Griffin Parkway and Alico Road)
- Innovation Hub (northeast northeast corner Airport Haul Road
- Premier Airport Park (north on Airport Haul Road)

Summaries of the meetings are provided in Appendix A.

**Public Information Workshop**

LC DOT held a public information workshop on Tuesday, March 27, 2012 at the Holiday Inn Fort Myers, Airport Town Center, Fort Myers, Florida for the Alico Road Alignment Study. A total of 20 people signed in at the registration table. Copies of the sign-in sheets are attached as Appendix B.

A newsletter announcing the workshop was mailed to property owners within 300 feet of the right-of-way, their representatives and interested parties (Gulf Coast Town Center) and emailed to relevant County and City elected officials and staff members. The public information workshop was advertised on Lee County's web site, www.leegov.com and was advertised in the *News-Press* on March 23, 2012. Two variable message boards were placed within the project limits for a period of five days prior to the workshop to inform the traveling public. A copy of the newsletter, mailing list and the *News-Press* advertisement for the workshop are attached as Appendix C.

The workshop was conducted in an "open house" format that allowed the public to view the project material between 4:30 and 6:30 p.m. A handout summarizing the project was provided to the public at the registration table. Aerial photographs with a project overlay showing the location and initial design of the four-lane concept and the ultimate six-lane concept were on display at the workshop. Representatives from the project team were present at the workshop to answer questions and discuss the project with the public. A copy of the newsletter was provided as a handout.

Members of the public were provided comment forms at the workshop in order to have their opinion recorded as public record. A total of five written comments were received at the workshop and in the

following 14-day period. The comments were recorded and analyzed. Copies of the comments received and photographs of the workshop are attached as Appendix D. Following is a summary of the comments received from the public information workshop.

**Public Information Workshop Comments**

"The plans don't show the access into the Benderson property on Ben Hill Griffin Parkway as depicted in the deed/Memorandum of Understanding. The access on Alico Road reflected in the DRI/DO is not depicted."

"I think the expansion of Alico Road is great. With current traffic from the quarries and plants and future growth this is needed. The question I have has concrete been considered for the paving? With heavy truck traffic from the quarries concrete would be a great option. I would love an opportunity to discuss further. We may be able to help with any design questions. Long term there will be a cost savings."

"Great open house. Interesting project."

"South alignment for 951/Alico intersection creates significant problems and needs to be reevaluated."

"Please accept this letter as an expression of concern regarding the ongoing efforts that Lee County is undertaking regarding improvements to the Alico Road Corridor. As you may know, Alico Land Development, Inc. (ALDI) has considerable interest in the improvements along this corridor and is supportive of the efforts being undertaken by Lee County to improve the capacity of the road network in this area. An issue has arisen, however, regarding the alignment of the proposed CR 951 intersection with Alico Road. It is ALDI's position that the proposed North Curve Alternate Alignment should be used for the intersection of CR 951 and Alico Road, occurring west of the current Airport Haul Road (AHR) intersection, with an easterly transition into the existing AHR alignment. This alignment option is shown below.
ALDI believes that there are a number of advantages in suing this alignment for the eventual connection of CR 951 to Alico and AHR:

1. It improves access on CR 951 to the proposed Alico West mixed-use development (currently in the planning process) as shown in Lee Plan amendment. CPA2009-00001;
2. It eliminates the unusable parcel south of Alico Road and west of CR 951;
3. It provides a better design for the South approach to the intersection, eliminating a potentially problematic tangent section, super-elevation, and the need to fill a mining lake that is quite deep at that location;
4. It would better maintain the geometry of CR 951 as arterial road north to Alico Road;
5. It will allow greater flexibility on north to achieve design standards and make the transition back to AHR; and
6. It may allow a reduction in access points for this segment of Alico Road, promoting enhanced capacity for the facility.

ALDI will strongly oppose the implementation of the South Alternate Alignment as it creates increased difficulties for access to the proposed Alico West development, will result in unusable remainder parcels between the proposed CR 951 and the FPL easement, creates problematic geometry for the CR 951-Alico Road Intersection, and fails to account for future development to the east of the Alico West property.

ALDI believes that some of the intersections shown in the Alico Road Connector Corridor Study may also create difficulties through a failure to provide for adequate dispersion of traffic from development tracts on the south side of Alico Road. It appears that the current set of intersections are aligned to promote access to the Benderson Property located on the north side of Alico Road rather than in a fashion consistent with the need for access to the proposed Alico West development to the south. We look forward to working with your Staff and consultants to determine the best locations for access to Alico West, keeping in mind the need to preserve capacity on the expanded Alico Road and the proposed CR 951.

Thank you for your consideration in this matter."

LC DOT responses to comments received from the public meeting are also provided in Appendix D.

# APPENDIX A

Stanley Consultants INC.

# MEETING AGENDA & NOTES

## Alico Road Alignment Study

From Ben Hill Griffin Parkway to Airport Haul Road
Lee County Project 6076

**Date:** Friday August 19, 2011 at 1:00 PM **Place:** Lee DOT

**Purpose:** Kickoff Meeting with Adjacent Land Owners and Developers **Notes By:** Bill Evans, P.E., AICP

**ITEMS TO BE DISCUSSED:**

| | |
|---|---|
| 1. Introductions | 8. Access |
| 2. Public Involvement | 9. Schedule |
| 3. Roadway Alternatives | 10. |
| 4. Right-of-Way | 11. |
| 5. Drainage | 12. |
| 6. Utilities | 13. |
| 7. Land Development | |

Purpose of this meeting was to initiate coordination between Lee County and the Premier Airport Park development.

**ACTION ITEMS:**

1. Obtain master concept plan and pond permit from Premier Airport Park Development.
2. Obtain survey and traffic data information from Premier Airport Park Development.

**NOTES:**

1. Introductions were conducted.

2. The public involvement kickoff phase started with meeting the adjacent property owners. Over the next four months the project alternatives will be developed and further input will be solicited from the public. The public workshop will be conducted once the project alternatives are developed.

3. The first draft roadway alternative typical sections were reviewed.
    a. The traffic modeling includes the proposed east/west connector roadway between Airport Haul Road and Treeline Avenue.
    b. Premier Airport Park is supportive of CR 951 and Alico Road projects and either the south or north curve at CR 951.
    c. Premier will have a bulk warehousing business and needs to maintain the truck component of Alico Road. Improvements such as adequate turn lanes, bus pull outs, advance signal notification, improved signing to airport are suggested improvements.
    d. Premier has concerns about the proposed bicycle lanes on Alico Road.

4. The right of way was discussed
    a. Premier owns the land north along Airport Haul Road and north along Ben Hill Griffin Parkway which are the two end points of the proposed East/West Connector Roadway.
    b. It was noted that the Alico Road study will identify the preferred alignment for the connection with CR 951 and Airport Haul Road. The actual construction of CR 951 is not included in the Alico Road project.
    c. Premier Development has TR Transportation (traffic studies) and Morris Depew as their engineers who can be contacted and information requested directly from them.
    d. Premier has two easements from FPL transmission and they noted obtaining the easement from the FPL transmission office will be difficult and timely for the proposed CR 951 link. Their contact is Mark Byers and Kristin Gardner at 941.375.1536.

5. Drainage analysis:
    a. Their drainage flows into the conservation area between FPL easement and Airport Haul Road.

6. Utilities
    a. Lee County Utilities are seeking a federal grant for future utility expansions.
    b. A utility corridor or envelope within the typical section is being evaluated as part of the Alico Road Alignment Study.
    c. Premier has an onsite sewage plant to meet their needs until sewer lines are installed.
    d. Premier suggested going north through the airport property or along the east/west roadway connector with utilities.

7. Land Development
    a. A development order and zoning is in place. They are designing improvements to Airport Haul Road and the Alico Road intersection to bring it to Class A 2 lane roadway Lee County standards.
    b. Permitting is almost finished with USACE.

8. Access topics related to potential bus stop locations was discussed.
    a. As the study develops, potential bus bay locations will be evaluated and coordinated with pedestrian access routes.
    b. Premier suggested implementing an access control plan similar to the control on Alico road west side of I-75.

9. Tentative Schedule
    a. Study period is nine months to one year.
    b. Design phase will initiate immediately after the study or overlap the end of the study.
    c. Construction funds are being programmed for 2015/16.

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CC: Attendees: Sarah Clarke, Bill Evans, David Dowling, Kris Cella, Steve Hurley, Dan Craig, Ryan Shute, Bob Motchkavitz

Stanley Consultants INC.

# MEETING AGENDA & NOTES

## Alico Road Alignment Study

From Ben Hill Griffin Parkway to Airport Haul Road
Lee County Project 6076

**Date:** Friday August 19, 2011 at 10:00 AM **Place:** Cella's Office at 1631 Hendry Street

**Purpose:** Kickoff Meeting with Adjacent Land Owners and Developers **Notes By:** Bill Evans, P.E., AICP

**ITEMS TO BE DISCUSSED:**

| | |
|---|---|
| 1. Introductions | 8. Access |
| 2. Public Involvement | 9. Schedule |
| 3. Roadway Alternatives | 10. |
| 4. Right-of-Way | 11. |
| 5. Drainage | 12. |
| 6. Utilities | 13. |
| 7. Land Development | |

Purpose of this meeting was to initiate coordination between Lee County and the Miromar development.

**ACTION ITEMS:**

1. Obtain deeded access and pond permit from Miromar.
2. Contact Lee County R/W or Attorney regarding possible easements to outfall into Alico Lakes as joint use ponds.
3. Obtain Map H and the master concept plan from Miromar.

**NOTES:**

1. Introductions were conducted.

2. The public involvement kickoff phase started with meeting the adjacent property owners. Over the next four months the project alternatives will be developed and further input will be solicited from the public. A public workshop will be conducted once the project alternatives are developed.

3. The first draft roadway alternative typical sections were reviewed.
    a. The traffic modeling includes the proposed east/west connector roadway between Airport Haul Road and Treeline Avenue.
    b. Miromar is supportive of CR 951 and Alico Road projects.
4. The right of way was discussed.
    a. Miromar owns the southeast corner of Alico Road at Ben Hill Griffin Parkway with deeded access shown on their Map H and they have an approved MCP. The Alico Road study will identify the preferred alignment for the connection with CR 951 and Airport Haul Road.
    b. The actual construction of CR 951 is not included in the Alico Road project.
    c. Miromar can be contacted and information requested directly from them.

5. Drainage analysis:
    a. Miromar developed a master drainage plan that joined the lakes on the east side of the proposed CR 951 and discharges into Basin 5/6 and outfalls to the Stewart Slough through a 125 foot long weir. The water is Class III recreational use water. Miromar is required to treat 1 inch per acre prior to discharge into the lake system.
    b. There are no existing drainage system connections between Alico Road and Miromar, except for any overland flow.
    c. Concerns were brought up about Alico Road, CR 951 and all the surrounding development draining into this system. Miromar suggested that the total permit be reviewed and analysis performed for the proposed new basin volumes.
    d. An encompassing easement may be needed for the right to drain into and maintain the lakes for drainage purposes. Contact the Lee County R/W or Attorney for input.
    e. Contact may be made with Charles Krebs at Hole Montes for drainage related information.

6. Utilities
    a. Lee County Utilities are seeking a federal grant for future utility expansions.
    b. A utility corridor or envelope within the typical section is being evaluated as part of the Alico Road Alignment Study.
    c. Miromar noted that once the planned expansion and connection to the sewage plant south of Alico Road and west of I-75 the future sewer systems should have adequate capacity to handle the development around Alico Road.

7. Land Development
    a. Miromar is working with the Florida Gulf Coast University (FGCU) and Alico West along the CR 951 corridor. The FGCU is supportive of a connection for pedestrians, bicyclist and motorist along CR 951 and are considering a trolley car connection to Alico West and to the Alico West University Town Center. If the use was high enough, a transit trolley type of system may be evaluated by the University.

8. Access topics related to potential bus stop locations was discussed.
    a. As the study develops, potential bus bay locations will be evaluated and coordinated with pedestrian access routes with the Miromar property.
    b. Miromar has deeded access.

9. Tentative Schedule
    a. Study period is nine months to one year.
    b. Design phase will initiate immediately after the study or overlap the end of the study.
    c. Construction funds are being programmed for 2015/16.

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CC: Attendees: Sarah Clarke, Bill Evans, David Dowling, Kris Cella, Steve Hurley, Dan Craig, Neale Montgomerge, Michael Elgin

Stanley Consultants INC.

# MEETING AGENDA & NOTES

## Alico Road Alignment Study

From Ben Hill Griffin Parkway to Airport Haul Road
Lee County Project 6076

**Date:** Friday August 19, 2011 at 11:00 AM **Place:** Cella's Office at 1631 Hendry Street

**Purpose:** Kickoff Meeting with Adjacent Land Owners and Developers **Notes By:** Bill Evans, P.E., AICP

**ITEMS TO BE DISCUSSED:**

| | |
|---|---|
| 1. Introductions | 8. Access |
| 2. Public Involvement | 9. Schedule |
| 3. Roadway Alternatives | 10. |
| 4. Right-of-Way | 11. |
| 5. Drainage | 12. |
| 6. Utilities | 13. |
| 7. Land Development | |

Purpose of this meeting was to initiate coordination between Lee County and the Benderson development.

**ACTION ITEMS:**

1. Obtain master concept plan and pond permit from Benderson Development.
2. Evaluate the conservation status of the land between the FPL easement and Airport Haul Road.

**NOTES:**

1. Introductions were conducted.

2. The public involvement kickoff phase started with meeting the adjacent property owners. Over the next four months the project alternatives will be developed and further input will be solicited from the public. The public workshop will be conducted once the project alternatives are developed.

3. The first draft roadway alternative typical sections were reviewed.
    a. The traffic modeling includes the proposed east/west connector roadway between Airport Haul Road and Treeline Avenue.
    b. Benderson Development is supportive of CR 951 and Alico Road projects.

4. The right of way was discussed
    a. Benderson owns the land along the north side of Alico Road from Ben Hill Griffin Parkway to Airport Haul Road.
    b. It was noted that the Alico Road study will identify the preferred alignment for the

connection with CR 951 and Airport Haul Road. The actual construction of CR 951 is not included in the Alico Road project.

c. Benderson Development has David Plummer & Associates (traffic studies) and Q. Grady Minor (primary engineer and surveyor) as their engineers who can be contacted and information requested directly from them.
d. Benderson Development will look into conservation status of the land between the FPL easement and Airport Haul Road.

5. Drainage analysis:
    a. Benderson Development understands Lee County's request for the 75 foot of R/W and may take roadway water for some type of consideration.

6. Utilities
    a. Lee County Utilities are seeking a federal grant for future utility expansions.
    b. A utility corridor or envelope within the typical section is being evaluated as part of the Alico Road Alignment Study.

7. Land Development
    a. Benderson Development has a revised development plan being prepared.

8. Access topics related to potential bus stop locations was discussed.
    a. As the study develops, potential bus bay locations will be evaluated and coordinated with pedestrian access routes with the Benderson property.
    b. Benderson Development has proposed 7 access points and is willing to accept 2 full openings and 3 partial openings along the frontage of Alico Road for phase 1. This does not include a portion east and west of the FPL transmission line.

9. Tentative Schedule
    a. Study period is nine months to one year.
    b. Design phase will initiate immediately after the study or overlap the end of the study.
    c. Construction funds are being programmed for 2015/16.

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CC: Attendees: Sarah Clarke, Bill Evans, David Dowling, Kris Cella, Steve Hurley, Dan Craig, Larry Fineberg

# MEETING AGENDA & NOTES

## Alico Road Alignment Study

From Ben Hill Griffin Parkway to Airport Haul Road
Lee County Project 6076

**Date:** Friday August 19, 2011 at 9:00 AM **Place:** Cella's Office at 1631 Hendry Street

**Purpose:** Kickoff Meeting with Adjacent Land Owners and Developers **Notes By:** Bill Evans, P.E., AICP

**ITEMS TO BE DISCUSSED:**

| | |
|---|---|
| 1. Introductions | 8. Access |
| 2. Public Involvement | 9. Schedule |
| 3. Roadway Alternatives | 10. |
| 4. Right-of-Way | 11. |
| 5. Drainage | 12. |
| 6. Utilities | 13. |
| 7. Land Development | |

Purpose of this meeting was to initiate coordination between Lee County and the Alico West development.

**ACTION ITEMS:**

1. Obtain Survey, topo, floor elevation and seasonal water elevation data from MDA.
2. Obtain the Alico West Permits.

**NOTES:**

1. Introductions were conducted.

2. The public involvement kickoff phase started with meeting the adjacent property owners. Over the next four months the project alternatives will be developed and further input will be solicited from the public. The public workshop will be conducted once the project alternatives are developed.

3. The first draft roadway alternative typical sections were reviewed.
    a. The traffic modeling includes the proposed east/west connector roadway between Airport Haul Road and Treeline Avenue.
    b. Alico West inquired about having the project extended to the east where the other Alico Road extension to SR 82 study started. It was noted that IHUB had requested the project to be extended across the IHUB frontage. The factors affecting the current study limits were based primarily on available funding.
    c. Alico West is supportive of building CR 951.
    d. Alico West suggested locating the walkway along the south side of Alico Road to help support the residential development which is planned for the south side of Alico Road.

4. The right of way was discussed.
    a. The CR 951 Alignment alternatives were reviewed. It was noted that the Alico Road study will identify the preferred alignment for the connection with CR 951 and Airport Haul Road. The actual construction of CR 951 is not included in the Alico Road project.
    b. Morris Depew (MDA) can be contacted and information requested directly from them. Contact Ryan Shute.
    c. CR 951 has a 250 foot wide right of way beginning at the FPL transmission R/W and heading west. The FPL easement is approximately 100 feet wide.
    d. APAC asphalt plant is located within the proposed 250 foot R/W of CR 951. APAC has a 120 day vacate notice in their lease permit.

5. Drainage analysis:
    a. Direct contact with MDA is allowed to obtain the permitted floor elevations and seasonal water elevations and other data as needed.
    b. Alico West has ponds on the east side of FPL which are slated for Recreational Use in the permit and the water must be treated prior to discharging into the lakes. Alico West has agreed to take the treated water from the Alico Road project and provide 75 feet of R/W along Alico Road.
    c. Alico West may consider on site storage for compensating storage for the portion of Alico Road that does not directly discharge into their system.

6. Utilities:
    a. Lee County Utilities are seeking a federal grant for future utility expansions.
    b. A utility corridor or envelope within the typical section is being evaluated as part of the Alico Road Alignment Study.

7. Land Development:
    a. Alico West representatives and the University are anticipating an active travel pattern to develop between the Florida Gulf Coast University (FGCU), the IHUB and Alico West along the CR 951 corridor. The FGCU is supportive of a connection for pedestrians, bicyclist and motorist along CR 951 and are considering a trolley car connection to Alico West and to the Alico West University Town Center. If the use was high enough, a transit trolley type of system may be evaluated by the University.
    b. Alico West also owns the property east the FPL transmission line, and portions of the land east of the IHUB on the north side of Alico Road.
    c. Ginn Development owns 398 acres of land in Sections 6 & 7.
    d. Alico West has two development orders in progress.
    e. The number of access points is unknown.

8. Access topics related to potential bus stop locations was discussed.
    a. As the study develops, potential bus bay locations will be evaluated and coordinated with pedestrian access routes with the Alico West property.
9. Tentative Schedule:
    a. Study period is nine months to one year.
    b. Design phase will initiate immediately after the study or overlap the end of the study.
    c. Construction funds are being programmed for 2015/16.

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CC: Attendees: Sarah Clarke, Bill Evans, David Dowling, Kris Cella, Steve Hurley, Dan Craig, Charles Basinait, Donald Schrotelboer

Stanley Consultants INC.

# MEETING AGENDA & NOTES

## Alico Road Alignment Study

From Ben Hill Griffin Parkway to Airport Haul Road
Lee County Project 6076

**Date:** Thursday August 18, 2011 at 9:00 AM **Place:** Cella's Office at 1631 Hendry Street

**Purpose:** Kickoff Meeting with Adjacent Land Owners and Developers **Notes By:** Bill Evans, P.E., AICP

**ITEMS TO BE DISCUSSED:**

| | |
|---|---|
| 1. Introductions | 8. Access |
| 2. Public Involvement | 9. Schedule |
| 3. Roadway Alternatives | 10. |
| 4. Right-of-Way | 11. |
| 5. Drainage | 12. |
| 6. Utilities | 13. |
| 7. Land Development | |

Purpose of this meeting was to initiate coordination between Lee County and the Florida Gulf Coast University IHUB development.

**ACTION ITEMS:**

1. IHUB requested consideration to extend the study to the east 1700 feet.
2. Evaluate the conservation status between the FPL easement and Airport Haul Road.
3. Obtain Survey, topo, floor elevation and seasonal water elevation data from IHUB.

**NOTES:**

1. Introductions were conducted.

2. The public involvement kickoff phase started with meeting the adjacent property owners. Over the next four months the project alternatives will be developed and further input will be solicited from the public. The public workshop will be conducted once the project alternatives are developed.

3. The first draft roadway alternative typical sections were reviewed.
    a. The traffic modeling includes the proposed east/west connector roadway between Airport Haul Road and Treeline Avenue.
    b. IHUB was supportive of building CR 951 and the south curve intersection alternative.

4. The right of way was discussed
    a. The CR 951 Alignment alternatives were reviewed and the section of land between Airport Haul Road and the FPL Transmission line may be a conservation easement or conservation buffer area.

b. Jeff Cooner may contact Thomas Lehnert directly to obtain survey and right of way information.

5. Drainage analysis:
    a. An overview of their findings was discussed. The permitted floor elevations and seasonal water elevations that were identified by the IHUB will be provided to coordinate the roadway and ditch vertical profile grade.
    b. IHUB anticipates the "new" IHUB concept to be within the existing permitted parameters of the approved SFWMD permit
    c. Onsite SFWMD conditions: 70% impervious, 8.02 CFS max. allowable discharge, conservation easement is located on the east side of IHUB.

6. Utilities
    a. Lee County and IHUB personnel have coordinated with relation to the Lee County Utility plan to obtain a federal grant for future utility expansions.
    b. A utility corridor or envelope within the typical section is being evaluated as part of the Alico Road Alignment Study.

7. Land Development
    a. IHUB representatives and the University are anticipating an active travel pattern to develop between the University and the IHUB along the CR 951 corridor. The University is supportive of a connection for pedestrians, bicyclist and motorist along CR 951. If the use was high enough, a transit trolley type of system may be evaluated by the University. A pedestrian overpass at Airport Haul Road is an idea that the University is discussing.
    b. IHUB requested that the study limits be extended 1700 feet eastward to provide the full width proposed typical section along the IHUB's frontage on Alico Road.
    c. IHUB and Airport Premier Park have development orders in progress that include provisions to improve Airport Haul Road. IHUB has a current development order in place for 1 acre lots on septic tanks. IHUB is looking to start construction December 2011.

8. Access topics related to potential bus stop locations were discussed.
    a. As the study develops, potential bus bay locations will be evaluated and coordinated with pedestrian access routes with the IHUB property.
    b. IHUB has provided five foot wide sidewalks along all roadways within the development.

9. Tentative Schedule
    a. Study period is nine months to one year.
    b. Design phase will initiate immediately after the study or overlap the end of the study.
    c. Construction funds are being programmed for 2015/16.

---

CC: Attendees: Sarah Clarke, Bill Evans, David Dowling, Kris Cella, Steve Hurley, Dan Craig, Tom Lehnert, Richard Galvano.

Stanley Consultants INC.

# MEETING AGENDA & NOTES

## Alico Road Alignment Study

From Ben Hill Griffin Parkway to Airport Haul Road
Lee County Project 6076

**Date:** December 8, 2011 **Place:** Cella Molnar's Office

**Purpose:** Meeting with Alico West **Notes By:** Bill Evans, P.E., AICP

**ITEMS TO BE DISCUSSED:**

| | | | |
|---|---|---|---|
| 1. | Traffic and Local Road Network | 8. | |
| 2. | Complete Streets | 9. | |
| 3. | Median Openings and Property Access | 10. | |
| 4. | Typical Section Alternatives | 11. | |
| 5. | Roadway Alternatives | 12. | |
| 6. | Drainage | 13. | |
| 7. | Utilities | | |

The purpose of this meeting was to share information regarding the concepts developed to date and obtain input from the developers and land owners. Three Alico Road typical sections were reviewed, along with an alignment showing initial median openings and Airport Haul Road / CR 951 intersection alignment alternatives. Streetscape and complete streets features were discussed along with the need for the land developers to work together in building a local street network to reduce traffic impacts on Alico Road and to facility economic opportunity for the owners. Initial traffic volumes and intersection turn lanes concepts were reviewed and discussed and the need for a four lane divided roadway in the near term and a six lane divided roadway in the long term.

The Alico Road Alignment Study will evaluate access points between Ben Hill Griffin Parkway and Airport Haul Road intersections. Based on traffic volumes generated from the regional 2035 LRTP traffic model three full intersections may be required. Additional improvements will be evaluated for the Ben Hill Griffin Parkway and Airport Haul Road intersections. Bus bays are proposed on the downstream side of the intersections.

**ACTION ITEMS:**

A. Send sample drainage easement agreement to Charles Basinait
B. Send electronic files and pdfs to Chuck Basinait
C. Evaluate the request for directional left turns into the properties north and south of Alico Road.
D. Land owners to continue working with their neighbors to create a local street network.
E. The Alico Road concepts will be further detailed in December and January, and then circulated to the land owners in January for their technical review and comment.

**NOTES:**

1. The University Overlay requirements include the Alico Road corridor.
2. Project limits are one thousand (1000) feet east of Airport Haul Road.
3. The existing drainage ditch located north of the abandon railroad embankment will remain in place from Ben Hill Griffin Parkway (Station 85+00) to approximately Station 161+00. From Station 161+00 to Station 191+00 the ditch will be relocated northward to accommodate the roadway widening.
4. Pedestrian and bicycle access would be across the ditch at the proposed property access connections. It is

recommended that the 12 foot path continue into the property to maintain continuity at the intersections.

5. A transit circulator concept was discussed that could include bike lockers at key locations. The circulator could utilize the planned East-West Connector Roadway which runs parallel to Alico Road and through the FGCTRP property and the future CR 951 roadway.
6. Alico West prefers to have less than 75 feet of R/W acquisition where possible due to the width of land between Alico Road and the lake.
7. Preferred the north curve Airport Haul Road alternative.
8. Alico West property east of the FP&L Transmission Easement is in the DRGR.
9. Alico West is the current owner of the proposed corridor for CR 951 extension down to near Corkscrew Road which is owned by Lee County.
10. FGCU has recorded access to the future CR 951 roadway northeast corner of the FGCU property.
11. Miromar and Alico West also have recorded access to the future CR 951.
12. APAC has a 120 day vacate notice clause in their property lease from Alico West.
13. Alico Road stormwater swale will meet the water quality requirements for recreational water. Storage requirements in the Alico West pond is approximately 13 AC Feet which is approximately 0.03 feet (3/8 of an inch) rise in lake level. The goal is to set up conveyance to the pond at select locations and multiple points where roadway access is proposed.
14. Consider impacts to Alico Lake east of FP&L Transimission with Airport Haul Road / CR 951 improvements east of FP&L easement.
15. Alico West would like to see a future connection to the aiport along Airport Haul Road.
16. Utility cross-connections are a possibility with Alico roadway construction.
17. Schedule of Tentative Dates
    a. Detailed concepts available for technical review – end of January 2012.
    b. Public Hearing in March 2012.
    c. Complete Alignment Study April 2012.
    d. Design Funds programmed in Fiscal Year starting October 2012
    e. Construction Funds programmed in Fiscal Year starting October 2014 (assumes no right of way acquisition phase).

---

CC: Attendees
Sarah Clarke
Bill Evans
David Dowling
Dan Craig
Steve Hurley
Charles Basinait
Donald Schrotenboer

Stanley Consultants INC.

# MEETING AGENDA & NOTES

## Alico Road Alignment Study

From Ben Hill Griffin Parkway to Airport Haul Road
Lee County Project 6076

**Date:** December 6, 2011 **Place:** Cella Molnar's Office

**Purpose:** Meeting with Miromar **Notes By:** Bill Evans, P.E., AICP

**ITEMS TO BE DISCUSSED:**

| | | | |
|---|---|---|---|
| 1. | Traffic and Local Road Network | 8. | |
| 2. | Complete Streets | 9. | |
| 3. | Median Openings and Property Access | 10. | |
| 4. | Typical Section Alternatives | 11. | |
| 5. | Roadway Alternatives | 12. | |
| 6. | Drainage | 13. | |
| 7. | Utilities | | |

The purpose of this meeting was to share information regarding the concepts developed to date and obtain input from the developers and land owners. Three Alico Road typical sections were reviewed, along with an alignment showing initial median openings and Airport Haul Road / CR 951 intersection alignment alternatives. Streetscape and complete streets features were discussed along with the need for the land developers to work together in building a local street network to reduce traffic impacts on Alico Road and to facility economic opportunity for the owners. Initial traffic volumes and intersection turn lanes concepts were reviewed and discussed and the need for a four lane divided roadway in the near term and a six lane divided roadway in the long term.

The Alico Road Alignment Study will evaluate access points between Ben Hill Griffin Parkway and Airport Haul Road intersections. Based on traffic volumes generated from the regional 2035 LRTP traffic model three full intersections may be required. Additional improvements will be evaluated for the Ben Hill Griffin Parkway and Airport Haul Road intersections. Bus bays are proposed on the downstream side of the intersections.

**ACTION ITEMS:**

A. Obtain approved roadway access point information from Miromar.
B. Land owners to continue working with their neighbors on creating a local street network.
C. Send Miromar a sample of the joint drainage easement agreement.
D. The Alico Road concepts will be further detailed in December and January, and then circulated for technical review by the land owners in January and February.

**NOTES:**

1. The University Overlay requirements include the Alico Road corridor.
2. Miromar was not in favor of the higher level of landscape along Alico Road and the associate cost to the participants in the overlay district. The actual implementation of the landscape may be core landscaping first followed by the overlay level of landscape at a later time.
3. The Miromar property in the southeast corner of Ben Hill Griffin Parkway and Alico Road was planned as commercial development, however it will likely become residential as a gated community. Therefore connections with Alico West are not probable.
4. There may be an approved right-in right-out connection to Alico Road in Miromar's approved permit.
5. Right of way may be required from Miromar along Ben Hill Griffin to provide the dual right turn lanes

and there may be utility impacts at the Ben Hill Griffin and Alico Road intersection.

6. Alico Road stormwater swale will meet the water quality requirements for recreational water. Storage requirements in the Alico West pond is approximately 13 AC Feet which is approximately 0.03 feet (3/8 of an inch) rise in lake level. The goal is to set up conveyance to the pond at select locations and multiple points where roadway access is proposed.
7. Miromar would like to be kept informed of the permit requirements from SFWMD for any changes to the weir and any easement requirements by Lee County.

---

CC: Attendees
Sarah Clarke
Bill Evans
David Dowling
Freddie Vargas
Dan Craig
Steve Hurley
Michael B. Elgin
Neale Montgomery
Kathleen Cline

Stanley Consultants INC.

# MEETING AGENDA & NOTES

## Alico Road Alignment Study

From Ben Hill Griffin Parkway to Airport Haul Road
Lee County Project 6076

**Date:** December 6, 2011 **Place:** Cella Molnar's Office

**Purpose:** Meeting with IHUB **Notes By:** Bill Evans, P.E., AICP

**ITEMS TO BE DISCUSSED:**

| | | | |
|---|---|---|---|
| 1. | Traffic and Local Road Network | 8. | |
| 2. | Complete Streets | 9. | |
| 3. | Median Openings and Property Access | 10. | |
| 4. | Typical Section Alternatives | 11. | |
| 5. | Roadway Alternatives | 12. | |
| 6. | Drainage | 13. | |
| 7. | Utilities | | |

The purpose of this meeting was to share information regarding the concepts developed to date and obtain input from the developers and land owners. Three Alico Road typical sections were reviewed, along with an alignment showing initial median openings and Airport Haul Road / CR 951 intersection alignment alternatives. Streetscape and complete streets features were discussed along with the need for the land developers to work together in building a local street network to reduce traffic impacts on Alico Road and to facility economic opportunity for the owners. Initial traffic volumes and intersection turn lanes concepts were reviewed and discussed and the need for a four lane divided roadway in the near term and a six lane divided roadway in the long term.

The Alico Road Alignment Study will evaluate access points between Ben Hill Griffin Parkway and Airport Haul Road intersections. Based on traffic volumes generated from the regional 2035 LRTP traffic model three full intersections may be required. Additional improvements will be evaluated for the Ben Hill Griffin Parkway and Airport Haul Road intersections. Bus bays are proposed on the downstream side of the intersections.

**ACTION ITEMS:**

A. Obtain latest IHUB planning concept from Rich Galvano.
B. Evaluate the request for directional left turns into the properties north and south of Alico Road.
C. Land owners to continue working with their neighbors to create a local street network.
D. The Alico Road concepts will be further detailed in December and January, and then circulated to the land owners in January for their technical review and comment.

**NOTES:**

1. Project limits are one thousand (1000) feet east of Airport Haul Road.
2. The existing drainage ditch located north of the abandon railroad embankment will remain in place from Ben Hill Griffin Parkway (Station 85+00) to approximately Station 161+00. From Station 161+00 to Station 191+00 the ditch will be relocated northward to accommodate the roadway widening.
3. Pedestrian and bicycle access would be across the ditch at the proposed property access connections. It is recommended that the 12 foot path continue into the property to maintain continuity at the intersections.

4. A transit circulator concept was discussed that could include bike lockers at key locations. The circulator could utilize the planned East-West Connector Roadway which runs parallel to Alico Road and through the FGCTRP property and the future CR 951 roadway.
5. Alico Road widening will require right of way acquisition from the IHUB property and relocation of the ditch which runs along the north r/w line.
6. Piping of the ditch would require Wood Stork Habitat mitigation per USFWS.
7. The goal is to keep the Airport Haul Road improvements west of the IHUB western property line.
8. IHUB prefers to keep the property fronting Alico Road and Aiport Haul Road.
9. IHUB would entertain discussions on trading land along Alico Road for land along Aiport Haul. The IHUB goal is to keep the IHUB fronting both Airport Haul Road and Alico Road.
10. IHUB preferred the south curve Airport Haul Road alternative.
11. IHUB has requested right-in / right-out at their Alico Road driveway located approximately 900 feet east of Airport Haul Road, with a temporary eastbound left turn at the same location. They have a preliminary plat with three access points to Alico Road.
12. A ditch bank/slope easement on Alico Road / IHUB property line is acceptable.
13. IHUB may consider joint stormwater treatment on IHUB property for Airport Haul Road drainage.
14. IHUB is interested in the timing of the utility improvements.

---

CC: Attendees
Sarah Clarke
Bill Evans
David Dowling
Freddie Vargas
Dan Craig
Steve Hurley
Richard Galvano
Tom Lehnert

Stanley Consultants INC.

# MEETING AGENDA & NOTES

## Alico Road Alignment Study

From Ben Hill Griffin Parkway to Airport Haul Road
Lee County Project 6076

**Date:** December 6, 2011 **Place:** Cella Molnar's Office

**Purpose:** Meeting with Florida Gulf Coast Technology and Research Park **Notes By:** Bill Evans, P.E., AICP

**ITEMS TO BE DISCUSSED:**

| | | | |
|---|---|---|---|
| 1. | Traffic and Local Road Network | 8. | |
| 2. | Complete Streets | 9. | |
| 3. | Median Openings and Property Access | 10. | |
| 4. | Typical Section Alternatives | 11. | |
| 5. | Roadway Alternatives | 12. | |
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| 7. | Utilities | | |

The purpose of this meeting was to share information regarding the concepts developed to date and obtain input from the developers and land owners. Three Alico Road typical sections were reviewed, along with an alignment showing initial median openings and Airport Haul Road / CR 951 intersection alignment alternatives. Streetscape and complete streets features were discussed along with the need for the land developers to work together in building a local street network to reduce traffic impacts on Alico Road and to facility economic opportunity for the owners. Initial traffic volumes and intersection turn lanes concepts were reviewed and discussed and the need for a four lane divided roadway in the near term and a six lane divided roadway in the long term.

The Alico Road Alignment Study will evaluate access points between Ben Hill Griffin Parkway and Airport Haul Road intersections. Based on traffic volumes generated from the regional 2035 LRTP traffic model three full intersections may be required. Additional improvements will be evaluated for the Ben Hill Griffin Parkway and Airport Haul Road intersections. Bus bays are proposed on the downstream side of the intersections.

**ACTION ITEMS:**

A. Evaluate the request for directional left turns into the properties north and south of Alico Road.
B. Land owners to continue working with their neighbors to create a local street network.
C. Obtain latest site plan from Larry Fineburg,
D. The Alico Road concepts will be further detailed in December and January, and then circulated to the land owners in January for their technical review and comment.

**NOTES:**

1. The University Overlay requirements include the Alico Road corridor.
2. Project limits are one thousand (1000) feet east of Airport Haul Road.
3. The existing drainage ditch located north of the abandon railroad embankment will remain in place from Ben Hill Griffin Parkway (Station 85+00) to approximately Station 161+00. From Station 161+00 to Station 191+00 the ditch will be relocated northward to accommodate the roadway widening.
4. Pedestrian and bicycle access would be across the ditch at the proposed property access connections. It is recommended that the 12 foot path continue into the property to maintain continuity at the intersections.
5. A transit circulator concept was discussed that could include bike lockers at key locations. The circulator could utilize the planned East-West Connector Roadway which runs parallel to Alico Road and through the FGCTRP property and the future CR 951 roadway.

6. FGCTRP requested directional lefts into their property between each full intersection.
7. FGCTRP preferred the South Curve Airport Haul Road alternative.
8. FGCTRP does not have plans for the property just west of the FP&L Transmission easement.
9. Schedule of Tentative Dates
    a. Detailed concepts available for technical review – end of January 2012.
    b. Public Hearing in March 2012.
    c. Complete Alignment Study April 2012.
    d. Design Funds programmed in Fiscal Year starting October 2012
    e. Construction Funds programmed in Fiscal Year starting October 2014 (assumes no right of way acquisition phase).

---

CC: Attendees
Sarah Clarke
Bill Evans
David Dowling
Freddie Vargas
Dan Craig
Steve Hurley
Larry Fineberg

Stanley Consultants INC.

# MEETING AGENDA & NOTES

## Alico Road Alignment Study

From Ben Hill Griffin Parkway to Airport Haul Road
Lee County Project 6076

**Date:** December 5, 2011 **Place:** Cella Molnar's Office

**Purpose:** Meeting w/Premier Airport Park **Notes By:** Bill Evans, P.E., AICP

**ITEMS TO BE DISCUSSED:**

| | |
|---|---|
| 1. Traffic and Local Road Network | 8. |
| 2. Complete Streets | 9. |
| 3. Median Openings and Property Access | 10. |
| 4. Typical Section Alternatives | 11. |
| 5. Roadway Alternatives | 12. |
| 6. Drainage | 13. |
| 7. Utilities | |

The purpose of this meeting was to share information regarding the concepts developed to date and obtain input from the developers and land owners. Three Alico Road typical sections were reviewed, along with an alignment showing initial median openings and Airport Haul Road / CR 951 intersection alignment alternatives. Streetscape and complete streets features were discussed along with the need for the land developers to work together in building a local street network to reduce traffic impacts on Alico Road and to facility economic opportunity for the owners. Initial traffic volumes and intersection turn lanes concepts were reviewed and discussed and the need for a four lane divided roadway in the near term and a six lane divided roadway in the long term.

The Alico Road Alignment Study will evaluate access points between Ben Hill Griffin Parkway and Airport Haul Road intersections. Based on traffic volumes generated from the regional 2035 LRTP traffic model three full intersections may be required. Additional improvements will be evaluated for the Ben Hill Griffin Parkway and Airport Haul Road intersections. Bus bays are proposed on the downstream side of the intersections.

**ACTION ITEMS:**

A. Obtain Traffic Study from Premier Airport Park and compare to Alico Road Alignment Study traffic.
B. Provide Premier Airport Park survey and right of way information once it is final.
C. Contact rock mine operations for bathometric survey on the Pond just east of the powerline.
D. Evaluate the request for directional left turns into the properties north and south of Alico Road.
E. Land owners to continue working with their neighbors to create a local street network.
F. The Alico Road concepts will be further detailed in December and January, and then circulated to the land owners in January for their technical review and comment.

**NOTES:**

1. The University Overlay requirements include the Alico Road corridor.
2. Project limits are one thousand (1000) feet east of Airport Haul Road.
3. The existing drainage ditch located north of the abandon railroad embankment will remain in place from Ben Hill Griffin Parkway (Station 85+00) to approximately Station 161+00. From Station 161+00 to Station 191+00 the ditch will be relocated northward to accommodate the roadway widening.
4. Pedestrian and bicycle access would be across the ditch at the proposed property access connections. It is recommended that the 12 foot path continue into the property to maintain continuity at the intersections.

5. A transit circulator concept was discussed that could include bike lockers at key locations. The circulator could utilize the planned East-West Connector Roadway which runs parallel to Alico Road and through the FGCTRP property and the future CR 951 roadway.

6. Premier Airport Park provided the following comments:
    a. Preferred the south curve and north curve Airport Haul alternatives.
    b. Request traffic signal at Airport Haul / Alico Road intersection.
    c. Requested long turn lanes at Airport Haul Road to account for trucks.
    d. Requested dual turn lanes for the southbound to westbound right and eastbound to northbound left turn movements.
    e. Minimize the number of traffic signals along Alico Road.
    f. Suggested a median spacing of a quarter mile to half mile in the project section of Alico Road.
    g. Premier identified higher turning movement volumes at Airport Haul Road.
    h. Permitting agencies allowed for compensatory water quality treatment / storage for their project.
    i. They are going forward in one year with Airport Haul Road improvements for what is permitted. The Airport Haul Road improvements include providing new paved shoulders and turn lanes. Then work with Lee County to make adjustments to match Alico Road project.
    j. Prefer not to see bike lanes on Alico Road due to truck traffic.
    k. Not part of the Alico Road Study is an east-west connector that had a previous concept with a tee type intersection midway between Airport Haul Road and Tree Line Ave (Ben Hill Griffin). Premier would like to see a straight or through alignment.

---

CC: Attendees
Sarah Clarke
Bill Evans
David Dowling
Dan Craig
Steve Hurley
Bob Motchkavitz
Ryan Shute

# APPENDIX B

LEE COUNTY
SOUTHWEST FLORIDA

# Alico Road Alignment Study
## Public Information Workshop
## March 27, 2012
## Holiday Inn Fort Myers Airport at Town Center

**PLEASE PRINT**

| NAME | REPRESENTING | ADDRESS |
|---|---|---|
| MOHSEN SALEHI | SCS | 4786 HARBOUR CAY BLVD, FM, FL 33919 |
| Mike LaPlace | Cemex | 1425 Wiggins Pass Rd., Naples, FL 34110 |
| Lucy Denett + Paul | Self | 5671 Whispering Willow Way, FT. Myers 33908 |
| WILL BERAN | URS | 7650 W. COURTNEY CAMPBELL CSWY, TAMPA, FL 33634 |
| CHUCK BASINAIT | ALICO | 1715 MONROE ST. FT. MYERS, FL 33901 |
| Tim Johnson | | 6043 PERTHSHIRE FT. MYERS, FL 33908 |
| DONALD SCHROTEBOER | ALICO LAND DEV | 10070 DANIELS INTERSTATE COURT SUITE 100, FM 33913 |
| Gary Vorwitt | NAC | 8904 Bayfowne Loop, Ft Myers FL 33908 |
| Brett Bleiweiss | Self | 8201 Lake San Carlos Cir Fmy Fl 33967 |
| Ron Gogoi | Lee MPO | |

LEE COUNTY
SOUTHWEST FLORIDA

# Alico Road Alignment Study
## Public Information Workshop
## March 27, 2012
## Holiday Inn Fort Myers Airport at Town Center

**PLEASE PRINT**

| NAME | REPRESENTING | ADDRESS |
|---|---|---|
| Jay Frias | Homewood Suites | 16450 Corporate Commerce Way 33913 |
| Maureen Killeen | Hilton Garden Inn | 16410 Corporate Commerce Way 33913 |
| Ron Talone | David Plummer & Assoc. | 2149 McGregor Blvd, Ft. Myers, 33901 |
| DAVE DEPEW | MORRIS-DEPEW ASSOC | 2914 Cleveland Ave FM 33901 |
| Ryan Shute | Morris-Depew & | 2914 Cleveland Ave FM 33901 |
| Doug Meurer | Lee Co. | |
| Stephen Leung | DPA | 2149 McGregor Blvd. Fm, FL 33901 |
| WILSON GARCIA | COMMUNITY | RIVERMONT, 33928 |
| Joseph Philpott | Port Authority | 11000 Terminal Access, Ft Myers, 33913 |
| Neale Montgomery | MIVAN | 1833 Hendry St Ft Myers 33901 |

# APPENDIX C

# Alico Road Alignment Study

## From Ben Hill Griffin Parkway to Airport Haul Road

*Newsletter #1* *March 2012*

## Project overview

The Lee County Department of Transportation (LC DOT) is conducting a study to determine the alignment and right-of-way requirements to widen Alico Road from Ben Hill Griffin Parkway to Airport Haul Road. Improvements of this section of Alico Road is included in the Lee County Metropolitan Planning Organization's 2035 Transportation Needs Plan and 2035 Transportation Cost Feasible Plan.

LC DOT analyzed existing traffic data, projected future traffic volumes and the need for improvements, as well as evaluated engineering and environmental impacts. The roadway is heavily travelled by dump trucks hauling construction material from nearby mines (as shown in *Figure 1*). Widening the roadway would improve safety conditions along the corridor. To provide additional east/west travel options, LC DOT completed a study in 2008 (Alico Connector Study) to connect existing Alico Road at its eastern terminus to SR 82 at Sunshine Boulevard in Lehigh Acres. This section of Alico Road (from Ben Hill Griffin Parkway to Airport Haul Road) would be expanded to four lanes prior to the construction of the Alico Road Connector.




*Figure 1. Existing Alico Road*

## Proposed Typical Section

The proposed typical section shown in *Figure 2* includes two 12-foot wide travel lanes, 4-foot wide bicycle lanes, a 12-foot wide multi-use path on the north and south side of Alico Road and a wide median to accomodate six laning for future travel and transit lanes. The roadway would also include median landscaping and canopy trees adjacent to the multi-use paths and lighting (note that this is above core level services and other funding services need to be identified). A drainage system of canals would also be provided in the design.

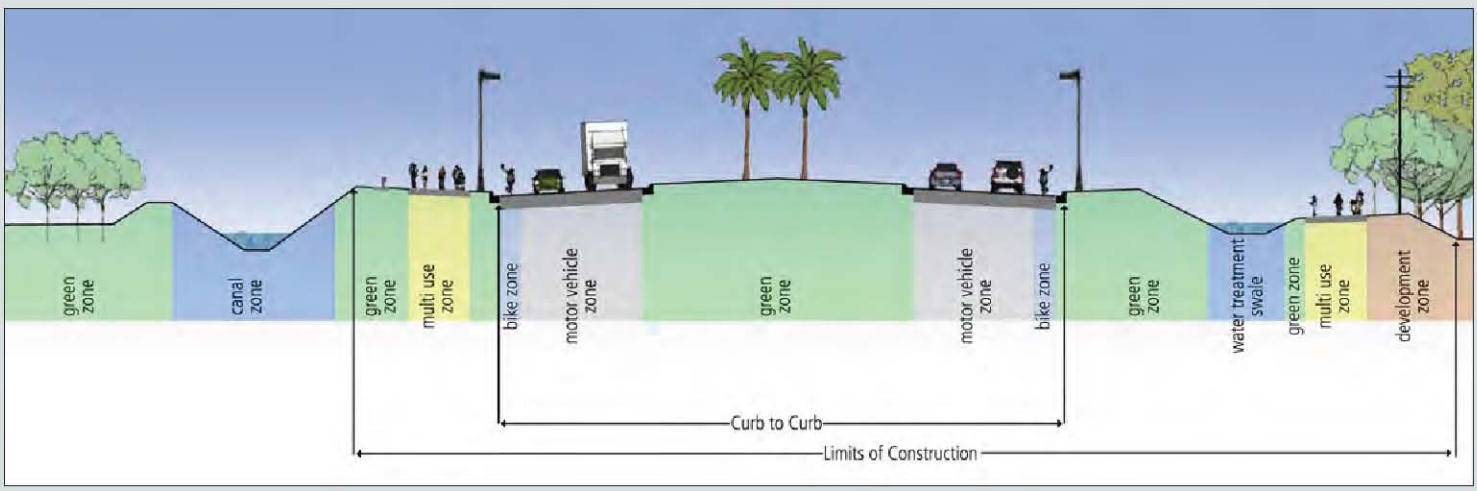


*Figure 2. Typical Section Center Alternative with Functional Zones*

## Complete streets

Complete Streets is an initiative taking place in progressive communities all over the country and right here in Lee County. Its goal is to design streets that are safe, comfortable and accessible to users of all ages and abilities -- pedestrians, bicyclists and transit riders as well as motorists (*Figures 3 through 6*).

Streets that are not complete tend to focus on moving cars. By creating a road network that takes into consideration all users, Lee County will support a safer, healthier, and more inviting and economically viable community for our residents and visitors to enjoy.



*Figure 3. Transit System*

Other benefits of Complete Streets include opportunities to protect and preserve our natural resources, and reduce pollution and greenhouse gas emissions. With that in mind, Complete Streets will make Lee County even more sustainable.



*Figure 5. Multi-use Pathway*

The complete street concept includes: multi-use paths with canopy trees for shade, bike lanes, future comfortable and accessible public transportation stops, frequent and safe crossing opportunities, landscaped median islands, and accessible pedestrian signals (in the future).



*Figure 6. Complete Street Design*

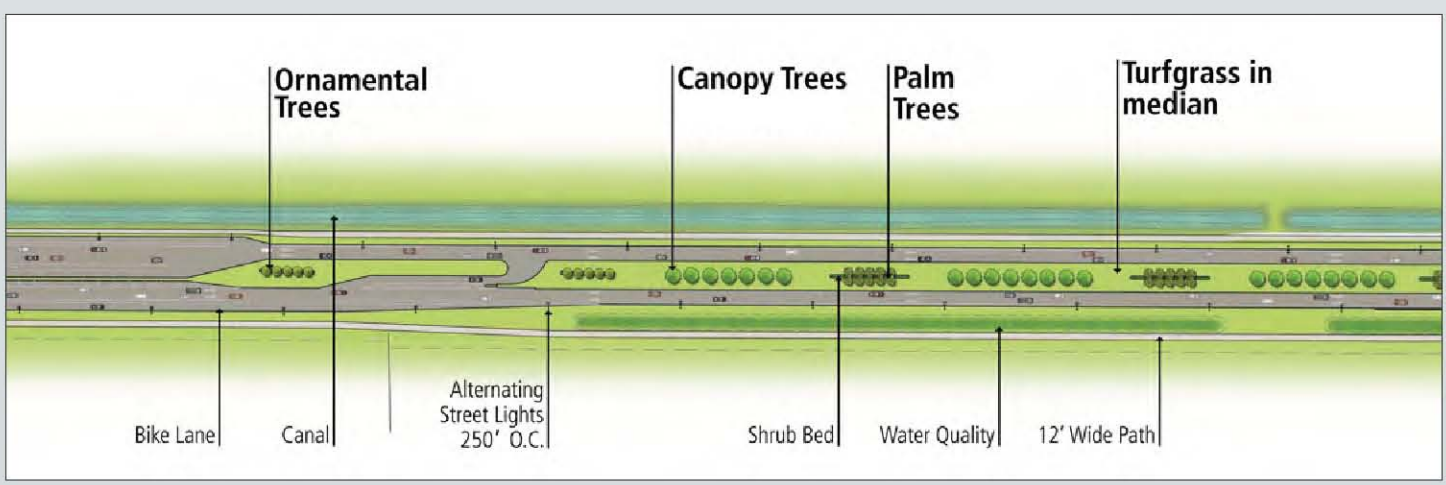


*Figure 4. Plan View of Complete Street*

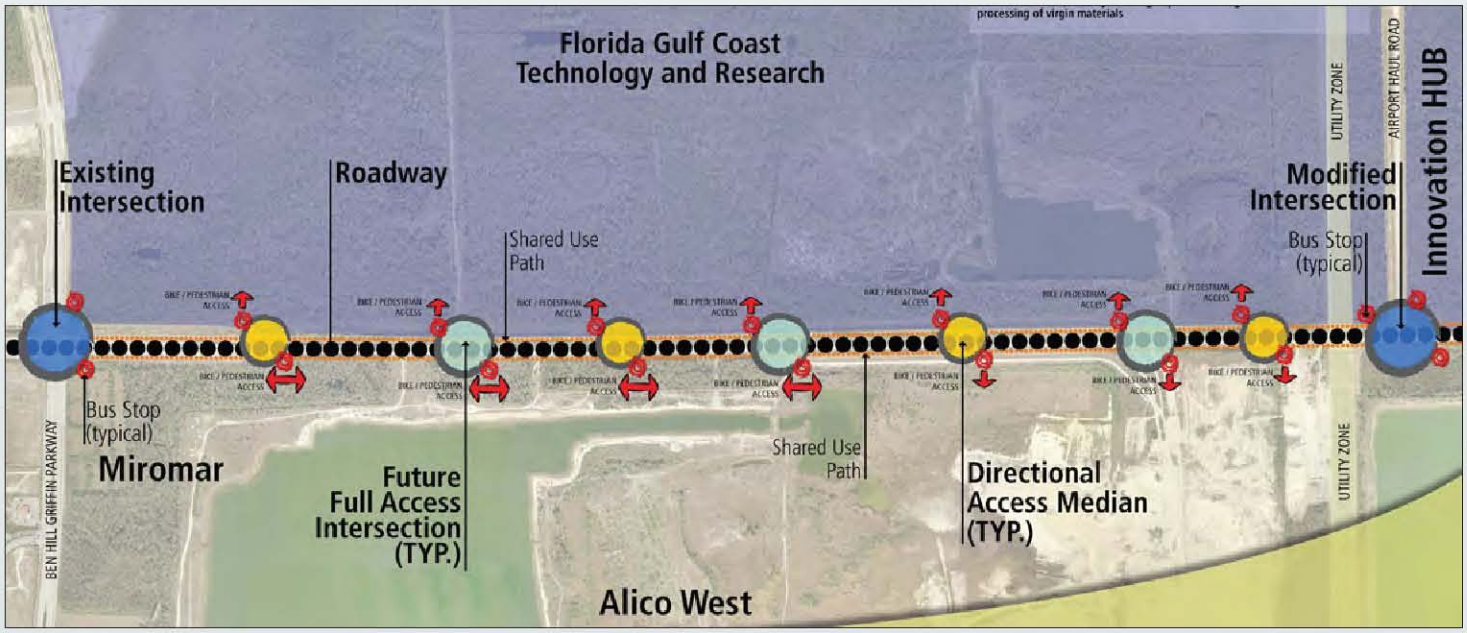


*Figure 7. Access and Median Openings Locations Map*

## Access and median openings

*Figure 7* above shows the proposed future access points for vehicles and pedestrians. The light blue circles show proposed full access intersections. The yellow circles show proposed directional median openings (no left turn out of the adjacent properties). The red circles are conceptual locations for transit stops and the red arrows show pedestrian and bicycle access points.

## Multimodal connectivity network

In addition, expansion of this roadway would also accommodate future growth of the "Research & Enterprise Diamond" (*Figure 8*). The Alico Road Study Area is ideally located to maximize existing transportation infrastructure, connectivity with regional transit and the Southwest Florida International Airport, as well as with recreational and educational resources. These resources establish a prime location for clean economic growth, maximizing opportunities to create synergies among research, enterprise and the local state university, Florida Gulf Coast University.

As part of the Alico Road Alignment Study, a visioning process was initiated to integrate transit with the future land use. By thinking ahead at this early stage local land owners can coordinate future bicycle and pedestrian routes with regional transit routes. This connectivity map provides a concept that is flexible and adaptable to the area as development plans become available.

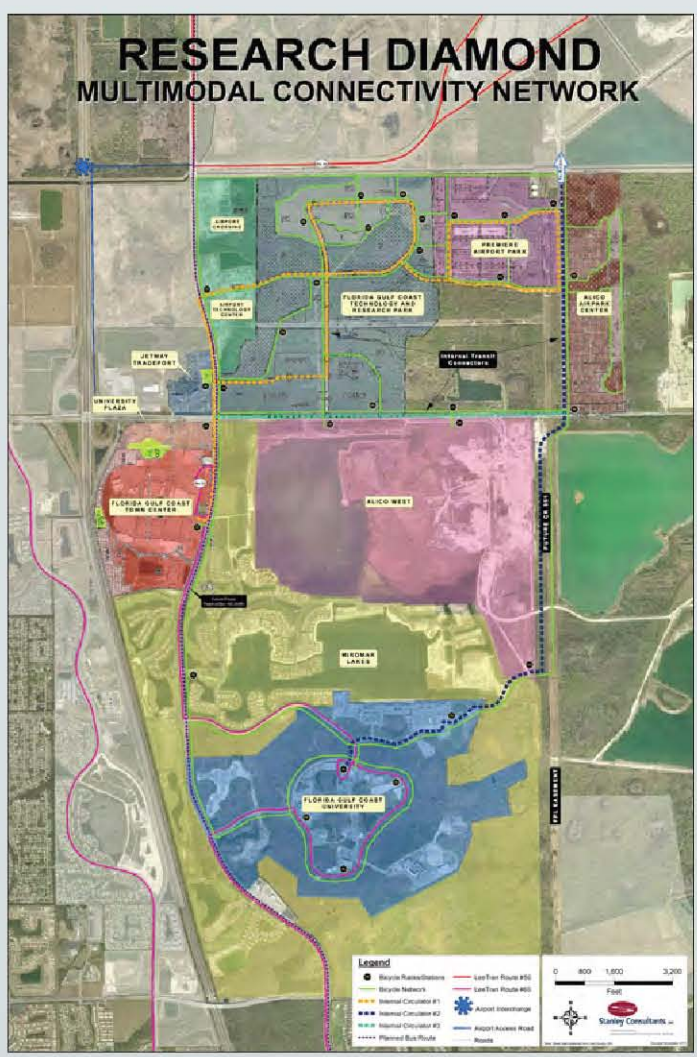


*Figure 8. Research Diamond Multimodal Connectivity Network Map*

LEE COUNTY
SOUTHWEST FLORIDA

c/o Cella Molnar & Associates, Inc.
1631 Hendry Street
Fort Myers, FL 33901

# *Alico Alignment Study*

## *From Ben Hill Griffin Parkway to Airport Haul Road*

Lee County Department of Transportation (LC DOT) is holding a public information workshop for the Alico Road Widening project from 4:30-6:30 p.m. on Tuesday, March 27, at the Holiday Inn Fort Myers Airport Town Center. Come anytime between 4:30-6:30 p.m. to view conceptual plans for the widening of Alico Road. The proposed roadway concept, including access points and pedestrian facilities, will be on display. Lee County representatives will be available to answer questions and take comments about the project. If you would like more project information or if you need special accommodations under the Americans with Disabilities Act of 1990, please contact Kris Cella with Cella Molnar & Associates, Inc. at the contact information below.

Cella Molnar & Associates, Inc.
1631 Hendry Street
Fort Myers, Florida 33901
e-mail: kcella@cella.cc
phone: (239) 337-1071
or toll-free 1-877-496-1076




**Time:** **4:30-6:30 p.m.**
**Date:** **Tuesday, March 27, 2012**
**Place:** **Holiday Inn Fort Myers, Airport Town Center, 9931 Interstate Commerce Drive Fort Myers, FL 33913**

**Alico Road Alignment and Right-of-Way Study**
**Stakeholders**
**August 2, 2011**

**Florida Gulf Coast Technology aka**
**Benderson - Alico/Griffin Commons – Northeast corner Treeline Avenue to northeast corner Airport Haul Road**
Larry Fineberg
Benderson Development Company
8441 Cooper Creek Boulevard, University Park, Florida 34201
941.359.8303
Fax: 941.359.1836
larryfineberg@benderson.com

**Alico/Agri Inc. - Alico West South side Alico**
Representative: Don Schrotenboer
863.675.2966
drschrotenboer@alicoinc.com

Attorney: Chuck Basinait

**Miromar Lakes – Southeast corner Ben Hill Griffin Parkway**
Owner: Michael B. Elgin, RLA, CAM
Director of Planning and Property Management

Miromar Development Corporation
10801 Corkscrew Road, Suite 305
Estero , Florida 33928
239.908.2384
Fax: 239.908.2384
Cell:239.287.1105
melgin@miromar.com

Kathleen A. Cline
Legal Secretary to Neale Montgomery
Pavese Law Firm
1833 Hendry Street
Fort Myers, FL 33901

239.336.6235
Fax: 239.332.2243
kathleencline@paveselaw.com

**Innovation Hub – Northeast corner Airport Haul Road**
Contact: Rich Galvano
Galvano Development, LLC
27911 Crown Lake Boulevard No. 104
Bonita Springs, FL 34135
cell: 941.822.9585
239.498.0000
Fax: 239.992.0700
richgalvano@hotmail.com

Engineer: Tom Lehnert
Banks Engineering
10511 Ben C Pratt/6 Mile Cypress Pkwy
Fort Myers, FL 33966
239.939.5490
TLehnert@BanksEng.com

Owner: John Backe

**Premier Airport Park (west side of Airport Haul Road north of Benderson -Alico/Griffin Commons)**

Bob Motchkavitz, Premier
dabobolink@aol.com

Engineer: Ryan Shute
Morris Depew & Associates, Inc.
2914 Cleveland Avenue
Fort Myers, Florida 33901
239.337.3993
rshute@m-da.com

**Gulf Coast Landings – Northwest corner Treeline Avenue**
Cooper Realty Company
1661 Aaron Brenner Drive STE 200
Memphis, Tennessee 38120

**Shops at University Plaza – Southwest corner Ben Hill Griffin Parkway**
Lee County Real Estate Holding
Thompson Hine LLP
25425 Center Ridge Road
Cleveland, Ohio 44145

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DRudge@leegov.com
dscott@swfrpc.org;
dshelor@comcast.net
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esantana@metriceng.com
frank@fullservicegreen.com
gatewaycyclist@yahoo.com
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hiatten@leegov.com;
hschwartz@leegov.com
htaulman@bia.net
JaneEK@leeschools.net
JeanneSD@leeschools.net
jfredyma@leegov.com
JimWB@leeschools.net
JoAnn.May@dot.state.fl.us;
joebeck2@gmail.com
johnny.limbaugh@dot.state.fl.us;
jonathanr@en-site.com

kathleencline@paveselaw.com
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kheatherington@swfrpc.org;
kibbeyka@leegov.com
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MaryBF@leeschools.net
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medvenue@aol.com
melgin@miromar.com
mhorsting@leegov.com
mrfisher@flylcpa.com
mrozdolski@leegov.com
msanchez@leegov.com
newcombjones@aol.com
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oconnops@leegov.com
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pdipiero@leegov.com
PWinton@leegov.com;
rgogoi@swfrpc.org
richardc@leegov.com;
richgalvano@hotmail.com
RobertDC@leeschools.net
rshute@m-da.com
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verdiwilt@aol.com
Wilsonjd@leegov.com
Wintonpx@leegov.com
WSimmons@leegov.com

**NEWS-PRESS**

*Published every morning – Daily and Sunday*

*Fort Myers, Florida*

**Affidavit of Publication**

STATE OF FLORIDA
COUNTY OF LEE

Before the undersigned authority, personally appeared **Kathy Allebach** who on oath says that he/she is the **Legal Assistant** of the News-Press, a daily newspaper, published at Fort Myers, in Lee County, Florida; that the attached copy of advertisement, being a

**Display**

In the matter of:
**Public Information Workshop**
In the court was published in said newspaper in the issues of

**March 23, 2012**

Affiant further says that the said News-Press is a paper of general circulation daily in Lee, Charlotte, Collier, Glades and Hendry Counties and published at Fort Myers, in said Lee County, Florida and that said newspaper has heretofore been continuously published in said Lee County; Florida, each day, and has been entered as a second class mail matter at the post office in Fort Myers in said Lee County, Florida, for a period of one year next preceding the first publication of the attached copy of the advertisement; and affiant further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Kathy Allebach

Sworn to and subscribed before me this 26th day of March 2012.

by **Kathy Allebach**
personally known to me or who has produced

as identification, and who did or did not take an oath.

Notary Public Shawnmarie Pitts

Print Name **Shawnmarie Pitts**
My commission Expires: **March 15, 2013**

NOTARY PUBLIC-STATE OF FLORIDA
Shawnmarie Pitts
Commission #DD870574
Expires: MAR 15, 2013
BONDED THRU ATLANTIC BONDING CO., INC.

RECEIVED
MAR 29 2012
BY:----------

# PUBLIC INFORMATION WORKSHOP

## ALICO ROAD ALIGNMENT STUDY

### FROM BEN HILL GRIFFIN PARKWAY TO AIRPORT HAUL ROAD

Lee County Department of Transportation (LC DOT) is holding a public information workshop for the Alico Road Widening project from 4:30-6:30 p.m. on Tuesday, March 27, at the Holiday Inn Fort Myers Airport at Town Center. Come anytime between 4:30-6:30 p.m. to view conceptual plans for the widening of Alico Road. The proposed roadway concept, including access points and pedestrian facilities, will be on display. Lee County representatives will be available to answer questions and take comments about the project.

LC DOT analyzed existing traffic data, projected future traffic volumes and the need for improvements, as well as evaluated engineering and environmental impacts. The roadway is heavily travelled by dump trucks hauling construction material from nearby mines. Widening the roadway would improve safety conditions along the corridor. To provide additional east/west travel options, LC DOT completed a study in 2008 (Alico Connector Study) to connect existing Alico Road at its eastern terminus to SR 82 at Sunshine Boulevard in Lehigh Acres. This section of Alico Road (from Ben Hill Griffin Parkway to Airport Haul Road) would be expanded to four lanes prior to the construction of the Alico Road Connector.

**TIME**
**"Open House"**
**4:30-6:30 p.m.**

**DATE**
**Tuesday**
**March 27, 2012**

**PLACE**
**Holiday Inn**
**Fort Myers Airport**
**at Town Center**
**9931 Interstate**
**Commerce Drive**
**Fort Myers, FL 33913**




**Public Information Workshop Location**

Anyone needing special accommodations under the Americans with Disabilities Act of 1990 should contact Kris Cella via e-mail to kcella@cella.cc or phone (239) 337-1071 prior to the workshop. If you have any questions about the project or would like information prior to the workshop, contact Ms. Cella.

LEE COUNTY
SOUTHWEST FLORIDA

# APPENDIX D

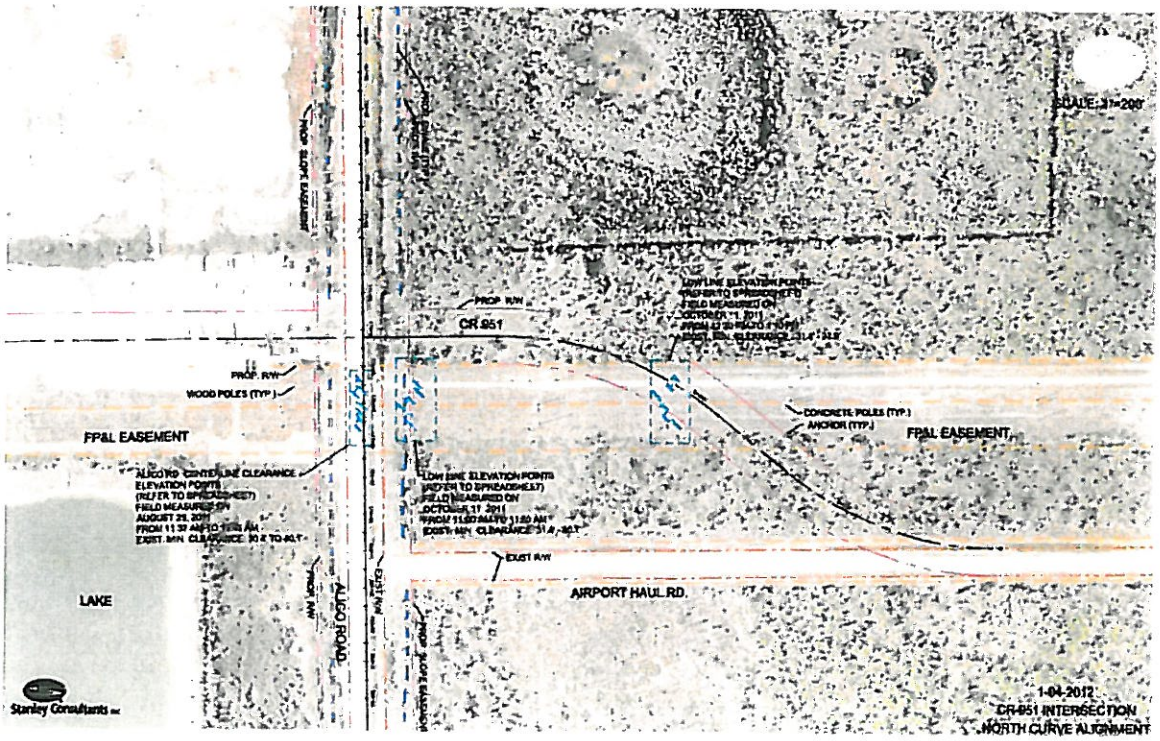
March 27, 2012

Mr. David Loveland
Director, Lee Co. Dept. of Transportation
P. O. Box 398
Ft. Myers, FL 33902-0398

Subject: Alico Road Connector Corridor Study

Dear Mr. Loveland:

Please accept this letter as an expression of concern regarding the ongoing efforts that Lee County is undertaking regarding improvements to the Alico Road Corridor. As you may know, Alico Land Development, Inc. (ALDI) has considerable interest in the improvements along this corridor and is supportive of the efforts being undertaken by Lee County to improve the capacity of the road network in this area. An issue has arisen, however, regarding the alignment of the proposed CR 951 intersection with Alico Road. It is ALDI's position that the proposed North Curve Alternate Alignment should be used for the intersection of CR 951 and Alico Road, occurring west of the current Airport Haul Road (AHR) intersection, with an easterly transition into the existing AHR alignment. This alignment option is shown below.



ALDI believes that there are a number of advantages in using this alignment for the eventual connection of CR 951 to Alico and AHR:

1. It improves access on CR 951 to the proposed Alico West mixed-use development (currently in the planning process) as shown in Lee Plan amendment CPA2009-00001;
2. It eliminates the unusable parcel south of Alico Road and west of CR 951;
3. It provides a better design for the south approach to the intersection, eliminating a potentially problematic tangent section, super-elevation, and the need to fill a mining lake that is quite deep at that location;
4. It would better maintain the geometry of CR 951 as an arterial road north to Alico Road;
5. It will allow greater flexibility on north to achieve design standards and make the transition back to AHR; and
6. It may allow a reduction in access points for this segment of Alico Road, promoting enhanced capacity for the facility.

ALDI will strongly oppose the implementation of the South Alternate Alignment as it creates increased difficulties for access to the proposed Alico West development, will result in unusable remainder parcels between the proposed CR 951 and the FPL easement, creates problematic geometry for the CR 951-Alico Road intersection, and fails to account for future development to the east of the Alico West property.

ALDI believes that some of the intersections shown in the Alico Road Connector Corridor Study may also create difficulties through a failure to provide for adequate dispersion of traffic from development tracts on the south side of Alico Road. It appears that the current set of intersections are aligned to promote access to the Benderson Property located on the north side of Alico Road rather than in a fashion consistent with the need for access to the proposed Alico West development to the south. We look forward to working with your Staff and consultants to determine the best locations for access to Alico West, keeping in mind the need to preserve capacity on the expanded Alico Road and the proposed CR 951.

Thank you for your kind consideration in this matter.

Sincerely,

Donald R. Schrotenboer
President

cc: Charles Basinait, Esq.
Mark Gillis, AICP
David W. Depew, AICP, PhD, LEED® AP

# Alico Road Alignment Study

## PUBLIC INFORMATION COMMENT SHEET

**Name** Neale Montgomery
**Address** 1833 Henderson St
**City** Fort Myers **State** FL **Zip Code** 33901

***Drop your written comments into the comment box here tonight, mail them to the address on the back of this form within 14 days, or email your comments to*** **kcella@cella.cc.**

Comments: The plans don't show the access into Benderson is proposed for Ben Hill Griffin as depicted in deed/MOU. The access on Alico reflected in the DRI DO is not depicted

(Attach additional sheets if necessary)

**Thank you for taking time to participate in this public information workshop.**

Alico Road Alignment Study
Public Information Workshop
March 27, 2012- Fort Myers

# Alico Road Alignment Study

## PUBLIC INFORMATION COMMENT SHEET

Name Michael LaPlaca (Cemex)
Address 1425 Wiggins Pass Rd East
City Naples State FL Zip Code 34110

*Drop your written comments into the comment box here tonight, mail them to the address on the back of this form within 14 days, or email your comments to* **kcella@cella.cc.**

Comments: I think the expansion of Alico Rd. is great. With current traffic from the quarries and plants and future growth this is needed. The question I have has concrete been considered for the paving? With the heavy truck traffic from the quarries concrete would be a great option. I would love an opportunity to discuss further. We may be able to help with any design questions. Long term there will be a cost savings.

(Attach additional sheets if necessary)

**Thank you for taking time to participate in this public information workshop.**

Alico Road Alignment Study
Public Information Workshop
March 27, 2012- Fort Myers

# Alico Road Alignment Study

## PUBLIC INFORMATION COMMENT SHEET

**Name** PAUL DENETT
**Address** 5671 WHISPERING WILLOW WAY
**City** FORT MYERS **State** FL **Zip Code** 33908

***Drop your written comments into the comment box here tonight, mail them to the address on the back of this form within 14 days, or email your comments to*** **kcella@cella.cc.**

Comments: Great open house. Interesting project.

(Attach additional sheets if necessary)

**Thank you for taking time to participate in this public information workshop.**

Alico Road Alignment Study
Public Information Workshop
March 27, 2012- Fort Myers

# Alico Road Alignment Study

## PUBLIC INFORMATION COMMENT SHEET

Name DAVE DEPEW
Address 2914 Cleveland Ave.
City Ft. Myers State FL Zip Code 33901

*Drop your written comments into the comment box here tonight, mail them to the address on the back of this form within 14 days, or email your comments to* **kcella@cella.cc.**

Comments: South alignment of 951/Alico intersection creates significant problems and needs to be re-evaluated.

(Attach additional sheets if necessary)

**Thank you for taking time to participate in this public information workshop.**

Alico Road Alignment Study
Public Information Workshop
March 27, 2012- Fort Myers

**From:** Clarke, Sarah [mailto:SClarke@leegov.com]
**Sent:** Friday, April 27, 2012 11:19 AM
**To:** larryfineberg@benderson.com; drschrotenboer@alicoinc.com; Charles Basinait; melgin@miromar.com; Neale Montgomery; richgalvano@hotmail.com; TLehnert@BanksEng.com; dabobolink@aol.com; rshute@m-da.com
**Cc:** Loveland, David; Cerchie, Randy; Evans, Bill; Kris Cella
**Subject:** Alico Widening East of Ben Hill to Airport Haul Rd. Alignment Study - CR951/Airport Haul Rd. alignment

We have completed the analysis/engineering phase of the alignment study and are in the process of preparing the preliminary engineering report to take to the Board of County Commissioners to adopt an alignment. I wanted to make you all aware that we will be recommending the north cure alignment for the CR951/Airport Haul Rd. intersection. As you are aware, we looked at the north curve alignment, which shifts N. Airport Rd. west of FPL easement and the south curve alignment which shifts CR951 east of the FPL easement and N. Airport slightly to the west but east of the FPL easement. I've attached pdf files showing both proposed alignments.

We were leaning toward the south curve alignment from a traffic operations/access point of view. Upon completion of our analysis, the north curve alignment will be recommended. Other factors we considered are:

Consistency with the long range plan (i.e. adopted alignment of CR951)
Alignment through the FPL easement
Construction Cost
Environmental impacts
Right-of-way impacts

The south curve alignment provided better connection/median opening spacing; however, traffic analysis showed that either the north or south curve would provide adequate traffic operations on Alico Rd. In all other aspects, the north curve provided better results. The north curve complies with the adopted CR951 alignment, has a lower construction cost, fewer environmental impacts and there has been a commitment to provide right-of-way.

In addition, you may be interested to know that Community Sustainability Advisory Committee (CSAC) has reviewed DOT's capital improvement plan (CIP) and is recommending that the Alico project not go forward until a land use study for the Research Diamond area is done. I've include the CSAC complete streets working group's comments pertaining to the Alico widening project below and attached the full memo with all of their comments on the CIP (note: they have since revised their position on the Homestead Rd. project). The working group's recommendation were adopted by the full committee at their April 18, 2012 meeting.

Excerpt from the CSAC complete streets working group (Darla Letourneau, Margaret Banyan, Dan Moser) memo dated April 13, 2012:

> " In addition, the Alico Rd./Ben Hill expansion should not proceed to the design and ROW phase next year. In December 2011 the CSAC recommended that the BoCC complete a land use study before additional work is completed on Alico/Ben Hill. "BoCC fund a plan for a Research Diamond area that outlines a future vision for land use and transportation prior to

> selecting a design option". To date, no proposal as been presented to the BoCC to initiate such a master plan. Rather than LeeDOT moving forward with a proposal to the BoCC in May to approve the alignment and conceptual design study, the Board should be presented with an option to also fund a master planning study for the area".

An agenda item is schedule for the May 7, 2012 Management and Planning meeting for an update on the Research Diamond and to discuss a recommendation by the Urban Land Institute (ULI) Technical Assistance Panel. The panel examined the area and recommended developing a strategic master plan for the area.

The schedule for wrapping up the alignment study is to complete the engineering report in the next few weeks and schedule it for BOCC review adoption at the end of May. I will let you all know the board date once it is scheduled. Please contact me if you have any questions or comments.

Sarah Clarke
Project Manager
Lee County DOT
(239) 533-8718 - office
(239) 634-4836 - cell
sclarke@leegov.com

Please note: Florida has a very broad public records law. Most written communications to or from County Employees and officials regarding County business are public records available to the public and media upon request. Your email communication may be subject to public disclosure.

Under Florida law, email addresses are public records. If you do not want your email address released in response to a public records request, do not send electronic mail to this entity. Instead, contact this office by phone or in writing.

# Alico Road Alignment Study

## Public Information Workshop

## Tuesday, March 27, 2012









# APPENDIX J
# List of Supporting Documents

**Specific Purpose Survey**, December 7, 2011
**CADD Topographic Database**
Prepared by Cooner and Associates

**Traffic Methodology Letter**, August 4, 2011
Prepared by McMahon Transportation Engineers and Planners

**Regional Modeling Technical Memorandum**, September 21, 2011
Prepared by McMahon Transportation Engineers and Planners

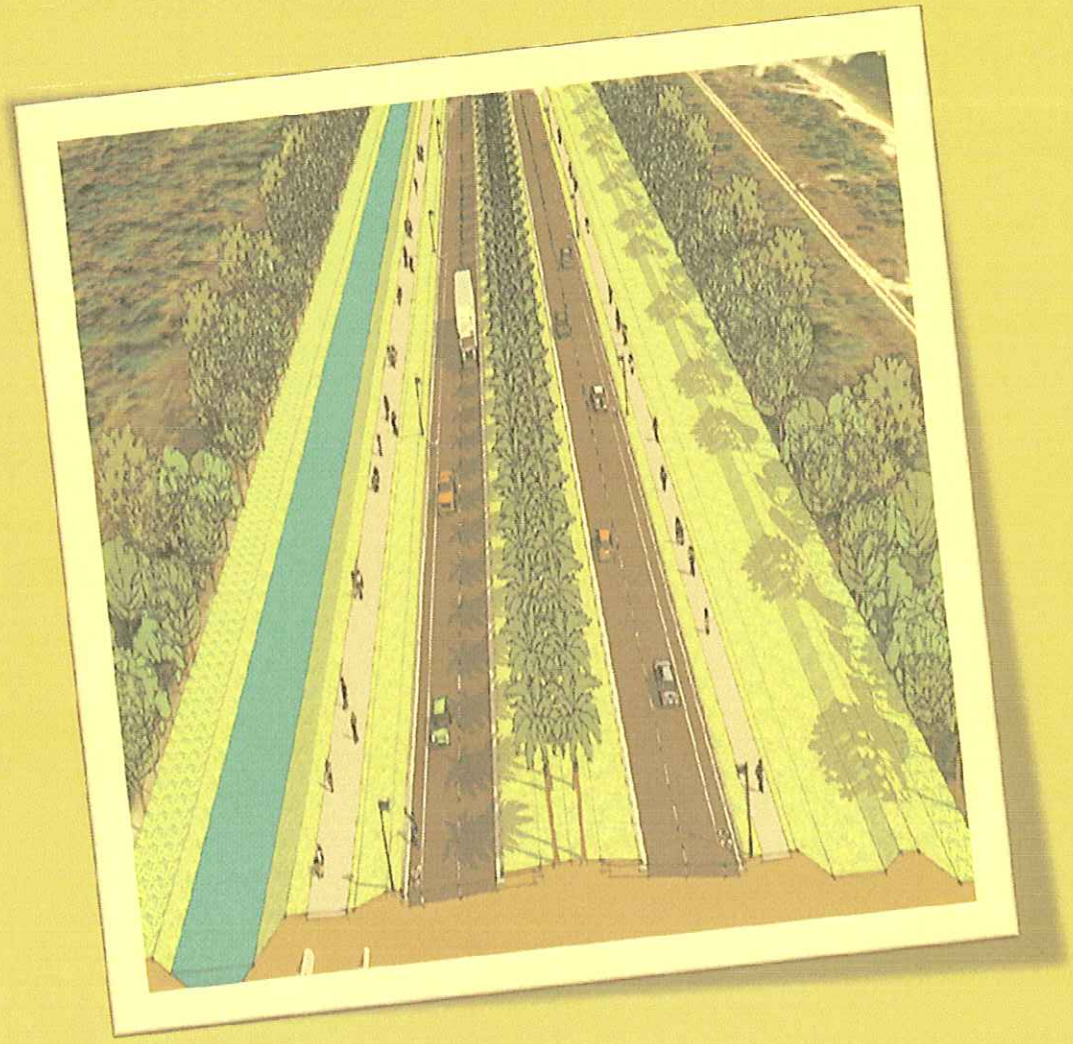
**Preliminary Drainage Report**, May 16, 2012
Prepared by David Douglas and Associates

**Wetland and Wildlife Technical Memorandum**, May 15, 2012
Prepared by Passarella & Associates

**Contamination Screening Evaluation Technical Memorandum**, March 9, 2012
Prepared by Stanley Consultants, Inc.

*"Planning with Design in Mind"*

# Connect People with Transit



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TRANSPORTATION ENGINEERS & PLANNERS

Stanley Consultants INC.

Consulting Ecologists
PASSARELLA & ASSOCIATES INC.

CELLAMOLNAR
& ASSOCIATES, INC

**Cooner & Associates**
**Surveying and Mapping**

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