

PRELIMINARY ENGINEERING REPORT

Florida Department of Transportation

District One

SR 29 Project Development and Environment (PD&E) Study

from Oil Well Road to SR 82

Collier County, Florida

Financial Management Number: 417540-1-22-01

ETDM Project No.: 3752

May 2020

Updated June 2024

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. §327 and a Memorandum of Understanding dated May 26, 2022, and executed by the Federal Highway Administration and FDOT.

PROFESSIONAL ENGINEER CERTIFICATION

PRELIMINARY ENGINEERING REPORT

Project: State Road (SR) 29 PD&E Study from Oil Well Road to SR 82

ETDM Number: 3752

Financial Project ID: 417540-1-22-01

Federal Aid Project Number: 3911-022-P

This preliminary engineering report contains engineering information that fulfills the purpose and need for the SR 29 Project Development & Environment Study from Oil Well Road to SR 82 in Collier County, Florida. 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 professional judgment and experience.

I hereby certify that I am a registered professional engineer in the State of Florida practicing with H. W. Lochner, Inc., and that I have prepared or approved the evaluation, findings, opinions, conclusions or technical advice for this project.



This item has been digitally signed and sealed by William G. Howell, P.E. on the date adjacent to the seal.

William G Howell

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TABLE OF CONTENTS

Section	Page
1.0 PROJECT SUMMARY	1-1
1.1 Project Description.....	1-1
1.2 Purpose and Need	1-1
1.3 Commitments.....	1-5
1.4 Description of Preferred Alternative.....	1-7
2.0 EXISTING CONDITIONS	2-1
2.1 Functional Classification	2-1
2.2 Access Management Classification	2-1
2.3 Land Use	2-2
2.4 Typical Sections and Right of Way	2-3
2.4.1 SR 29	2-3
2.4.2 New Market Road.....	2-7
2.5 Pavement Conditions	2-7
2.6 Vertical and Horizontal Alignment.....	2-8
2.7 Intersection Layout	2-9
2.8 Multimodal Accommodations	2-12
2.8.1 Pedestrian and Bicycle Features.....	2-12
2.8.2 Transit Features	2-12
2.9 Drainage System Inventory.....	2-13
2.9.1 Floodways/Floodplains.....	2-13
2.9.2 Existing Drainage Conditions.....	2-14
2.10 Existing Traffic Conditions.....	2-16
2.10.1 Existing Year Traffic Volumes	2-16
2.10.2 Existing Level of Service	2-19
2.11 Crash Data.....	2-20
2.12 Utilities.....	2-22
2.13 Railroads.....	2-24
2.14 Lighting.....	2-24
2.15 Soils Classifications.....	2-25
2.16 Structures	2-26
2.17 Existing Intelligent Transportation Systems.....	2-28

<u>Section</u>	<u>Page</u>
3.0 DESIGN CONTROLS AND CRITERIA	3-1
4.0 ALTERNATIVES ANALYSIS.....	4-1
4.1 Corridor Analysis.....	4-1
4.2 Alignments Analysis.....	4-3
4.3 Alternative Analysis.....	4-4
4.4 Alternatives.....	4-12
4.4.1 No-Build Alternative.....	4-12
4.4.2 Build Alternatives.....	4-12
4.4.3 Alternatives Evaluation Matrix.....	4-13
4.4.4 Recommended Alternative.....	4-15
4.4.5 Preferred Alternative.....	4-15
5.0 PUBLIC INVOLVEMENT.....	5-1
5.1 Local Agency/Group Meetings.....	5-1
5.2 Corridor Public Workshop.....	5-2
5.3 Alignments Public Workshop.....	5-2
5.4 Public and Agency Alternatives Scoping Meetings.....	5-3
5.5 Alternatives Public Workshop.....	5-4
5.6 Alternatives Public Workshop #2.....	5-5
5.7 Public Hearing.....	5-6
6.0 PREFERRED ALTERNATIVE.....	6-1
6.1 Typical Sections.....	6-1
6.1.1 SR 29.....	6-1
6.1.2 SR 29 Bypass Portion.....	6-5
6.2 Intersection Concepts.....	6-7
6.3 Design Year Traffic Volumes.....	6-9
6.3.1 Design Traffic Projections and Characteristics.....	6-9
6.3.2 Design Traffic Operational Analysis.....	6-9
6.4 Horizontal and Vertical Geometry.....	6-12
6.5 Access Management.....	6-12
6.6 Variations and Exceptions.....	6-14
6.7 Drainage.....	6-14
6.7.1 Location Hydraulics.....	6-14
6.7.2 Stormwater Management.....	6-15
6.8 Right of Way and Relocations.....	6-16

Section	Page
6.9 Utility Impacts	6-16
6.10 Structures	6-17
6.11 Railroad Assessment.....	6-18
6.12 Lighting.....	6-18
6.13 Intelligent Transportation Systems	6-19
6.14 Traffic Control Plan/Construction Impacts.....	6-19
6.15 Soil Classifications.....	6-21
6.16 Environmental Impacts	6-22
6.16.1 Cultural Resources.....	6-22
6.16.2 Wetlands.....	6-23
6.16.3 Floodplains	6-23
6.16.4 Threatened and Endangered Species	6-24
6.16.5 Contamination	6-29
6.16.6 Noise.....	6-30
6.16.7 Section 4(f).....	6-31
6.16.8 Summary of Permits and Mitigation	6-32
7.0 LIST OF TECHNICAL DOCUMENTS.....	7-1

List of Figures

<u>Figure</u>	<u>Page</u>
Figure 1.1 Project Location Map	1-3
Figure 1.2 Preferred Alternative	1-8
Figure 2.1 SR 29 Existing Typical Section from Oil Well Road to Farm Worker Way	2-3
Figure 2.2 SR 29 Existing Typical Section from Farm Worker Way to Seminole Crossing Trail 2-4	
Figure 2.3 SR 29 Existing Typical Section from Seminole Crossing Trail to 13 th Street	2-4
Figure 2.4 SR 29 Existing Typical Section from 13 th Street to North 9 th Street.....	2-5
Figure 2.5 SR 29 Existing Typical Section from North 9 th Street to Westclox Street/New Market Road W	2-6
Figure 2.6 SR 29 Existing Typical Section from Westclox Street/New Market Road W to South of SR 82.....	2-6
Figure 2.7 New Market Road Existing Typical Section from SR 29 South to SR 29 North.....	2-7
Figure 2.8 Existing (2017) Intersection Layout.....	2-11
Figure 2.9 CAT Bus Routes.....	2-13
Figure 2.10 Existing (2017) AADT	2-17
Figure 2.11 Existing (2017) AM and PM TMC's.....	2-18
Figure 4.1 Corridor Alternatives.....	4-2
Figure 4.2 Alignment Alternatives	4-5
Figure 4.3 Alternatives Presented at the First Alternatives Public Workshop	4-9
Figure 4.4 Alternatives Presented at the Second Alternatives Public Workshop.....	4-11
Figure 6.1 SR 29 Typical Section from Oil Well Road to South of Kaicasa Entrance	6-2
Figure 6.2 SR 29 Typical Section from South of Kaicasa Entrance to North of Seminole Crossing Trail, South of Westclox Street / New Market Road W to Heritage Boulevard, and Experimental Raod to South of SR 82	6-2
Figure 6.3 SR 29 Typical Section from North of Seminole Crossing Trail to South of CR 846	6-3
Figure 6.4 SR 29 Typical Section from South of Westclox Street/New Market Road W to Heritage Boulevard.....	6-4
Figure 6.5 SR 29 Typical Section from Heritage Boulevard to the SR 29 Bypass Junction.....	6-4

Figure	Page
Figure 6.6 SR 29 Typical Section from Experimental Road to South of SR 82.....	6-5
Figure 6.7 SR 29 Bypass Typical Section from South of CR 846 to Gopher Ridge Road.....	6-6
Figure 6.8 SR 29 Bypass Typical Section from Gopher Ridge Road to Experimental Road.....	6-6
Figure 6.9 Proposed Intersection Geometries.....	6-8
Figure 6.10 Design Year (2045) AM and PM Peak Hour TMC's.....	6-10
Figure 6.11 Typical Section for SR 29 Bridge over Gator Creek.....	6-18

List of Tables

<u>Table</u>	<u>Page</u>
Table 1-1 Preferred Alternative Evaluation Matrix	1-9
Table 2-1 Pavement Condition Survey Results	2-8
Table 2-2 Existing Horizontal Alignment.....	2-9
Table 2-3 Existing Cross Drainage Inventory	2-15
Table 2-4 Peak Hour LOS Standards.....	2-19
Table 2-5 Existing (2017) Intersection LOS.....	2-19
Table 2-6 Existing (2017) PM Peak Hour Arterial LOS	2-20
Table 2-7 Crashes (2012 to 2016) by Severity and Driving Conditions.....	2-21
Table 2-8 Crashes (2012 to 2016) by Crash Type	2-22
Table 2-9 Crashes Rate Comparison.....	2-22
Table 2-10 Existing Utilities Overview	2-23
Table 2-11 Collier County USDA NRCS Soil Survey Information.....	2-25
Table 2-12 Minimum Vertical Clearance for Existing Bridges.....	2-26
Table 2-13 Existing Bridge Conditions	2-27
Table 3-1 Roadway Design Criteria – Oil Well Road to South of Kaicasa Entrance	3-2
Table 3-2 Roadway Design Criteria – South of Kaicasa Entrance to North of Seminole Crossing Trail and South of Westclox Street / New Market Road W to Heritage Boulevard, and Experimental Road To South of SR 82.....	3-3
Table 3-3 Roadway Design Criteria – North of Seminole Crossing Trail to South of CR 846... 3-4	3-4
Table 3-4 Roadway Design Criteria – South of CR 846 to Gopher Ridge Road and Heritage Boulevard to SR 29 Bypass Junction.....	3-5
Table 3-5 Roadway Design Criteria – Gopher Ridge Road to Experimental Road	3-6
Table 4-1 Corridor Comparison Matrix.....	4-3
Table 4-2 Alternatives Evaluation Matrix	4-14
Table 5-1 Public Meetings	5-1
Table 6-1 2045 Intersection LOS.....	6-11
Table 6-2 2045 Arterial LOS	6-11

Table	Page
Table 6-3 Horizontal Alignment.....	6-12
Table 6-4 Access Management.....	6-12
Table 6-5 Design Variations.....	6-14
Table 6-6 Potential ROW Impacts.....	6-16
Table 6-7 Utility Relocation Costs.....	6-17
Table 6-8 Soil Types and Coverage.....	6-21
Table 6-9 Summary of Federal Listed Species Effect Determinations.....	6-25
Table 6-10 Summary of State Listed Species Effect Determinations.....	6-26
Table 6-11 May Affect, Likely to Adversely Affect or Revised Effect Determinations.....	6-29
Table 7-1 Technical Documents.....	7-1

List of Appendices

Appendix A	Preferred Alternative Concept Plans
Appendix B	Typical Section Package
Appendix C	Long Range Estimates
Appendix D	Roundabout Screening Evaluation
Appendix E	Design Variation Requests
Appendix F	Agency Correspondence

Post-Public Hearing Appendices

Appendix G	Preferred Alternative Concept Plans - CR 846 to SR 82 Refinements Sheets 21 thru 34)
Appendix H	Typical Section Package - CR 846 to SR 82 Refinements
Appendix I	Long Range Estimates - CR 846 to SR 82 Refinements
Appendix J	Roundabout Screening Evaluation – CR 846 to SR 82 Refinements
Appendix K	Additional Agency Correspondence

1.0

PROJECT SUMMARY

1.1 Project Description

The Florida Department of Transportation (FDOT) District One conducted a Project Development and Environment (PD&E) Study, in accordance with the National Environmental Policy Act (NEPA), to assess the need for capacity and traffic operational improvements along a two-lane undivided section of State Road (SR) 29 extending 15.6 miles from Oil Well Road [southern terminus] to SR 82 [northern terminus] in unincorporated Collier County, Florida. **Figure 1.1** Project Location Map shows the location of the project.

The PD&E Study for this project commenced in 2007. The PD&E Study provides documented environmental and engineering analyses to assist FDOT in reaching a decision on the location and conceptual design for improvements to SR 29. Additional products of the PD&E Study include preliminary engineering conceptual plans, environmental studies, a public outreach program, and other information that can be referred to during the final design of the project.

SR 29 is classified as a rural principal arterial from Oil Well Road to south of Farm Worker Way and from north of Westclox Street/New Market Road W to SR 82. Classification for SR 29 is designated as an urban principal arterial from south of Farm Worker Way to north of Westclox Street/New Market Road W. SR 29 is also designated as a Strategic Intermodal System (SIS) Highway Corridor.

The project study area includes the unincorporated community of Immokalee, which is surrounded by agricultural and undeveloped lands, much of which is primary and secondary habitat for the Florida panther. The Immokalee Regional Airport is a predominant feature of the area.

1.2 Purpose and Need

The purpose of this project is to improve traffic operational conditions along the SR 29 corridor between Oil Well Road and SR 82 to meet the following needs:

Accommodate Future Growth

Significant growth is anticipated to take place within the greater Immokalee area as indicated by the presence of the Town of Ave Maria Development of Regional Impact and a number of Planned Unit Developments. Based on 2010 U.S. Census Bureau data and projections developed for Collier County as part of the Collier Metropolitan Planning Organization's (MPO) 2045 Long Range Transportation Plan (LRTP), population within Collier County is projected to grow from 316,739

in 2010 to 497,702 in 2040 (57.1% increase). Likewise, Collier County employment is projected to grow from 170,862 in 2010 to 241,111 in 2040 (41.1% increase). According to the *2018 Design Traffic Technical Memorandum* prepared for the project, the majority of the SR 29 corridor operates at or above the FDOT Levels of Service (LOS) C and D adopted for the roadway; only a small segment of the project corridor [from New Market Road to SR 82] operates below the adopted standard. However, if no improvements occur to the roadway, the majority of the SR 29 corridor is anticipated to operate under deficient conditions [with most segments operating at LOS F] by the 2045 design year. The improvement will:

- Enhance traffic operations and preserve operational capacity to accommodate projected travel demand spurred by increased growth as well as freight and commuter traffic [specifically truck traffic].
- Enhance the projected 2045 LOS for the corridor [with the exception of one segment that is anticipated to remain deficient].

Reduce Truck Traffic in Downtown Immokalee

Truck traffic currently represents 16.0% of the total volume of daily traffic along the SR 29 project segment. The Design Hour Truck is 8.0%; this is the percentage of trucks expected to use a highway segment during the 30th highest hour of the design year [2045]. Truck traffic in the corridor is projected to increase as a result of growth in the area. The project improvement will:

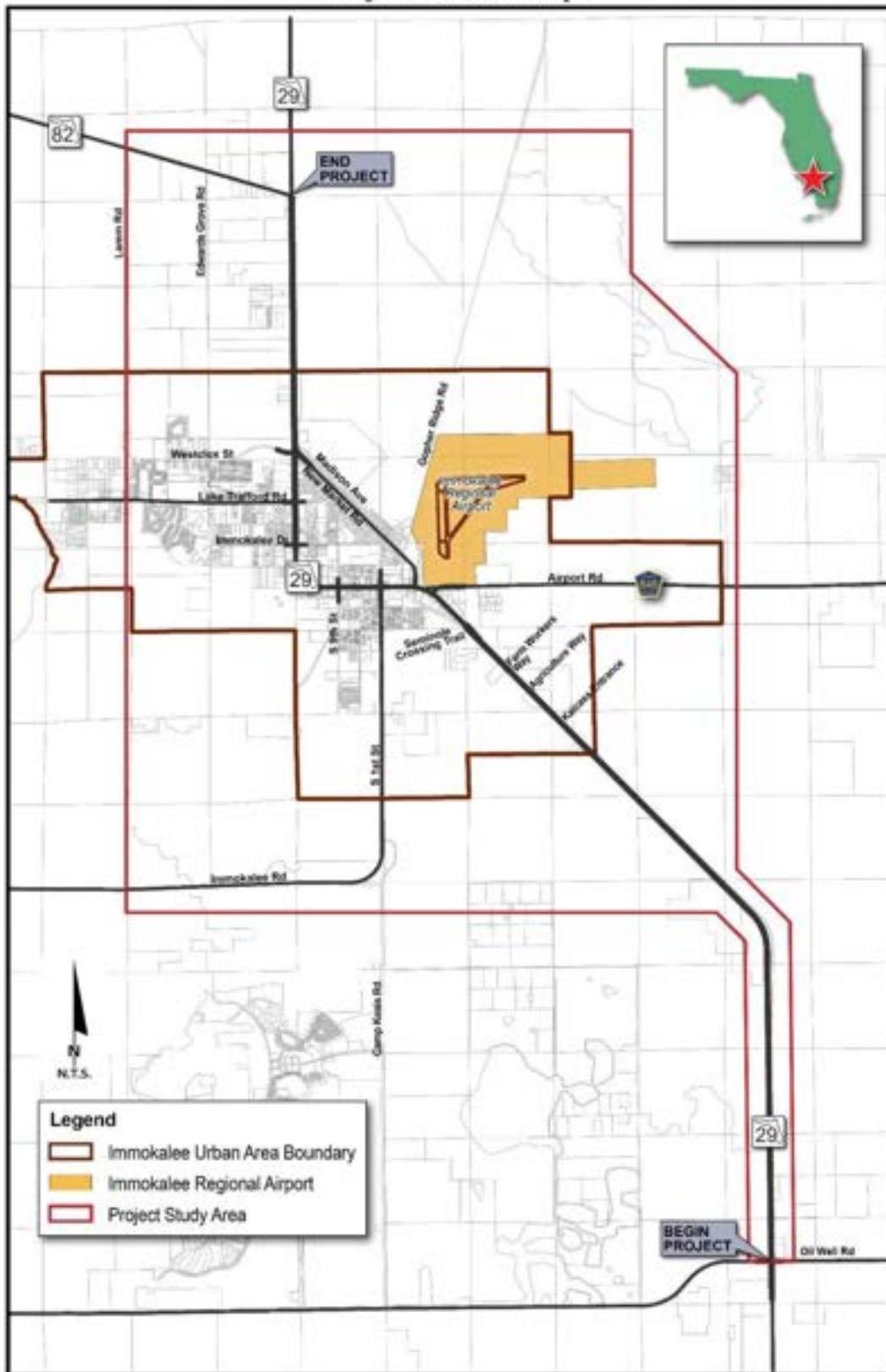
- Provide an alternative route for regional truck traffic trips.
- Enhance the livability of downtown Immokalee by reducing the conflicts between pedestrians/bicyclists and trucks, creating a more pedestrian friendly environment.
- Enhance the economic viability of downtown Immokalee.

Correct Current Design Deficiencies

The design of existing SR 29 is deficient given the present use of the roadway and current FDOT standards. The deficiencies include excessive access points, substandard curves limiting sight distances and design speeds, and locations with substandard shoulders and turn lanes. The proposed improvements will:

- Update the roadway to current design standards, increasing overall safety by reducing the potential exposure to conflict points associated with deficient existing design and access issues.

**Figure 1.1
Project Location Map**



- Increase sight distances along the roadway.
- Provide sidewalks and bicycle lanes where none currently exist.

Improve Mobility and Connectivity within the Regional Transportation Network

SR 29 is a major central Florida interregional highway corridor as it traverses Collier, Hendry, and Glades Counties providing access to US 41 and I-75 to the south and SR 82, SR 80, and US 27 to the north. Through the southern portion of the state, SR 29 primarily runs parallel to other major north-south transportation facilities [I-75 and US 27]. In addition to I-75 and SR 82, SR 29 is part of Florida's SIS network serving fast growing economic regions and a Rural Area of Opportunity. SR 29 is also one of four designated Freight Mobility Corridors in Collier County providing a north-south connection between I-75 and regional freight activity centers. The project improvements proposed along SR 29 are intended to:

- Complement plans to widen other sections of the SR 29 corridor to the north and south thereby 1) providing a continuous four-lane connection from I-75 to US 27 in Glades County, 2) alleviating a potential traffic bottleneck that could occur if no improvements take place on SR 29 from Oil Well Road to SR 82, and 3) improving the viability of SR 29 to serve as a parallel north-south alternative to north-south portions of I-75 and US 27.
- Enhance the circulation and movement of goods between existing and proposed freight facilities in south-central Florida. The SR 29 project improvements are an essential component of a unified approach that addresses the critical freight needs of the overall SR 29 corridor.
- Enhance access to major north-south facilities [I-75 and US 27] and connections to major east-west transportation corridors [SR 82], as well as residential and employment centers throughout Collier County.

Enhance Economic Competitiveness

On January 26, 2001, Immokalee was designated by Executive Order 04-250 as a Rural Area of Critical Economic Concern (now titled Rural Area of Opportunity). In addition to the Immokalee area being targeted for growth by Collier County, the area surrounding Collier County Immokalee Regional Airport is defined as a Primary Freight Activity Center as it supports industrial activities and agricultural packing and processing functions. A 60-acre portion of this area is a designated Foreign Trade Zone, a designation used to encourage activity and add value at facilities in competition with foreign companies. SR 29 also serves as a Strategic Intermodal System (SIS) highway corridor carrying high volumes of truck traffic and connecting to other SIS facilities [I-75 and SR 82]. This project will:

- Enhance the economic viability of the area by providing the infrastructure needed to bring additional businesses and employers into the area.

- Improve the circulation of goods as SR 29 serves as a key intrastate freight corridor providing access to local agricultural and ranching operations, as well as to fast growing economic regions located in central Florida and the populated coastal areas.

Improve Emergency Evacuation Capabilities

SR 29 is designated as a hurricane evacuation route by the Florida Division of Emergency Management. This facility is critical in evacuating residents of the eastern portion of Collier County. The project improvement will:

- Increase the capacity of traffic that can be evacuated during an emergency event.
- Enhance emergency response times.
- Enhance connections to other major arterials designated on the state evacuation route network, including SR 82 and north to US 27.

1.3 Commitments

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

- The most recent version of the FWS' *Standard Protection Measures for the Eastern Indigo Snake* will be adhered to during the construction of the proposed project.
- The FDOT will follow the FDOT *Supplemental Standard Specification 7-1.4.1 Additional Requirements for the Florida Black Bear* to minimize human-bear interactions associated with construction sites during project construction.
- To comply with Section 7 of the ESA, as amended, the FDOT will re-initiate consultation during design and permitting for the following species: Florida scrub-jay, Florida panther, Florida bonneted bat, and Audubon's crested caracara. The FDOT will provide additional information, as needed, that will allow the FWS to complete their analysis of the project's effects on documented species and complete Section 7 ESA consultation for the project.
- The FDOT will implement best management practices consistent with the FDOT Conservation Plan for the Florida Panther.
- FDOT will construct the wildlife crossing between Oil Well Road and CR 846. This crossing was listed at the 2024 annual prioritization meeting (held January 17, 2024) of the FDOT Conservation Plan for the Florida Panther to determine priority for available funding. As part of the preferred recommendation, directional fencing associated with the proposed crossing would be consistent with the Florida Panther Conservation Plan and, as appropriate, the Wildlife Crossing Memorandum (June 2022).
- To mitigate at a ratio of two acres per one acre of impact for the loss of 52.14 total acres of occupied Florida scrub-jay territory on the Collier property (private property) and a ratio of four acres per one acre of impact for the loss of 15.75 acres of the Immokalee Regional Airport

Upland Management Area (UMA). FDOT will provide a total of 167.28 acres of occupied scrub-jay habitat (104.28 acres associated with the loss of two scrub-jay territories within the Collier property + an additional 63 acres associated with potential habitat loss within the UMA = 167.28 acres) as a conservation measure to compensate for the loss of scrub-jay habitat resulting from the project.

- The FDOT will contribute \$10,000 to the USFWS Florida Bonneted Bat Fund.
- Audubon's crested caracara conservation measures will be implemented. Land clearing activities for the project will be conducted outside of the caracara nesting season (December 1 through April 30) to the greatest extent practicable. Since caracara nesting season is from December 1 through April 30, clearing should be completed between May 1 and November 30. Should it be necessary to conduct land clearing activities within the nesting season, the FDOT or their designated agent will survey suitable caracara nesting habitat to determine if an active nest occurs within or adjacent to the project area. If an active nesting is observed within 300 meters (985 feet) of the project area, land clearing within 300 meters (985 feet) of the nest will not occur until monitoring had determined that the nest has either been abandoned, or chicks within the nest have fledged and left the nest site.
- The FDOT will complete a cumulative effects analysis for impacts to threatened and endangered species.
- Based on coordination with the FWC, the FDOT will provide compensatory land acquisition for the determined required use of the FWC-held Immokalee Regional Airport Upland Management Area (UMA).
- A land use review will be conducted during the design phase to identify noise sensitive sites that may have received a building permit subsequent to the noise study but prior to the Date of Public Knowledge (i.e., the date that the environmental document has been approved by the FDOT Office of Environmental Management). If the review identifies noise sensitive sites that have been permitted prior to the Date of Public Knowledge, then those sensitive sites will be evaluated for traffic noise and abatement considerations.
- Given the proposed use of Immokalee Regional Airport property and proximity to a runway threshold, the FDOT will continue to coordinate with Collier County and the FAA throughout future project phases. This may include, but not necessarily be limited to, evaluating Runway 36 Protection Zone (RPZ) compatibility for the CR 846 improvements; airfield security fence relocation; evaluation of potential airspace obstructions in proximity to Runway 36 (e.g., new or relocated light and utility poles); and the release of federally-obligated land for use as public road right of way (ROW).
- The FDOT will coordinate with Collier County and the FAA during future project phases in order to incorporate hazardous wildlife control measures recommended in *FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants On or Near Airports*.

1.4 Description of Preferred Alternative

The Preferred Alternative is Central Alternative #2. It provides a four-lane divided typical section with travel lanes varying between 11 feet and 12 feet wide. The right of way width, median type and width, and bicycle and pedestrian accommodations vary along the extent of the Preferred Alternative. The Preferred Alternative follows the existing SR 29 from the start of the project at Oil Well Road to south of CR 846. From this point, the Preferred Alternative travels north from SR 29 on new alignment SR 29 Bypass) along the west side of the Immokalee Regional Airport to avoid impacts to the commercial/industrial areas of Immokalee; to the State Farmers Market to the west; and to Immokalee Airport Park. The Preferred Alternative then turns to the northwest just past Gopher Ridge Road to parallel Westclox Street/New Market Road W (the SR 29 Bypass Junction). It then travels along the east side of Collier Health Services Medical Center and the Florida State University College of Medicine before reconnecting to SR 29 north of Westclox Street/New Market Road W (the SR 29 Bypass Junction). The Preferred Alternative follows the existing alignment of SR 29 from north of Westclox Street/New Market Road W to the project terminus near SR 82. Partial two-lane roundabouts are proposed at SR 29 and CR 846, SR 29 and Alachua Street/Gopher Ridge Road, and at SR 29 and Westclox Street/New Market Road W.

Figure 1.2 shows the location of the Preferred Alternative. **Table 1-1** provides the evaluation matrix for the Preferred Alternative. Conceptual roadway plans are included in **Appendix A**. The signed typical section package is provided in **Appendix B**.

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**Figure 1.2
Preferred Alternative**



**Table 1-1
Preferred Alternative Evaluation Matrix**

Evaluation Criteria	No-Build Alternative	Preferred Alternative
Design Features		
Length (miles)	15.59 miles	16.45 miles
Traffic Control Measures	Stop Control and Traffic Signals	Stop Control, Traffic Signals & Roundabouts
Travel Lane Width (feet)	12 feet	11 to 12 feet
Posted Speed - Subject to change pending speed study after construction	35 to 60 miles per hour (MPH)	35 to 55 (MPH)
ROW Impacts		
Area of ROW to be Acquired for Roadway (acres)	0	81.6
Area of ROW to be Acquired for Stormwater Ponds/Floodplain Compensation Sites (acres)	0	103.6
Business Impacts		
Number of Business Relocations	0	1
Number of Parcels Impacted	0	4
Residential Impacts		
Number of Residential Relocations	0	0
Number of Parcels Impacted	0	0
Environmental Impacts		
Number of Historical Sites Impacted (National Register of Historic Places (NRHP) Listed/Eligible)	0	0
Number of Archaeological Sites Impacted (NRHP Listed/Eligible)	0	0
Number of Public Recreational Facilities/ Parks Impacted	0	0
Area of Wetlands – Roadway (acres)	0	14.33
Area of Wetlands – SMFs from CR 846 to SR 82	0	0.15
Area of Surface Waters – Roadway (acres)	0	15.41
Area of Surface Waters – SMFs from CR 846 to SR 82	0	2.95
Area of Floodplain Encroachment (acres)	0	27.84
Potential Threatened and Endangered Species Impacts (none, low, medium, high)	None	Medium to High
Number of Potential Petroleum or Hazardous Materials Contaminated Sites	0	75 (34 Medium or High Risk)
Number of Receivers Potentially Impacted By Noise	0	8
Estimated Total Project Costs		
Engineering Design (15% of Construction Cost)	\$0	\$16,906,000
Wetland Mitigation	\$0	\$1,787,000
Wildlife Habitat Mitigation	\$0	\$4,546,000
Utilities Relocation	\$0	\$0
Intelligent Transportation Systems (ITS)/Advanced Traffic Management Systems (ATMS) Relocation	\$0	\$227,000
ROW Acquisition	\$0	\$19,700,000
Construction	\$0	\$112,708,000
Construction Engineering and Inspection (15% of Construction Cost)	\$0	\$16,906,000
Preliminary Estimate of Total Project Cost	\$0	\$172,780,000

SMF = Stormwater Management Facility

¹ Wetland mitigation cost estimate based on FDOT Environmental Mitigation Payment Processing Handbook, Page 5, Fiscal Year 2021/2022 (\$125,594 per acre of impact).

² Wildlife habitat mitigation cost includes mitigation for Florida panther and Florida scrub jay. Florida panther mitigation cost estimate based on \$850 per panther habitat unit (PHU). Florida scrub jay mitigation cost estimate based on \$25,000 per acre of impact with assumed 2:1 mitigation cost ratio. Curacara mitigation = \$150,000

2.0

EXISTING CONDITIONS

Existing roadway conditions described in the following section of this report were derived from available as-built plan sets, aerial photography, and site visits along SR 29 within the project limits, and along New Market Road from SR 29 (East Main Street) to SR 29 (North 15th Street). New Market Road is included as it provides a potential corridor for an SR 29 Bypass.

2.1 Functional Classification

The functional classification according to the FDOT Straight Line Diagram for SR 29 (Roadway Identification Number 03080000) is Rural Principal Arterial Other from Oil Well Road to approximately 0.43 miles south of Agriculture Way and from Westclox Street/New Market Road to SR 82. From approximately 0.43 miles south of Agriculture Way to Westclox Street/New Market Road, SR 29 is Urban Principal Arterial Other. SR 29 is owned and maintained by FDOT and is designated as a SIS Highway Corridor throughout the study area.

The functional classification according to the FDOT Florida Transportation Information 2016 for New Market Road (Roadway Identification Number 03580000) is Urban Major Collector from SR 29 (East Main Street) to SR 29 (North 15th Street). New Market Road (CR 29A) is owned and maintained by Collier County.

2.2 Access Management Classification

The existing access classification along SR 29 from Oil Well Road (Milepost 27.208) to New Harvest Road (Milepost 36.243) is Access Class 4.

The existing access classification along SR 29 from New Harvest Road (Milepost 36.243) to Hancock Street (Milepost 37.934) is Access Class 7.

The existing access classification along SR 29 from Hancock Street (Milepost 37.934) to Westclox Street/New Market Road W (Milepost 39.819) is Access Class 5.

The existing access classification along SR 29 from Westclox Street/New Market Road W (Milepost 39.819) to SR 82 (Milepost 42.798) is Access Class 3.

New Market Road does not have an access classification, as it is an off-system roadway.

2.3 Land Use

Existing Land Use

Agricultural land uses (consisting mostly of pastureland, citrus groves, and cultivated row crops) are predominant north and south of the urban boundary of Immokalee along the SR 29 project corridor. Agricultural land also exists on the east side of the project limits. Land activities primarily within the core of Immokalee include residential (fixed single family dwelling units), industrial, and commercial with pockets of institutional uses. Commercial and industrial activities are located in the project area near the Immokalee Regional Airport. Land along existing SR 29 within the Immokalee area consists of residential (a mix of low, medium, and high-density dwelling units) and commercial uses. A number of Planned Unit Developments (PUD's) exist within the project vicinity. The Town of Ave Maria Development of Regional Impact is located southwest of the project corridor. Further, the Seminole Tribe of Indians Immokalee Reservation is located to the west of the SR 29 project corridor within the Immokalee urban boundary.

Other notable land use designations within the project area¹ include:

- Big Cypress Area of Critical State Concern – located to the east of the southern portion of the SR 29 project corridor,
- Collier County Rural Lands Stewardship Area Overlay – the entire project corridor is within this overlay with the exception of the project segment that traverses Immokalee,
- Front Porch Community – South Immokalee Neighborhood – located south of CR 846/Main Street east of Hancock Street and west of the project corridor, and
- State of Florida designated Enterprise Zone [Immokalee (Collier County) EZ-1101] and a United States Department of Housing and Urban Development (HUD) designated Empowerment Zone/Enterprise Community (Empowerment Alliance of Southwest Florida Enterprise Community).

Future Land Use

As indicated through the 2012-2025 Future Land Use Map of the Collier County Growth Management Plan, amended March 2021, with the exception of the project segment that traverses Immokalee, the remaining portion of the project will continue to occur within the Collier County Rural Lands Stewardship Area Overlay.

¹ Since May 2020, Florida Power and Light Company constructed the FPL Immokalee Solar Energy Center at 3350 SR 29 N, Immokalee, FL 34142. The 74.5-megawatt facility is on 578 acres east of SR 29 and north and south of SR 82. Since May 2020, the Immokalee Foundation's Career Pathways Learning Lab is constructing a new 18 home subdivision north of New Market Road and west of Gopher Ridge Road at the corner of Calle Amistad and Dade Street.

In 2012, the Community Redevelopment Agency (CRA) led the effort to gain input from stakeholders, residents, and businesses, which ultimately established a vision for the future of Immokalee. The currently proposed Future Land Use Map (that resulted from this effort), adopted December 2019, indicates that the area of Immokalee adjacent to the SR 29 Build Alternatives will continue to support residential, industrial, and commercial uses; agricultural uses on the outskirts of the Immokalee urban boundary will be maintained through the land use classification of low density residential subdistrict.

2.4 Typical Sections and Right of Way

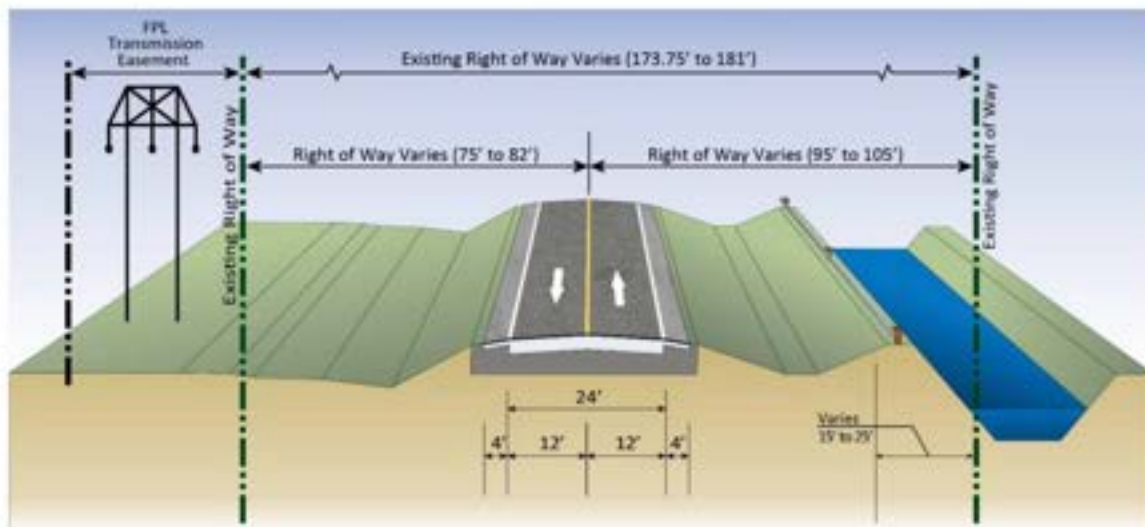
2.4.1 SR 29

Within the project limits, SR 29 can be divided into the following six typical sections:

From Oil Well Road to Farm Worker Way

SR 29 is a two-lane undivided roadway with one 12-foot lane in each direction and 4-foot paved shoulders on either side of the roadway. There is an open drainage system, and the existing ROW varies from 173.75 feet to 181 feet. The posted speed limit along SR 29 from Oil Well Road to the proposed Kaicasa Entrance is 60 mph. The posted speed then decreases to 55 mph and then to 45 mph south of Agriculture Way. **Figure 2.1** depicts this typical section.

Figure 2.1
SR 29 Existing Typical Section from Oil Well Road to Farm Worker Way



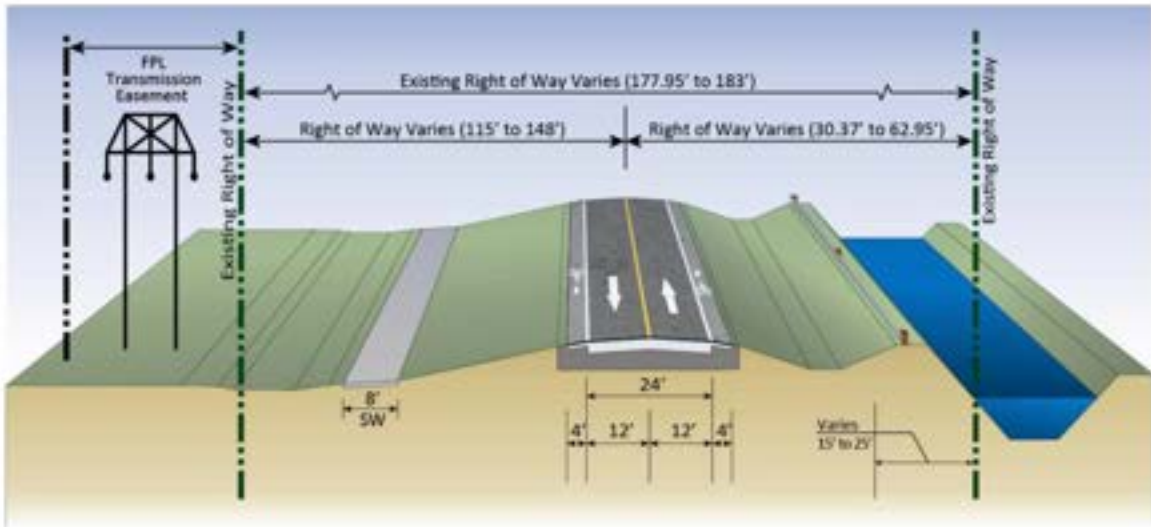
From Farm Worker Way to Seminole Crossing Trail

SR 29 is a two-lane undivided roadway with one 12-foot lane in each direction, 4-foot paved shoulders on both sides of the roadway designated as bike lanes, and an 8-foot sidewalk on the west side of the roadway. There is an open drainage system, and the existing ROW varies

from 177.95 feet to 183 feet wide. The posted speed limit is 45 mph. **Figure 2.2** depicts this typical section.

Figure 2.2

SR 29 Existing Typical Section from Farm Worker Way to Seminole Crossing Trail

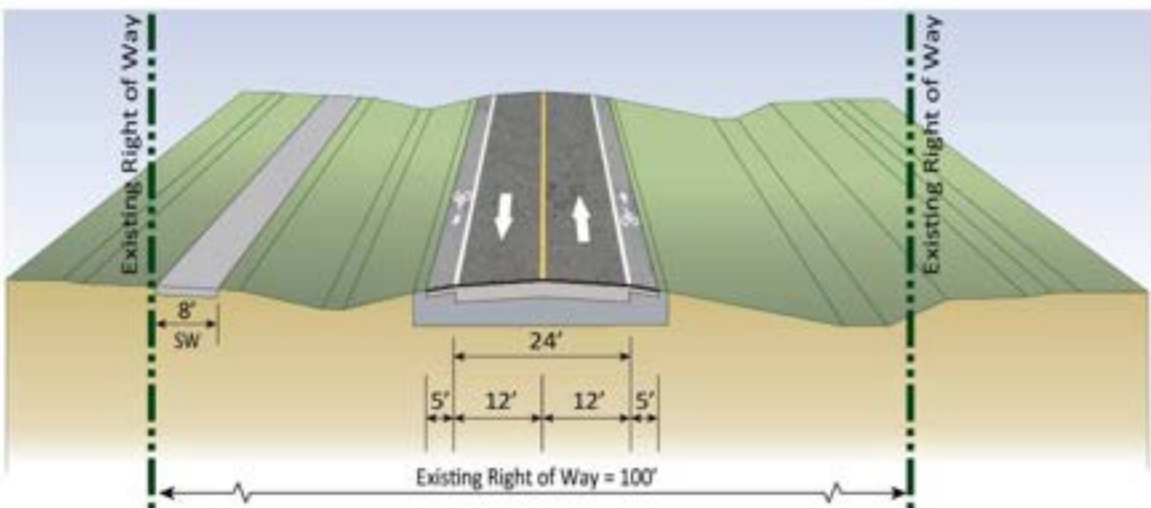


From Seminole Crossing Trail to 13th Street

SR 29 is a two-lane undivided roadway with one 12-foot lane in each direction, 5-foot paved shoulders on either side of the roadway designated as bike lanes, and an 8-foot sidewalk on the west side of the roadway. There is an open drainage system, and the existing ROW is 100 feet wide. The posted speed limit begins at 45 mph, then decreases to 35 mph at 13th Street. **Figure 2.3** depicts this typical section.

Figure 2.3

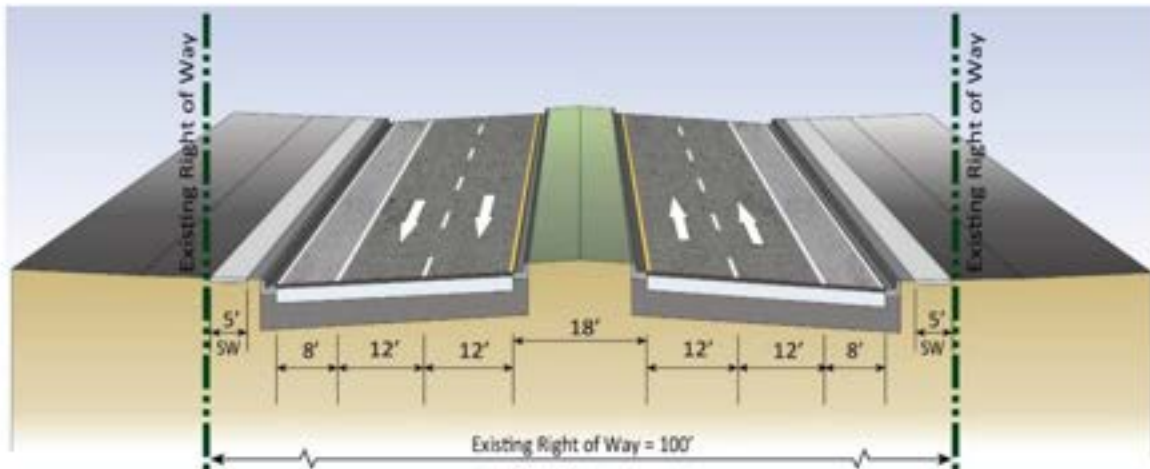
SR 29 Existing Typical Section from Seminole Crossing Trail to 13th Street



From 13th Street to North 9th Street

SR 29 is a four-lane divided roadway with two 12-foot through lanes and 8 feet of on-street parking on each side of the roadway, an 18-foot median, and 5-foot sidewalks on each side of the roadway. There is a closed drainage system with curb and gutter and the existing ROW is 100 feet wide. The posted speed limit is 35 mph. **Figure 2.4** depicts this typical section.

Figure 2.4
SR 29 Existing Typical Section from 13th Street to North 9th Street



From North 9th Street to Westclox Street/New Market Road W

SR 29 is a two-lane divided roadway with one 12-foot lane in each direction, 4-foot paved shoulders on either side of the roadway designated as bike lanes, a 14-foot bidirectional left turn lane, and 5-foot sidewalks on each side of the roadway. There is an open drainage system, and the existing ROW varies from 100 feet to 200 feet wide. At North 9th Street, the posted speed limit on SR 29 is 40 mph. The posted speed limit increases again to 45 mph at 7th Avenue. **Figure 2.5** depicts this typical section.

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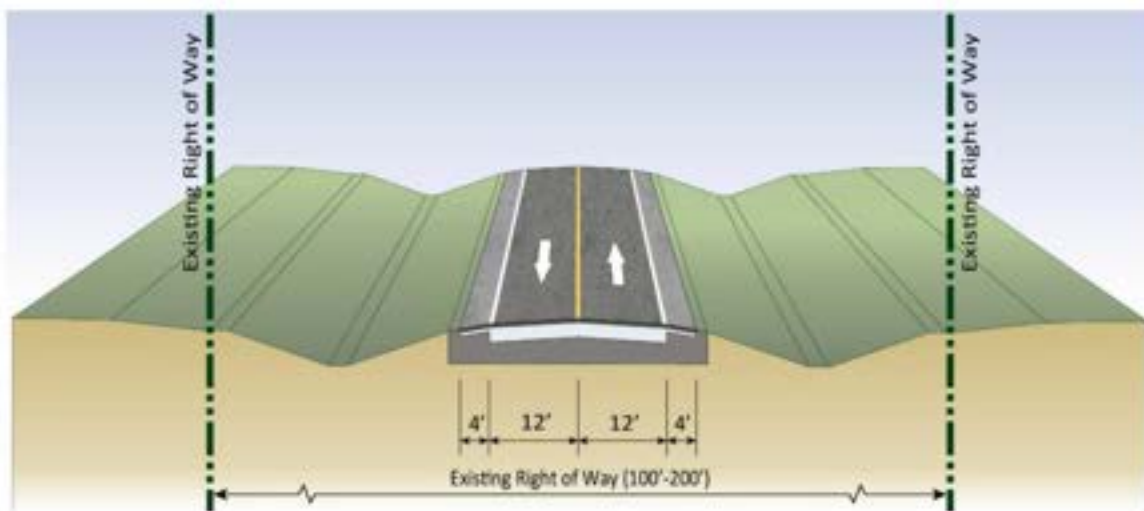
Figure 2.5
SR 29 Existing Typical Section from North 9th Street
to Westclox Street/New Market Road W



From Westclox Street/New Market Road W to South of SR 82

SR 29 is a two-lane undivided roadway with one 12-foot lane in each direction and 4-foot paved shoulders on either side of the roadway. There is an open drainage system, and the existing ROW is 200 feet wide. The posted speed limit begins at 45 mph, then increases to 55 mph and 60 mph north of Westclox Street/New Market Road W and remains at 60 mph before decreasing to 50 mph and then 45 mph prior to the new partial two-lane roundabout at SR 82. **Figure 2.6** depicts this typical section.

Figure 2.6
SR 29 Existing Typical Section from Westclox Street/New Market Road W
to South of SR 82



2.4.2 New Market Road

Within the project limits, New Market Road contains the following typical section:

From SR 29 South to SR 29 North

New Market Road is a two-lane undivided roadway with one 12-foot lane and a 6-foot concrete sidewalk in each direction, with no paved shoulders. There is an open drainage system. The ROW varies from 68 feet to 110 feet. The posted speed limit along New Market Road from SR 29 South to Hendry Street is 35 mph and is 40 mph north of Hendry Street to SR 29 North. **Figure 2.7** depicts this typical section.

Figure 2.7
New Market Road Existing Typical Section from SR 29 South to SR 29 North



2.5 Pavement Conditions

According to the FDOT *All System Pavement Condition Forecast for Collier County* dated June 10, 2018, the 2018 Cracking Ratings for both the northbound and southbound lanes of SR 29 (Roadway ID 03080000) within the project limits are in good condition. Any rating less than 6.0 indicates that the pavement is deficient. **Table 2-1** identifies the existing pavement condition ratings for SR 29 from Oil Well Road to SR 82. Pavement conditions are not available for New Market Road.

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**Table 2-1
Pavement Condition Survey Results**

Location	Direction	Beginning Mile Post	Ending Mile Post	Condition Category	Year 2018 Rating (0-10)
Oil Well Rd to MP 28.731	Northbound and Southbound	27.208	28.731	Cracking	10.0
				Ride	8.2
MP 28.731 to MP 34.341	Northbound and Southbound	28.731	34.341	Cracking	10.0
				Ride	8.0
MP 34.341 to Airport Rd	Northbound and Southbound	34.341	36.822	Cracking	10.0
				Ride	8.3
Airport Rd to S 9 th St	Northbound	36.822	37.846	Cracking	9.0
				Ride	7.7
Airport Rd to S 9 th St	Southbound	36.822	37.846	Cracking	8.5
				Ride	7.8
S 9 th St to Lake Trafford Rd	Northbound and Southbound	37.846	39.140	Cracking	10.0
				Ride	7.7
Lake Trafford Rd to New Market Rd W (CR 29A)	Northbound and Southbound	39.140	39.954	Cracking	9.0
				Ride	7.8
New Market Road W (CR 29A) to SR 82	Northbound and Southbound	39.954	42.798	Cracking	8.5
				Ride	8.0

2.6 Vertical and Horizontal Alignment

There are a total of five horizontal curves within the study limits, as shown in **Table 2-2**. All of these curves along SR 29 meet the required minimum curve length as described in the *FDOT Design Manual (FDM)*, Chapter 210, Table 210.8.1. Though New Market Road is an off-system roadway, it is being considered as a potential corridor for a SR 29 Bypass. As such, it should be noted that one of the curves along New Market Road does not meet the required 400' minimum curve length as described in the FDM, Chapter 210, Table 210.8.1 and would require reconstruction or a design variation if utilized as part of a SR 29 Bypass.

The topography in the study corridor is relatively flat for the entirety of the project limits.

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**Table 2-2
Existing Horizontal Alignment**

Horizontal Curve Station			Radius (ft.)	DELTA (Deflection Angle)	DELTA (RT or LT)	Degree of Curve	Tangent Length (ft.)	Length (ft.)	Design Speed (MPH)	Desirable Length Per FDM (ft.)	Is FDM 400' Min Length Met?
P.C.	P.L.	P.T.									
SR 29											
213+64.98	227+06.10	239+09.94	3,305.54	44° 07' 10"	LT	1° 44' 00"	1,341.12	2,543.96	60	900	Yes
514+08.18	526+06.74	536+73.30	2,864.80	45° 22' 00"	LT	2° 00' 00"	1,198.56	2,265.12	45	675	Yes
589+79.70	625+64.82	615+45.78	1,637.03	89° 45' 30"	RT	3° 30' 00"	3,585.12	2,566.08	40	600	Yes
New Market Road											
19+72.31	22+35.84	24+72.10	637.50	44° 55' 11"	LT	8° 59' 15"	263.54	499.80	35	525	Yes
123+34.40	124+41.96	125+38.38	260.00	44° 57' 00"	LT	22° 02' 13"	107.56	203.98	45	675	No

2.7 Intersection Layout

There are six (6) signalized and four (4) stop controlled study intersections with the study limits. All intersections are at-grade. **Figure 2.8** shows the lane geometry of each of the study intersections along SR 29 and New Market Road.

The signal control design for each of the six (6) signalized intersections² are described as follows:

The intersection at SR 29 and Farm Worker Way is a conventional signalized intersection. All left turn movements are permitted. The intersection has a span wire crossing from the northwest corner to the southeast corner of the intersection. All approaches have two signal heads.

The intersection at SR 29 and North 1st Street is a conventional signalized intersection. All left turn movements are protected and permitted. The intersection has four single mast arm signal poles. The northbound and southbound approaches have two signal heads, and the eastbound and westbound approaches have three signal heads.

The intersection at SR 29 and North 9th Street is a conventional signalized intersection. The northbound left turn movement is protected and permitted, and all other left turn movements are permitted. The intersection has four single mast arm signal poles. All approaches have two signal heads.

² Since 2017, the intersection at SR 29 and Westclox Street/New Market Road W has been converted from a two-way stop condition with a flashing yellow beacon to a conventional signalized intersection. The northbound and southbound left turn movements are protected and permitted, and all other left turn movements are permitted. The intersection has a span wire crossing from the northeast corner to the southwest corner of the intersection. The northbound and southbound approaches have three signal heads, and the eastbound and westbound approaches have two signal heads.

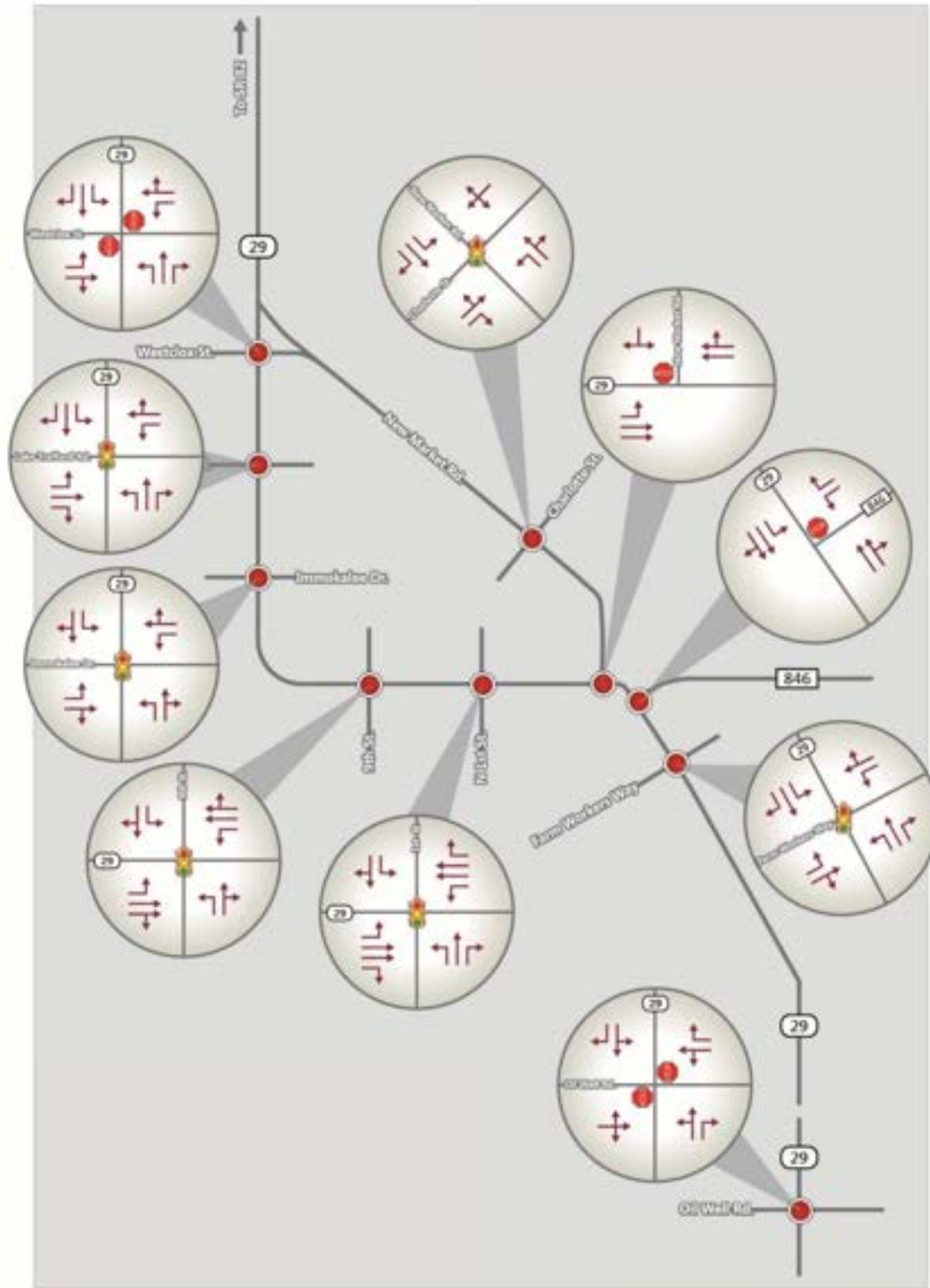
The intersection at SR 29 and Immokalee Drive is a conventional signalized intersection. All left turn movements are permitted. The intersection has four span wires, one crossing each approach leg. All approaches have two signal heads.

The intersection at SR 29 and Lake Trafford Road is a conventional signalized intersection. The northbound left turn movement is protected and permitted, and all other left turn movements are permitted. The intersection has four span wires, one crossing each approach leg. All approaches have two signal heads.

The intersection at New Market Road and Charlotte Street is a conventional signalized intersection. All left turn movements are permitted. The intersection has four single mast arm signal poles. All approaches have two signal heads.

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Figure 2.8
Existing (2017) Intersection Layout



2.8 Multimodal Accommodations

2.8.1 Pedestrian and Bicycle Features

Within the rural sections of SR 29, from Oil Well Road to south of Farm Worker Way and from north of Westclox Street/New Market Road W to SR 82, there are no pedestrian accommodations. At SR 29 and Farm Worker Way, there is a grade-separated pedestrian bridge to accommodate students traveling to/from Village Oaks Elementary School. Along SR 29 from Farm Worker Way to New Market Road, there is a continuous sidewalk on the west side of the corridor. Along SR 29 from New Market Road to Westclox Street/New Market Road W and along the entirety of New Market Road, there are continuous sidewalks on both sides of the corridors. Along the majority of SR 29 and New Market Road, the sidewalks vary from five to eight feet wide and have a continuous grass buffer or on-street parking buffer. There are crosswalks at each of the signalized intersections along SR 29 and New Market Road within the study area. Also, there are three midblock crossings along SR 29 from North 1st Street to North 9th Street.

Within the rural sections of SR 29, from Oil Well Road to south of Farm Worker Way and from north of Westclox Street/New Market Road W to SR 82, a paved shoulder of five feet exists on either side of the roadway. There are no bicycle accommodations along the entirety of New Market Road or along SR 29 from North 1st Street to North 9th Street. Along SR 29 from south of the Farm Worker Way to 13th Street and from North 9th Street to north of Westclox Street/New Market Road W, there are designated four to five-foot bicycle lanes on either side of the roadway.

2.8.2 Transit Features

Collier Area Transit (CAT) is the transit service provider for Collier County. CAT Routes 19, 22, and 23 travel along SR 29 and/or New Market Road through some portions of the study area. **Figure 2.9** shows the CAT bus routes along and around SR 29 and New Market Road within the study corridor.

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**Figure 2.9
CAT Bus Routes**



2.9 Drainage System Inventory

2.9.1 Floodways/Floodplains

The Federal Emergency Management Agency (FEMA) has designated locations of the 100-year base floodplain within the project corridor. The entire project is within Zone AH, which is the flood insurance rate zone that corresponds to areas of 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot base flood elevations derived from detailed hydraulic analyses are shown at selected intervals within this zone. The base flood elevation ranges from an elevation of 19 feet just south of Oil Well Road to an elevation of 36.5 feet at SR 82.

There are no FEMA regulatory floodways located within the project limits.

2.9.2 Existing Drainage Conditions

The topography along SR 29 is relatively flat with elevations ranging from a low of approximately 20 feet at the beginning of the study area at Oil Well Road to a high of approximately 40 feet in the vicinity of SR 82.

The SR 29 study is within the South Florida Water Management District (SFWMD). The corridor traverses three major watersheds within the project study area, Okaloacoochee Watershed, Cocohatchee-Corkscrew, and the Caloosahatchee River Watershed. Within these watersheds, there are four regional drainage basins. Within the Okaloacoochee Watershed, the project is located within the Silver Strand Basin (Water Body Identification (WBID) 3278W) as defined by the Florida Department of Environmental Protection (FDEP) and the Immokalee Basin (WBID 3278L). Within the Cocohatchee-Corkscrew Watershed, the project is located within the Cow Slough Basin (WBID 3278E); and, within the Caloosahatchee River Watershed, the project is located within the Townsend Canal Basin (WBID 3235L). Silver Strand (WBID 3278W) is verified as impaired for dissolved oxygen and Townsend Canal (WBID 3235L) is verified as impaired for nutrients on the current FDEP 303(d) Impaired Waters List. The project study area was further subdivided into forty-one (41) roadway basins. There are no Outstanding Florida Waters (OFW) within the project limits.

For SR 29 and New Market Road, drainage along most of the existing roadway is accomplished through collection and conveyance by open roadside ditches, side drains, ditch bottom inlets and cross drains. Ditches and depressional areas provide some degree of attenuation and water quality treatment. The runoff in the ditches is co-mingled with offsite runoff and ultimately conveyed to the outfall. From 13th Street to North 9th Street, runoff is collected by curb and gutter and conveyed to the outfall by a storm drain system.

A portion of SR 29 was permitted under SFWMD ERP Modification Number 11-00968-S, issued on March 14, 1996. The limits of this ERP begin approximately 1.5 miles north of Oil Well Road and extend north approximately eight miles to just south of CR 846. This ERP was obtained due to the widening of SR 29 under State Project Nos. 03080-3517, 03080-3529 and 03080-3530. Water quality treatment for the east side of SR 29 is provided in shallow retention areas between the road and the Barron Canal. Runoff from the west side of SR 29 sheet flows directly to existing grade with no permitted treatment. Stormwater attenuation was not required under ERP 11-00968-S.

Existing cross drains were located based on existing construction plans, United States Geological Survey (USGS) Quadrangle Maps, Flood Insurance Rate Maps (FIRMs), survey/Geographic Information System (GIS) data and field investigations. There are 47 cross drain structures within the study limits. The cross drains, along with their respective drainage basin locations, are listed in **Table 2-3**. In addition to the major cross drains, there are numerous side drains, ditch bottom inlets and manholes.

**Table 2-3
Existing Cross Drainage Inventory**

Structure No.	Station	Size	Drainage Basin
CD-1	1414+64	36"	1
CD-2	1447+00	36"	4
CD-3	1462+00	36"	5
CD-4	1486+50	36"	6
CD-5	1501+50	43"x68"	7
CD-6	1540+50	(2)-24"	8, 9
CD-7	1577+00	24"	10
CD-8	1589+75	(2)-24"	11
CD-9 ⁽¹⁾	1624+70	2 Span Reinforced Concrete Flat Slab Bridge - Gator Creek	12, 13
CD-10	1655+55	(2)-24"	14
CD-11	1669+80	(2)-24"	15
CD-12	1684+60	24"	15
CD-13	1701+00	(2)-24"	16
CD-14	1725+00	24"	17
CD-15	1765+90	36"	18, 19
CD-16 ⁽¹⁾	1792+25	(2)-10'x5' CBC Milton's Creek	20
CD-17	1815+20	(3)-24"	21
CD-18	1842+70	(4)-24"	22, 23
CD-19	1866+65	24"	23
CD-20	1881+75	(2)-24"	24, 25
CD-21 ⁽¹⁾	1908+70	(3)-10'x5' CBC Dry Gulch Creek	26
CD-22 ⁽¹⁾	1948+40	(2)-10'x5' CBC Eutopia Canal	28
CD-33	118+50 New Market Road	(2)-24"	29-1R
CD-34	89+05 New Market Road	24"	30-1R
CD-35	82+45 New Market Road	24"	30-1R
CD-36	81+90 New Market Road	24"	30-1R
CD-37	70+85 New Market Road	24"	30-1R
CD-38	70+30 New Market Road	24"	30-1R

Table 2.3 (Continued)
Existing Cross Drainage Inventory

Structure No.	Station	Size	Drainage Basin
CD-39	2075+24	42"	33
CD-40	2107+05	36"	34
CD-41	2119+90	36"	35
CD-42	2133+20	(2)-48"	37
CD-43	2162+35	36"	38
CD-44	2175+00	36"	39
CD-45	2240+15	(2)-36"	40
CD-46	2257+20	(2)-36"	41
CD-47	SR 82	(3)-42"	41

⁽¹⁾ Denotes bridge culverts

2.10 Existing Traffic Conditions

This section provides a brief summary of the detailed information contained in the *SR 29 Design Traffic Technical Memorandum, January 2018*. A more thorough discussion of the development of the existing and future year daily and peak hour traffic volumes, as well as the existing and future year peak hour traffic operations analyses that were conducted for this study are provided in the *Design Traffic Technical Memorandum, January 2018*.

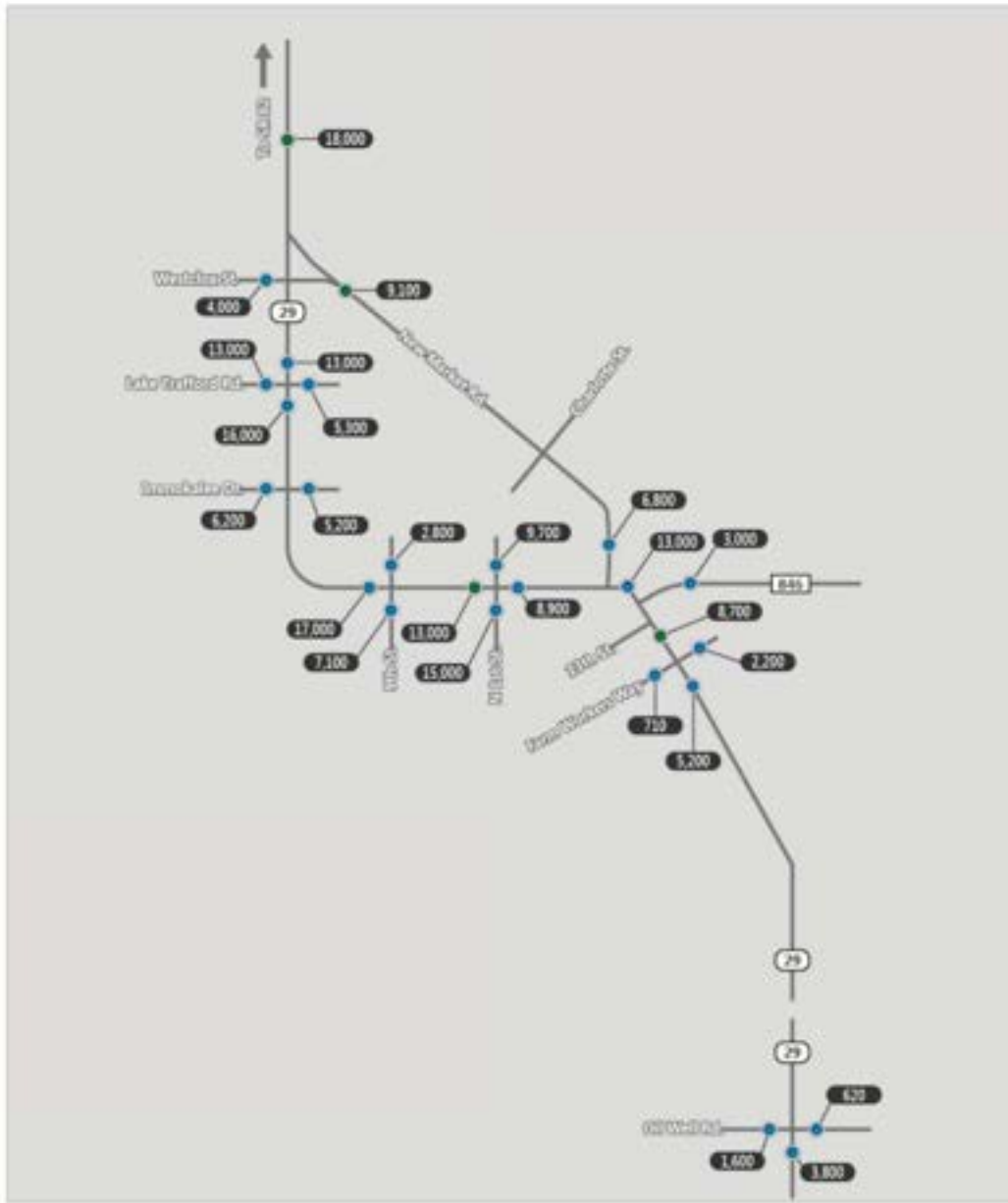
2.10.1 Existing Year Traffic Volumes

Peak hour intersection turning movement counts (TMCs), 72-hour classification counts, and 24-hour bi-directional counts were conducted at various locations within the study corridor during April and May 2017 while school was in session. Vehicle composition for the classification count counts consisted of passenger vehicles, medium trucks, and heavy trucks.

The traffic count data was adjusted using the seasonal adjustment factors for Collier County to provide 2017 annual average conditions. The bi-directional volume counts were adjusted using the FDOT axle adjustment factors. Annual average daily traffic (AADT) volumes were estimated from the adjusted 72-hour and 24-hour counts. A seasonal adjustment factor was not applied to the TMC's since the counts were taken during the peak season. The existing (2017) AADT and AM and PM peak hour TMC's are displayed in **Figure 2.10** and **Figure 2.11**, respectively.

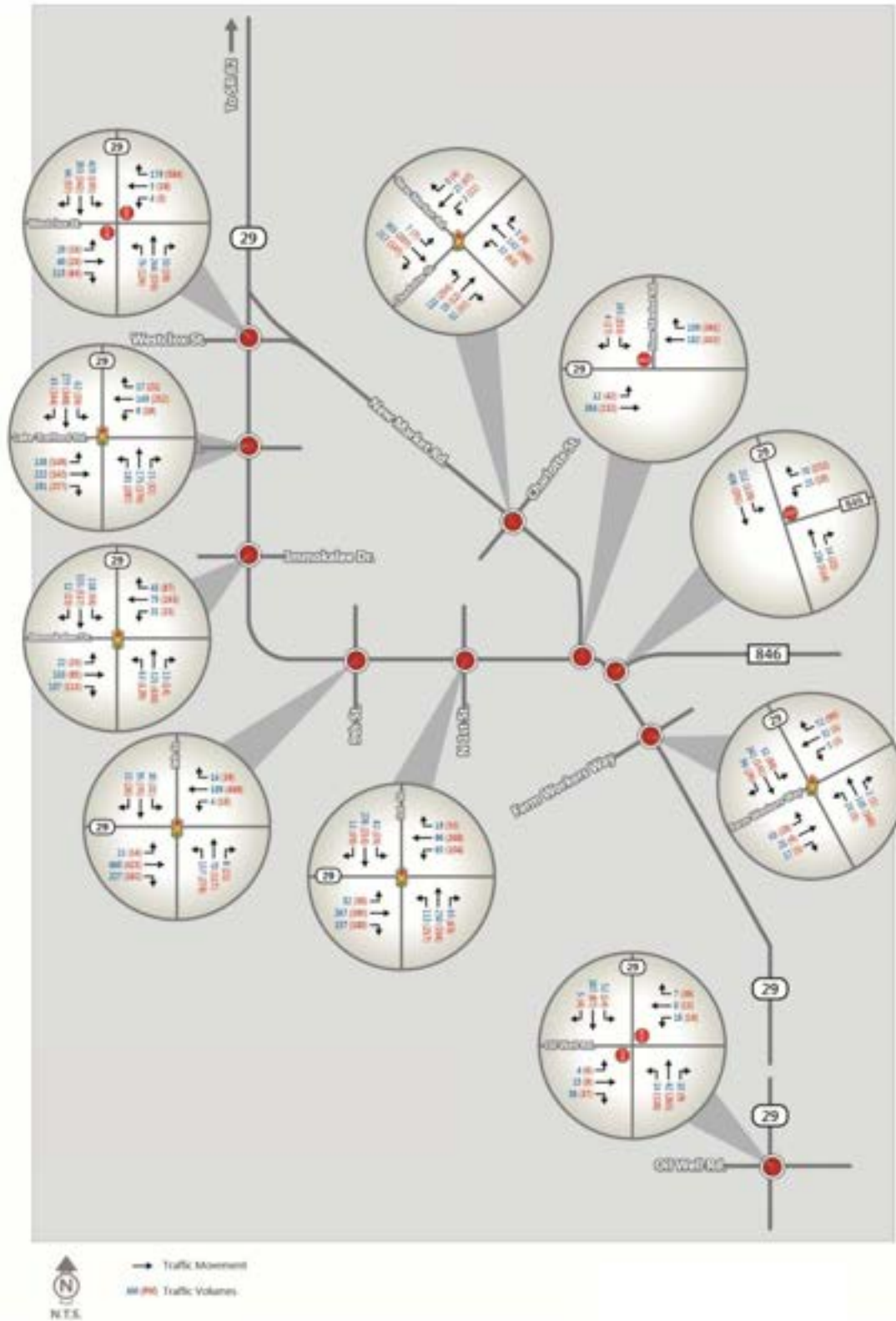
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Figure 2.10
Existing (2017) AADT



-  N.T.S.
-  Year 2017 Average Annual Daily Traffic (AADT)
-  24-Hour Volume Count
-  72-Hour Classification Count

Figure 2.11
Existing (2017) AM and PM TMC's



2.10.2 Existing Level of Service

The FDOT sets the adopted (LOS) standard for state facilities. However, since SR 29 transitions between rural and urban classification, the LOS standard also changes. **Table 2-4** shows the adopted current year and twenty year (2045) peak hour LOS standards for the project corridor.

Table 2-4
Peak Hour LOS Standards

Facility	Limits	Current Year Standard	Twenty Year Standard
SR 29	Oil Well Road to Farm Worker Way	C	C
SR 29	Farm Worker Way to Westclox Street/New Market Road W	D	D
SR 29	Westclox Street/New Market Road W to SR 82	C	C
New Market Road	SR 29 South to SR 29 North	D	D

Source: FDOT Quality/LOS Handbook

Intersection LOS for existing (2017) conditions was estimated using Highway Capacity Manual (HCM) 2010 procedures, as executed by Synchro (Version 9) software. AM peak hour and PM peak hour analyses were performed under existing conditions. The analysis results for the intersections within the project limits are summarized in **Table 2-5**. All intersections operate at an acceptable LOS, except for SR 29 and Westclox Street/New Market Road W and New Market Road and Charlotte Street.

Table 2-5
Existing (2017) Intersection LOS

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay (s)	LOS	Delay (s)	LOS
SR 29 and Oil Well Road	Stop	7.9/12.6	A/B	8.6/24.7	A/C
SR 29 and Farm Worker Way	Signal	8.5	A	8.1	A
SR 29 and CR 846	Stop	8.8/19.1	A/C	22.4/10.2	C/B
SR 29 and New Market Road E	Stop	8.1/19.3	A/C	10.7/29.6	B/D
SR 29 and North 1 st Street	Signal	23.7	C	24.1	C
SR 29 and North 9 th Street	Signal	14.1	B	14.3	B
SR 29 and Immokalee Drive	Signal	13.7	B	14.1	B
SR 29 and Lake Trafford Road	Signal	17.6	B	20.1	C
SR 29 and Westclox Street/New Market Road W*	Stop	9.3/43.4	A/E	9.1/53.8	A/F
New Market Road and Charlotte Street	Signal	14.3	B	58.1	E

*Note: Since 2017, the intersection at SR 29 and Westclox Street/New Market Road W has been converted from a two-way stop condition with a flashing yellow beacon to a conventional signalized intersection. The northbound and southbound left turn movements are protected and permitted, and all other left turn movements are permitted. The intersection has a span wire crossing from the northeast corner to the southwest corner of the intersection. The northbound and southbound approaches have three signal heads, and the eastbound and westbound approaches have two signal heads.

Arterial LOS for existing (2017) conditions was estimated using the FDOT 2013 *Quality/Level of Service Handbook*, LOS Generalized Tables. PM peak hour analyses were performed under existing conditions. The analysis results for the arterial segments within the project limits are summarized in **Table 2-6**. All segments operate at an acceptable LOS except for SR 29 from New Market Road to SR 82.

**Table 2-6
Existing (2017) PM Peak Hour Arterial LOS**

Segment	Number of Lanes	Posted Speed Limit	NB/WB Volume	SB/EB Volume	Peak Direction LOS
SR 29					
Oil Well Road to Farm Worker Way	2	60	391	178	B
Farm Worker Way to CR 846	2	45	432	274	C
CR 846 to New Market Road E	4	35	846	453	D
New Market Road E to North 1 st Street	4	35	407	304	C
North 1 st Street to North 9 th Street	4	35	523	484	C
North 9 th Street to Immokalee Drive	2	40	829	624	C
Immokalee Drive to Lake Trafford Road	2	45	797	591	C
Lake Trafford Road to Westclox Street/New Market Road W	2	45	614	593	C
Westclox Street/New Market Road W to SR 82	2	60	968	638	D
New Market Road					
SR 29 to Charlotte Street	2	35	525	262	D
Charlotte Street to SR 29/Westclox Street	2	45	461	244	C

2.11 Crash Data

Five full calendar years (January to December) of available vehicular crash data from Signal Four Analytics, for the years from 2012 to 2016, were utilized for the SR 29 and New Market Road crash analysis.

Table 2-7 summarizes the crash experience for the study area by severity type and driving conditions. For the five-year study period 714 crashes were reported, with five of those resulting in at least one fatality and 200 (28%) resulting in at least one injury. Approximately 28% of the crashes occurred during non-daylight time periods with low lighting conditions and 11% occurred in wet weather conditions.

The intersection of SR 29 and Lake Trafford Road had the highest number of crashes (91 crashes) of any of the analyzed intersections and accounted for 13 percent of the total crashes along the study corridor. The segment of SR 29 from Farm Worker Way to Westclox Street/New Market

Road W had the highest number of crashes (195 crashes) of any of the analyzed segments and accounted for 27 percent of the total crashes along the study corridor.

Table 2-7
Crashes (2012 to 2016) by Severity and Driving Conditions

Year/Location	Total	Fatal Crashes	Injury Crashes	Property Damage Only	Night	Wet
Intersection						
SR 29 and Oil Well Road	24	1	11	12	13	2
SR 29 and Farm Worker Way	7	0	1	6	5	1
SR 29 and CR 846	3	0	1	2	1	0
SR 29 and New Market Road E	22	0	7	15	7	3
SR 29 and North 1 st Street	62	1	12	49	17	4
SR 29 and North 9 th Street	37	0	11	26	7	6
SR 29 and Immokalee Drive	60	0	10	50	21	7
SR 29 and Lake Trafford Road	91	0	19	72	15	9
SR 29 and Westclox Street/New Market Road W (before signal was installed)	65	0	20	45	12	6
New Market Road and Charlotte Street	17	0	1	16	4	4
Segments						
SR 29 from Oil Well Road to Farm Worker Way	12	1	5	6	5	4
SR 29 from Farm Worker Way to Westclox Street/New Market Road W	195	0	67	128	67	15
SR 29 from Westclox Street/New Market Road W to SR 82	54	1	16	37	17	12
New Market Road from SR 29 to SR 29 /Westclox Street	65	1	19	45	11	9
Total	714	5	200	509	202	82

Table 2-8 summarizes the crash experience for the study area by crash type. For the overall corridor, the highest crash type was rear-end, comprising 40% of the total crashes. Angle (18%) and left turn (11%) were the second and third highest crash types. There were 18 pedestrian and 5 bicycle crashes over the five years, a pedestrian crash resulting in two of the five fatal crashes.

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Table 2-8
Crashes (2012 to 2016) by Crash Type

Crash Type	2012	2013	2014	2015	2016	Total
Angle	10	19	13	24	24	90
Animal	0	0	3	0	0	3
Bicycle	2	2	0	0	1	5
Head On	4	4	2	5	4	19
Left Turn	6	11	14	21	25	77
Off Road	4	3	3	2	6	18
Pedestrian	1	4	6	3	4	18
Rear End	24	45	59	71	84	283
Right Turn	0	2	6	0	1	9
Rollover	2	1	1	2	0	6
Sideswipe	6	11	11	18	20	66
Unknown	8	2	3	2	4	19
Other	6	21	23	22	29	101
Total	73	125	144	170	202	714

Table 2-9 compares the crash rate in million vehicle miles traveled (MVMT) by segment to the statewide average. SR 29 from Farm Worker Way to Westclox Street/New Market Road W and New Market Road from SR 29 to SR 29/Westclox Street exhibit crash rates higher than the statewide average for a similar typical section.

Table 2-9
Crashes Rate Comparison

Crash Type	Area Type	Total Crashes	AADT	Length (miles)	Crash Rate (MVMT)	Statewide Average (MVMT)	Greater than Average?
SR 29 from Oil Well Road to Farm Worker Way	Rural	43	5,200	9.58	0.47	0.69	No
SR 29 from Farm Worker Way to Westclox Street/New Market Road W	Urban	535	12,800	4.35	5.27	2.39	Yes
SR 29 from Westclox Street/New Market Road W to SR 82	Rural	54	18,000	2.65	0.62	0.69	No
New Market Road from SR 29 South to SR 29/Westclox Street	Urban	82	7,950	2.23	2.54	1.02	Yes

2.12 Utilities

The preliminary utility coordination and investigation effort was conducted through written and verbal communications with the existing utility owners. A Sunshine State 811 of Florida Design Ticket System listing of existing Utility Agencies/Owners (UAO's) was acquired on March 5, 2018. The utility types obtained from the Sunshine State 811 of Florida Design ticket are listed in **Table 2-10**.

A *Utility Request Package* was submitted to the UAO's on June 8, 2018. **Table 2.10** contains existing facilities information received to date³.

**Table 2-10
Existing Utilities Overview**

Utility Type	Utility	Summary of Facilities
Cable TV/ Communications/ Fiber Optic	Collier County Traffic Operations Section	Collier County operates and maintains the ATMS infrastructure that includes the signalized intersection on SR 29 at Farm Worker Way, North 1 st Street, North 9 th Street, Immokalee Drive, and Lake Trafford Road.
	Collier County Information Technology (IT)	No utilities within the project limits.
	Comcast	Existing aerial Comcast facilities run along SR 29 on the west side of the roadway from Farm Workers Way to Jerome Dr. Existing aerial Comcast facilities run along CR 846 on the south side of the roadway throughout the project limits. There is an existing network of aerial and underground facilities in the downtown Immokalee area from CR 846 to Flagler St. Existing aerial Comcast facilities run along SR 29 on the east side of the roadway from south of Westclox St. to south of SR 82.
	Crown Castle Fiber	Overhead fiber optic crosses SR 29 at dirt road north of Johnson Rd. Buried fiber optic runs from SR 29 westward at same dirt road.
	Summit Broadband Inc.	Fiber Optic runs along the north side of CR 846 crossing roadway at 12th street continuing along SR 29. Fiber Optic runs along west side of SR 29 from south of Westclox St. to north of SR 82.
	Lipman Family Companies	Information not yet received from UAO
	Centurylink – Naples	Buried copper and fiber telephone lines along the east side of SR 29 south of Oil Well Rd. Buried fiber crosses SR 29 south of Oil Well Rd. Buried fiber runs along south side of Oil Well Rd. Buried copper runs along south side of Oil Well Rd. east of SR 29. Buried copper and fiber run along east side of SR 29 before fiber crosses SR 29 at station 125+10.00. Fiber continues on the west side of SR 29 until Trans Gro Rd. where copper begins again. Buried copper and fiber run along the west side of SR 29 until Seminole Crossing Trail. Fiber is consistent while copper varies. North of Seminole Crossing Trail copper and fiber run below the existing geometry of the roadway. Buried fiber and copper run along the north side of CR 846. Buried copper and fiber run along both sides of New Market Rd. as well as below existing roadway until Charlotte St. Buried copper and fiber run on both sides of SR 29 from south of Westclox St. to end of project limits at SR 82.

³ Since May 2020, Florida Power and Light Company constructed the FPL Immokalee Solar Energy Center at 3350 SR 29 N, Immokalee, FL 34142. The 74.5-megawatt facility is on 578 acres east of SR 29 and north and south of SR 82. There are two sets of transmission lines aerially crossing SR 29 at the southern end of the Solar Energy Center.

**Table 2.10
Existing Utilities Overview (Continued)**

Utility Type	Utility	Summary of Facilities
Water/Sewer	Immokalee Water & Sewer District	South of Agriculture Way to New Market Rd., there is a network of varying size PVC water mains and PVC force mains. North of New Harvest Rd. to New Market Rd. there is a network of gravity sanitary sewers including manhole covers. 8" PVC water main on west side of SR 29 from south of Westclox St. to Heritage Blvd. 10" PVC gravity sanitary sewer runs across Westclox St. west of SR 29. 12" PVC water main crosses SR 29 at Heritage Blvd.
Electric	Lee County Electric Co-Op	Overhead electric along west side of SR 29 from Oil Well Rd. to New Market Rd. with multiple crossings, primarily at cross streets. Overhead electric along south side of CR 846. Overhead electric along east and west sides of New Market Rd. with various crossings ending at Flagler St. Overhead electric along west side of proposed bypass for Central Alternative #2 with multiple crossings at the wastewater treatment plant. Overhead electric crosses proposed roadway at Alachua St. Overhead electric along east side of SR 29 from Westclox St. to SR 82 with multiple crossings, primarily at cross streets.
Petroleum Pipeline	Calumet Pipeline Holdings (Sunniland Petroleum Pipeline)	Calumet Pipeline Holdings (Sunniland Petroleum Pipeline) owns an abandoned 6" tar coated steel pipeline throughout the project limits. The pipeline runs along SR 29 from Oil Well Road to CR 846. At CR 846, the pipeline orients to the northwest and follows New Market Road until reaching SR 29. At SR 29, the pipeline turns north running adjacent to the roadway beyond the project limits at SR 82. The location of the pipeline relative to the existing roadway is unknown.

2.13 Railroads

There are no at-grade or grade-separated railroad crossings within the project study area.

2.14 Lighting

No existing lighting is present along SR 29 from Oil Well Road to CR 846, along SR 29 from Westclox Street/New Market Road W to SR 82, or along any portion of New Market Road within the study limits.

The existing lighting along SR 29 from CR 846 (Airport Road) to North 1st Street consists of FDOT conventional lighting using cobra-head fixtures. They are placed in a staggered across-the-median configuration. At North 1st Street, the lighting changes to decorative poles and luminaries with acorn fixtures and an opposite across-the-roadway configuration. At left turn bay openings, there are also decorative light fixtures within the median. The decorative lighting continues in this manner until North 9th Street, at which the configuration becomes staggered across-the-median and there is no longer lighting within the median. The decorative lighting continues in a staggered across-the-median configuration from North 9th Street to Westclox Street/New Market Road W.

Along SR 29 from North 1st Street to North 9th Street, there are decorative pedestrian lights provided at each cross street. These same pedestrian lights are also provided at the SR 29 signalized intersections of Immokalee Drive, Lake Trafford Road, and Westclox Street/New Market Road W.

Currently, the existing lighting along SR 29 or New Market Road does not meet lighting criteria identified within the FDM for signalized intersections. As mentioned previously, approximately 28% of the crashes occurred during non-daylight time periods with low lighting conditions.

2.15 Soils Classifications

Based on a review of the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) *Soil Survey of Collier County, Florida*, much of the project corridor consists of nearly level, poorly drained soils. Generally, the natural seasonal high groundwater table (SHWT) is at depths of about 6 to 18 inches below the natural grade within the project limits. The project study area is comprised of 18 mapped soil units. According to the *Hydric Soils of Florida Handbook* (Hurt, 2007), 10 of the 18 soil types identified within the project study area are classified as hydric; the remaining 8 types are not hydric. **Table 2.11** lists each mapped soil type within the project limits.

Table 2-11
Collier County USDA NRCS Soil Survey Information

Soil Type	Hydric Y/N
3 - Malabar fine sand, 0 to 2 percent slopes	Y
7 - Immokalee fine sand, 0 to 2 percent slopes	N
8 - Myakka fine sand, 0 to 2 percent slopes	N
10 - Oldsmar fine sand, limestone substratum	N
15 - Pomello fine sand, 0 to 2 percent slopes	N
16 - Oldsmar fine sand, 0 to 2 percent slopes	N
17 - Basinger fine sand, 0 to 2 percent slopes	Y
20 - Fort Drum, and Malabar, high fine sands	N
21 - Boca fine sand, 0 to 2 percent slopes	Y
22 - Chobee, Winder, and Gator soils, depressional	Y
23 - Holopaw and Okeelanta soils, depressional	Y
25 - Boca, Riviera, limestone substratum and Copeland fine sands, depressional	Y
27 - Holopaw fine sand, 0 to 2 percent slopes	Y
28 - Pineda and Riviera fine sands	Y
29 - Wabasso fine sands, 0 to 2 percent slopes	N
34 - Urban land-Immokalee-Oldsmar, limestone substratum complex	Unranked
37 - Tuscawilla fine sand	Y
43 - Winder, Riviera, limestone substratum and Chobee soils, depressional	Y

2.16 Structures

There are five structures located along SR 29 within the project limits. Of these structures, three are concrete bridge culverts (#030019, #030304, and #030305) carrying SR 29 over water bodies; one is a concrete flat slab bridge (#030303) carrying SR 29 over a water body; and one bridge (#039001) is a prefabricated steel truss structure carrying pedestrian traffic over SR 29 to/from Village Oaks Elementary School. **Table 2-13** provides a comprehensive list of existing data for these bridges including year built, span lengths, and minimum vertical clearance.

Bridge sufficiency ratings are used to help determine whether a bridge that is structurally or functionally obsolete should be repaired or replaced. This rating considers a number of factors, of which approximately half relate to the condition of the bridge itself. **Table 2-13** catalogs the condition ratings and load ratings of the bridges within the project limits along SR 29. All bridges have Load Factor Rating (LFR) Operating Load ratings greater than 1.0. The LFR Inventory Rating on all the bridges is greater than 1.0 as required in Section 7.1.1 in the FDOT *Structures Design Guidelines (SDG)*.

The minimum vertical clearances over various facility types, based on standards from the FDM (Sections 260.6 and 260.8), are presented below in **Table 2.12**. Within the project limits, the only existing bridge clearance over roadway is 18.8 feet (#039001 over SR 29 and Farm Worker Way). Existing bridge clearances over water range from 4.6 to 6.69 feet.

Table 2-12
Minimum Vertical Clearance for Existing Bridges

Facility Type (Freeways, Arterials, Collectors & Others)	Vertical Clearance
Existing Roadway or Railroad Over Roadway	16.0 ft.
Roadway Over Pedestrian ⁽¹⁾	7.0 ft.
Pedestrian Over Roadway	17.0 ft.
Roadway over Navigable Water	6 ft.
Roadway over Non-Navigable Water (over design flood state)	2 ft.

⁽¹⁾ From the FDM, Part 2, Revised January 1, 2018, Section 260.6

In general, all of the bridges within the project limits are in satisfactory condition. None of these bridges are considered deficient per FDOT vertical clearance standards. All of the bridges that carry vehicular traffic have an LFR inventory rating factor above 1.0, which makes them suitable for widening per SDG 7.1.1A.

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**Table 2-13
Existing Bridge Conditions**

Milepost		Location Description	Structure			Year Built	Skew Angle (deg.)	Span		Beam/Girder/Slab Depth (ft.)	Out to Out Width (ft.)	Travel Lane Width (ft.)	Shoulder Width (ft.)		Sidewalk Width (ft.)	Navigable Waterway	Minimum Vertical Clearance (ft.)	Structural Rating (BS/SS)		Sufficiency Rating
Begin	End		Number	Type	Length (ft.)			Number	Length (ft.)				Inside	Outside				Operating	Inventory	
SR 29																				
36.471	36.472	SR 29 over Dougherty Canal	000019	Concrete Culvert	21	1983	0	2	10.5	-	47 (Roadway)	52	8	8	-	No	N/A	47	40	81
36.746	36.756	SR 29 over Gator Creek	000020	Concrete Flat Slab	49.0	1990	0	2	24.0	15	46.5	11.8	8.8	8.8	-	No	4.00	87	58.2	93.9
33.924	33.928	SR 29 over Millers Canal	000024	Concrete Culvert	21.8	1990	0	2	10.0	-	47.1 (Shoulder) 46 (Culvert)	11.8	5 (Parade) 4.8 (Shoulder)	5 (Parade) 6.8 (Shoulder)	-	No	6.00	81	68.8	85.9
36.121	36.128	SR 29 over Golds Creek	000025	Concrete Culvert	31.5	1990	0	3	10.0	-	55.8 (Roadway) 41 (Culvert)	11.8	8.8	5 (Parade) 6.8 (Shoulder)	5.0	No	5.00	82.0	49.7	93.9
35.403	35.406	Pedestrian Pass Pedestrian Crossing SR 29	000024	Prefab Steel Truss - Pedestrian Crossing	442.1	1992	0	1 (Truss) 34 (Approach)	322.4 & 352.4 (Truss)	-	-	-	-	-	8	-	10.4 (SR 29 & Pass Walker Steps)	-	-	92

2.17 Existing Intelligent Transportation Systems

There are existing Intelligent Transportation System (ITS)/Advanced Traffic Management System (ATMS) facilities along SR 29 within the project limits. The FDOT is the owner of the existing ITS infrastructure including an actuated solid state controller assembly, inductive loop detectors, system control equipment, telephone connection box, and associated pull boxes along SR 29 within the study limits. Collier County operates and maintains the ATMS infrastructure that includes the signalized intersection on SR 29 at Farm Worker Way, North 1st Street, North 9th Street, Immokalee Drive, and Lake Trafford Road.

There are two school zone warning beacons located approximately 200 feet from the intersection of Farm Worker Way, along SR 29. The warning beacons have pull boxes along the northwest and southeast side of SR 29. There are also pull boxes at the northwest and northeast corners of the intersection of SR 29 and Farm Worker Way.

The signalized intersection of North 1st Street (Immokalee Road) and SR 29 includes a 24-strand fiber branch that runs along the south side of SR 29. The fiber crosses SR 29 on the west side of the intersection. There are seven fiber pull boxes on the northwest corner, many of which connect to ten type B loop and five type F loop assemblies. There are four pull boxes at varying points along the southwest corner. There are four pull boxes in the northeast quadrant. On the southeast quadrant, there are two pull boxes. There are two pedestrian detectors located at each corner of the intersection. The controller cabinet is located on the northwest quadrant and contains an actuated solid state controller assembly, eight inductive loop detectors, one interface panel, one modulator/demodulator, and a fiber optic modem. There is also a Closed-Circuit TV Camera located on the northwest pole.

The signalized intersection of North 9th Street and SR 29 includes a 24-strand fiber branch that runs along the south side of SR 29. There are two fiber pull boxes on the northwest corner, nine pull boxes at varying points along the southwest corner; many of which connect to loop assemblies along the eastbound lanes of SR 29 approaching the intersection. Similar to the southwest corner, there are five pull boxes on the northeast quadrant at varying points that connect to loop assemblies for the westbound lanes. On the southeast quadrant, there are two pull boxes. There are two pedestrian detectors located at each corner of the intersection. The controller cabinet is located on the southwest quadrant and contains an actuated solid state controller assembly, seven inductive loop detectors, one interface panel, one modulator/demodulator, and a fiber optic modem. There is also a Closed-Circuit Television (TV) Camera located on the southwest pole.

The signalized intersection of Immokalee Drive and SR 29 includes a 24-strand fiber branch that runs along the west side of SR 29. There is one fiber pull box on the northwest corner and one additional pull box further up the northwest side of the intersection that connects to the loop assembly. The loop assembly is located 300 feet north of the northbound lanes stop bar on SR 29.

There is one pull box on the southwest quadrant adjacent to the controller cabinet. The controller cabinet contains an actuated solid state controller assembly, four inductive loop detectors, one interface panel, one modulator/demodulator, and a fiber optic modem. There is also a Closed-Circuit TV Camera located on the southwest pole.

The signalized intersection of Lake Trafford Road and SR 29 includes a 24-strand fiber branch that runs along the west side of SR 29, crosses SR 29 on the south side of the intersection, and crosses Lake Trafford Road on the east side of SR 29. There are three fiber pull boxes on the southwest corner of the intersection, one on the southeast, and one on the northeast corner. This fiber ties into a controller cabinet located on the northeast corner. The controller cabinet contains an actuated solid state controller assembly, five inductive loop detectors, one interface panel, one modulator/demodulator, and a fiber optic modem. There are also two loop assemblies installed on the eastbound lanes of Lake Trafford Road, 320 feet west of the intersection. There is a Closed-Circuit TV Camera located on the northeast pole.

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3.0

DESIGN CONTROLS AND CRITERIA

The design criteria for the proposed improvements to SR 29 adhere to the FDOT Design Manual (FDM), January 2018. The design year for the proposed improvements is 2045. The design criteria used for this PD&E study are listed by segment along SR 29 in **Table 3-1** through **Table 3.5** as follows:

- **Table 3-1** – Roadway Design Criteria – Oil Well Road to South of Kaicasa Entrance
- **Table 3-2** – Roadway Design Criteria – South of Kaicasa Entrance to North of Seminole Crossing Trail, South of Westclox Street / New Market Road W to Experimental Road, and Experimental Road to South of SR 82
- **Table 3-3** – Roadway Design Criteria – North of Seminole Crossing Trail to South of CR 846
- **Table 3-4** – Roadway Design Criteria – South of CR 846 to Gopher Ridge Road and Heritage Boulevard to SR 29 Bypass Junction
- **Table 3-5** – Roadway Design Criteria - Gopher Ridge Road to Experimental Road

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Table 3-1
Roadway Design Criteria – Oil Well Road to South of Kaicasa Entrance

DESIGN ELEMENT	Oil Well Rd. to S. of Kaicasa Entrance	SOURCE (2018)
Context Classification	C2: Rural	FDM Table 200.4.1
Functional Classification	Principal Arterial (SIS)	FDM Table 200.2.1
Access Classification	Class 3, Restrictive	FDM Table 201.3.2
Design Vehicle	WB-62FL	FDM Section 201.5
Typical Section		
Design Speed (MPH)	65	FDM Table 201.4.1
Number of Through Lanes	4	Typical Section
Travel Lane Widths	12'	FDM Table 210.2.1
Median Widths	40'	FDM Table 210.3.1
Shared Use Path (Width)	12' std., 10' min.	FDM Section 224.4
Shared Use Path (Maximum Grade)	5.00%	FDM Section 224.6
Shoulder Width (Total/Paved): Without Shoulder Gutter	inside: 8'/4' paved outside: 10'/5' paved	FDM Table 210.4.1
Clear Zone	36'	FDM Table 215.2.1
Border Width	40'	FDM Table 210.7.1
Maximum Cross Slope (travel lanes)	2%	FDM Figure 210.2.1
Maximum Cross Slope (shoulder)	5% inside/6% outside	FDM Section 210.4.1
Maximum Change in Cross Slope between Adjacent Travel Lanes	4%	FDM Figure 211.2.1
HORIZONTAL		
Minimum Stopping Sight Distance	645'	FDM Table 210.11.1
Maximum Deflection Without Curve	0°45'00"	FDM Section 210.8.1
Length of Horizontal Curve	975' (400' min.)	FDM Table 210.8.1
Maximum Degree of Curve/Min. Radius	4° 15'/1,348'	FDM Table 210.9.1
Superelevation Transition:		
On Tangent	80%	FDM Section 210.9.1
On Curve	20%	
Superelevation Transition Rate	1:250	FDM Table 210.9.3
Maximum Superelevation	10%	FDM Section 210.9
Maximum Curvature without Superelevation	0° 15'	FDM Table 210.9.1
VERTICAL		
Minimum K value for Crest Vertical Curves	313	FDM Table 210.10.3
Minimum Lengths of Crest Vertical Curves	450'	FDM Table 210.10.4
Minimum K value for Sag Vertical Curves	157	FDM Table 210.10.3
Minimum Lengths of Sag Vertical Curves	350'	FDM Table 210.10.4
Maximum Profile Grade	3%	FDM Table 210.10.1
Maximum Change in Grade Without a Vertical Curve	0.30%	FDM Table 210.10.2
Minimum Base Clearance	3'	FDM Section 210.10.3
Minimum Vertical Clearances for Pedestrian Bridges over Mainline (New/Existing)	17'-6"/17'-0"	FDM Section 210.10.3
Minimum Vertical Clearances for Signs and Signals	17'-6"	FDM Section 210.10.3
Minimum Vertical Clearances for Overhead Dynamic Message Signs (DMS)	19'-6"	FDM Section 210.10.3

Table 3-2

**Roadway Design Criteria – South of Kaicasa Entrance to North of Seminole Crossing Trail
and South of Westclox Street / New Market Road W to Heritage Boulevard, and
Experimental Road To South of SR 82**

DESIGN ELEMENT	(1): S. of Kaicasa Entrance to Seminole Crossing Trail; (2): S. of Westclox St. / New Market Rd. W to Heritage Blvd.; (3): Experimental Rd. to S. of SR 82	SOURCE (2018)
Context Classification	C3R: Suburban Res. (1) C3C: Suburban Comm. (2) C2: Rural (3)	FDM Table 200.4.1
Functional Classification	Principal Arterial (SIS)	FDM Table 200.2.1
Access Classification	Class 3, Restrictive	FDM Table 201.3.2
Design Vehicle	WB-62FL	FDM Section 201.5
Typical Section		
Design Speed (MPH)	55	FDM Table 201.4.1
Number of Through Lanes	4	Typical Section
Travel Lane Widths	12'	FDM Table 210.2.1
Median Widths	30'	FDM Table 210.3.1
Shared Use Path (Width)	10', 8' min. where constrained	FDM Section 224.4
Shared Use Path (Maximum Grade)	5.00%	FDM Section 224.6
Shoulder Width (Total/Paved): Without Shoulder Gutter	inside: 4' paved with C&G T' outside: 10/5' paved	FDM Table 210.4.1
Clear Zone	30'	FDM Table 215.2.1
Border Width	40', 26' min. with variation	FDM Table 210.7.1
Maximum Cross Slope (travel lanes)	2%	FDM Figure 210.2.1
Maximum Cross Slope (shoulder)	5% inside/6% outside	FDM Section 210.4.1
Maximum Change in Cross Slope between Adjacent Travel Lanes	4%	FDM Figure 211.2.1
HORIZONTAL		
Minimum Stopping Sight Distance	495'	FDM Table 210.11.1
Maximum Deflection Without Curve	0°45'00"	FDM Section 210.8.1
Length of Horizontal Curve	825' (400' min.)	FDM Table 210.8.1
Maximum Degree of Curve/Min. Radius	6° 30'/881'	FDM Table 210.9.1
Superelevation Transition:		
On Tangent	80%	FDM Section 210.9.1
On Curve	20%	
Superelevation Transition Rate	1:225	FDM Table 210.9.3
Maximum Superelevation	10%	FDM Section 210.9
Maximum Curvature without Superelevation	0° 30'	FDM Table 210.9.1
VERTICAL		
Minimum K value for Crest Vertical Curves	185	FDM Table 210.10.3
Minimum Lengths of Crest Vertical Curves	350'	FDM Table 210.10.4
Minimum K value for Sag Vertical Curves	115	FDM Table 210.10.3
Minimum Lengths of Sag Vertical Curves	250'	FDM Table 210.10.4
Maximum Profile Grade	5%	FDM Table 210.10.1
Maximum Change in Grade Without a Vertical Curve	0.50%	FDM Table 210.10.2
Minimum Base Clearance	3'	FDM Section 210.10.3
Minimum Vertical Clearances for Signs and Signals	17'-6"	FDM Section 210.10.3
Minimum Vertical Clearances for Overhead DMS	19'-6"	FDM Section 210.10.3

Table 3-3
Roadway Design Criteria – North of Seminole Crossing Trail to South of CR 846

DESIGN ELEMENT	Seminole Crossing Trail to South of CR 846	SOURCE (2018)
Context Classification	C3C: Suburban Comm.	FDM Table 200.4.1
Functional Classification	Principal Arterial (SIS)	FDM Table 200.2.1
Access Classification	Class 3, Restrictive	FDM Table 201.3.2
Design Vehicle	WB-62FL	FDM Section 201.5
Typical Section		
Design Speed (MPH)	45	FDM Table 201.4.1
Number of Through Lanes	4	Typical Section
Travel Lane Widths	11'	FDM Table 210.2.1
Median Widths	22'	FDM Table 210.3.1
Bicycle Lane Width	7' buffered	FDM Table 210.4.1
Clear Zone	24'	FDM Table 215.2.1
Border Width	14'	FDM Table 210.7.1
Sidewalk Width	6'	FDM Table 222.1.1
Maximum Cross Slope (travel lanes)	2%	FDM Figure 210.2.1
Maximum Change in Cross Slope between Adjacent Travel Lanes	4%	FDM Figure 211.2.1
HORIZONTAL		
Minimum Stopping Sight Distance	360'	FDM Table 210.11.1
Maximum Deflection Without Curve	1°00'00"	FDM Section 210.8.1
Maximum Deflection through Intersection	3°00'00"	FDM Table 212.7.1
Length of Horizontal Curve	675' (400' min.)	FDM Table 210.8.1
Maximum Degree of Curve/Min. Radius	8° 15'/695'	FDM Table 210.9.2
Superelevation Transition:		
On Tangent	80%	FDM Section 210.9.1
On Curve	20%	
Superelevation Transition Rate	1:150	FDM Table 210.9.3
Maximum Superelevation	5%	FDM Section 210.9
Maximum Curvature without Superelevation	2° 45'	FDM Table 210.9.2
VERTICAL		
Minimum K value for Crest Vertical Curves	98	FDM Table 210.10.3
Minimum Lengths of Crest Vertical Curves	135'	FDM Table 210.10.4
Minimum K value for Sag Vertical Curves	79	FDM Table 210.10.3
Minimum Lengths of Sag Vertical Curves	135'	FDM Table 210.10.4
Maximum Profile Grade	6%	FDM Table 210.10.1
Maximum Change in Grade Without a Vertical Curve	0.70%	FDM Table 210.10.2
Minimum Base Clearance	1' with Reduction in M _R	FDM Section 210.10.3
Minimum Distance between VPIs	250'	FDM Section 210.10.1.1
Minimum Profile Grade for Curb & Gutter Sections	0.30%	FDM Section 210.10.1.1
Minimum Vertical Clearances for Signs and Signals	17'-6"	FDM Section 210.10.3
Minimum Vertical Clearances for Overhead DMS	19'-6"	FDM Section 210.10.3

Table 3-4
Roadway Design Criteria – South of CR 846 to Gopher Ridge Road and Heritage Boulevard to SR 29 Bypass Junction

DESIGN ELEMENT	South of CR 846 to Gopher Ridge Rd. and Heritage Boulevard to SR 29 Bypass Junction	SOURCE (2018)
Context Classification	C3C: Suburban Comm.	FDM Table 200.4.1
Functional Classification	Principal Arterial (SIS)	FDM Table 200.2.1
Access Classification	Class 3, Restrictive	FDM Table 201.3.2
Design Vehicle	WB-62FL	FDM Section 201.5
Typical Section		
Design Speed (MPH)	45	FDM Table 201.4.1
Number of Through Lanes	4	Typical Section
Travel Lane Widths	12'	FDM Table 210.2.1
Median Widths	22' to 30'	FDM Table 210.3.1
Bicycle Lane Width	0'	FDM Table 210.4.1
Clear Zone	24'	FDM Table 215.2.1
Border Width	14' (min.)	FDM Table 210.7.1
Shared Use Path Width	12'	FDM Table 222.1.1
Maximum Cross Slope (travel lanes)	2%	FDM Figure 210.2.1
Maximum Change in Cross Slope between Adjacent Travel Lanes	4%	FDM Figure 211.2.1
HORIZONTAL		
Minimum Stopping Sight Distance	360'	FDM Table 210.11.1
Maximum Deflection Without Curve	1°00'00"	FDM Section 210.8.1
Maximum Deflection through Intersection	3°00'00"	FDM Table 212.7.1
Length of Horizontal Curve	675' (400' min.)	FDM Table 210.8.1
Maximum Degree of Curve/Min. Radius	8° 15'/695'	FDM Table 210.9.2
Superelevation Transition:		
On Tangent	80%	FDM Section 210.9.1
On Curve	20%	
Superelevation Transition Rate	1:150	FDM Table 210.9.3
Maximum Superelevation	5%	FDM Section 210.9
Maximum Curvature without Superelevation	2° 45'	FDM Table 210.9.2
VERTICAL		
Minimum K value for Crest Vertical Curves	98	FDM Table 210.10.3
Minimum Lengths of Crest Vertical Curves	135'	FDM Table 210.10.4
Minimum K value for Sag Vertical Curves	79	FDM Table 210.10.3
Minimum Lengths of Sag Vertical Curves	135'	FDM Table 210.10.4
Maximum Profile Grade	6%	FDM Table 210.10.1
Maximum Change in Grade Without a Vertical Curve	0.70%	FDM Table 210.10.2
Minimum Base Clearance	1' with Reduction in M_R	FDM Section 210.10.3
Minimum Distance between VPIs	250'	FDM Section 210.10.1.1
Minimum Profile Grade for Curb & Gutter Sections	0.30%	FDM Section 210.10.1.1
Minimum Vertical Clearances for Signs and Signals	17'-6"	FDM Section 210.10.3
Minimum Vertical Clearances for Overhead DMS	19'-6"	FDM Section 210.10.3

**Table 3-5
Roadway Design Criteria – Gopher Ridge Road to Experimental Road**

DESIGN ELEMENT	Gopher Ridge Rd. to Experimental Rd.	SOURCE (2018)
Context Classification	C3R: Suburban Res.	FDM Table 200.4.1
Functional Classification	Principal Arterial (SIS)	FDM Table 200.2.1
Access Classification	Class 3, Restrictive	FDM Table 201.3.2
Design Vehicle	WB-62FL	FDM Section 201.5
Typical Section		
Design Speed (MPH)	50 to 55	FDM Table 201.4.1
Number of Through Lanes	4	Typical Section
Travel Lane Widths	12'	FDM Table 210.2.1
Median Widths	30'	FDM Table 210.3.1
Bicycle Lane Width	5' Paved Shoulder	FDM Section 223.2.2/ Table 210.4.1
Shared Use Path (Width)	12' std.	FDM Section 224.4
Shared Use Path (Maximum Grade)	5.00%	FDM Section 224.6
Shoulder Width (Total/Paved): Without Shoulder Gutter	inside: 4' paved with C&G 'E' outside: 10'/5' paved	FDM Table 210.4.1
Clear Zone	24' to 30'	FDM Table 215.2.1
Border Width	40' (min.)	FDM Table 210.7.1
Maximum Cross Slope (travel lanes)	2%	FDM Figure 210.2.1
Maximum Cross Slope (shoulder)	5% inside/6% outside	FDM Section 210.4.1
Maximum Change in Cross Slope between Adjacent Travel Lanes	4%	FDM Figure 211.2.1
HORIZONTAL		
Minimum Stopping Sight Distance	425' to 495'	FDM Table 210.11.1
Maximum Deflection Without Curve	0°45'00"	FDM Section 210.8.1
Length of Horizontal Curve	750' to 825'	FDM Table 210.8.1
Maximum Degree of Curve/Min. Radius	8° 15'/573' to 6° 30'/716'	FDM Table 210.9.1
Superelevation Transition:		
On Tangent	80%	FDM Section 210.9.1
On Curve	20%	
Superelevation Transition Rate	1:200 to 1:225	FDM Table 210.9.3
Maximum Superelevation	10%	FDM Section 210.9
Maximum Curvature without Superelevation	0° 30'	FDM Table 210.9.1
VERTICAL		
Minimum K value for Crest Vertical Curves	136 to 185	FDM Table 210.10.3
Minimum Lengths of Crest Vertical Curves	300' to 350'	FDM Table 210.10.4
Minimum K value for Sag Vertical Curves	96 to 115	FDM Table 210.10.3
Minimum Lengths of Sag Vertical Curves	200' to 250'	FDM Table 210.10.4
Maximum Profile Grade	6% to 5%	FDM Table 210.10.1
Maximum Change in Grade Without a Vertical Curve	0.60% to 0.50%	FDM Table 210.10.2
Minimum Base Clearance	3'	FDM Section 210.10.3
Minimum Vertical Clearances for Signs and Signals	17'-6"	FDM Section 210.10.3
Minimum Vertical Clearances for Overhead DMS	19'-6"	FDM Section 210.10.3

4.0

ALTERNATIVES ANALYSIS

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

4.1 Corridor Analysis

As part of the SR 29 PD&E Study from Oil Well Road to SR 82, a *Corridor Evaluation Report* (dated March 2009) was prepared and signed by the Federal Highway Administration (FHWA) on April 6, 2009. The *Corridor Evaluation Report* was a planning level study and evaluated and documented the engineering and environmental issues associated with the proposed improvements. Corridors were developed using land suitability mapping by identifying and mapping sensitive natural, physical, and socio-cultural features located within the project study area. As the process continued, these maps were refined to identify sensitive areas which should be avoided and areas in which impacts should be reduced to the greatest extent possible. The corridor alternatives considered were an existing alignment corridor, a central corridor, an east corridor, and a west corridor. A description of the corridors is provided below:

- *Existing SR 29 Corridor* - which consisted of the existing SR 29 roadway through the downtown Immokalee area from Oil Well Road to SR 82,
- *West Corridor* - located to the west of SR 29,
- *Central Corridor* - diverged from the existing SR 29 roadway west of the Immokalee Regional Airport and proceeded northward then westward to connect to SR 29 south of SR 82, and
- *East Corridor* - located to the east of SR 29 and avoided the downtown Immokalee area.

Figure 4.1 depicts the corridor alternatives and **Table 4-1** provides a comparison matrix of the corridor alternatives. After completion of the evaluation, it was determined that a greater level of analysis was needed before any corridor could be eliminated. It was recommended that all study corridors remain viable and be advanced for further evaluation and analysis.

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**Figure 4.1
Corridor Alternatives**



**Table 4-1
Corridor Comparison Matrix**

Corridor	Purpose and Need Satisfaction	Public Support ¹	Potential Socio-Economic Impacts	Potential Environmental Impacts	Recommendation of Advancement into PD&E Study
Existing	Yes	1	Medium	Low	Yes
West	Yes	0	High	High	Yes
Central	Yes	1	Medium	Medium	Yes
East	Yes	13	Medium	High	Yes

¹ Number of favorable comments at Corridor Public Workshop

4.2 Alignments Analysis

A *SR 29 Collier County PD&E Study from Oil Well Road to SR 82 Alignments Report* (dated August 2010) was prepared and approved by FHWA on August 27, 2010. The *Alignments Report* outlined the history of the planning efforts of the project to date, the methodology and approach to the development of alignments within corridors previously approved by FDOT and FHWA, analyzed and evaluated the alignments developed, outlined the outreach and involvement of the public and agencies, and made recommendations for alignments to be carried forward into the draft environmental document for the development of reasonable alternatives. A total of 31 alignments were considered: eight (8) in the West Corridor, four (4) in the Central Corridor, eighteen (18) in the East Corridor, and the Existing Corridor. After analysis of the alignments and feedback from the Stakeholders Advisory Committee (SAC), five (5) representative alignments were selected for presentation at the June 23, 2009 Alignments Public Workshop. The representative alignments included one (1) each from the Existing Corridor, West Corridor, and Central Corridor and two (2) from the East Corridor. The five representative alignments included:

- *Alignment A (Existing Corridor)* - which followed the existing SR 29 roadway through Immokalee,
- *Alignment E (West Corridor)* - which traveled around the west side of Immokalee and then followed Edwards Grove Road to SR 82,
- *Alignment L (Central Corridor)* - which headed north from the existing SR 29 roadway on the west side of Immokalee Regional Airport and then curved west to intersect SR 82,
- *Alignment S (East Corridor)* - which headed north from the existing SR 29 roadway on the east side of the project study area and then took a more southerly western route to connect to SR 82, and
- *Alignment U (East Corridor)* - which headed north from the existing SR 29 roadway on the east side of the project study area and then went farther north before turning west to intersect SR 82.

Following the Alignments Public Workshop and based on input received through a series of meetings with project stakeholders, the five representative alignments were revised in an effort to further avoid and minimize impacts to area features and improve overall operational characteristics of future preliminary alternatives to be developed within these alignments. These updates resulted in the continued analysis of *Alignment A (Existing Alignment)* and the development of three modified alignments:

- *Alignment HH (West Corridor)* - which followed the existing SR 29 roadway to Collier County's planned extension of Immokalee Road to 1st Street and then continued north to Collier County's proposed extension of Little League Road and connected to Lamm Road where it intersected SR 82,
- *Alignment GG (Central Corridor)* - which followed the existing SR 29 roadway to Alachua Street then turned northerly toward Gopher Ridge Road where it continued along Gopher Ridge Road to the north and northwest toward SR 29/SR 82, and
- *Alignment FF (East Corridor)* - which travelled north on the existing SR 29 roadway to just north of where Collier County's planned extension of Immokalee Road connects to SR 29 and then continued north (on the east side of the Immokalee Regional Airport) where it turned to the west (north of Gopher Ridge Road) and intersected with SR 29/SR 82.

Figure 4.2 depicts the four (4) alignments. These four (4) alignments, along with the No-Build, Transportation Systems Management and Operations (TSM&O) and Multimodal alternatives, were recommended for development and consideration as reasonable alternatives.

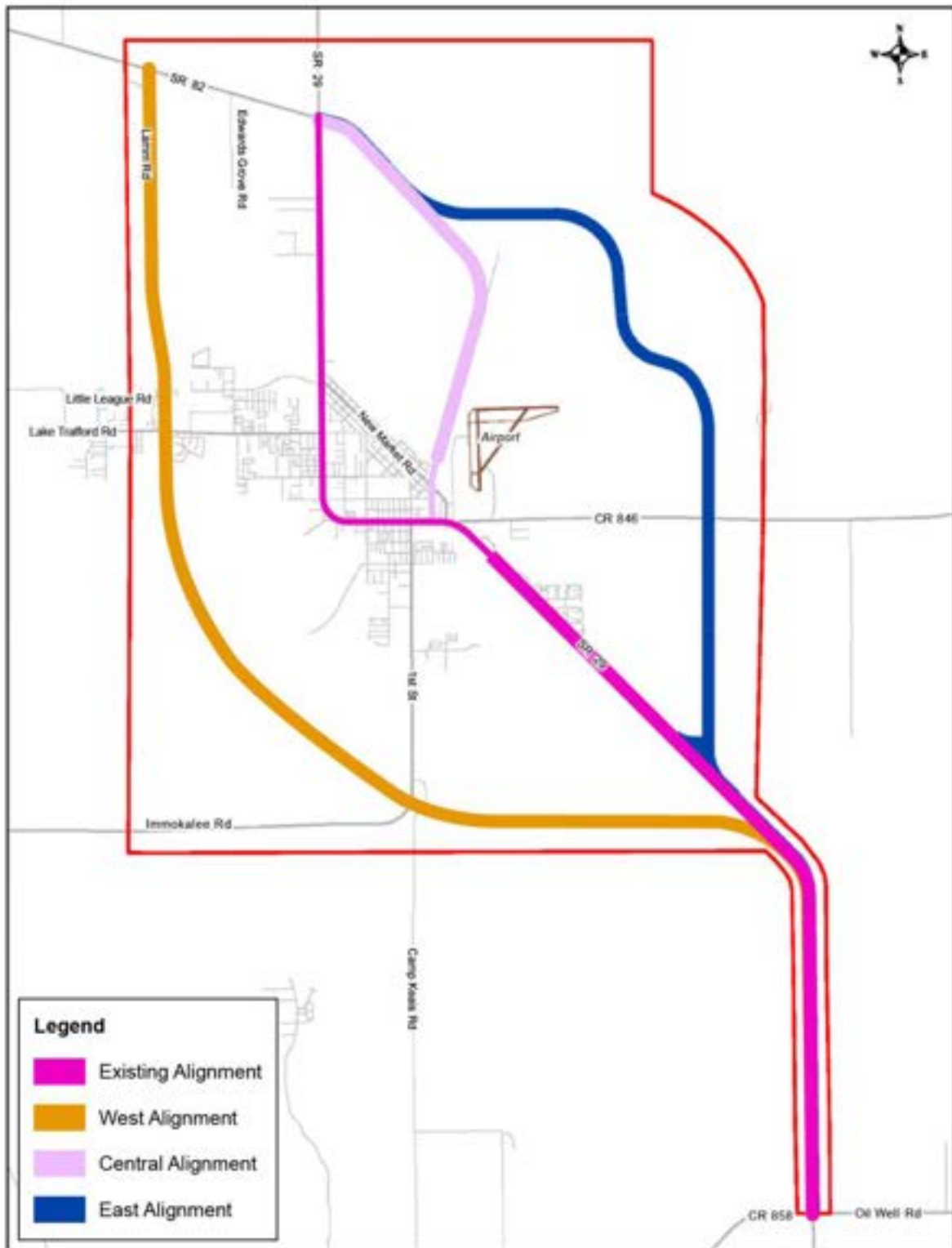
4.3 Alternative Analysis

Based on refinements to the alignments at the conclusion of the Alignments Public Workshop, the following preliminary alternatives were presented at the Public and Agency Alternatives Scoping Meetings held on February 17 and 18, 2010, respectively:

- Existing SR 29 Alternative (carried forward from Alignment A),
- West Preliminary Alternative (carried forward from Modified Alignment HH),
- Central Preliminary Alternative (carried forward from Modified Alignment GG), and
- East Preliminary Alternative (carried forward from Modified Alignment FF).

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Figure 4.2
Alignment Alternatives



The No-Build Alternative, introduced from the beginning and to remain a viable alternative through the PD&E process, was also presented. This alternative would postpone major improvements to SR 29 beyond the 2045 design year and preserve existing roadway with only routine maintenance. The Public and Agency Alternatives Scoping Meetings resulted in the following actions:

- No-Build Alternative continued to be evaluated,
- Existing SR 29 Alternative continued to be evaluated,
- Central Preliminary Alternative revised to become Central Preliminary Alternative #1 which was advanced for further study,
- East Preliminary Alternative revised to become East Preliminary Alternative #1 and East Preliminary Alternative #2 which were advanced for further study, and
- West Preliminary Alternative eliminated by FHWA on June 1, 2010.

Both the TSM&O Preliminary Alternative (which evaluated intersection improvements, signal coordination, and other operational enhancements and consisted primarily of adding turn lanes with signalization required by 2020) and the Multimodal Preliminary Alternative (which explored transit improvements for existing, planned and programmed service operated by CAT) were also introduced. These preliminary alternatives along with the others listed above were further evaluated and refined through continued coordination with project stakeholders in order to determine a range of reasonable alternatives to advance to the Alternatives Public Workshop. This evaluation and coordination resulted in the following actions:

- No-Build Alternative advanced,
- Existing SR 29 Alternative advanced,
- Central Preliminary Alternative #1 revised to become Central Alternative #1 Revised and a new Central Alternative #2 (both advanced),
- TSM&O Preliminary Alternative eliminated by FHWA on July 24, 2012,
- Multimodal Preliminary Alternative eliminated by FHWA on July 24, 2012,
- East Preliminary Alternative #1 eliminated by FHWA on December 18, 2013, and
- East Preliminary Alternative #2 eliminated by FHWA on December 18, 2013.

West Alternative Elimination

Coinciding with the preparation of the *Alignments Report*, an Evaluation for Elimination of the West Alternative was prepared and accepted by the FHWA on June 1, 2010. The decision to recommend the elimination of the West Alternative was the result of direct impacts to natural resources, minority, or low-income communities (environmental justice), public and agency comments, and estimated construction costs. In comparison to the other alternatives considered, the West Alternative had potentially higher impacts based on the evaluation factors such as: wetlands, residential parcels, schools, noise, construction cost, and environmental justice. Due to the higher impacts to these criteria, this evaluation ultimately recommended that the West Alternative be eliminated from further consideration.

Transportation Systems Management and Operations Alternative Elimination

The TSM&O Alternative included analyzing intersection improvements and signal coordination to improve current and projected congestion on SR 29 from Oil Well Road to SR 82. The *Project Traffic Technical Memorandum* (September 2011) identified a set of roadway improvements to existing SR 29 at eight specific locations along the corridor including primarily adding turn lanes with signalization required by 2040. The improvements were based upon projects identified in the Collier County MPO's 2035 LRTP Cost-Feasible Plan. These improvements were developed as an alternative to the complete reconstruction/widening of SR 29 between Oil Well Road on the south and SR 82 on the north. While these improvements improved operating conditions, they did not support purpose and need of the project.

During a quarterly meeting with the FHWA on July 24, 2012, the TSM&O Alternative was eliminated from further consideration. The decision to eliminate this alternative is due to its inability to meet the purpose and need for the project.

Multimodal Alternative Elimination

The Multimodal Alternative for SR 29 from Oil Well Road to SR 82 included analyzing existing, planned and programmed transit service operated by CAT within the study area based on the improvements included in the Transit Development Plan that was developed in coordination with the Collier County MPO's 2035 LRTP. This service included an existing CAT Route 5 that served Immokalee from other parts of the county at various times during the day. In addition, Routes 8a and 8b operated together as a circulator route that served Immokalee in a clockwise and counterclockwise loop. The Lee/Collier LRTP 2035 identified a need for an increase in the frequency of Route 5. This frequency increase is programmed in the cost feasible plan for funding 2031-2035. In addition, the needs plan demonstrates the need for an express route from Immokalee to Lehigh Acres. However, this is not programmed prior to 2035.

During a quarterly meeting with the FHWA on July 24, 2012, the Multimodal Alternative was eliminated from further consideration. The decision to eliminate this alternative is due to its inability to meet the purpose and need for the project.

East Alternatives Elimination

Two (2) East Alternatives were developed within the East Alignment. Upon further evaluation, the East Alternatives were eliminated from further consideration. A letter documenting the justification for the elimination of the two East Alternatives was prepared and accepted by the FHWA on December 18, 2013. The decision to recommend the elimination of the East Alternatives from further evaluation is the result of direct and indirect effects to the endangered Florida panther and its habitat, direct and indirect effects to Section 106 and potential Section 4(f) resources, high estimated preliminary costs in comparison to other viable alternatives, and public and agency comments.

The FDOT presented the following four alternatives at the first Alternatives Public Workshop held on April 3, 2014:

- No-Build Alternative,
- Existing SR 29 Alternative,
- Central Alternative #1 Revised, and
- Central Alternative #2.

Figure 4.3 depicts the alternatives presented at the first Alternatives Public Workshop.

Based on comments received from the first Alternatives Public Workshop, a revision to Central Alternative #2 was developed that shifted the alignment of the Bypass portion of SR 29 further to the north to avoid direct impacts to a large undeveloped parcel east of SR 29 near Westclox Street/New Market Road W and north of Madison Avenue. This parcel was the site of the former Heritage PUD, which has since sunsetted. This alternative became Central Alternative #2 Revised.

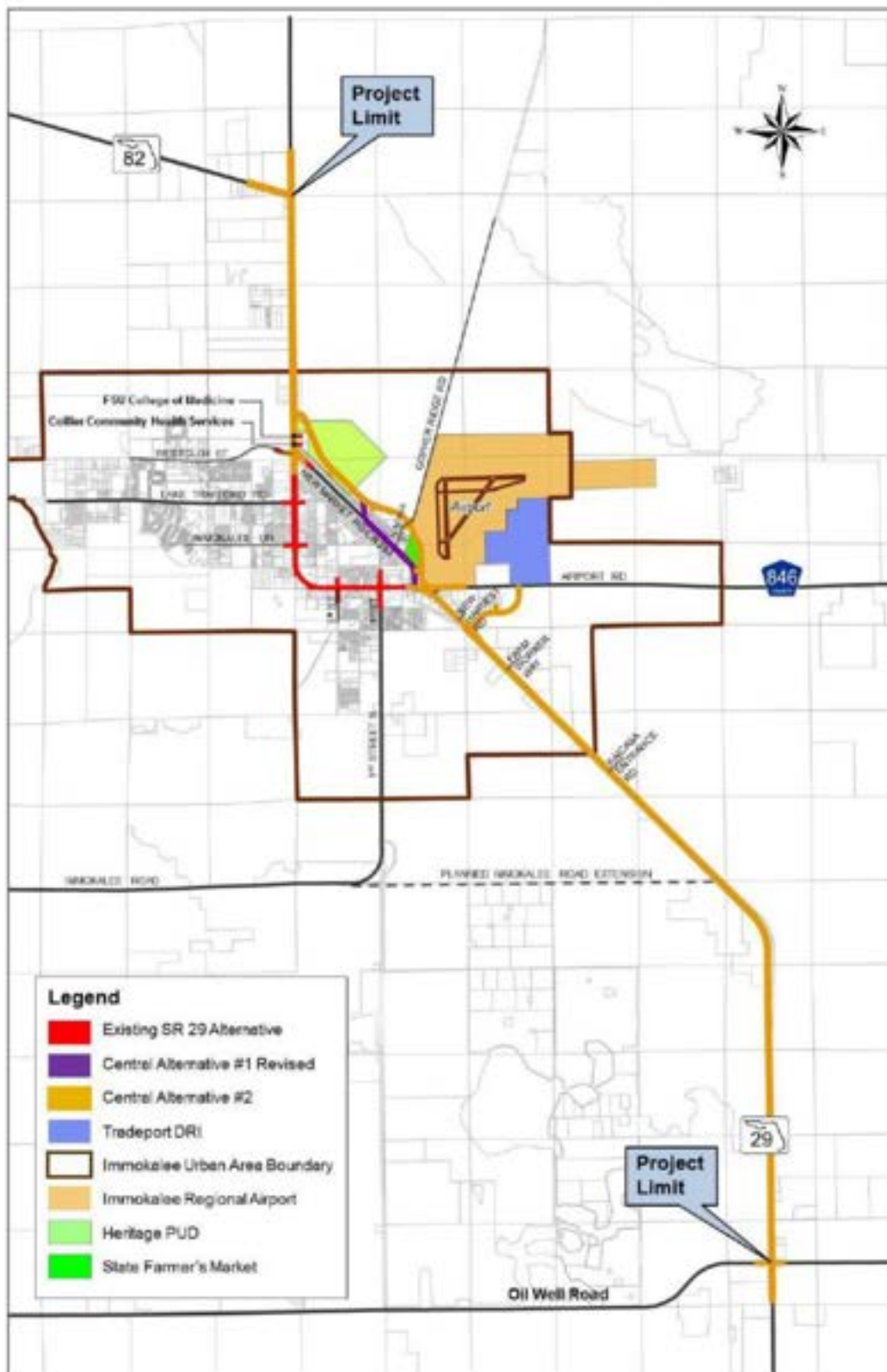
Existing Alternative Elimination

Upon further coordination with FHWA regarding public comments received at the Alternatives Public Workshop and project stakeholders after the Alternatives Public Workshop, FHWA concurred with the elimination of the Existing SR 29 Alternative on February 9, 2015. The Existing SR 29 Alternative was eliminated because it did not satisfy the purpose and need of the project – specifically to reduce truck traffic in downtown; would result in direct and indirect effects to cultural, historic, and Section 4(f) resources; and public comments.

The *SR 29 Collier County PD&E Study from Oil Well Road to SR 82 Alternatives Technical Report* was prepared and accepted by FHWA on February 16, 2015. The *Alternatives Technical Report* outlined the different build alternatives, justification for elimination of alternatives, and resulted in a recommendation to advance the following four alternatives: No-Build Alternative, Central Alternative #1 Revised, Central Alternative #2, and Central Alternative #2 Revised.

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Figure 4.3
Alternatives Presented at the First Alternatives Public Workshop



Central Alternative #2 Revised Elimination

The four remaining alternatives were presented for comment at the second Alternatives Public Workshop held November 9, 2017 (see **Figure 4.4**). Following the second Alternatives Public Workshop, Central Alternative #2 Revised was eliminated from further consideration based on the following findings:

- The location of the proposed Central Alternative #2 Revised is such that higher traffic volumes are expected along the existing SR 29 and lower volumes are expected along the SR 29 Bypass as compared with the volumes of Central Alternatives #1 and #2. As one of the purposes of the PD&E study is to divert traffic from existing SR 29 through downtown Immokalee, Central Alternative #2 Revised does not meet one of the study purposes as well as the other alternatives.
- The Central Alternative #2 Revised was the lowest ranked of the three Build Alternatives at the Alternatives Public Workshop in terms of public support.
- The Central Alternative #2 Revised, which is similar in alignment and location to the formerly named “Central Alternative,” has historically not been supported by natural resource agencies due to its impacts to Florida panther habitat.
- Central Alternative #2 Revised impacts the largest proportion of Florida panther habitat, floodplains, and potentially contaminated sites, and has the greatest potential for secondary and cumulative impacts.
- Central Alternative #2 Revised requires the most additional right of way of any build alternative.
- The estimated preliminary total costs for the Central Alternative #2 Revised are the highest of the Build Alternatives.

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Figure 4.4
Alternatives Presented at the Second Alternatives Public Workshop



4.4 Alternatives

4.4.1 No-Build Alternative

The No-Build Alternative assumes that no action will be taken to improve SR 29 within the project limits. This involves leaving the existing roadway as it is, with only routine maintenance as required through 2045. Advantages of the No-Build Alternative include:

- No construction costs;
- No disruption to traffic due to construction;
- No disruption to the adjacent property owners due to construction
- No ROW acquisitions or relocations; and
- No degradation or disruption of natural and other environmental resources due to construction.

Disadvantages of the No-Build Alternative include:

- Increased traffic congestion causing increased road user costs due to travel delay;
- Not consistent with the local transportation plans;
- Increased potential for vehicular crashes due to congested lanes and intersections;
- Increased emergency vehicle response times;
- Increased potential for crashes between vehicles and pedestrians/bicycles due to inadequate sidewalks and bicycle lanes; and
- Increased vehicle emission pollutants due to higher levels of traffic congestion.

The No-Build Alternative will remain a viable alternative throughout this PD&E Study.

4.4.2 Build Alternatives

Two (2) build alternatives remained and were analyzed for further evaluation as part of this PD&E study: Central Alternative #1 Revised and Central Alternative #2. Both alternatives include a 4-lane divided typical section with travel lanes varying between 11 feet and 12 feet in size. ROW, median type and width, and bicycle and pedestrian accommodations vary along the build alternatives.

The two alternatives are the same for much of their alignment, only diverging for approximately 1.3 miles on the east side of Immokalee by the airport. From the start of the project at Oil Well Road to north of Seminole Crossing Trail and from north of Westclox Street to the end of the project south of SR 82, both alignments follow the existing SR 29 alignment. The build alternatives differ in the following ways:

- **Central Alternative #1 Revised:** From Seminole Crossing Trail, Central Alternative #1 Revised remains on existing SR 29 to New Market Road. At New Market Road, this

alternative follows the eastern portion of New Market Road and provides direct access to the agribusiness/commercial areas of Immokalee and State Farmers Market. This alternative continues just past Flagler Street, then turns northward on new alignment to avoid a residential neighborhood. It then parallels Madison Avenue and New Market Road. At this point, the two build alternatives are on the same alignment. It then travels along the east side of Collier Health Services Medical Center and the Florida State University College of Medicine before reconnecting to SR 29 north of Westclox Street and continuing north to SR 82.

- **Central Alternative #2:** From Seminole Crossing Trail, Central Alternative #2 travels north from SR 29 on new alignment along the west side of the Immokalee Regional Airport to avoid the commercial/industrial areas of Immokalee and the State Farmers Market to the west. This alternative then turns to the northwest just past Gopher Ridge Road to parallel Madison Avenue and New Market Road. At this point, the two build alternatives are on the same alignment. It then travels along the east side of Collier Health Services Medical Center and the Florida State University College of Medicine before reconnecting to SR 29 north of Westclox Street and continuing north to SR 82.

4.4.3 Alternatives Evaluation Matrix

The No-Build Alternative and the two remaining Build Alternatives (Central Alternative #1 Revised and Central Alternative #2) were evaluated based on environmental effects, ROW needs, project costs, and engineering factors. The matrix shown as **Table 4-2** provides the results of the alternatives evaluation process. The matrix quantifies considerations such as potential residential and business relocations, impacts to environmental resources, and the acres of ROW needed for roadway improvements and stormwater facilities. The potential for the proposed widening to impact archaeological/historical sites, noise sensitive sites, and threatened and endangered species were qualified in the matrix. The bottom half of the matrix details cost estimates for ROW acquisition, construction, design, and construction engineering and inspection. The estimates were based on 2018 unit costs. Both costs for design and construction engineering and inspection are estimated as 15% of the total construction cost. Construction costs were estimated in May 2018 using the FDOT's Long Range Estimate (LRE) web-based computer system and are provided in **Appendix C**.

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**Table 4-2
Alternatives Evaluation Matrix**

Evaluation Criteria	No-Build Alternative	Central Alternative #1 Revised	Central Alternative #2
Design Features			
Length (miles)	15.59 miles	16.38 miles	16.38 miles
Traffic Control Measures	Stop Control and Traffic Signals	Traffic Signals & Roundabout	Traffic Signals & Roundabout
Travel Lane Width (feet)	12 feet	11 to 12 feet	11 to 12 feet
Posted Speed - Subject to change pending speed study after construction	35 to 60 MPH	40 to 60 MPH	40 to 60 MPH
ROW Impacts			
Area of ROW to be Acquired for Roadway (acres)	0	56.18	77.82
Area of ROW to be Acquired for Stormwater Ponds/Floodplain Compensation Sites (acres)	0	102.07	104
Business Impacts			
Number of Business Relocations	0	9	1
Number of Parcels Impacted	0	20	4
Residential Impacts			
Number of Residential Relocations	0	3	0
Number of Parcels Impacted	0	2	0
Environmental Impacts			
Number of Historical Sites Impacted (National Register of Historic Places (NRHP) Listed/Eligible)	0	0	0
Number of Archaeological Sites Impacted (NRHP Listed/Eligible)	0	0	0
Number of Public Recreational Facilities/ Parks Impacted	0	0	1
Area of Wetlands – Roadway (acres)	0	14.33	14.33
Area of Surface Waters – Roadway (acres)	0	14.99	15.41
Area of Floodplain Encroachment (acres)	0	25.36	25.36
Potential Threatened and Endangered Species Impacts (none, low, medium, high)	None	Medium	Medium
Number of Potential Petroleum or Hazardous Materials Contaminated Sites	0	72 (34 Medium or High Risk)	67 (31 Medium or High Risk)
Number of Receivers Potentially Impacted By Noise	0	2	2
Estimated Total Project Costs (2018 cost)			
Engineering Design (15% of Construction Cost)	\$0	\$15,560,000	\$16,386,000
Wetland Mitigation ¹	\$0	\$1,800,000	\$1,800,000
Wildlife Habitat Mitigation ²	\$0	\$3,272,000	\$4,396,000
Utilities Relocation	\$0	\$0	\$0
ITS/ATMS Relocation	\$0	\$227,000	\$227,000
ROW Acquisition	\$0	\$16,830,000	\$18,300,000
Construction	\$0	\$103,732,000	\$109,241,000
Construction Engineering and Inspection (15% of Construction Cost)	\$0	\$15,560,000	\$16,386,000
Preliminary Estimate of Total Project Cost	\$0	\$156,981,000	\$166,736,000

¹ Wetland mitigation cost estimate based on FDOT Environmental Mitigation Payment Processing Handbook, Page 5, Fiscal Year 2021/2022 (\$125,594 per acre of impact)

² Wildlife habitat mitigation cost include mitigation for Florida panther and Florida scrub jay. Florida panther mitigation cost estimate based on \$850 per panther habitat unit (PHU). Florida scrub jay mitigation cost estimates based on \$25,000 per acre of impact with assumed 2:1 mitigation credit ratio.

4.4.4 Recommended Alternative

The evaluation of the alternatives previously described led to the elimination of Central Alternative #1 Revised and the selection of Central Alternative #2 as the Recommended Alternative. Central Alternative #2 better satisfies the Purpose and Need of the project than Central Alternative #1 Revised in the following ways:

- Central Alternative #2 provides a more direct route than does Central Alternative #1 Revised. Central Alternative #1 Revised has two more signalized intersections than does Central Alternative #2 (one at SR 29 and New Market Road E, and one at New Market Road E and Charlotte Street). Central Alternative #1 Revised also has a jog or offset alignment on SR 29 between CR 846 and New Market Road E.
- Central Alternative #2 is less disruptive to the existing street network and does not require any street closures. Central Alternative #1 Revised requires street closures on New Market Road W near Flagler Street, Flagler Street near Madison Avenue W, and Madison Avenue W near Glades Street.
- Central Alternative #2 has far fewer business relocations and parcel impacts (one business relocation and four parcel impacts) than Central Alternative #1 Revised (nine business relocations and twenty parcel impacts). The Immokalee area is a designated Rural Area of Opportunity, a legislative land use designation applied to encourage and facilitate the location and expansion of major economic development projects of significant scale in such rural communities.
- Central Alternative #2 has no residential relocations or parcel impacts, while Central Alternative #1 Revised has three residential relocations and two parcel impacts.
- At the second Alternatives Public Workshop held on November 8, 2017, more people expressed a preference for Central Alternative #2 than for Central Alternative #1 Revised.
- Central Alternative #2 avoids the access impacts to existing businesses along New Market Road that Central Alternative #1 Revised creates. Central Alternative #2 leaves New Market Road as a two-lane undivided roadway with unencumbered access to adjacent businesses, while Central Alternative #1 Revised converts a portion of New Market Road to a four-lane divided roadway with a raised median and six median openings with controlled access to adjacent businesses.
- There are three fewer High or Medium-ranked potential petroleum or hazardous materials contaminated sites along Central Alternative #2 than along Central Alternative #1 Revised.

The No-Build Alternative and Central Alternative #2 were carried forward for further consideration at a Public Hearing on November 15, 2018.

4.4.5 Preferred Alternative

Following the Public Hearing and comment period, engineering analysis and environmental studies and interagency coordination, Central Alternative #2 was selected as the Preferred

Alternative. Due to comments received at the Public Hearing and further coordination with Collier County, Central Alternative #2 was modified. The segment on new alignment of Central Alternative #2, extending from north of Seminole Crossing Trail to north of Westclox Street, was shifted slightly to the east to avoid impacts to Immokalee Airport Park.

Additional design refinements were made to the Preferred Alternative to meet the FDOT Design Manual (FDM) requirements and include the identification of stormwater management facilities (SMF), necessary to accommodate stormwater runoff, from CR 846 north to SR 82. These additional design refinements were as follows:

CR 846 to SR 29 Bypass Junction: The proposed new signalized intersection at CR 846 and the proposed intersection at Gopher Ridge Road have been revised to roundabouts at these locations. The proposed right of way (ROW) requirement previously varied from 108 feet to 200 feet and has been increased to varying from 144 feet to 250 feet. The two 11-foot travel lanes in each direction have been increased to 12-foot travel lanes in each direction from CR 846 to Gopher Ridge Road. The 6-foot sidewalk and 7-foot buffered bicycle lanes in each direction have been replaced with 12-foot shared use paths from CR 846 to Gopher Ridge Road. Twelve-foot shared use paths have been added to both sides of the corridor from Gopher Ridge Road to the SR 29 Bypass Junction. As a result of criteria updates, the proposed design speeds, ranging from 45-50 miles per hour (mph), have been updated and range from 45-55 mph. Three SMFs have been identified. The three proposed SMFs will require approximately 22 acres of offsite right of way. Stormwater runoff will be conveyed to the proposed SMFs by an open drainage system within the existing mainline right of way.

North of New Market Road West to SR 82: The currently existing signalized intersection at New Market Road West and SR 29 has been revised to a roundabout at this location. A 10-foot shared use path has been added on the east side of the roadway from north of New Market Road West to SR 82, thus providing a 10-foot shared use path on both sides of the corridor. The mainline roadway improvements required for the proposed project will not require any additional right of way. As a result of criteria updates, the proposed design speeds, ranging from 50-60 mph, have been unified at 55 mph. Six SMFs have been identified. The six proposed SMFs will require approximately 20.3 acres of offsite right of way. Stormwater runoff will be conveyed to the proposed SMFs by an open drainage system within the existing mainline right of way.

This revised Central Alternative #2 is identified as the Preferred Alternative. The Preferred Alternative (i.e., the proposed action) provides a 4-lane divided typical section with travel lanes varying between 11 feet and 12 feet in width. The right of way width, the median type and width, and bicycle and pedestrian accommodations also vary for the different roadway segments within the project limits. Partial two-lane roundabouts were evaluated at SR 29 and CR 846, SR 29 at Alachua Street / Gopher Ridge Road, and at SR 29 at Westclox Street/New Market Road W. The design details of the Preferred Alternative are discussed in **Section 6.0**.

5.0

PUBLIC INVOLVEMENT

A *Public Involvement Plan (PIP)* (July 20, 2007, revised March 8, 2018), prepared under separate cover, was developed for this project. The PIP was originally approved on August 3, 2007, with the revision approved on April 3, 2018. The PIP outlines the community outreach efforts and the approach used throughout this project to involve the general public, public officials, the media, and government agencies in the project process. A *Comments and Coordination Report* (May 2020), prepared under separate cover, fully documents the public and stakeholder involvement conducted for this project. A *Comments and Coordination Report Addendum* (June 2024) was also prepared, under separate cover, to document additional coordination and engagement activities that took place after the Public Hearing. Below is a summary of the public involvement activities.

5.1 Local Agency/Group Meetings

Throughout the duration of the SR 29 Immokalee PD&E Study to present, the FDOT has participated in numerous coordination meetings with FHWA, Collier County Growth Management staff, Collier MPO and its Committees, the Immokalee CRA, a Stakeholders Advisory Committee (SAC), government and non-government agencies, and the public to solicit input on the project.

Table 5-1 provides a list of public meetings conducted to date for the project. Spanish translators were present at the milestone meetings; Creole translators were available upon request. Summaries of the milestone public meetings and workshops, including comments received, are included below. Full documentation of the meetings and outreach activities are included in the *Comments and Coordination Report* (May 2020) and *Comments and Coordination Report Addendum* (June 2024).

**Table 5-1
Public Meetings**

Meeting/Presentation	Date
Corridor Public Workshop*	August 7, 2008
Alignments Public Workshop*	June 23, 2009
Public Alternatives Scoping Meeting*	February 17, 2010
Agency Alternatives Scoping Meeting (WebEx)**	February 18, 2010
Alternatives Public Workshop*	April 3, 2014
Alternatives Public Workshop#2*	November 9, 2017
Public Hearing*	November 15, 2018
Project Update: FDOT In-Person Office Hours*	April 18, 2024
Project Update: FDOT Virtual Office Hours**	April 24, 2024

* Milestone Meeting with Spanish translator(s) present. ** Milestone Meeting with Spanish translator(s) available upon request.

5.2 Corridor Public Workshop

A Corridor Public Workshop was held on August 7, 2008 at the Immokalee One-Stop Career Center (750 South 5th Street in Immokalee, FL). Four corridors were presented for consideration at the Workshop, including:

- Existing SR 29 Corridor,
- West Corridor,
- Central Corridor, and
- East Corridor.

The workshop was attended by 55 people. A total of 24 comments were received as a result of the Corridor Public Workshop. Many of the comments stated a preference for a specific corridor(s). The majority stated a preference for the East Corridor, one individual each preferred the Existing Corridor and Central Corridor, and none preferred the West Corridor. Other concerns cited were the need for access to the industrial zone near the airport; the need to minimize impacts to residential properties, churches, and stores; the need to keep trucks/freight traffic out of downtown; the need to include bicycle/pedestrian facilities; and the need to avoid environmental impacts.

Initial review of demographic data for the project study area in 2007, prior to the Corridor Public Workshop, indicated that a large number of Spanish speaking individuals were present. In order to better engage these individuals in the public involvement effort as part of the project development process, stand-alone Spanish language versions of all handouts and meeting materials were made available at this Workshop and at all other public meetings associated with this study effort, and bilingual (English and Spanish) staff were present at all public meetings for translation services, as needed.

Following the Corridor Public Workshop, the *Corridor Evaluation Technical Memorandum* was submitted to FHWA and was approved on April 6, 2009.

5.3 Alignments Public Workshop

An Alignments Public Workshop was held on June 23, 2009 at the Immokalee One-Stop Career Center (750 South 5th Street in Immokalee, FL). This meeting was noticed bilingually in several local newspapers and invitational letters were sent out to property owners within the study area, interested parties, agencies, and elected officials. Based on coordination with and input from FHWA, the Stakeholder Advisory Committee (SAC), resource agencies, and the public, five “representative alignments” were selected to be presented at the Alignments Public Workshop. The five representative alignments included:

- Alignment A (Existing Corridor),
- Alignment E (West Corridor),

- Alignment L (Central Corridor),
- Alignment S (East Corridor), and
- Alignment U (East Corridor).

Twenty-two citizens signed in and reviewed the presentation materials that were on display and asked questions to the FDOT Study Team staff present. A total of eight comments were received at the Alignments Public Workshop from participants, and two additional comments were received as a result of the workshop, one via the project website and one via email. Additional comments were received from a meeting that was held on the same day as the workshop with a group of large property owners in the project area. Some of the comments stated a preference for a specific alignment(s) – four favored Alignment S, one favored Alignment A, and two favored Alignment E. Other concerns/suggestions relayed were impacts on private properties, concerns that a bypass would harm downtown businesses, the need to minimize impacts to the human and natural environments, and suggestions of ways to revise/modify the representative alignments.

For the Alignments Public Workshop, FDOT continued to utilize the previously stated accommodations to enhance public outreach efforts to the Limited English Proficiency (LEP) populations within the SR 29 study area.

5.4 Public and Agency Alternatives Scoping Meetings

The Public Alternatives Scoping Meeting was held on February 17, 2010 at the Immokalee One-Stop Career Center, Immokalee., An Agency Alternatives Scoping Meeting was held the following day on February 18, 2010 as a WebEx meeting. At both meetings, four preliminary alternatives (Existing SR 29 Alternative, West Preliminary Alternative, Central Preliminary Alternative, and East Preliminary Alternative) were presented. The No-Build Alternative, which remained a viable alternative through the PD&E process, was also presented. The purpose of the scoping meetings was to:

1. Review the process used to get to the alternatives stage and discuss progress made to date.
2. Identify the range of alternatives which were to be carried forward for analysis from the corridor and alignments stages.
3. Determine the potential impacts to be evaluated, including the scope and degree of analysis required to evaluate the alternatives to be considered in the environmental document.
4. Identify issues which were identified during the ETDM process as not needing further study, or which needed only minor analysis. This would narrow the discussion in the environmental document to a brief description of why they will not have a significant effect on the human or natural environment or providing a reference to their coverage elsewhere.
5. Identify other Environmental Assessments or Environmental Impact Statements which are being prepared in the vicinity of the project that are related to, but are not part of, the scope of the environmental document under consideration.

6. Identify other environmental review and consultation requirements so the lead and cooperating agencies may prepare other required analyses and studies concurrently with, and integrated with, the environmental document.

At the Public Alternatives Scoping Meeting, aerial photographs and other project information were available for public viewing in an informal open house format. The meeting was attended by 15 citizens. All attendees were given the opportunity to provide written comments at the workshop or within a 10-day comment period. A total of 12 comments were received at the meeting. Of those comments, 11 supported the East Preliminary Alternative, and one supported the Existing SR 29 Alternative. The West and Central Preliminary Alternatives did not receive any support. The comments generally supported the East Preliminary Alternative because it took traffic out of downtown Immokalee and directed trucks to the industrial area. The support for the Existing SR 29 Alternative was to keep traffic in downtown Immokalee. Department representatives were available at the meetings to answer questions and continued to utilize the previously stated accommodations to enhance public outreach efforts to the Limited English Proficiency (LEP) populations within the SR 29 study area.

The Agency Alternatives Scoping Meeting was conducted as a WebEx Meeting with alternatives presented via shared computer screen and 12 representatives participated from a range of agencies. Issues relating to each alternative were discussed to determine if any alternatives can be dropped at this time or if other alternatives need to be developed. Issues with the West Alternative including the social and natural environment were discussed as being major and unavoidable. The agencies stated that any panther habitat between any new road and Immokalee would be considered a loss. Adjustments to the Central and East Alternatives to move them closer to town and take more direct paths were discussed.

The Public and Agency Alternatives Scoping Meetings, and subsequent coordination, resulted in the following actions:

- No-Build Alternative: Moved forward for further evaluation,
- Existing SR 29 Alternative: Moved forward for further evaluation,
- West Preliminary Alternative: Eliminated by FHWA on June 1, 2010,
- Central Preliminary Alternative: Revised to become Central Preliminary Alternative #1 which was advanced for further evaluation, and
- East Preliminary Alternative: Revised to become East Preliminary Alternative #1 and East Preliminary Alternative #2, both of which were advanced for further evaluation.

5.5 Alternatives Public Workshop

An Alternatives Public Workshop was held on April 3, 2014 at the Immokalee One-Stop Career Center. The FDOT presented the following four alternatives at the Alternatives Public Workshop:

- No-Build Alternative
- Existing SR 29 Alternative
- Central Alternative #1 Revised
- Central Alternative #2

The workshop was attended by 40 people. All attendees were given the opportunity to provide written comments at the workshop or within a 10-day comment period. Department representatives were available at the meetings to answer questions and continued to utilize the previously stated accommodations to enhance public outreach efforts to the Limited English Proficiency (LEP) populations within the SR 29 study area. A total of 17 comments were received as a result of the Alternatives Public Workshop. Responders denoted the following preferences for a specific alternative(s): one favored the No-Build Alternative, three favored the Existing SR 29 Alternative, and thirteen favored Central Alternative #2; the majority of responders were against Central Alternative #1 Revised. An additional 26 comments were received following the workshop, which were in opposition to roundabouts.

Additional comments received from stakeholders and the public at the Alternatives Public Workshop indicated concerns about bicycle and pedestrian safety in regard to the Existing SR 29 Alternative and Central Alternative #1 Revised. Other concerns regarding these two alternatives pertained to the funneling of traffic through key portions of Immokalee, which would bisect portions of the town and result in impacts to key structures and limitations on future redevelopment.

5.6 Alternatives Public Workshop #2

A second Alternatives Public Workshop was held on November 9, 2017 at the University of Florida, Institute of Food and Agricultural Sciences (UF IFAS) Extension, Southwest Florida Research and Education Center in Immokalee (2868 SR 29N, Immokalee, FL 34142). The FDOT presented the following four alternatives at this Alternatives Public Workshop:

- No-Build Alternative
- Central Alternative #1 Revised
- Central Alternative #2
- Central Alternative #2 Revised

This workshop was attended by 28 people. Department representatives were available at the meeting to answer questions and continued to utilize the previously stated accommodations to enhance public outreach efforts to the Limited English Proficiency (LEP) populations within the SR 29 study area. All attendees were given the opportunity to provide written comments at the workshop or within a 10-day comment period. Sixteen comments were received during the meeting. Attendees were asked to rank the alternatives from one through four in order of

preference, with one being their most preferred. Only six of the sixteen comment cards assigned a rank for each alternative. Central Alternative #2 was the most preferred with eight people ranking it either #1 or #2, while Central Alternative #1 Revised was preferred by only six people. Central Alternative #2 Revised and the No-Build Alternative had the fewest numbers of people expressing their preference for these alternatives (four people and one person, respectively). Conversely, Central Alternative #2 received no rankings of #3 or #4. Central Alternative #1 Revised received three rankings of #3 and #4, and Central Alternative #2 Revised and the No-Build Alternative received five rankings of #3 and #4.

After the workshop, the Conservancy of Southwest Florida and Collier Enterprises responded with comments. A letter signed by Alison Wescott was sent by Susan Scott of the Conservancy of Southwest Florida on November 20, 2017. The letter expressed support for the Central Alternative #1 Revised. An email was received from Pat Utter of Collier Enterprises on December 21, 2017 in support of Central Alternative #2 Revised. None of the letters ranked the additional alternatives. Besides the No-Build Alternative, Central Alternative #2 Revised was the least supported of the three Build alternatives.

5.7 Public Hearing

A Public Hearing was held on November 15, 2018 at CareerSource Southwest Florida (formerly Immokalee One-Stop Career Center) in Immokalee to present the viable build alternative (Central Alternative #2) along with the No-Build Alternative. Department representatives were available at the meetings to answer questions and continued to utilize the previously stated accommodations to enhance public outreach efforts to the Limited English Proficiency (LEP) populations within the SR 29 study area.

The Public Hearing was attended by 64 citizens. Five people spoke for the public record and 14 comment sheets were submitted at the hearing. An additional six comments were received on the study website, by e-mail, and regular mail during the ten-day comment period ending on November 26, 2018 that followed the hearing.

Substantive comments made at, and subsequent to, the Public Hearing are summarized below:

1. Four comments were received in support of the Preferred Alternative with only one comment opposing.
2. Most of the comments received were related to the bicycle and pedestrian accommodations (14) along the corridor. One comment was pleased with the proposed pedestrian and bicycle facilities while one was opposed to the proposed facilities believing they will create an unnecessary safety issue. The remaining 12 comments addressed additional or different bicycle and/or pedestrian facilities at different locations along the corridor.
3. The second most comments (11) were received concerning the proposed roundabout at SR 29 and Westclox Street. Two comments were received in support of the proposed

roundabout while four were in opposition. The remaining five comments expressed concern about pedestrian safety at the intersection and/or the need for immediate improvements at this intersection.

4. Six additional comments were received that address parcel specific impacts (3), in opposition to the impact to the Immokalee Airport conservation easement and adjacent Collier Enterprise lands (1), the desire for a Welcome to Immokalee sign in the vicinity of the proposed wildlife crossing (1), and a desire to relocate airport road (1).

The Public Hearing Transcript Certification (January 2019) package, prepared under separate cover and included in the project file, includes the public hearing transcript and all received oral and written public comments, was prepared under separate cover.

5.8 Project Update: FDOT Office Hours Events

Subsequent to the Public Hearing, design refinements were made to the PD&E Study Preferred Alternative to meet the FDM requirements and included the identification of proposed SFMs necessary to accommodate stormwater runoff from CR 846 to SR 82. To inform the community and answer questions about the design refinements and associated proposed SMFs, the FDOT hosted two Project Update: FDOT Office Hour Events (an in-person event and a live online event).

The in-person office hours event took place from 12:00 p.m. to 4:00 p.m. at the Collier County Public Library-Immokalee Branch Library on April 18, 2024. A total of 32 people attended the event. A total of ten comments were received from attendees at the event. All attendees were given the opportunity to provide written comments at the in-person office hours event or to submit comments through mail, email, or the project website by May 3, 2024.

The live online office hour event occurred from 6:00 p.m. to 7:00 p.m. via the GoTo Webinar platform on April 23, 2024. A total of 22 people participated in the live online office hour event. A total of two comments were received from attendees at the event. All attendees were given the opportunity to submit comments during the live online office hour event or through mail, email, or the project website by May 3, 2024.

Comments received outside of the office hours included three provided via the project website and six provided via email. Two additional comments were submitted via email after May 3, 2024. Questions and comments generally cited during the two events and received through the project website and email pertained to access, safety, proximity of the new roadway to existing and planned development, concept plans, drainage, schedule, and correct project contacts.

Bilingual (English and Spanish) staff were present/available upon request for translation services at both office hour events given the large number of Spanish speaking individuals present within the project study area. Details regarding the office hour events, as well as questions and comments received during the office hour events and comment period, are documented in the *Comments and Coordination Report Addendum*, prepared under separate cover.

6.0

PREFERRED ALTERNATIVE

Central Alternative #2 has been selected as the Preferred Alternative. It follows the existing alignment of SR 29 from the start of the project at Oil Well Road to south of CR 846. From this point, the SR 29 Bypass portion of the Preferred Alternative travels north from SR 29 on new alignment along the west side of the Immokalee Regional Airport to avoid the commercial/industrial areas of Immokalee, the State Farmers Market to the west, and Immokalee Airport Park. The SR 29 Bypass portion of the Preferred Alternative then turns to the northwest just past Gopher Ridge Road to parallel Madison Avenue and New Market Road. It then travels along the east side of Collier Health Services Medical Center and the Florida State University College of Medicine before reconnecting to SR 29 north of Westclox Street/New Market Road W (the SR 29 Bypass Junction). The Preferred Alternative then follows the existing alignment from north of Westclox Street/New Market Road W to the project terminus near SR 82. Partial two-lane roundabouts are proposed at SR 29 and CR 846, at SR 29 and Alachua Street/ Gopher Ridge Road, and at SR 29 and Westclox Street/New Market Road W.

6.1 Typical Sections

6.1.1 SR 29

Within the project limits, SR 29 has been divided into the following eight typical sections:

From Oil Well Road to South of Kaicasa Entrance

The existing 2-lane undivided roadway is widened to a 4-lane divided typical section (two (2) 12-foot lanes in each direction and a 40-foot median). There is an open drainage system, and the design speed is 65 mph.

The existing ROW varies from 173.75 feet to 181 feet. The ROW width needed for this typical section can be accommodated within the existing ROW limits. Clear zone and border width variations may be required. **Figure 6.1** depicts this typical section.

From South of Kaicasa Entrance to North of Seminole Crossing Trail

The existing 2-lane undivided roadway is widened to a 4-lane divided typical section (two (2) 12-foot lanes in each direction and a 30-foot median), with a 10-foot shared use path on the west side of the corridor from Farm Worker Way to Seminole Crossing Trail. There is an open drainage system, and the design speed is 55 mph.

The existing ROW varies from 173.75 feet to 181 feet. The ROW width needed for this typical section can be accommodated within the existing ROW limits, except for the canal relocation near Seminole Crossing Trail. A border width variation may be required. **Figure 6.2** depicts this typical section.

Figure 6.1
SR 29 Typical Section from Oil Well Road to South of Kaicasa Entrance

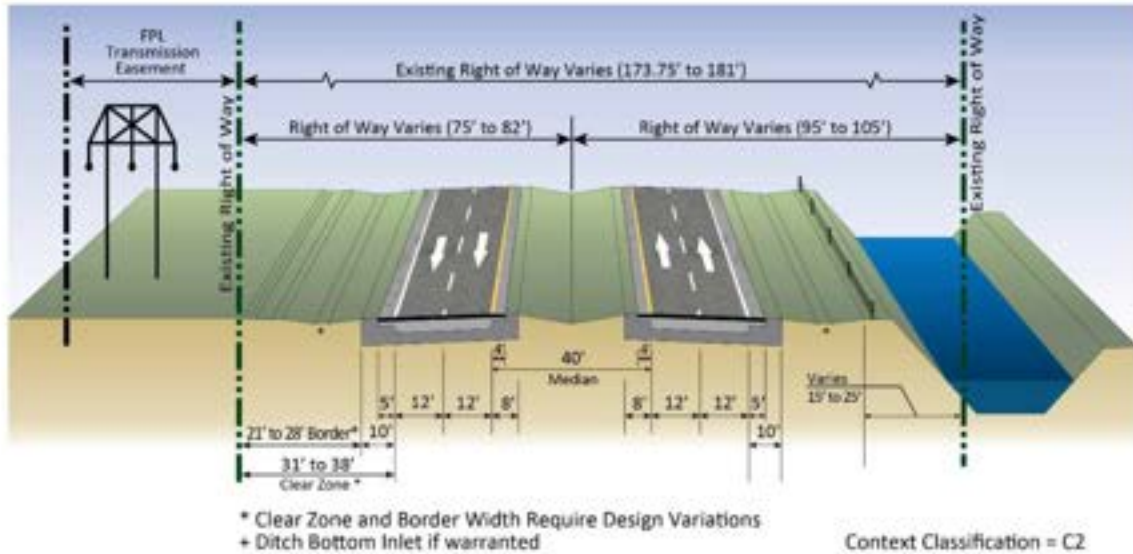
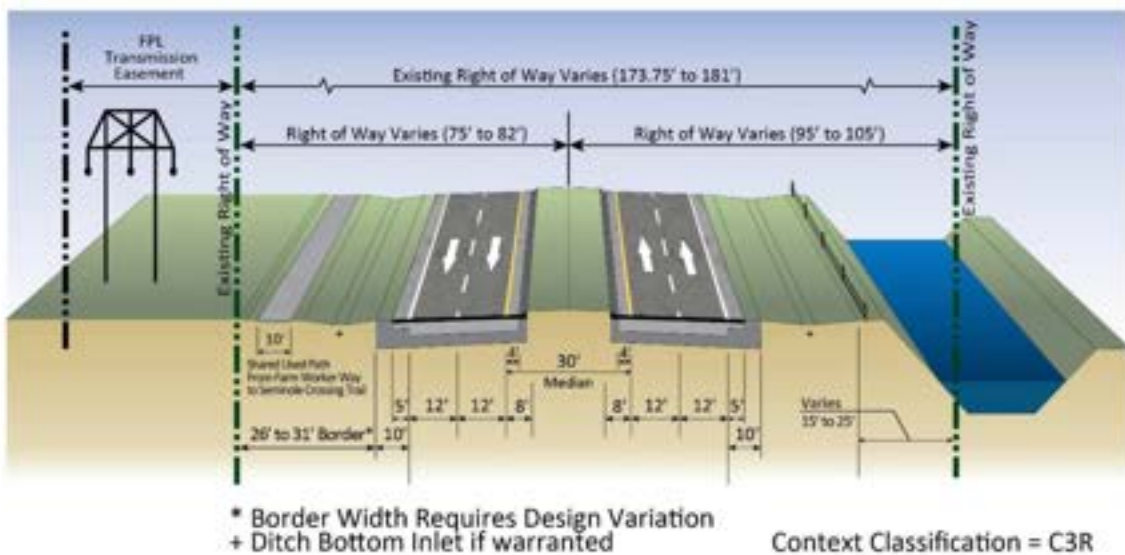


Figure 6.2
SR 29 Typical Section from South of Kaicasa Entrance to North of Seminole Crossing Trail



From North of Seminole Crossing Trail to South of CR 846

The existing 2-lane undivided roadway is widened to a 4-lane divided typical section (two (2) 11-foot lanes in each direction and a 22-foot median), with 7-foot buffered bicycle lanes and 6-foot sidewalks in each direction. There is a closed drainage system with curb and gutter, and the design speed is 45 mph. A 10-foot-wide border width design variation may be required in ROW-constrained areas.

The existing ROW is 100 feet. The ROW width needed for this typical section can mostly be accommodated within the existing ROW limits, except for some additional ROW needed for a turn lane near 13th Street. **Figure 6.3** depicts this typical section.

Figure 6.3
SR 29 Typical Section from North of Seminole Crossing Trail to South of CR 846



* 10' Border Width Requires Design Variation Where Constrained by 100' Existing ROW

From South of Westclox Street/New Market Road W to Heritage Boulevard

The existing 2-lane undivided roadway is widened to a 4-lane divided typical section (two (2) 12-foot lanes in each direction and a 30-foot median), with a 10-foot shared use path on both sides of the corridor. There is an open drainage system, and the design speed will be 55 mph.

The existing ROW is 200 feet. The ROW width needed for this typical section can be accommodated within the existing ROW limits. **Figure 6.4** depicts this typical section.

Figure 6.4
SR 29 Typical Section from South of Westclox Street/New Market Road W to Heritage Boulevard

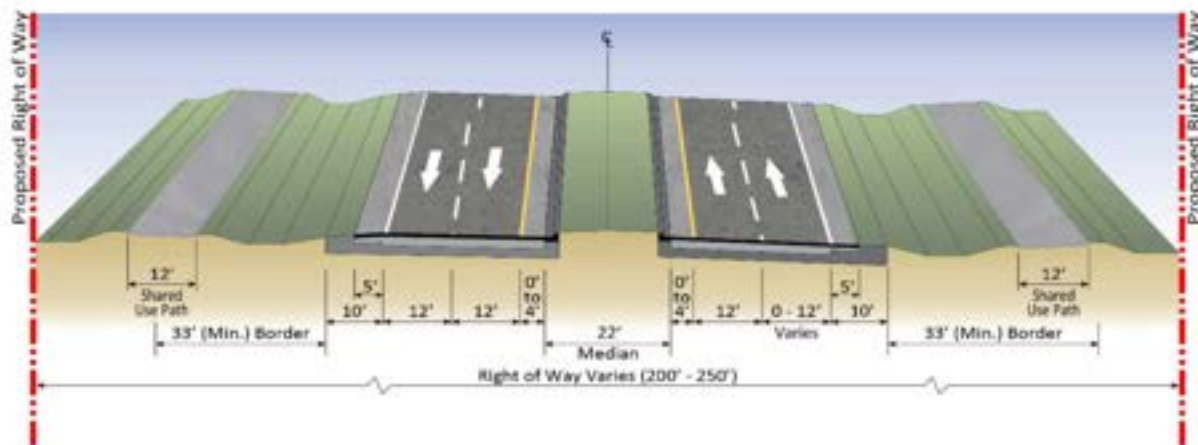


From Heritage Boulevard to SR 29 Bypass Junction

The existing 2-lane undivided roadway is widened to a 4-lane divided typical section (two (2) 12-foot lanes in each direction and a 22-foot to 30-foot median), with a 12-foot shared use path on both sides of the corridor. There is an open drainage system, and the design speed is 45 mph.

The ROW width needed for this typical section is 200 to 250 feet. **Figure 6.5** depicts this typical section.

Figure 6.5
SR 29 Typical Section from Heritage Boulevard to SR 29 Bypass Junction



From Experimental Road to South of SR 82

The existing 2-lane undivided roadway is widened to a 4-lane divided typical section (two (2) 12-foot lanes in each direction and a 40-foot median), with a 10-foot shared use path on both sides of the corridor. There is an open drainage system, and the design speed is 55 mph.

The existing ROW is 200 feet. The ROW width needed for this typical section can be accommodated within the existing ROW limits. **Figure 6.6** depicts this typical section.

Figure 6.6
SR 29 Typical Section from Experimental Road to South of SR 82



6.1.2 SR 29 Bypass Portion

Within the project limits, the proposed SR 29 Bypass portion of the Preferred Alternative from CR 846 to the SR 29 Bypass junction with SR 29 north of Westclox Street/New Market Road W can be divided into the following two typical sections:

From South of CR 846 to Gopher Ridge Road

A 4-lane divided typical section (two (2) 12-foot travel lanes in each direction and a 22-foot median) is proposed, with a 12-foot shared use path in each direction. There are outside curbs with an open drainage system, and the design speed is 45 mph.

The ROW width needed for this typical section is 144 to 152 feet. **Figure 6.7** depicts this typical section.

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Figure 6.7

SR 29 Bypass Typical Section from South of CR 846 to Gopher Ridge Road



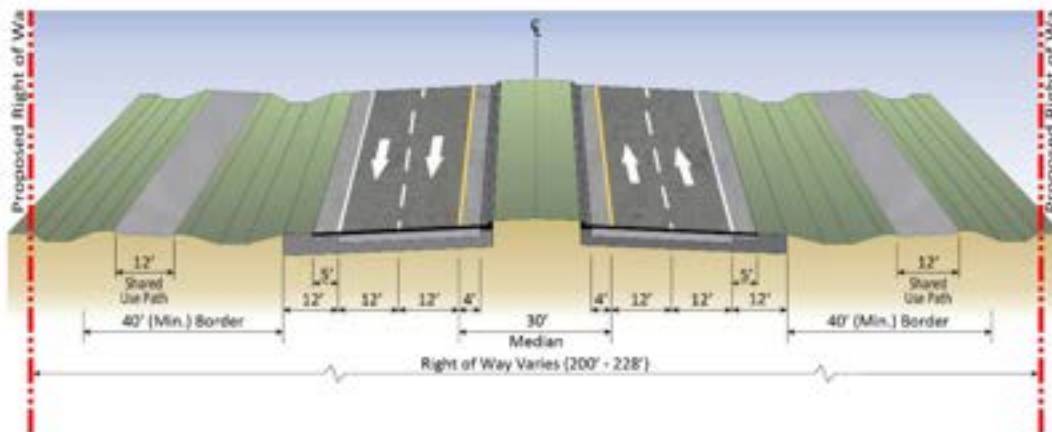
From Gopher Ridge Road to Experimental Road

A 4-lane divided typical section (two (2) 12-foot travel lanes in each direction and a 30-foot median) is proposed, with 12-foot shared use paths on both sides of the corridor. There is an open drainage system, and the design speed is 50 to 55 mph.

The ROW width needed for this typical section is 200 to 228 feet. **Figure 6.8** depicts this typical section.

Figure 6.8

SR 29 Bypass Typical Section from Gopher Ridge Road to Experimental Road



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6.2 Intersection Concepts

For the Preferred Alternative, signalized intersections have been proposed at each of the existing stop-controlled intersections, except at SR 29 and Westclox Street/New Market Road W where a partial two-lane roundabout is proposed. Also, capacity increases, from 2-lane to 4-lane facilities, have been proposed along the existing SR 29 and New Market Road corridors north and south of the SR 29 Bypass Junction. Additional left and right turn lanes have been proposed at various intersections along the study corridor. No geometric changes to SR 29 within downtown Immokalee, from New Market Road to Westclox Street/New Market Road W, or along New Market Road have been proposed. **Figure 6.9** depicts the proposed intersection geometries for the Preferred Alternative.

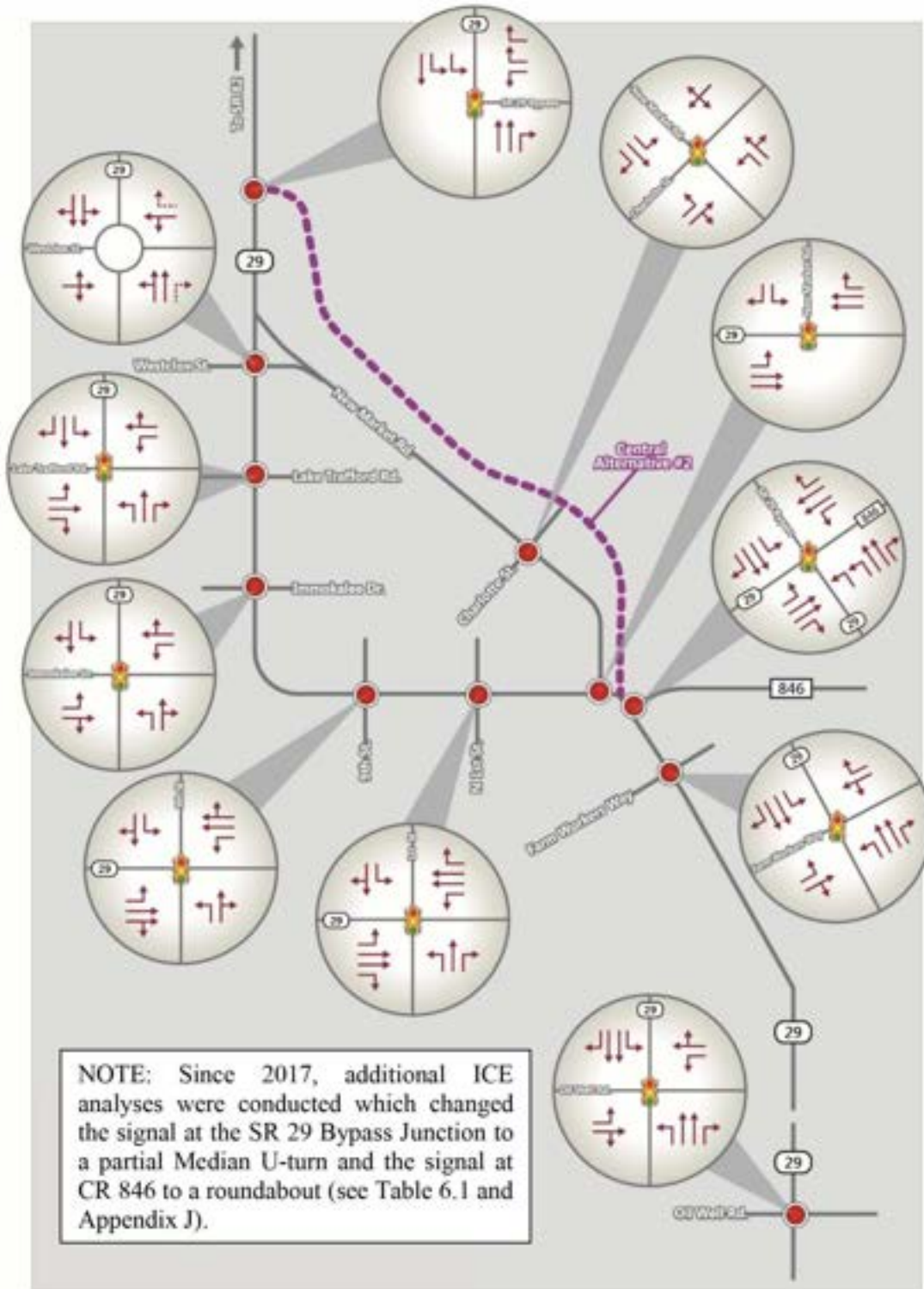
The FDOT Step 1 Roundabout Screening was originally conducted for each of the following intersections:

- SR 29 and Oil Well Road
- SR 29 and Farm Worker Way
- SR 29 and CR 846
- SR 29 and New Market Road
- SR 29 and Westclox Street/New Market Road W
- SR 29 and the SR 29 Bypass Junction

The intersections at SR 29 and Westclox Street/New Market Road W and SR 29 and the SR 29 Bypass Junction were advanced to the Step 2 Benefit-Cost Evaluation for the Preferred Alternative. The FDOT Roundabout Screening forms and evaluations for the Preferred Alternative can be found in **Appendix D**.

After the Public Hearing, as a result of refinements to the Preferred Alternative, to supplement and update the Step 1 Roundabout Screenings, Stage 1 Screenings using the FDOT Intersection Control Evaluation (ICE) Forms were conducted at the SR 29 Bypass junction, at SR 29 and CR 846, and at SR 29 and Gopher Ridge Road. Stage 2 – Initial Control Strategy Assessments were then conducted for the SR 29 Bypass Junction and SR 29 at CR 846. These FDOT ICE Forms can be found in **Appendix J**. The findings of these Intersection Control Evaluations were to propose a partial Median U-turn at the SR 29 Bypass Junction, a partial two-lane roundabout at SR 29 and CR 846, and a partial two-lane roundabout at SR 29 and Gopher Ridge Road.

**Figure 6.9
Proposed Intersection Geometries**



6.3 Design Year Traffic Volumes

6.3.1 Design Traffic Projections and Characteristics

A *Design Traffic Technical Memorandum*, dated January 2018, was prepared as part of this study. To develop the design year (2045) traffic volumes, the following design traffic characteristics were utilized:

- Standard K factor of 9.5% along SR 29 from Oil Well Road to south of Farm Worker Way
- Standard K factor of 9.0% along SR 29 from Farm Worker Way to SR 82 and along New Market Road
- Peak directional factor of 59.0% along SR 29 and New Market Road
- Peak directional factors ranging from 52.1% to 67.1% along the side streets
- Peak hour truck factor of 16.0% along SR 29, south and north of the SR 29 Bypass junction, and along the SR 29 Bypass
- Peak hour truck factor of 9.0% along SR 29 from CR 846 to the SR 29 Bypass junction
- Annual growth rates ranging from 0.90% to 1.63%

Using the standard K factor and D factor approach, 2045 AM and PM peak hour approach and departure volumes were estimated for all intersections based on existing turning patterns. The estimated (2045) AM and PM peak hour volumes for the Preferred Alternative are depicted in **Figure 6.10**.

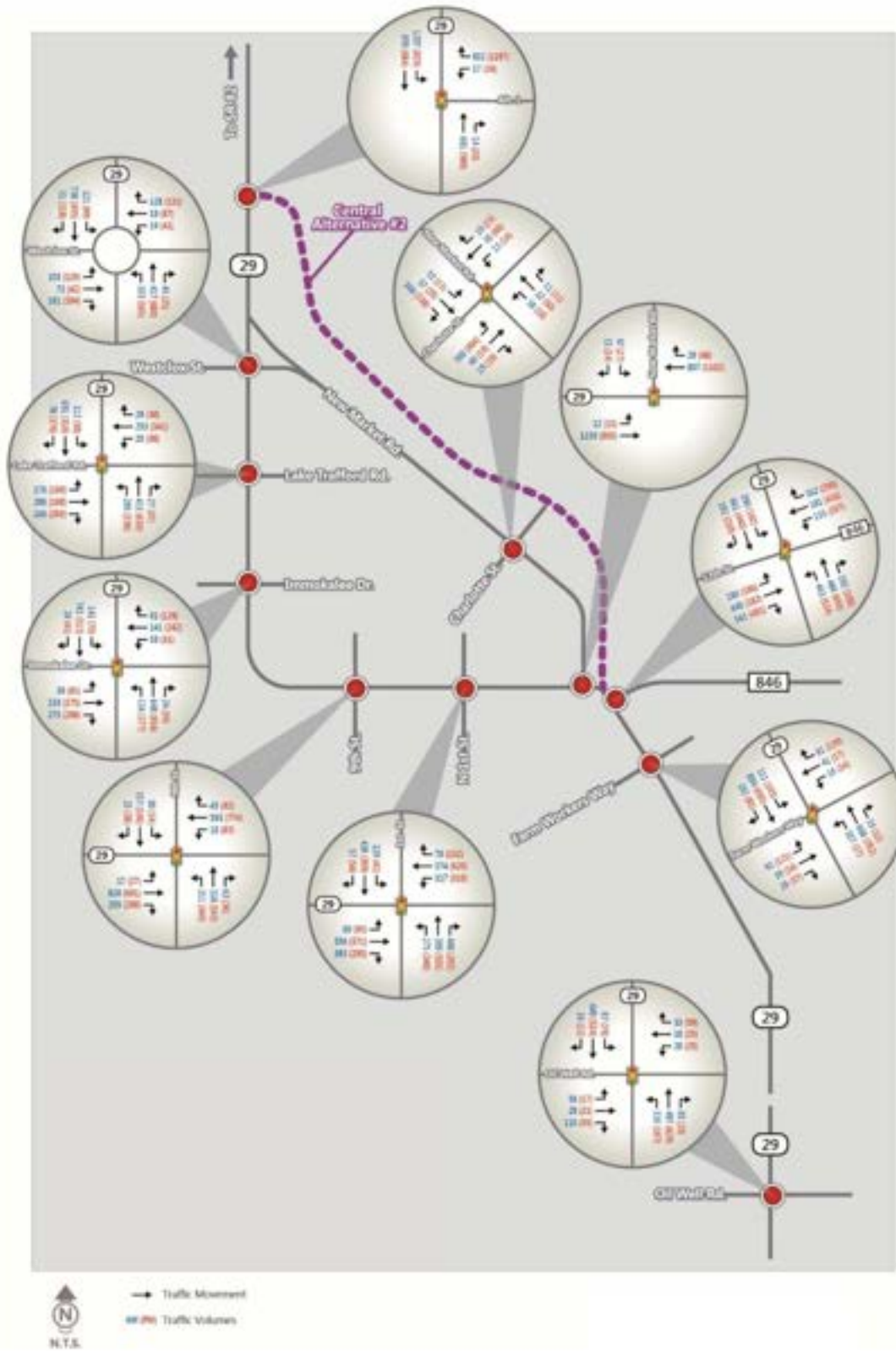
6.3.2 Design Traffic Operational Analysis

Intersection operational analysis was undertaken for the 2045 AM and PM peak hours using Synchro. Similarly, arterial operational analysis of the Preferred Alternative was undertaken referencing the 2013 FDOT *Quality/Level of Service Handbook*. **Table 6-1** and

Table 6-2 provide summaries of the anticipated intersection LOS and delay and arterial LOS in the year 2045 for the Preferred Alternative. Those intersections and arterial segments that do not meet LOS standards are shown in red bold font.

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Figure 6.10
Design Year (2045) AM and PM Peak Hour TMC's



**Table 6-1
2045 Intersection LOS**

Intersection	Control Type	FDOT LOS Target	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
SR 29 and Oil Well Road	Signal	C	18.3	B	16.8	B
SR 29 and Farm Worker Way	Signal	D	14.3	B	15.3	B
SR 29 and CR 846	Roundabout	D	19.9 – 37.3	C - E	20.0 – 45.6	C - E
SR 29 and New Market Road E	Signal	D	2.4	A	1.8	A
SR 29 and North 1 st Street	Signal	D	68.1	E	47.5	D
SR 29 and North 9 th Street	Signal	D	29.9	C	34.5	C
SR 29 and Immokalee Drive	Signal	D	33.7	C	28.9	C
SR 29 and Lake Trafford Road	Signal	D	55.2	E	26.2	C
SR 29 and Westclox Street/New Market Road W	Roundabout	D	12.6	B	12.9	B
SR 29 Bypass Junction	Partial Median U-Turn	D	15.8	B	17.5	B
New Market Road and Charlotte Street	Signal	D	27.4	C	28.8	C

**Table 6-2
2045 Arterial LOS**

Segment	Number of Lanes	FDOT LOS Target	Directional Design Hour Volume (DDHV)	LOS
SR 29				
Oil Well Road to Farm Worker Way	4	C	841	B
Farm Worker Way to CR 846	4	D	1,221	C
CR 846 to New Market Road	4	D	1,221	C
New Market Road to North 1 st Street	4	D	1,062	D
North 1 st Street to North 9 th Street	4	D	1,009	D
North 9 th Street to Immokalee Drive	2	D	1,062	F
Immokalee Drive to Lake Trafford Road	2	D	797	C
Lake Trafford Road to Westclox Street/New Market Road W	2	D	690	C
Westclox Street/New Market Road W to SR 29 Bypass Junction	4	D	1,009	C
SR 29 Bypass Junction to SR 82	4	D	2,177	C
SR 29 Bypass				
CR 846 to Flagler Street	4	D	1,168	C
Flagler Street to Kissimmee Street	4	D	1,381	C
Kissimmee Street to SR 29 Bypass Junction	4	D	1,221	C
New Market Road				
SR 29 to Charlotte Street	2	D	287	C
Charlotte Street to SR 29/Westclox Street	2	D	58	C

6.4 Horizontal and Vertical Geometry

The horizontal alignment for the Preferred Alternative contains ten horizontal curves within the project limits. The curve data is summarized in **Table 6-3**.

Table 6-3
Horizontal Alignment

Horizontal Curve Station			Radius (ft.)	DELTA (Deflection Angle)	DELTA (RT or LT)	Degree of Curve	Tangent Length (ft.)	Length (ft.)	Superelevation	Design Speed (MPH)
P.C.	P.L.	P.T.								
SR 29										
224+31.64	237+25.99	248+91.15	3,194.17	44° 07' 04"	LT	1° 47' 38"	1,294.35	2,459.51	0.056	65
477+78.09	482+50.42	487+22.62	22,918.94	2° 21' 41"	RT	0° 15' 00"	472.33	944.53	NC	55
492+34.20	496+20.61	500+06.94	22,918.00	1° 55' 55"	LT	0° 15' 00"	386.40	772.73	NC	55
SR 29 Bypass										
88+22.26	89+08.44	89+94.61	22,918.00	0° 25' 51"	LT	1° 15' 00"	86.17	172.35	NC	-
111+97.46	113+99.03	116+00.10	3,300.00	5° 59' 27"	LT	1° 44' 11"	201.57	402.64	NC	45
116+00.10	126+14.39	134+85.71	2,064.87	52° 19' 18"	RT	2° 46' 29"	1,014.29	1,885.61	0.02	45
144+28.41	147+82.73	151+23.11	1,432.00	27° 47' 45"	LT	4° 00' 04"	354.33	694.70	0.02	45
158+02.61	168+28.93	177+73.64	2,865.00	39° 25' 04"	LT	2° 00' 00"	1,026.32	1,971.04	NC/0.04	45/50
185+25.85	190+84.11	196+29.74	3,000.00	21° 04' 58"	RT	1° 54' 35"	558.26	1,103.89	0.039	50
213+89.91	257+65.07	296+72.64	10,398.79	45° 38' 12"	RT	0° 33' 04"	4,375.16	8,282.73	NC	50

The topography surrounding the project vicinity is relatively flat. The Preferred Alternative will follow the existing profile of SR 29, where applicable. The vertical alignment will be evaluated in more detail during the final design phase, during which site-specific geotechnical data will be collected and analyzed.

6.5 Access Management

Given SR 29's designation as a SIS Highway Corridor, the proposed access classification along SR 29 for the Preferred Alternative is Access Class 3, upgrading portions of the corridor with less restrictive existing access classifications. SIS facilities are a primary means for the movement of people and goods between regions, and generally serve fast growing economic regions and Rural Areas of Opportunity, such as Immokalee.

Table 6-4 summarizes the proposed 35 access points for the Preferred Alternative.

Table 6-4
Access Management

Location Description	Station	Design Speed (MPH)	Existing Access	Proposed Access	Proposed Spacing (Ft.)
Oil Well Rd & SR 29 Intersection	30+00	65	Full	Signal	>2640
Partial: SB LT, North of Oil Well Rd	68+10	65	N/A	Directional	>1320
Partial: NB LT, North of Oil Well Rd	82+80	65	N/A	Directional	>1320
Partial: SB LT, North of Oil Well Rd	109+20	65	N/A	Directional	>1320
Partial: NB & SB LT, North of Oil Well Rd	178+70	65	N/A	Directional	>1320
Partial: NB & SB LT, South of Trans Gro	239+10	65	N/A	Directional	>1320
Trans Gro & SR 29 Intersection	259+00	65	N/A	Full	>2640
Sunniland Nursery Rd & SR 29 Intersection	281+20	65	N/A	Full	2,220
Full: North of Sunniland Nursery Rd	335+50	65	N/A	Full	>2640
Full: South of Future Kaicasa Entrance	399+40	65	N/A	Full	>2640
Future Kaicasa Entrance & SR 29 Intersection	416+10	65	N/A	Directional	>1320
Agriculture Way & SR 29 Intersection	446+00	55	N/A	Directional	>1320
Farm Workers Way & SR 29 Intersection	463+40	55	Signal	Signal	>2640
Partial: SB LT, North of Farm Workers Way	486+10	55	N/A	Directional	>1320
Seminole Crossing Trail & SR 29 Intersection	499+30	55	N/A	Full	>2640
Circle K at New Harvest Rd & SR 29 Intersection	95+00	45	N/A	Directional	770
Oakes Farms at New Harvest Rd & SR 29 Intersection	105+50	45	N/A	Full	1,820
14th St & SR 29 Intersection	113+50	45	N/A	Directional	800
CR 846 & SR 29 Intersection	122+00	45	N/A	Roundabout	>2640
Airport Access & SR 29 Intersection	135+00	45	N/A	Directional	1,300
Gopher Ridge Rd & SR 29 Intersection	165+50	45	N/A	Roundabout	>2,640
Proposed Flagler St & SR 29 Intersection	189+40	50	N/A	Directional	>2640
Proposed Lee St & SR 29 Intersection	223+00	55	N/A	Full	>2640
Partial: NB & SB LT, South of SR 29 Bypass Junction	241+20	50	N/A	Directional	>1320
Heritage Blvd/ SR 29 Connection	251+30	50	N/A	Directional	1,010
SR 29 Bypass Junction	264+50	45	N/A	Directional	>2640
UF IFAS & SR 29 Intersection	309+70	55	N/A	Directional	>1320
Experimental Rd & SR 29 Intersection	317+20	55	N/A	Full	>2640
Partial: NB & SB LT, South of Oquinn Rd	328+00	55	N/A	Directional	1,080
Oquinn Rd & SR 29 Intersection	344+50	55	N/A	Full	>2640
Partial: SB LT, North of Johnson Rd	361+00	55	N/A	Directional	950
Partial: NB LT, South of Westclox St & SR 29 Intersection	---	55	N/A	Directional	600'
Westclox St & SR 29 Intersection	---	55	Flashing Beacon	Roundabout	1,310

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6.6 Variations and Exceptions

Based on the design criteria identified in **Section 3.0**, **Table 6-5** summarizes the potential design variations anticipated along SR 29 for the Preferred Alternative. The approved Design Variations for border widths are included in **Appendix E**. The Base Clearance variation was approved in the Final Pavement Design Package for the concurrent design section from south of CR 846 to the SR 29 Bypass Junction.

Table 6-5
Design Variations

Segment	Context Classification	Design Speed (MPH)	Design Variation	FDM Requirement	Preferred Alternative
Oil Well Road to South Kaicasa Entrance	C2	65	Border Width	40 ft	21 ft to 28 ft on the west side
Kaicasa Entrance to Seminole Crossing Trail	C3R	55	Border Widths	40 ft	26 ft to 31 ft on the west side
Seminole Crossing Trail to CR 846	C3C	45	Border Widths	12 ft	10 ft on both sides
South of CR 846 to Gopher Ridge Road	C3C	45	Base Clearance	3 ft	2 ft

6.7 Drainage

A *Location Hydraulic Report (LHR)* (August 2018) and a *Preliminary Pond Siting Report (PPSR)* (August 2018) have been prepared under separate cover. After the Public Hearing, to supplement and update findings of the *LHR* (2018) and *PPSR* (2018) to address refinements made to the Preferred Alternative to meet the FDOT Design Manual (FDM) requirements and identification of stormwater management facilities (SMF), necessary to accommodate stormwater runoff from CR 846 to SR 82, *LHR Addendums* and *Pond Siting Report (PSR) Addendums* were prepared in March 2024. These documents were prepared under separate cover and included in the project as part of this PD&E study.

6.7.1 Location Hydraulics

The purpose of the *LHR* is to address the base floodplain encroachments resulting from the roadway improvements evaluated in this PD&E study. The intent is to avoid or minimize highway encroachments within the 100-year (base) floodplains and to avoid supporting land use development incompatible with floodplain values.

FEMA has designated locations of the 100-year base floodplain within the project corridor. The entire project is within the 100-year base floodplain designated as Zone AH, which is the flood insurance rate zone that corresponds to areas of 1-percent-annual-chance shallow flooding (usually

areas of ponding) where average depths are between 1 and 3 feet. Whole-foot base flood elevations derived from detailed hydraulic analyses are shown at selected intervals within this zone. The base flood elevation ranges from elevation 19 feet just south of Oil Well Road to elevation 36.5 feet at SR 82. The proposed improvements would impact the base floodplain storage in the following ways:

- The widening of the cross drains and bridge culverts will encroach upon the floodplain in the form of concrete and fill material.
- The widening of the roadway portion of the project would add embankment fill material upon the base floodplain within the existing right of way.

Based on the proposed typical sections, the estimated encroachment volumes (floodplain impacts) are expected to be approximately 27.84 acre-feet. Floodplain compensating storage will be provided as required by SFWMD and as a result, no significant changes in base flood elevations or limits will occur.

6.7.2 Stormwater Management

The purpose of the *PPSR* is to develop engineering concepts, analyze environmental data and document information which will aid the FDOT in determining the type, design and location of SMFs required for the proposed improvements. The report identifies alternative pond locations for meeting applicable stormwater management criteria, documents estimated ROW requirements, and discusses possible environmental impacts associated with the alternative pond sites. For this PD&E Study, the *PPSR* generally identifies one potential pond site for each basin.

The SR 29 study corridor traverses three major watersheds within the project study area, Okaloacoochee Watershed, Cocohatchee-Corkscrew and the Caloosahatchee River Watershed. Within these watersheds, there are four regional drainage basins: Silver Strand (WBID 3278W), Immokalee (WBID 3278L), Cow Slough (WBID 3278E), and Townsend Canal (WBID 3235L). WBIDs 3278W, 3278E and 3235L are all verified as impaired on the current FDEP 303(d) list. There are no OFW's within the project limits.

The project consists of 41 drainage basins for the Preferred Alternative: Basins 1 through 25, Basins 26-2 through 32-2 and Basins 33 through 41. Twenty-six preliminary SMFs were identified for SR 29 from Oil Well Road to south of CR 846. Nine proposed SMFs have been identified for the portion of SR 29 under design from south CR 846 to SR 82. These pond sites are depicted on the Preferred Alternative Concept Plans.

Existing flow patterns will be maintained and SMFs will be utilized to provide the necessary stormwater management (water quality and quantity). It is assumed that the existing offsite stormwater runoff will be "passed through" the proposed ponds, where necessary, with no additional treatment required. Weir structures and pipes must be sized to accommodate the additional offsite flows passing through the proposed ponds.

6.8 Right of Way and Relocations

The Preferred Alternative follows the existing ROW up to CR 846 in Immokalee. From this point, the Preferred Alternative turns north at CR 846 on new ROW on the west side of the Immokalee Regional Airport, then follows the alignment of CR 846/Airport Road before turning west on new alignment. **Table 6-6** shows the business and vacant parcel impacts.

Table 6-6
Potential ROW Impacts

Parcel Impact Type	Number of Parcels Impacted
Business Parcels Affected	4
Business Displacements	1
Public/Semi-Public Parcels Affected	3
Undeveloped Parcels Affected	13
Personal Property Relocations	3

There are no residential relocations anticipated for the Preferred Alternative. However, there is one business that will require relocation as a result of the Preferred Alternative. This business is located at 730 E Main Street. This business is a gas station/store that was built in 1965. Relocation on the existing parcel is not feasible.

6.9 Utility Impacts

A *Utility Assessment Package* was prepared for the project. A request was made of all utility agencies/owners to provide relocation cost estimates of their facilities within the study limits. The utilities relocation cost responses are summarized in **Table 6-7**. Cost estimates will be finalized in the final design phase. The FDOT's coordination with potentially affected utility owners started during the PD&E Study and will continue throughout the design and construction phases. Project design will seek to avoid and minimize impacts to existing utilities to the extent feasible within roadway right of way.

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**Table 6-7
Utility Relocation Costs**

Utility Agency/Owner (UAO)	Relocation Cost
Calumet Pipeline Holdings	No Information Available
Century Link	\$1,275,000
Collier County Information Technology	Not Involved
Collier County Traffic Operations/FDOT*	\$228,000
Comcast	\$129,000
Crown Castle	No Impacts
Immokalee Water & Sewer District	No Anticipated Relocation
Lee County Electric Cooperative	\$48,000
Lipman Families Company	NA
Summit Broadband	\$405,000

* Collier County Traffic Operations operates and maintains the ATMS facilities at SR 29 and Farm Workers Way, while FDOT retains ownership of the facilities. Relocation costs would be FDOT's responsibility.

6.10 Structures

The widening of SR 29 for the Preferred Alternative requires the lengths of three existing bridge culverts (Structure Nos. 030019, 030304 and 030305) to be extended. Bridge Culvert No. 030019 was constructed in 1965 and has a Sufficiency Rating of 81. Bridge Culvert Nos. 030304 and 030305 were constructed in 1999 and have Sufficiency Ratings of 95.9 and 93.9, respectively. All of the bridge culverts have LFR Inventory Load Rating Factors above 1.0, which makes them suitable for widening.

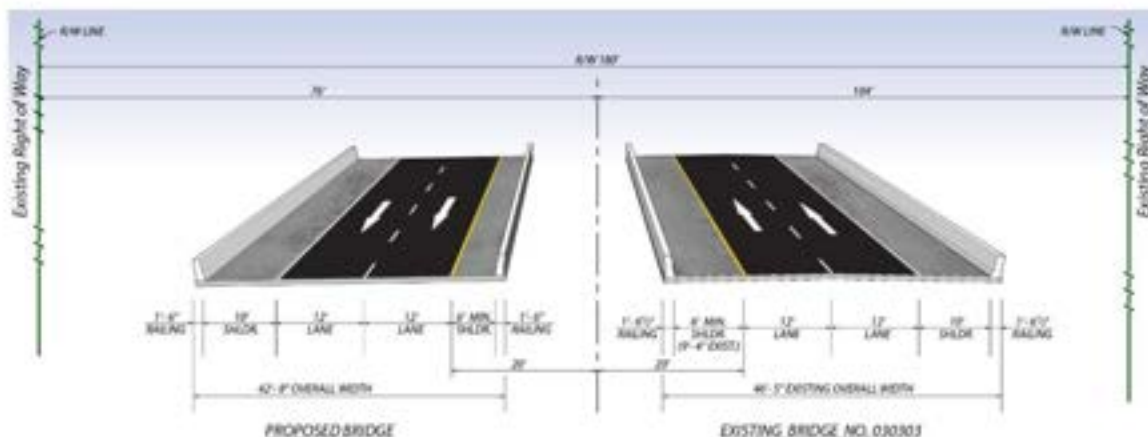
The widening of SR 29 also requires the addition of a new bridge over Gator Creek adjacent to Bridge No. 030303. The existing reinforced concrete flat slab bridge was constructed in 1999. It has a Sufficiency Rating of 95.9 and an LFR Inventory Rating over 1.0, which indicates that it is in good overall condition and is suitable to remain in service. The existing bridge will carry the two northbound lanes of traffic and the new bridge will carry the two southbound lanes. The proposed southbound parallel structure will be a 50-ft. long two-span concrete flat slab bridge with equal spans and with a similar vertical profile as the existing bridge. The bridge typical section will have two 12-foot-wide travel lanes with a 6-foot inside shoulder and a 10-foot outside shoulder.

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Figure 6.11 depicts this typical section.

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Figure 6.11
Typical Section for SR 29 Bridge over Gator Creek



Replacement of the existing pedestrian overpass Bridge No. 039001 over SR 29 is required due to insufficient bridge horizontal underclearance to accommodate the widening of SR 29.

6.11 Railroad Assessment

There are no at-grade or grade-separated railroad crossings within the project study area.

6.12 Lighting

A *Lighting Justification Report* was not completed as part of this PD&E study.

Since approximately 28% of the crashes along SR 29 occurred during non-daylight time periods with low lighting conditions and all of the existing stop-controlled intersections along the corridor are proposed to be signalized, the need for lighting along SR 29 where there currently is none should be evaluated during preliminary and final design. The adequacy of the existing conventional lighting along SR 29 from CR 846 to North 1st Street and the decorative lighting in the vicinity of the Westclox Street/New Market Road W intersection should also be evaluated to determine if it meets the Lighting Maintained Values contained within the *FDM – Table 231.2.1*.

6.13 Intelligent Transportation Systems

The replacement of the pedestrian overpass at SR 29 and Farm Worker Way (Structure No. 039001) will impact the controller assembly box and pull boxes located on the southeast corner of the intersection. The impacts include potential relocation or replacement of the controller assembly box and associated pull boxes.

Also, the addition of lanes along the west side of SR 29 at Farm Worker Way will similarly impact the controller assembly box and associated pull boxes, the southbound school zone warning beacon, all pull boxes along the southbound approach, and the pull boxes at the northwest corner of the intersection.

6.14 Traffic Control Plan/Construction Impacts

The construction of Central Alternative #2 can be completed through the following phases:

SR 29 from Oil Well Road to North of Seminole Crossing Trail

- Phase 1*
- A. Maintain existing two-way traffic on the existing lanes.
 - B. Construct the required ponds and related drainage systems leading to the ponds.
 - C. Construct the new southbound lanes.
- Phase 2*
- A. Shift the two-way traffic over to the newly completed southbound lanes.
 - B. Undertake construction work required to reconstruct or widen the existing two lanes to become the new northbound lanes.
- Phase 3*
- A. Shift traffic where one northbound lane is placed on the outside lane of the completed two northbound lanes, and one southbound lane is placed on the outside lane of the completed two southbound lanes.
 - B. Complete the required median work including the related drainage structures.
 - C. Undertake the final pavement surface (friction course) and apply final striping.

SR 29 from North of Seminole Crossing Trail to CR 846 and Continuing to West of New Market Road E

- Phase 1*
- A. Construct ponds that are not in conflict with roadway traffic.
 - B. During allowable lane closure periods (night-work operations) and in sections where four lanes exist, close one lane in each direction and place temporary pavement in the median.
 - C. Shift traffic lanes toward the paved median and add temporary pavement along the west side.

- Phase 2*
- A. Shift the traffic lanes toward the west side, over existing pavement and the newly completed temporary pavement.
 - B. Construct the new northbound lanes and related drainage structures.
- Phase 3*
- A. Shift the traffic lanes toward the east side, over the newly completed northbound pavement and portion of the temporary pavement in the median.
 - B. Construct the new southbound lanes and related drainage structures.
- Phase 4*
- A. Place traffic lanes over the completed northbound and southbound lanes – lanes in both directions will be shifted toward the outside to allow more space toward the median.
 - B. Complete the required median work including the related drainage structures.
 - C. Undertake the final pavement surface (friction course) and apply final striping.

SR 29 Bypass from CR 846 to South of Experimental Road

- Phase 1*
- A. Alignment is over virgin land.
 - B. Construct the required ponds and related drainage systems.
 - C. Construct all four lanes and related drainage structures.

SR 29 from South of Experimental Road to South of SR 82

- Phase 1*
- A. Maintain existing two-way traffic on the existing lanes.
 - B. Construct the required ponds and related drainage systems leading to the ponds.
 - C. Construct the new northbound lanes.
- Phase 2*
- A. Shift the two-way traffic over to the newly completed northbound lanes.
 - B. Undertake construction work required to reconstruct or widen the existing two lanes to become the new southbound lanes.
- Phase 3*
- A. Shift traffic where one northbound lane is placed on the outside lane of the completed two northbound lanes, and one southbound lane is placed on the outside lane of the completed two southbound lanes.
 - B. Complete the required median work including the related drainage structures.
 - C. Undertake the final pavement surface (friction course) and apply final striping.

Construction activities for the proposed SR 29 improvements will have minor air, noise, vibration, water quality, traffic flow, and visual impacts for those residents and travelers within the

immediate vicinity of the project, but these will be minimized with adherence to applicable provisions in the FDOT's *Standard Specifications for Road and Bridge Construction*.

6.15 Soil Classifications

Based on a review of the USDA NRCS *Soil Survey of Collier County, Florida*, much of the project corridor consists of nearly level, poorly drained soils. Generally, the natural SHWT is at depths of about 6 to 18 inches below the natural grade within the project limits. Isolated surficial organic soils (A-8) are expected in some low-lying areas from natural grades to depths of approximately 2 feet.

The project study area is comprised of 18 mapped soil units. According to the *Hydric Soils of Florida Handbook* (Hurt, 2007), 10 of the 18 soil types identified within the project study area are classified as hydric; the remaining 8 types are not hydric. **Table 6.8** lists the acreage and percentage of each mapped soil type for the Preferred Alternative.

Table 6-8
Soil Types and Coverage

Soil Type	Hydric (Y/N)	Area (acres)	% of Total
3 - Malabar fine sand, 0 to 2 percent slopes	Y	4.31	1.13
7 - Immokalee fine sand, 0 to 2 percent slopes	N	75.41	19.73
8 - Myakka fine sand, 0 to 2 percent slopes	N	15.38	4.02
10 - Oldsmar fine sand, limestone substratum	N	4.71	1.23
15 - Pomello fine sand, 0 to 2 percent slopes	N	16.42	4.30
16 - Oldsmar fine sand, 0 to 2 percent slopes	N	74.42	19.47
17 - Basinger fine sand, 0 to 2 percent slopes	Y	30.10	7.87
20 - Fort Drum, and Malabar, high fine sands	N	11.01	2.89
21 - Boca fine sand, 0 to 2 percent slopes	Y	14.37	3.75
22 - Chobee, Winder, and Gator soils, depressional	Y	6.31	1.64
23 - Holopaw and Okeelanta soils, depressional	Y	0.30	0.08
25 - Boca, Riviera, limestone substratum and Copeland fine sands, depressional	Y	1.62	0.43
27 - Holopaw fine sand, 0 to 2 percent slopes	Y	31.27	8.18
28 - Pineda and Riviera fine sands	Y	16.70	4.37
29 - Wabasso fine sands, 0 to 2 percent slopes	N	19.12	5.01
34 - Urban land -Immokalee-Oldsmar, limestone substratum complex	Unranked	26.34	6.89
37 - Tuscawilla fine sand	Y	12.76	3.33
43 - Winder, Riviera, limestone substratum and Chobee soils, depressional	Y	21.71	5.68
Total		382.26	100%

6.16 Environmental Impacts

6.16.1 Cultural Resources

A *Cultural Resource Assessment Survey (CRAS)* was conducted in accordance with requirements set forth in the National Historic Preservation Act of 1966, as amended, and Chapter 267, F.S. The investigations were carried out in conformity with the FDOT PD&E Manual and the standards contained in the Florida Division of Historical Resources' (FDHR) Cultural Resource Management Standards and Operations Manual (FDHR 2003; FDOT 1999). In addition, the survey met the specifications set forth in Chapter 1A-46, Florida Administrative Code (F.A.C.).

The assessment resulted in the identification of a total of 46 historic resources (50 years of age or older) within the historic Area of Potential Effect (APE) (two previously recorded resources and 44 newly recorded historic resources). Forty-five of the resources are considered ineligible for listing in the National Register either individually or as part of a historic district.

No previously recorded or newly recorded archaeological sites were identified during the archaeological resources survey.

Of the identified resources, only the Immokalee Ice Plant (8CR642) is considered National Register-eligible. The Immokalee Ice Plant (8CR642) is representative of Immokalee's conversion from a community of individual isolated farmsteads to a more modern agricultural community and is considered eligible for the National Register under Criterion A for its role in Immokalee's Community Planning and Development, Agriculture, and Industry. The Preferred Alternative does not propose any direct impacts to Immokalee Ice Plant and remains within the existing ROW adjacent to the property. The *CRAS* Report (July 2018), prepared under separate cover, along with the *CRAS* transmittal letter with Ice Plant effects analysis, was submitted to the SHPO and on August 9, 2018 (see **Appendix F**) the SHPO concurred with the recommendations and finding that the project would have *No Adverse Effect* to historic properties.

Subsequent to the Public Hearing, a *CRAS Addendum Report* (February 2024) was prepared, under separate cover, to supplement and update cultural resource finding of the *CRAS* (Janus Research 2018) following design refinements made to the Preferred Alternative to meet FDM requirements and identification of proposed SMFs, necessary to accommodate stormwater runoff, from CR 846 to SR 82. The analysis concluded that the Preferred Alternative will not result in significant impacts to historic sites/districts or archaeological sites. The proposed action is expected to have no significant impact on archaeological sites as no previously recorded or newly recorded archaeological sites were identified within the archaeological APE. In addition, all shovel tests were negative for the presence of cultural materials and no environmental features were identified indicative of archaeological site potential. The historic resources survey resulted in the identification of two new resources that were recorded and evaluated: a ca. 1971 Mid-Century Modern style building (8CR01645) and a ca. 1970 Masonry Vernacular style building (8CR01646). In addition, a 0.25-mile segment of SR 29 (8CR01309) was updated within the APE. This linear resource is the same design as the segments of SR 29 which were determined

National Register-ineligible. Therefore, the resources are not National Register-eligible, either individually or as a part of a historic district. Therefore, the proposed undertaking will result in no historic properties being affected. The SHPO concurred with FDOT's recommendations and findings that the project will result in *no historic properties affected* on March 21, 2024.

6.16.2 Wetlands

The Preferred Alternative will result in a total of approximately 14.33 acres of permanent wetland impacts to twelve (12) individual wetlands. In addition, the Preferred Alternative will result in a total of approximately 15.41 acres of impact to Other Surface Waters. A Uniform Mitigation Assessment Method (UMAM) analysis was performed to determine an estimate of the functional loss due to wetland impacts. Based on the calculations, the Preferred Alternative will result in 9.21 units of functional loss for direct wetland impacts. For further information, refer to **Sections 3.0 and 5.2** of the *Natural Resources Evaluation (NRE)* (July 2018) prepared under separate cover for this project.

Subsequent to the Public Hearing, design refinements were made to the Preferred Alternative to meet the FDM requirements and included the identification of proposed SMFs, necessary to accommodate stormwater runoff, from CR 846 to SR 82. As documented in the *Preliminary Pond Siting Report Addendums* (March 2024), the three proposed SMFs for the Preferred Alternative segment extending from CR 846 to SR 29 Bypass Junction will result in no wetland impacts and 0.24 acres of OSW impacts. The six proposed SMFs for the Preferred Alternative segment extending from North of Westclox Street/New Market Road W to SR 82 will result in 0.15 acres of wetland impacts and 2.71 acres of OSW impacts. Based on the calculations, these nine proposed SMFs will result in 1.26 units of functional loss.

6.16.3 Floodplains

According to the FEMA FIRMS for Collier County (Map Numbers 12021C0290H, 12021C0280H, 12021C0165H, 12021C0145H, and 12021C0135H), the 100-year base floodplain is within the project corridor. The entire project is within Zone AH. Potential floodplain encroachment was evaluated using cross sections created from LiDAR data and existing SFWMD ERP information in the areas within the 100-year floodplain to calculate the additional fill due to widening that would be added. Total floodplain encroachment for the proposed improvements is 27.84 acre-feet and is rated as "Minimal" and can best be described as Project Activity Category 4 – "Projects on Existing Alignment Involving Replacement of Existing Drainage Structures with No Record of Drainage Problems". Floodplain compensating storage will be provided as required by SFWMD and as a result, no significant changes in base flood elevations or limits will occur. None of the floodplain encroachments were determined to be significant. Additional information regarding Floodplains and mitigation for impacts can be found in the *Location Hydraulic Report (LHR)* (August 2018) and *Location Hydraulic Report Addendums* (March 2024) prepared under separate cover for this project.

Potential floodplain compensation areas were identified for the Preferred Alternative to offset the impacts identified on a 1:1 basis. Therefore, it has been determined that this encroachment is not significant.

6.16.4 Threatened and Endangered Species

A *Natural Resources Evaluation (NRE)* (July 2018) was prepared under separate cover as part of consultation required under Section 7 of the Endangered Species Act of 1973 (ESA), as amended, and per the requirements of the FDOT PD&E Manual. A total of 21 federal or state listed protected species were identified as having the potential to occur within the project study area. Field evaluations of the study area were conducted by project biologists in April and October 2010, April 2011, January 2012, August 2017, and March 2018. The evaluation included coordination with the FWS and the Florida Fish and Wildlife Conservation Commission (FWC), and the Florida Natural Areas Inventory (FNAI). **Table 6.9** and **Table 6.10** below summarize the effect determinations for each of these species as a result of the proposed project based on the FDOT findings and commitments to offset potential impacts. Based upon correspondence with the FWS received on March 20, 2018 (**Appendix F**), the FDOT committed to reinitiate Section 7 consultation with the FWS during the project's design and permitting phase for the Florida scrub jay and Florida panther. Potential impacts to listed species and their habitats are described in more detail in the *NRE* and subsequent addendums.

The *NRE* was submitted to the FWS and FWC on July 20, 2018. The FWS responded via email on August 3, 2018 indicating that they would respond to all species determinations at the time of re-initiation of Section 7 consultation during the final design and permitting phase and they had no other comments on the project. On August 2, 2018, the FDOT received a comment from the FWC that noted a concern with the *NRE* in that the document did not specifically identify or discuss potential impacts of the project to Immokalee Regional Airport Upland Management Area (UMA) (which contains the Immokalee Airport Conservation Easement) and, consequently, impacts to habitat of the Florida scrub-jay and gopher tortoise. An *NRE Addendum* was prepared under separate cover and submitted to agencies for review on August 9, 2018. Findings and species effect determinations documented in the *NRE Addendum* remained consistent with the *NRE*. The FWC responded providing their agreement with the findings and determinations in a letter dated August 21, 2018.

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**Table 6-9
Summary of Federal Listed Species Effect Determinations**

Scientific Name	Common Name	Effect Determination	Status	
			Federal	State
Federally – Listed & Candidate Wildlife Species				
<i>Alligator mississippiensis</i>	American alligator	<i>May Affect, Not Likely to Adversely Affect</i>	T(S/A)	FT(S/A)
<i>Ammodramus savannarum floridanus</i>	Florida grasshopper sparrow	<i>No Effect</i>	E	F, E
<i>Aphelocoma coerulescens</i>	Florida scrub-jay	<i>May Affect, Likely to Adversely Affect</i>	T	F, T
<i>Drymarchon corais couperi</i>	Eastern indigo snake	<i>May Affect, Not Likely to Adversely Affect</i>	T	F, T
<i>Eumops floridanus</i>	Florida bonneted bat	<i>May Affect, Not Likely to Adversely Affect</i>	E	F, E
<i>Mycteria americana</i>	Wood stork	<i>May Affect, Not Likely to Adversely Affect</i>	T	F, T
<i>Picoides borealis</i>	Red-cockaded woodpecker	<i>No Effect</i>	E	F, E
<i>Polyborus plancus audubonii</i>	Audubon's crested caracara	<i>May Affect, Not Likely to Adversely Affect</i>	T	F, T
<i>Puma concolor coryi</i>	Florida panther	<i>May Affect, Likely to Adversely Affect</i>	E	F, E
<i>Rostrhamus sociabilis plumbeus</i>	Snail kite	<i>May Affect, Not Likely to Adversely Affect</i>	E	F, E
Federally – Listed Plant Species				
<i>Dalia carthagensis floridana</i>	Florida prairie-clover	<i>No Effect</i>	E	NL
<i>Chamaesyce garberi</i>	Garber's spurge	<i>No Effect</i>	T	NL

F = Federally Listed, NL = Not Listed, E = Endangered, T = Threatened, T(S/A) = Threatened due to similar appearance, C = Candidate species
 Note: Nomenclature for species effect determinations has changed from preparation of the July 2018 NRE and through the subsequent NRE Addendums. Species effect determination nomenclature for year 2023 is presented.

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Table 6-10
Summary of State Listed Species Effect Determinations

Scientific Name	Common Name	Effect Determination	Status	
			Federal	State
State – Listed Wildlife Species				
<i>Athene cunicularia floridana</i>	Florida burrowing owl	<i>No Adverse Effect Anticipated</i>	NL	T
<i>Egretta caerulea</i>	Little blue heron	<i>No Adverse Effect Anticipated</i>	NL	T
<i>Egretta tricolor</i>	Tricolored heron	<i>No Adverse Effect Anticipated</i>	NL	T
<i>Falco sparverius paulus</i>	Southeastern American kestrel	<i>No Adverse Effect Anticipated</i>	NL	T
<i>Gopherus polyphemus</i>	Gopher tortoise	<i>No Adverse Effect Anticipated</i>	C ⁽¹⁾	T
<i>Grus canadensis pratensis</i>	Florida sandhill crane	<i>No Adverse Effect Anticipated</i>	NL	T
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	<i>No Adverse Effect Anticipated</i>	NL	T
<i>Platalea ajaja</i>	Roseate spoonbill	<i>No Adverse Effect Anticipated</i>	NL	T
<i>Sciurus niger avicennia</i>	Big Cypress fox squirrel	<i>No Adverse Effect Anticipated</i>	NL	T
State – Listed Plant Species				
<i>Andropogon arctatus</i>	Pine woods bluestem	<i>No Adverse Effect Anticipated</i>	NL	T
<i>Calopogon multiflorus</i>	Many flowered grass pink	<i>No Adverse Effect Anticipated</i>	NL	E
<i>Centrosema arenicola</i>	Sand butterfly pea	<i>No Adverse Effect Anticipated</i>	NL	E
<i>Lechea cernua</i>	Nodding pinweed	<i>No Adverse Effect Anticipated</i>	NL	T
<i>Linum carteri</i> var. <i>smallii</i>	Small's flax	<i>No Adverse Effect Anticipated</i>	NL	E
<i>Matelea floridana</i>	Florida spiny-pod	<i>No Adverse Effect Anticipated</i>	NL	E
<i>Nemastylis floridana</i>	Celestial lily	<i>No Adverse Effect Anticipated</i>	NL	E
<i>Nolina atopocarpa</i>	Florida beargrass	<i>No Adverse Effect Anticipated</i>	NL	T
<i>Platanthera integra</i>	Yellow fringeless orchid	<i>No Adverse Effect Anticipated</i>	NL	E
<i>Tephrosia angustissima</i> var. <i>curtissii</i>	Coastal hoary-pea	<i>No Adverse Effect Anticipated</i>	NL	E

F = Federally Listed, NL = Not Listed, E = Endangered, T = Threatened, T(S/A) = Threatened due to similar appearance, C = Candidate species

¹ The gopher tortoise is currently a candidate (C) species for federal protection under the ESA.

Subsequent to agency review and concurrence with the *NRE* and *NRE Addendum*, two additional addendums were prepared and are discussed below.

A second *NRE Addendum* (August 2019) was prepared (under separate cover) after the Public Hearing to address potential project impacts to the Florida scrub-jay and gopher tortoise resulting from Preferred Alternative alignment refinements within the same corridor through the Immokalee Regional Airport (UMA). The addendum updated acreages of impact to suitable habitat for the Florida scrub-jay and gopher tortoise. The findings and conclusions of the second *NRE Addendum* remained the same as the August 2018 *NRE Addendum* in that the Preferred Alternative “may

affect, likely to adversely affect" (*MALAA*)⁴ the Florida scrub-jay and will result in "*no adverse effect anticipated*" on the gopher tortoise. This addendum was submitted to agencies for review on August 9, 2019. The FWC concurred with the noted findings of the second *NRE Addendum* in a letter dated September 4, 2019.

A third *NRE Addendum* (September 2021) was prepared to initiate formal consultation with the FWS prior to the design and permitting phase. This addendum includes a summary of all species with prior and updated effect determinations, as well as the addition of the Eastern black rail. The third addendum also includes the Biological Assessment which addresses the prior *MALAA* determinations for the Federally listed Florida panther and Florida scrub-jay. The FDOT revised the effect determinations to *MALAA* for the following federally listed species: Eastern indigo snake and Florida bonneted bat. The revised determinations were made based upon updated literature and database searches, field reviews, and species-specific surveys. On November 17, 2021, pursuant with Section 7 of the ESA, as amended, the FDOT OEM requested initiation of formal consultation with the FWS for the four above noted federally listed species: Florida panther, Florida scrub-jay, Eastern indigo snake, and Florida bonneted bat. In addition, FDOT requested concurrence with the prior/updated "*no effect*" and "*may affect, not likely to adversely affect (MANLAA)*" determinations as documented in the *NRE*.

On May 24, 2022 and May 25, 2022, the FWS responded to the request for formal consultation by submitting Requests for Additional Information (RAI) to the FDOT OEM. Through the RAI, the FWS recommended that the determination for the Eastern indigo snake be changed from *MALAA* to "*no effect*" as this species is not reasonably certain to occur within the project corridor. In addition, the FWS recommended that the determination for Audubon's crested caracara be modified from *MANLAA* to *MALAA* given that there is a documented active nest located approximately 279 feet west of the project footprint and the project will result in habitat loss within the Primary Zone of this nest. The FDOT OEM provided responses to the RAI on December 19, 2023. Through follow-up coordination with the FWS, the FDOT has committed to re-initiating Section 7 consultation for the Audubon's crested caracara. The commitment is in addition to the prior commitment to re-initiate Section 7 consultation with the FWS for the Florida panther, Florida scrub-jay, and Florida bonneted bat during the project's design and permitting phase. The FWS provided concurrence on March 8, 2024.

The evaluation, potential impacts, and mitigation measures pertaining to each of the four noted species are summarized as follows:

Florida panther: Updated literature reviews, database searches, and field reviews were completed in October 2020 and in conjunction with species specific surveys from January 2021 through May 2021. The FDOT will re-initiate Section 7 consultation for this species during the design and

⁴ Nomenclature for species effect determinations has changed from preparation of the July 2018 *NRE* and through the subsequent *NRE Addendums*. Species effect determination nomenclature for year 2023 is presented.

permitting phase for the portion of the project extending south of CR 846 to Oil Well Road, which is not currently funded for future phases. Calculation of impacts will be completed at that time and compensation will be provided through the purchase of panther habitat units (PHUs) from a FWS approved mitigation bank. The FDOT has also committed to the construction of a wildlife crossing between Oil Well Road and CR 846 to accommodate the species. The portion of the project extending north from CR 846 to SR 82 is funded through construction. Section 7 consultation will be re-initiated for this segment during the design and permitting phase. This project segment, including SMFs, is anticipated to result in 93.04 acres of Secondary Panther Zone impacts and no Primary Panther Zone impacts. These potential impacts equate to a value of 243.71 PHUs (see **Appendix S**). Compensation will be provided through the purchase of 243.71 PHUs from a FWS approved mitigation bank. To address potential impacts to the Florida panther, the FDOT commits to implementing best management practices consistent with the Florida Panther Conservation Plan.

Florida bonneted bat: Florida bonneted bat acoustic surveys were conducted from March 2021 through May 2021. A total of twenty-five (25) acoustic survey stations were established based on the minimum requirements of one station per every 0.60 miles for linear projects. The results of the acoustic surveys determined that Florida bonneted bat roosting activity is not present within the Action Area. In addition, no roosts have been identified. The presence of Florida bonneted bat echolocations confirms that the species utilizes habitat within the project area for foraging. However, the results of the survey did not determine that there was high activity. Conservation measures will be implemented by the FDOT during project construction to minimize impacts to this species. As a conservation measure for potential impacts to the Florida bonneted bat, FDOT has committed to contributing \$10,000.00 to the FWS Florida Bonneted Bat Fund administered by the Wildlife Foundation of Florida.

Florida scrub-jay: Species specific surveys were completed in October 2020. Type I, II, and III suitable Florida scrub-jay habitat is located in the northern portion of the project, specifically at the Immokalee Regional Airport and the Collier property adjacent to the bypass corridor. Two resident families of scrub-jays (five individuals total) are located on the Collier property. The FDOT proposes to mitigate at a ratio of two acres per one acre of impact for the loss of 52.14 total acres of occupied territory located on the Collier property and a ratio of four acres per one acre of impact for the loss of 15.75 acres of habitat within the UMA. Therefore, FDOT will provide a total of 167.28 acres of occupied scrub-jay habitat (104.28 associated with the loss of two scrub-jay territories within the Collier property + an additional 63 acres associated with potential habitat loss within the UMA = 167.28) as a conservation measure to compensate for the loss of scrub-jay habitat resulting from the project. The credits will be purchased from an approved mitigation bank in consultation with the FWS.

Audubon's crested caracara: A species-specific survey was conducted from January 2021 through April 2021 in accordance with the FWS Crested Caracara Draft Survey Protocol – Additional Guidance (2016-2017 Breeding Season) (FWS 2016). A total of twelve survey stations were established throughout the limits of the project. Active nesting activity was observed at two stations, Station 1 and Station 10. An active nest was documented south of the SR 29 and CR 846

intersection at Station 10, located approximately 279 feet west of the Preferred Alternative and one mile north of Oil Well Road. The FDOT will re-initiate Section 7 consultation during the design and permitting phase for this subject nest. There is an active nest located in the portion of the project north of CR 846 at Station 1, which is approximately 0.55 miles west of SR 29 and south of SR 82. Approximately 0.60 miles (3,100 feet) of the project is within the secondary zone of this nest. The FDOT's purchase of high-quality upland and wetland credits will mitigate the loss of secondary habitat. The FDOT has also committed to implementing Audubon's crested caracara conservation measures.

Table 6-11 summarizes the effect determinations for those federally listed species where MALAA has been assigned or where the effect determinations have been revised as a result of further agency coordination that has taken place since the Public Hearing. All other effect determinations in **Table 3-4** have not been revised.

Table 6-11
May Affect, Likely to Adversely Affect or Revised Effect Determinations

Scientific Name	Common Name	Original Effect Determination	Revised Effect Determination
Federally-Listed & Candidate Wildlife Species			
<i>Aphelocoma coerulescens</i>	Florida scrub-jay	May Affect, Likely to Adversely Affect	Not Revised
<i>Drymarchon corais couperi</i>	Eastern indigo snake*	May Affect, Not Likely to Adversely Affect	No Effect
<i>Eumops floridanus</i>	Florida bonneted bat*	May Affect, Not Likely to Adversely Affect	May Affect, Likely to Adversely Affect
<i>Polyborus plancus audubonii</i>	Audubon's crested caracara*	May Affect, Not Likely to Adversely Affect	May Affect, Likely to Adversely Affect
<i>Puma concolor coryi</i>	Florida panther	May Affect, Likely to Adversely Affect	Not Revised
<i>Laterallus jamaicensis jamaicensis</i>	Eastern black rail*	Not listed in 2018	May Affect, Not Likely to Adversely Affect

* Species that have revised effect determinations.

FDOT's commitments addressing listed and protected species are discussed in **Section 1.3**. Based on adherence to these commitments, this project is expected to have no significant impacts to protected species or habitat. The correspondence from these agencies is included in **Appendix F**.

6.16.5 Contamination

A Level I contamination evaluation was conducted for the study and a *Contamination Screening Evaluation Report* (CSER) (July 2018) was completed under separate cover. For purposes of this report, the project study area included the limits of the mainline project and a 1,320-foot area extending from the centerline of the mainline.

Based on the results of the CSER, for the Preferred Alternative, 75 sites have been identified as having a potential for hazardous materials or petroleum-based impacts or pesticides/herbicides. Thirty-four (34) sites are ranked as having a “Medium” or “High” risk for containing environmental contamination.

Subsequent to the Public Hearing, a *CSER Addendum* (March 2024) was prepared, under separate cover to supplement and update findings of the *CSER* (July 2018) to address the design refinements made to the Preferred Alternative. The project study area used was consistent with the area evaluated in the *CSER* (July 2018). Based on the *CSER* (July 2018) and the *CSER Addendum* (March 2024) documents and site reviews for the Preferred Alternative, four sites ranked “High” and 30 sites ranked “Medium”. Seven SMFs/pond sites within the northern portion of the project corridor also ranked “Medium”

For those locations with a risk ranking of “Medium” and “High”, including any proposed stormwater treatment ponds and/or floodplain compensation sites outside the FDOT ROW, Level II screening (which includes testing), as warranted, will be conducted during the design phase, if it is determined that construction activities could encounter contamination or if the site will be subject to ROW acquisition. Options to remediate along with associated costs will also be evaluated. At known contamination sites, estimated areas of contamination will be marked on design drawings and resolution of problems will be coordinated with the appropriate regulatory agencies. Contamination cleanup, as needed, will occur prior to or during construction as needed. Cleanup during construction will be overseen by FDOT. For further information, refer to the *CSER* (July 2018) and *CSER Addendum* (March 2024) prepared for this project.

6.16.6 Noise

A *Noise Study Report (NSR)* (July 2018) was prepared for this project under separate cover and included in the project file.

The Preferred Alternative for SR 29 is predicted to result in exterior traffic noise levels ranging from 47.1 to 65.7 decibels on the “A”-weighted scale (dB(A)), and interior levels are predicted at 42.6 dB(A) at the 100 evaluated noise-sensitive receptors. Of the 100 noise sensitive sites evaluated, none of the sites are predicted to experience future traffic noise levels that approach, meet, or exceed the Noise Abatement Criteria (NAC) for their respective Activity Category. The results of the analysis also indicate that when compared to existing conditions, traffic noise levels would not increase more than 9.8 dB(A) above existing conditions with the proposed improvements at any of the evaluated sites. As such, none of the evaluated sites will experience a substantial increase in traffic noise [15 dB(A) or more] as a result of the proposed project. Therefore, noise abatement measures were not warranted for the noise sensitive sites identified adjacent to the Preferred Alternative.

Subsequent to the Public Hearing, a *NSR Addendum* (March 2024) was prepared, under separate cover, to address design refinements to the Preferred Alternative to meet the FDM requirements

and the identification of proposed SMFs necessary to accommodate stormwater runoff from CR 846 to SR 82. In addition, land use reviews were performed on December 12, 2023 and February 6, 2024 to identify land use changes and all noise sensitive sites that received a building permit subsequent to the noise study completed and documented in the *NSR* (July 2018). As part of this analysis, eighteen additional noise-sensitive receptors were identified within a new residential development along Foundation Way. Additionally, the Preferred Alternative design refinements resulted in a reduction in the exterior traffic noise levels from a range of 47.1 to 65.7 dB(A) to a range of 44.7 to 61.6 dB(A). The levels are not expected to approach, meet, or exceed the NAC at any receptor under existing conditions; however, substantial noise level increases [15 dB(A) or more] are predicted for eight receptors within the new residential development under future conditions. Although traffic noise abatement measures were considered for these noise-sensitive receptors, no feasible and reasonable measures meeting the NAC criteria were identified that could be implemented as part of the project to abate traffic noise for the eight impacted receptors.

For further information, refer to the *NSR* (July 2018) and the *NSR Addendum* (March 2024) prepared for this project under separate cover.

6.16.7 Section 4(f)

The project was examined for potential Section 4(f) resources in accordance with Section 4(f) of the Department of Transportation Act of 1966 (Title 49, United States Code (U.S.C.), Section 1653(f), amended and recodified in Title 49, U.S.C., Section 303, in 1983). A Section 4(f) *Determination of Applicability* (DOA) was prepared under separate cover and is included in the project file for the following four potential Section 4(f) resources: Collier Rural Land Stewardship Sending Area #5, 1st Street Plaza, 9th Street Plaza, and Immokalee Airport Park. The Section 4(f) *DOA* was submitted to FHWA who determined in an email dated June 6, 2013 that Immokalee Airport Park, 1st Street Plaza, and 9th Street Plaza are Section 4(f) resources. Immokalee Airport Park is within the project limits. The other two resources are no longer within the project limits. There will be no permanent acquisition of land from the three resources (Immokalee Airport Park, 1st Street Plaza, and 9th Street Plaza), no temporary occupancies of land that are adverse in terms of the statute's preservation purpose, and no proximity impacts which significantly impair the protected functions of the properties from the Preferred Alternative. A subsequent Section 4(f) *DOA* (Form 650-050-45), prepared under separate cover and included in the project file, for the Airport Viewing Area was completed and it was determined on June 26, 2018 that Section 4(f) does not apply to this resource. In addition, a Section 4(f) *DOA* (Form 650-050-45), prepared under separate cover and included in the project file, for the Immokalee Airport Conservation Easement was completed and it was determined on May 20, 2019 that Section 4(f) does not apply to this resource. Additional information is available in the Section 4(f) *DOAs*.

Based upon comments received at the Public Hearing and further coordination with Collier County, Central Alternative #2, the Preferred Alternative was modified to completely avoid impacts to Immokalee Airport Park. As such, a Section 4(f) *No Use Determination* (Form No. 650-050-49), prepared under separate cover and included in the project file, was completed and it was

determined on May 20, 2019 that the Preferred Alternative will have no use of the Immokalee Airport Park.

Subsequent to Public Hearing, design refinements were recently made to the Preferred Alternative from CR 846 to SR 82 to meet FDM requirements and included the identification of proposed SMFs. As a result of the design refinements and associated SMFs, additional coordination with Collier County was initiated and a letter was submitted on February 14, 2024 to confirm the Immokalee Airport Park boundary. Concurrence was received on March 5, 2024. With the confirmation, it was determined that the Preferred Alternative design refinements and associated SMFs would still result in “No Use” of the Immokalee Airport Park. Improved direct replacement access to the park will be provided as part of this project.

Therefore, the project will not result in any impacts to Section 4(f) properties.

6.16.8 Summary of Permits and Mitigation

Both the United States Army Corps of Engineers (USACE) and SFWMD regulate impacts to wetlands within the project study area. Other resource agencies, including the National Marine Fisheries Service (NMFS), United States Environmental Protection Agency (USEPA), and FWC review and comment on wetland permit applications. In addition, the FDEP regulates stormwater discharges from construction sites. The complexity of the permitting process will depend greatly on the degree of the impact to jurisdictional areas. It is anticipated that the following permits will be required for this project:

<u>Permit</u>	<u>Issuing Agency</u>
Section 404 Clean Water Act	USACE
Environmental Resource Permit (ERP)	SFWMD
National Pollutant Discharge Elimination System (NPDES) Construction Generic Permit	FDEP
Gopher Tortoise Relocation Permit	FWC

7.0

LIST OF TECHNICAL DOCUMENTS

The technical documents generated during this study are listed in **Table 7-1**.

Table 7-1
Technical Documents

Supporting Document	Dated
Public Involvement	
Public Involvement Plan	April 2018
Public Hearing Transcript Package	January 2019
Comments and Coordination Report	May 2020
Comments and Coordination Report Addendum	June 2024
Engineering	
Corridor Evaluation Report	March 2009
Alignments Report	August 2010
Evaluation for Elimination of the West Preliminary Alternative Memorandum	June 2010
Project Traffic Technical Memorandum	September 2011
Alternatives Technical Report	February 2015
Design Traffic Technical Memorandum	January 2018
Context Classification Assignment Evaluation	March 2018
Conceptual Design Roadway Plan Set	March 2024
Water Quality Impact Evaluation	June 2018
Water Quality Impact Evaluation Updated (Design 417540-5)	March 2024
Water Quality Impact Evaluation Updated (Design 417540-6)	March 2024
Location Hydraulic Report	August 2018
Location Hydraulic Report Addendum (Design 417540-5)	March 2024
Location Hydraulic Report Addendum (Design 417540-6)	March 2024
Preliminary Pond Siting Report	August 2018
Preliminary Pond Siting Report Addendum (Design 417540-5)	March 2024
Preliminary Pond Siting Report Addendum (Design 417540-6)	March 2024
Environmental	
Environmental Assessment	October 2018
Cultural Resource Assessment Survey	July 2018
Cultural Resource Assessment Survey Addendum	February 2024
Section 4(f) Determination of Applicability	April 2013
Section 4(f) Determination of Applicability (Airport Viewing	June 2018

Area)	
Section 4(f) Determination of Applicability (Airport Conservation Easement)	May 2019
Section 4(f) No Use Form (Airport Park)	May 2019
Noise Study Report	July 2018
Noise Study Report Addendum	March 2024
Contamination Screening Evaluation Report	July 2018
Contamination Screening Evaluation Report Addendum	March 2024
Conceptual Stage Relocation Plan	June 2018
Natural Resources Evaluation (NRE)	July 2018
Natural Resources Evaluation (NRE) Addendum	August 2018
Natural Resources Evaluation (NRE) Addendum	August 2019
Natural Resources Evaluation (NRE) Addendum	September 2021

APPENDICES

Appendix A
**Preferred Alternative
Concept Plans**



PRELIMINARY-SUBJECT TO CHANGE
 2016 Aerial Photography - Barron Collier County

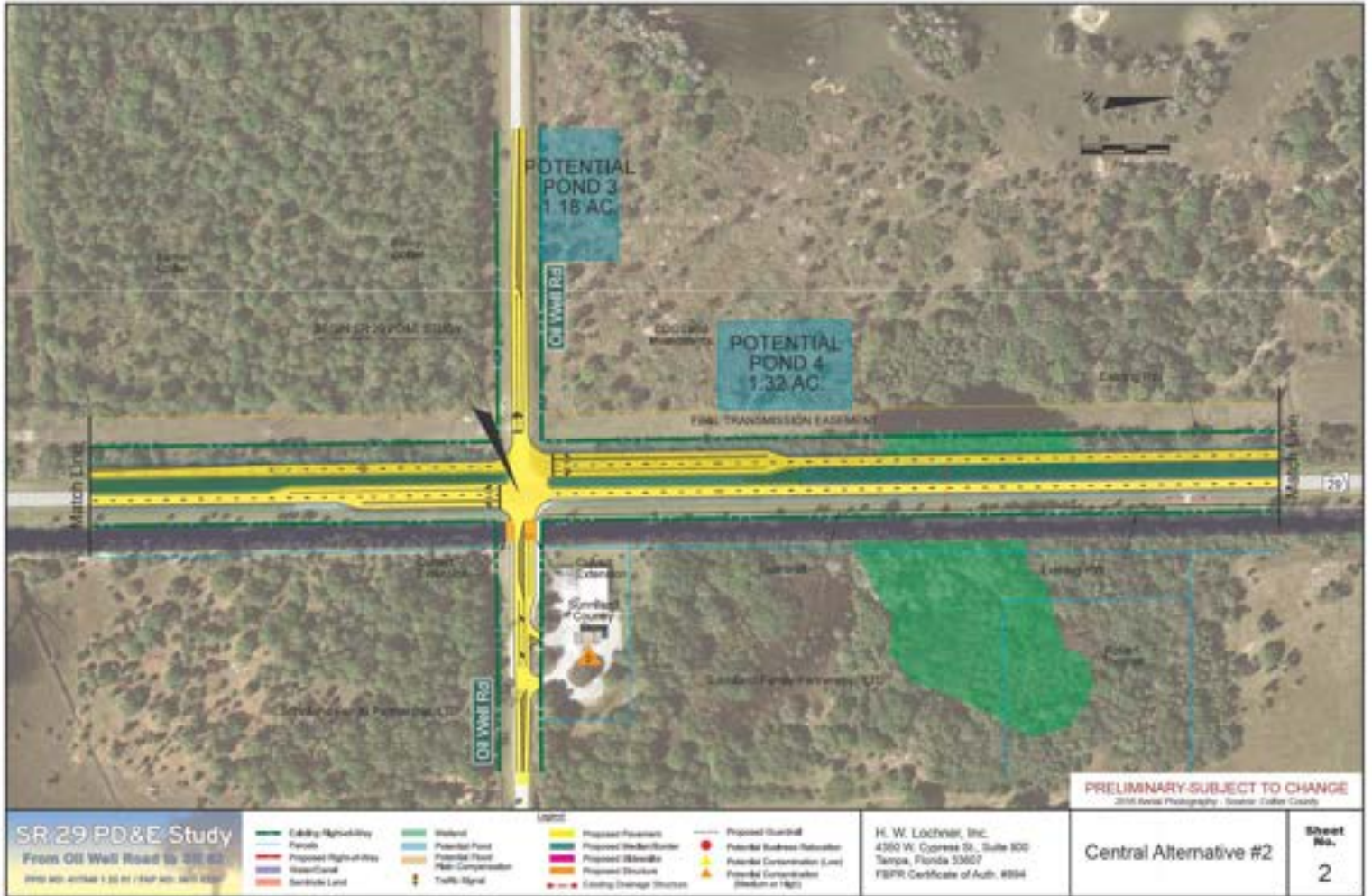
SR 29 PD&E Study
 From Oil Well Road to SR 60
 PFD NO. 411540 1.02.01 / P&E NO. 2017.1.001

- | | | | |
|-----------------------|------------------------------------|-----------------------------|--|
| Existing Right-of-Way | Waterline | Proposed Pavement | Proposed Soundwall |
| Proposed | Potential Flood | Proposed Median/Border | Potential Roadway Relocation |
| Proposed Right-of-Way | Potential Flood High Concentration | Proposed Sidewalk | Potential Concentration Low |
| Water/Canal | Traffic Signal | Proposed Structure | Potential Concentration (Medium or High) |
| Barren/Land | | Existing Drainage Structure | |

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Central Alternative #2

Sheet No.
 1



SR 29 PD&E Study
From Oil Well Road to SR 62

2015 400 W. Cypress St., Suite 300
Tampa, Florida 33607
FSPR Certificate of Auth. #894

- | | | | |
|-----------------------|------------------------------------|-----------------------------|---|
| Existing Right-of-Way | Water | Proposed Pavement | Proposed Channel |
| Proposed Right-of-Way | Potential Pond | Proposed Median/Border | Potential Subarea Retention |
| Water Canal | Potential Flood Plain Compensation | Proposed Structure | Potential Compensation Level |
| Barbed Wire | Traffic Signal | Existing Drainage Structure | Potential Compensation (Medium or High) |

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Central Alternative #2

Sheet No.
2



PRELIMINARY-SUBJECT TO CHANGE
2016 Aerial Photography - Source: Collier County

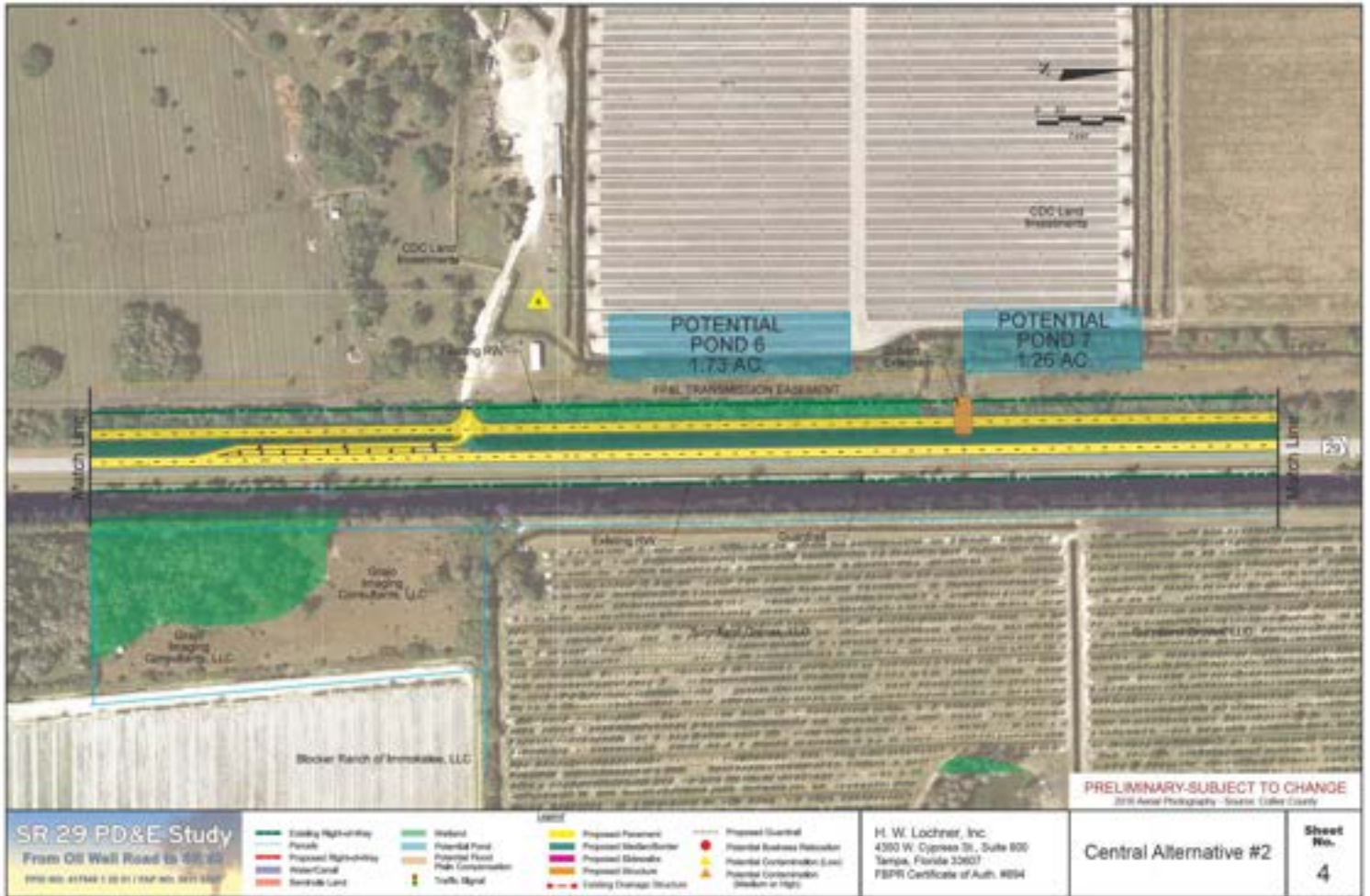
SR 29 PD&E Study
From Oil Well Road to SR 20
9892-900-4375440 / 1-888-911-7247 / 9892-900-3271-3347

Existing Right-of-Way	Wetland	Proposed Pavement	Proposed Quarrel
Permit	Potential Pond	Proposed Median/Barrier	Potential Business Relocation
Proposed Right-of-Way	Potential Pond	Proposed Shoulder	Potential Construction Load
Water/Canal	Public Contamination	Proposed Structure	Potential Contamination (Medium or High)
Sand/Soil Land	Traffic Signal	Existing Drainage Structure	

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Central Alternative #2

Sheet No.
3



PRELIMINARY-SUBJECT TO CHANGE
2018 Aerial Photography - Source: Collier County

SR 29 PD&E Study
From Oil Well Road to SR 29
9890-900-437544-1-00-01 / 10/17/2018 / 02/11/2019

Existing Right-of-Way	Wetland	Proposed Pavement	Proposed Gravel
Pipeline	Potential Pond	Proposed Median/Barrier	Potential Business Relocation
Proposed Right-of-Way	Potential Pond	Proposed Shoulder	Potential Construction (Low)
Water/Canal	Public Construction	Proposed Structure	Potential Construction (Medium or High)
Service Land	Traffic Signal	Existing Drainage Structure	

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Central Alternative #2

Sheet No.
4



SR 29 PD&E Study
 From Oil Well Road to SR 52
 2020-2021 477400 1 02 01 / 1047 400 1011 1000

- | | | | |
|-----------------------|-------------------|-------------------------------|--|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Easement |
| Proposed Right-of-Way | Potential Pond | Proposed Water/Bioswale | Potential Business Association |
| Water/Canal | Pipeline/Corridor | Proposed Structure | Potential Construction (200') |
| Service Level | Traffic Signal | Existing Drainage (Structure) | Potential Construction (Structure at 150') |

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PRELIMINARY-SUBJECT TO CHANGE
 2018 Aerial Photography - Source: Calbar County

Central Alternative #2
 Sheet No. 5



POTENTIAL
POND 8
1.53 AC.

POTENTIAL
POND 9
1.32 AC.

FBI TRANSMISSION EASEMENT

Existing RW

Match Line

Match Line

SR 29 PD&E Study
From Oil Well Road to SR 42
PFD NO. 477549 / 02 91 / P&P NO. 3011 0207

- | | | | | |
|-----------------------|--------------------------------------|-----------------------------|-------------------------------|---|
| Existing Right-of-Way | Medians | Proposed Pavement | Proposed Shoulder | Proposed Channel |
| Floods | Potential Flood | Proposed Median Barrier | Potential Business Relocation | Potential Business Relocation |
| Proposed Right-of-Way | Potential Flood Plain (Contribution) | Proposed Structure | Potential Condemnation (Low) | Potential Condemnation (Medium or High) |
| Water Canal | Traffic Signal | Existing Drainage Structure | | |

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PRELIMINARY-SUBJECT TO CHANGE
2010 Aerial Photography - Source: Collier County

Central Alternative #2
Sheet No. 6

POTENTIAL
POND 10
2.12 AC.



PRELIMINARY-SUBJECT TO CHANGE
2018 Aerial Photography - Source Collier County

SR 29 PD&E Study
From Oil Well Road to SR 29
9890 989 471540 | 989 981 7547 989 989 989

- | | | | |
|-----------------------|---------------------|-----------------------------|---|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Guardrail |
| Potential | Potential Pond | Proposed Median/Barrier | Potential Business Relocation |
| Proposed Right-of-Way | Potential Pond | Proposed Shoulder | Potential Construction Lane |
| Water/Canal | Public Compensation | Proposed Structure | Potential Construction (Medium or High) |
| Sand/Gravel Land | Traffic Signal | Existing Drainage Structure | |

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FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
7



PRELIMINARY-SUBJECT TO CHANGE
 2016 Aerial Photography - Source: Collier County

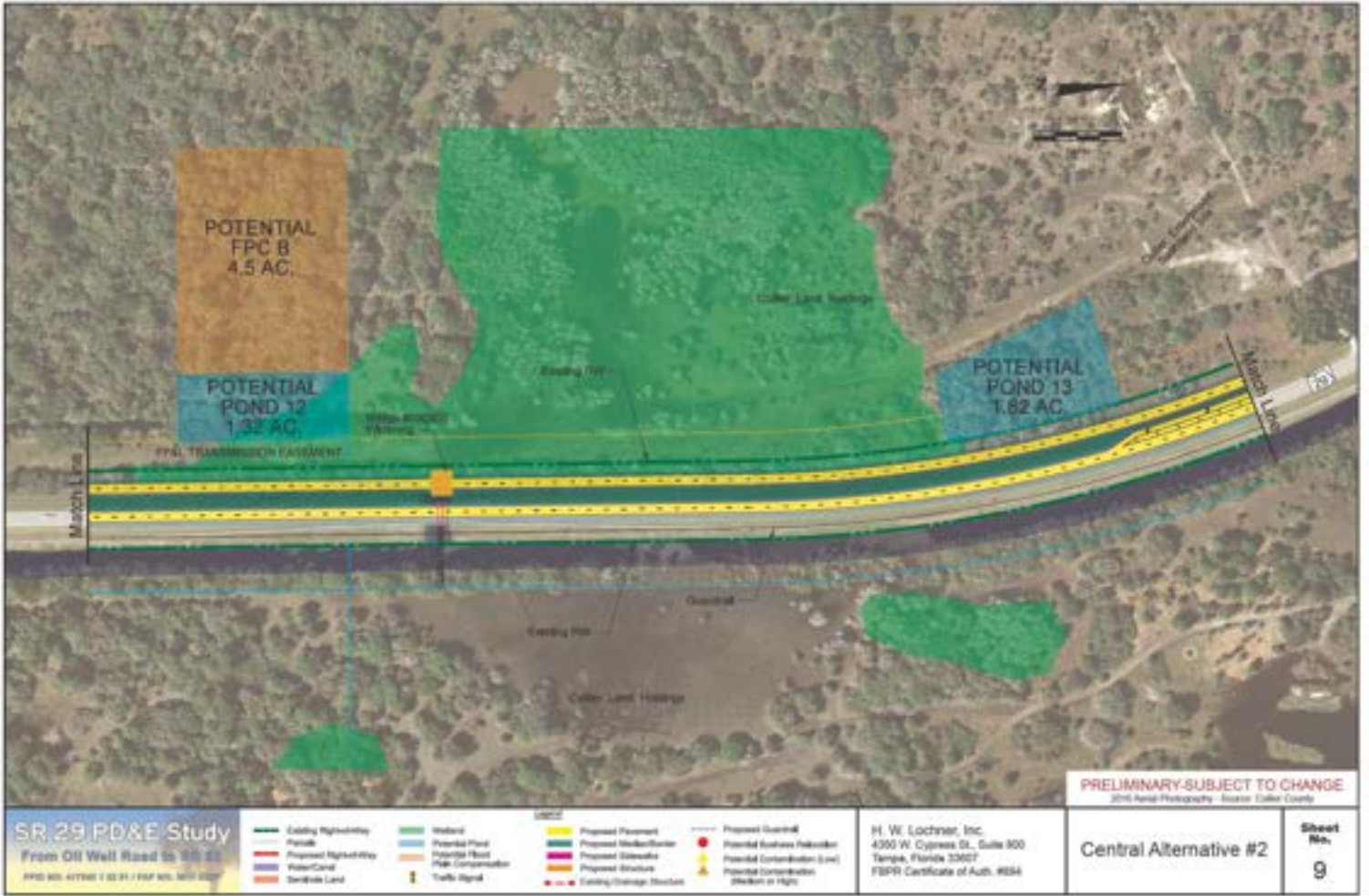
SR 29 PD&E Study
 From Oil Well Road to SR 29
 9050-901-4375443 | 905-911-7547 | 905-911-5127

- | | | | |
|-----------------------|---------------------|-----------------------------|---|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Shoulder |
| Potential | Potential Pond | Proposed Median/Border | Potential Business Relocation |
| Proposed Right-of-Way | Potential Pond | Proposed Shoulder | Potential Construction (Low) |
| Water Canal | Public Construction | Proposed Structure | Potential Construction (Medium or High) |
| Bank/Soil Land | Traffic Signal | Existing Drainage Structure | |

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 Tampa, Florida 33607
 FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
8



PRELIMINARY-SUBJECT TO CHANGE
 2016 Aerial Photography - Source: Collier County

SR 29 PD&E Study
 From Oil Well Road to US 90
 HRFD NO. 477940 | 02/11/2016 | HRFD NO. 5071-0007

Existing Right-of-Way	Wetland	Proposed Pavement	Proposed Guardrail
Pile	Potential Pond	Proposed Median/Center	Proposed Business Pedestrian
Proposed Right-of-Way	Potential Pond	Proposed Structure	Proposed Construction (Low)
Water/Canal	Pile Compensation	Proposed Structure	Proposed Construction (Medium or High)
Service Land	Traffic Signal	Existing/Storage Structure	

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 Tampa, Florida 33607
 FBPR Certificate of Auth. #684

Central Alternative #2

Sheet No.
 9



PRELIMINARY-SUBJECT TO CHANGE
 2016 Aerial Photography - Source: Collier County

SR 29 PD&E Study
 From Old Wall Road to SR 20
 8892-900-4373440 • 889-911-7547 • 889-911-5577 • 889-911-5577

Existing Right-of-Way	Wetland	Proposed Pavement	Proposed Quarrel
Potential	Potential Pond	Proposed Median/Barrier	Potential Business Relocation
Proposed Right-of-Way	Potential Pond	Proposed Shoulder	Potential Construction Load
Water/Canal	Public Compensation	Proposed Structure	Potential Construction (Medium or High)
Sand/Gravel Land	Traffic Signal	Existing Drainage Structure	

H. W. Lochner, Inc.
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 FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
 10



<p>SR 29 PD&E Study From Oil Well Road to SR 29</p> <p>9890-900-4375440 08/01/2017 9890-900-3977-5140</p>	<p>Legend</p> <ul style="list-style-type: none"> Existing Right-of-Way Proposed Right-of-Way Water Canal Sanctuary Land Wetland Potential Pond Potential Pond Pole Compartment Traffic Signal Proposed Pavement Proposed Median/Barrier Proposed Shoulder Proposed Structure Existing Drainage Structure Proposed Guardrail Potential Business Relocation Potential Contamination (Low) Potential Contamination (Medium or High) 	<p>H. W. Lochner, Inc. 4300 W. Cypress St., Suite 800 Tampa, Florida 33607 FSPR Certificate of Auth. #894</p>	<p>PRELIMINARY-SUBJECT TO CHANGE 2016 Aerial Photography - Source: Collier County</p>	<p>Central Alternative #2</p>	<p>Sheet No. 11</p>
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PRELIMINARY-SUBJECT TO CHANGE
2016 Aerial Photography - Source: Collier County

SR 29 PD&E Study
From Oil Well Road to SR 29
9890-900-437540 | 02-01 | 10:47 AM, 02/11/2017

Existing Right-of-Way	Wetland	Proposed Pavement	Proposed Quarter
Potential	Potential Pond	Proposed Median/Border	Potential Business Relocation
Proposed Right-of-Way	Public Compensation	Proposed Sidewalk	Potential Compensation (Low)
Water/Canal	Traffic Signal	Proposed Structure	Potential Compensation (Medium or High)
Sensitive Land		Existing Drainage Structure	

H. W. Lochner, Inc.
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FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
12



PRELIMINARY-SUBJECT TO CHANGE
 2016 Aerial Photography - Source: Collier County

SR 29 PD&E Study
 From Oil Well Road to SR 29
 9050-901-4373443 / 905-901-5071-5107

- | | | | |
|-----------------------|--------------------|-----------------------------|--|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Guardrail |
| Potential | Potential Pond | Proposed Median/Barrier | Potential Business Relocation |
| Proposed Right-of-Way | Potential Pond | Proposed Shoulder | Potential Compression (Low) |
| Water/Canal | Public Compression | Existing Drainage Structure | Potential Compression (Medium or High) |
| Sandhill Land | Traffic Signal | | |

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 FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
 13



PRELIMINARY-SUBJECT TO CHANGE
 2016 Aerial Photography - Source: Collier County

SR 29 PD&E Study
 From Oil Well Road to SR 29
 8892-885 437440 / 1 88 91 / 8892-885 5271 5147

- | | | | |
|-----------------------|---------------------|-----------------------------|---|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Quarrel |
| Permit | Potential Pond | Proposed Median/Border | Potential Business Relocation |
| Proposed Right-of-Way | Potential Pond | Proposed Shoulder | Potential Construction Lane |
| Water/Canal | Public Construction | Proposed Structure | Potential Construction (Medium or High) |
| Sand/Soil Land | Traffic Signal | Existing Drainage Structure | |

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Central Alternative #2

Sheet No.
 14



PRELIMINARY-SUBJECT TO CHANGE
2016 Aerial Photography - Source: Collier County

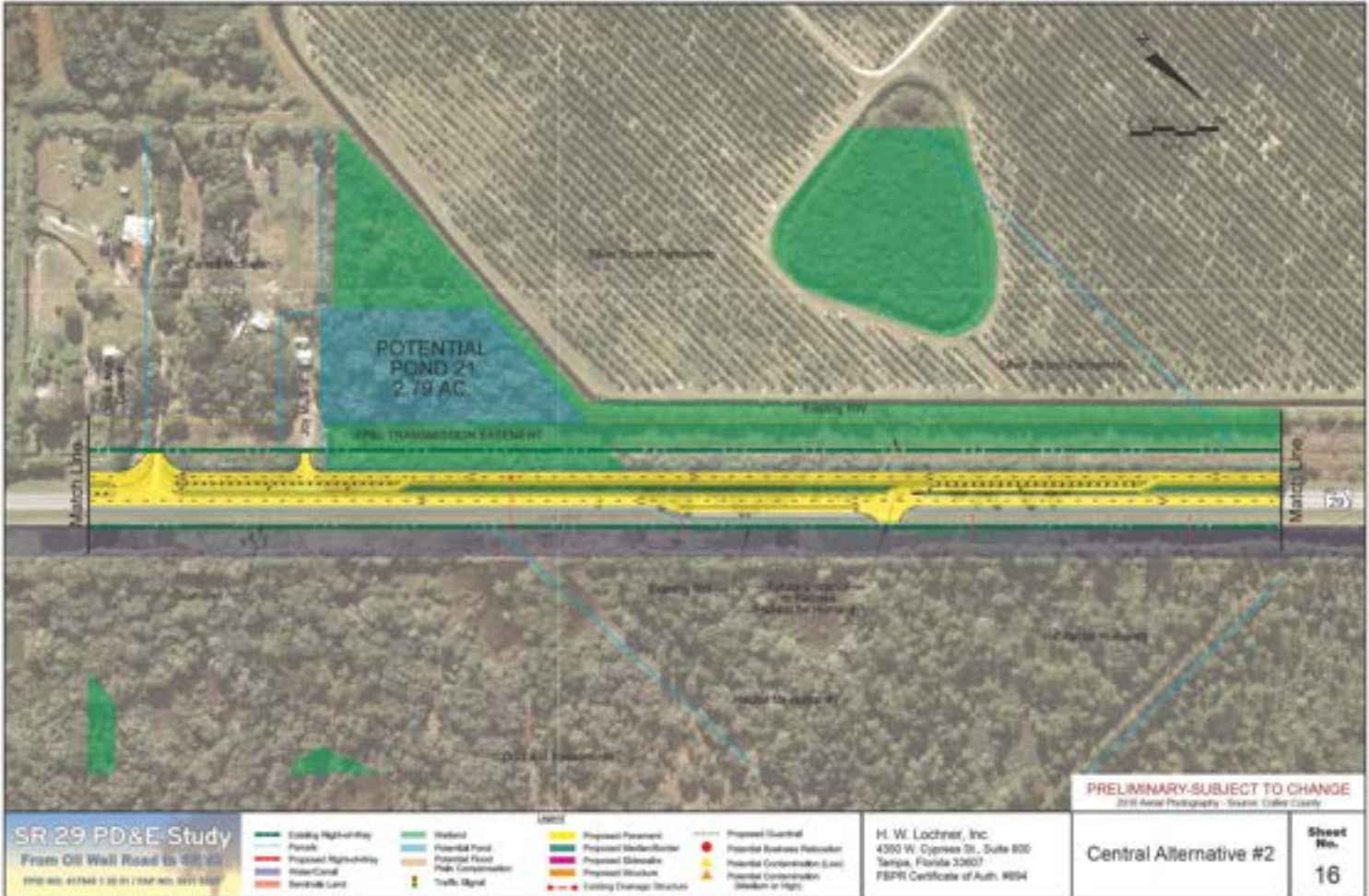
SR 29 PD&E Study
From Oil Well Road to SR 20
9890-900-437540 / 1-888-911-7547 / 9890-900-5071-5147

- | | | | |
|-----------------------|---------------------|-----------------------------|---|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Quarrel |
| Potential Ponds | Potential Pond | Proposed Median/Border | Potential Business Relocation |
| Proposed Right-of-Way | Potential Pond | Proposed Sidewalk | Potential Construction (Low) |
| Water Canal | Public Compensation | Proposed Structure | Potential Construction (Medium or High) |
| Sandhill Land | Traffic Signal | Existing Drainage Structure | |

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FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
15



PRELIMINARY-SUBJECT TO CHANGE
2019 Aerial Photography - Source: Collier County

SR 29 PD&E Study
From Oil Well Road to SR 15
9890-000-017540-1 00-01 / 00P-000-0071-0000

- | | | | |
|------------------------|---------------------|-----------------------------|---------------------------------------|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Gravel |
| Potential Right-of-Way | Potential Pond | Proposed Median/Border | Potential Business Relocation |
| Proposed Right-of-Way | Potential Pond | Proposed Shoulder | Potential Construction Lane |
| Water/Canal | Public Construction | Proposed Structure | Potential Construction Medium or High |
| Sand/Fill Land | Traffic Signal | Existing Drainage Structure | |

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FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
16



PRELIMINARY-SUBJECT TO CHANGE
2016 Aerial Photography - Source: Collier County

SR 29 PD&E Study
From Oil Well Road to SR 29
8892-900-437440 | 889-911-7247 | 889-900-5277 | 889-911-7247

- | | | | |
|-----------------------|----------------------|-----------------------------|--|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Quarrel |
| Potential | Potential Pond | Proposed Median/Border | Potential Business Relocation |
| Proposed Right-of-Way | Potential Pond | Proposed Sidewalk | Potential Contamination (Low) |
| Water/Canal | Public Contamination | Proposed Structure | Potential Contamination (Medium or High) |
| Sand/Soil Land | Traffic Signal | Existing Drainage Structure | |

H. W. Lochner, Inc.
4300 W. Cypress St., Suite 800
Tampa, Florida 33607
FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
17



PRELIMINARY-SUBJECT TO CHANGE
2016 Aerial Photography - Source: Collier County

SR 29 PD&E Study
From Oil Well Road to SR 29
9042-901-437540 | 02-01 | 10:47 AM, 2017

Existing Right-of-Way	Wetland	Proposed Pavement	Proposed Quarrel
Potential	Potential Pond	Proposed Median/Barrier	Potential Business Relocation
Proposed Right-of-Way	Potential Pond	Proposed Sidewalk	Potential Construction (Low)
Water/Canal	Potential Pond	Proposed Structure	Potential Construction (Medium or High)
Sand/Soil Land	Traffic Signal	Existing Drainage Structure	

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Tampa, Florida 33607
FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
18



PRELIMINARY-SUBJECT TO CHANGE
 2019 Aerial Photography - Source: Collier County

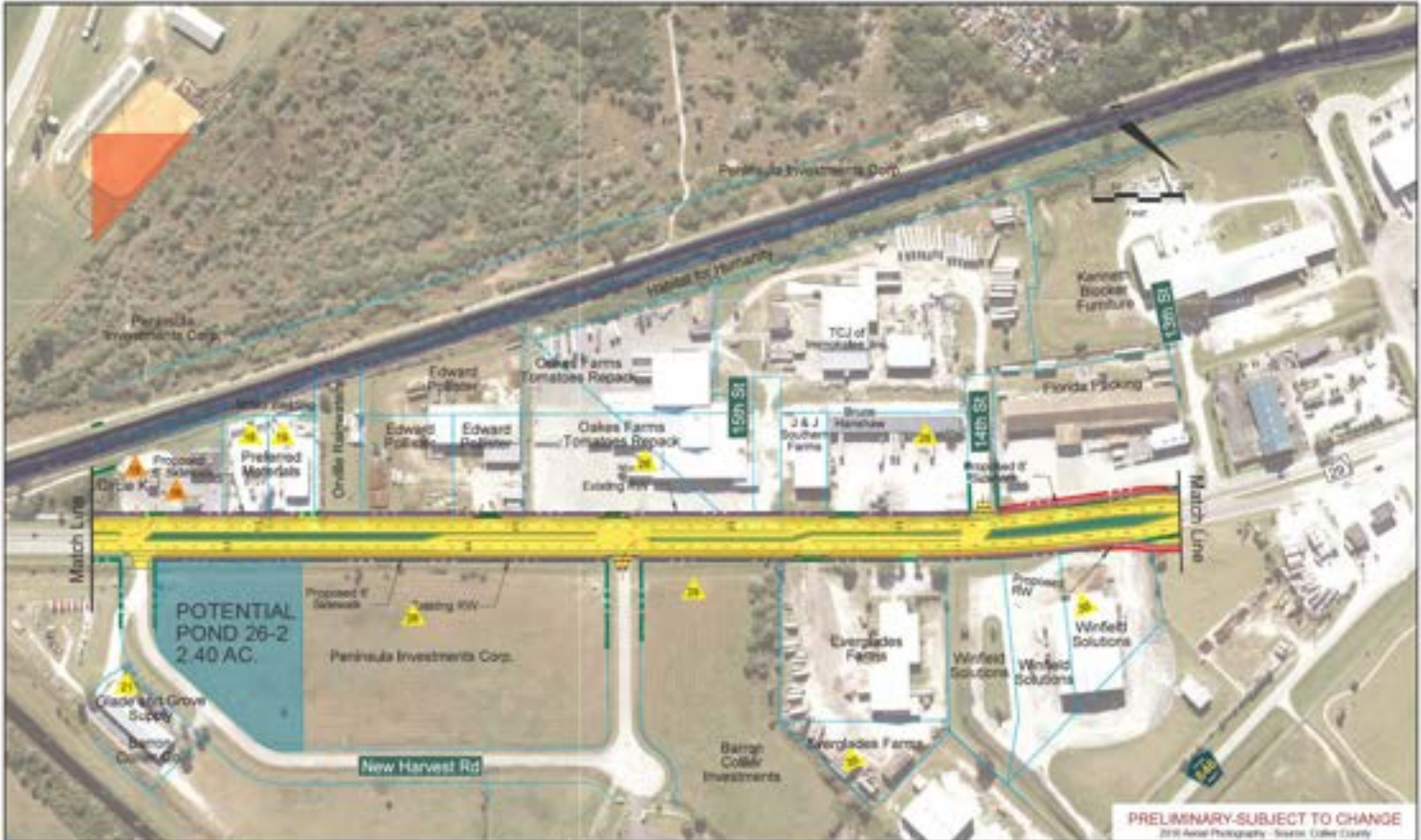
SR 29 PD&E Study
 From Oil Well Road to SR 29
 9050 W. 43rd St. | 905 W. 50th St.

- | | | | |
|-----------------------|------------------|-----------------------------|---|
| Existing Right-of-Way | Water | Proposed Pavement | Proposed Guardrail |
| Proposed | Potential Pond | Proposed Median/Barrier | Potential Business Relocation |
| Proposed Right-of-Way | Potential Pond | Proposed Shoulder | Potential Construction Lane |
| Water Canal | Pole Compression | Proposed Structure | Potential Construction (Medium or High) |
| Seminole Land | Traffic Signal | Existing Drainage Structure | |

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 FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
 19



PRELIMINARY-SUBJECT TO CHANGE
2018 Aerial Photography - Source: Collier County

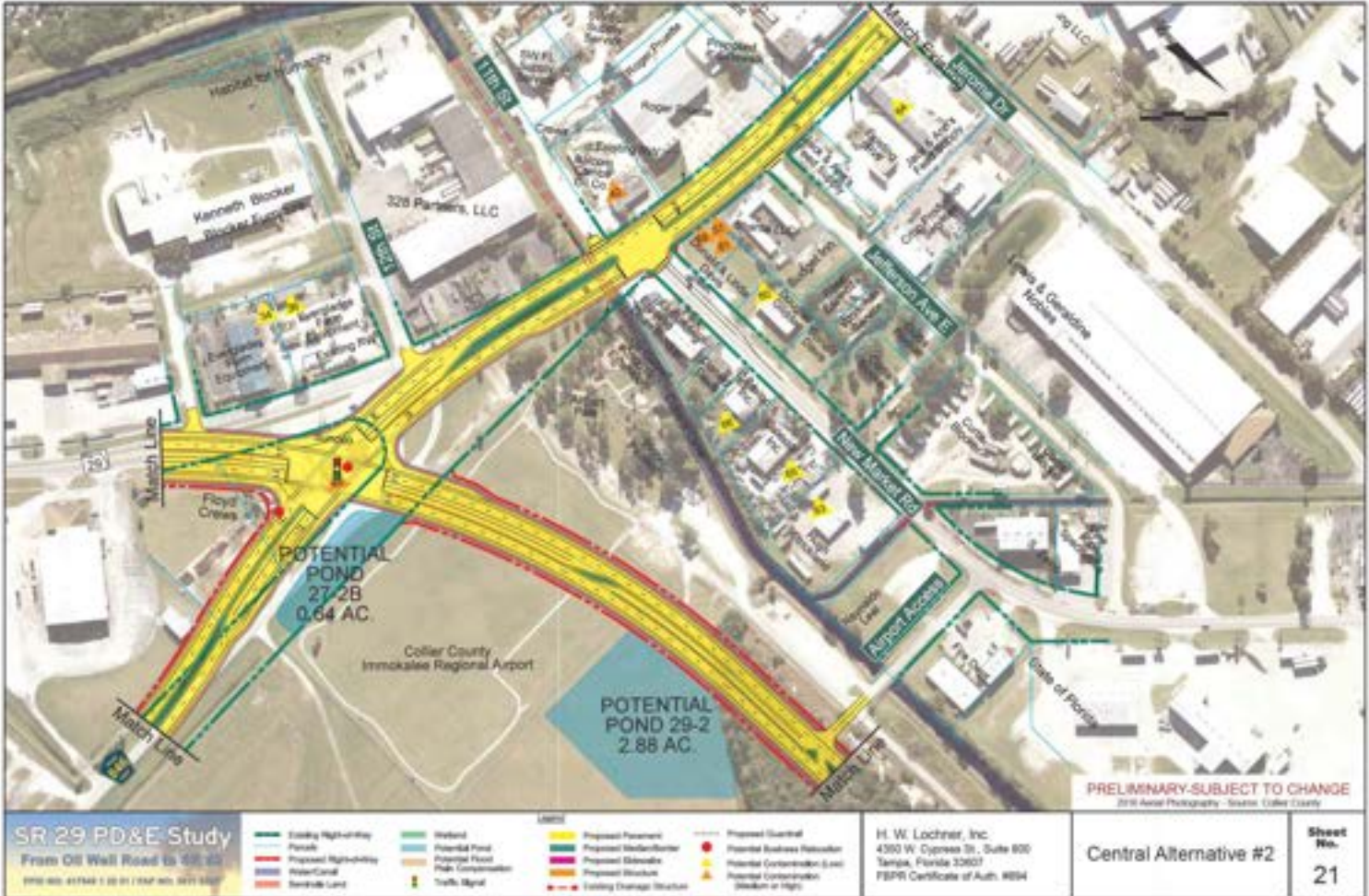
SR 29 PD&E Study
From Oil Well Road to SR 29
9892-900-4373443 | 989-911-7247 | 989-911-5427

- | | | | |
|-----------------------|----------------------|-----------------------------|--|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Gravel |
| Potential | Potential Pond | Proposed Median/Barrier | Potential Business Relocation |
| Proposed Right-of-Way | Potential Pond | Proposed Shoulder | Potential Contamination (Low) |
| Water/Canal | Public Contamination | Proposed Structure | Potential Contamination (Medium or High) |
| Bank/Soil Land | Traffic Signal | Existing Drainage Structure | |

H. W. Lochner, Inc.
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FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
20





PRELIMINARY-SUBJECT TO CHANGE
 2018 Aerial Photography - Source: Collier County

SR 29 PD&E Study
 From Oil Well Road to SR 28
 888-888-43344 x 3333 / 904-888-3333

- | | | | |
|-----------------------|---------------------|-----------------------------|---|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Shoulder |
| Potential | Potential Pond | Proposed Median/Barrier | Potential Business Relocation |
| Proposed Right-of-Way | Potential Pond | Proposed Sidewalk | Potential Construction (Low) |
| Water/Canal | Public Construction | Proposed Structure | Potential Construction (Medium or High) |
| Sand/Fill Land | Traffic Signal | Existing Drainage Structure | |

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 Tampa, Florida 33607
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Central Alternative #2

Sheet No.
 22



PRELIMINARY-SUBJECT TO CHANGE
 2016 Aerial Photography - Source: Collier County

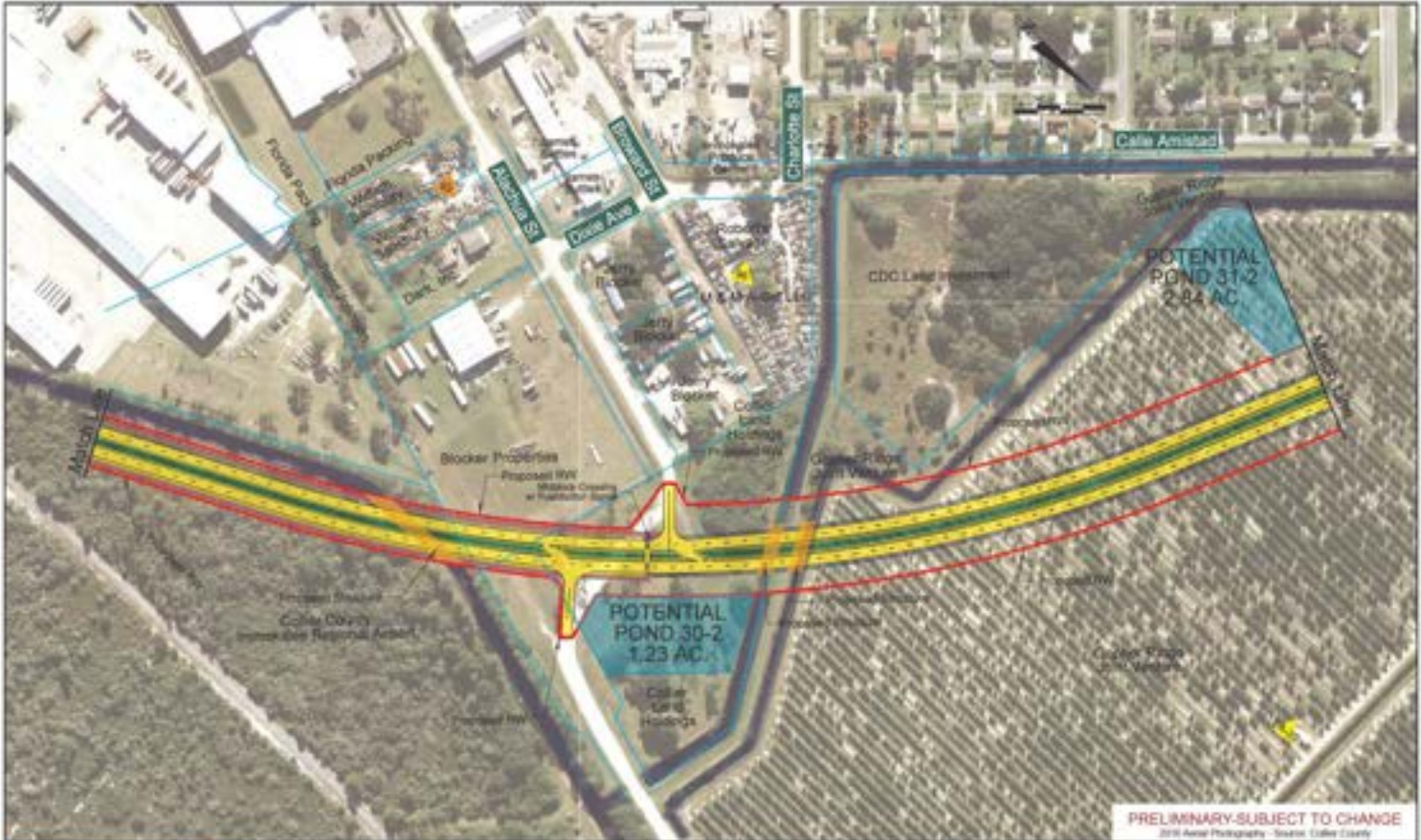
SR 29 PD&E Study
 From Oil Well Road to SR 23
 8892-900-4373440 | 88-91 | 8892-900-5077-5142

- | | | | |
|-----------------------|---------------------|-----------------------------|---------------------------------------|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Quarter |
| Permit | Potential Flood | Proposed Median/Barrier | Potential Business Relocation |
| Proposed Right-of-Way | Potential Flood | Proposed Shoulder | Potential Construction Low |
| Water/Canal | Public Construction | Proposed Structure | Potential Construction Medium or High |
| Sand/Soil Land | Traffic Signal | Existing Drainage Structure | |

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Central Alternative #2

Sheet No.
23



PRELIMINARY-SUBJECT TO CHANGE
2016 Aerial Photography - Source: Collier County

SR 29 PD&E Study
From Oil Well Road to SR 20
9890-900-437540 | 9890-91 | 9890-900-3971-3972

- | | | | |
|-----------------------|---------------------|-----------------------------|---|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Gravel |
| Potential | Potential Pond | Proposed Median/Barrier | Potential Business Relocation |
| Proposed Right-of-Way | Public Compensation | Proposed Sidewalk | Potential Compensation (Low) |
| Water/Canal | Traffic Signal | Proposed Structure | Potential Compensation (Medium or High) |
| Bankable Land | | Existing Drainage Structure | |

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FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
24



PRELIMINARY-SUBJECT TO CHANGE
2016 Aerial Photography - Source: Collier County

SR 29 PD&E Study
From Oil Well Road to SR 29
9890-900-437340 • 00-01 / 00P-000-0071-0000

- | | | | |
|-----------------------|--------------------|-----------------------------|--|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Quarrel |
| Permit | Potential Pond | Proposed Median/Border | Potential Business Relocation |
| Proposed Right-of-Way | Potential Pond | Proposed Sidewalk | Potential Compression (Low) |
| Water/Canal | Public Compression | Proposed Structure | Potential Compression (Medium or High) |
| Sand/Soil Land | Traffic Signal | Existing Drainage Structure | |

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FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
25



PRELIMINARY-SUBJECT TO CHANGE
 2016 Aerial Photography - Source: Collier County

SR 29 PD&E Study
 From Oil Well Road to SR 29
 9040-900-4373440 | 02/01/2017 | 02/01/2017

Existing Right-of-Way	Wetland	Proposed Pavement	Proposed Shoulder
Potential Flood	Potential Pond	Proposed Median/Barrier	Potential Business Relocation
Proposed Right-of-Way	Potential Flood Peak Contamination	Proposed Sidewalk	Potential Contamination (Low)
Water/Canal	Traffic Signal	Proposed Structure	Potential Contamination (Medium or High)
Bank/Soil Land		Existing Drainage Structure	

H. W. Lochner, Inc.
 4300 W. Cypress St., Suite 800
 Tampa, Florida 33607
 FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
 26



PRELIMINARY-SUBJECT TO CHANGE
 2019 Aerial Photography - Source: Collier County

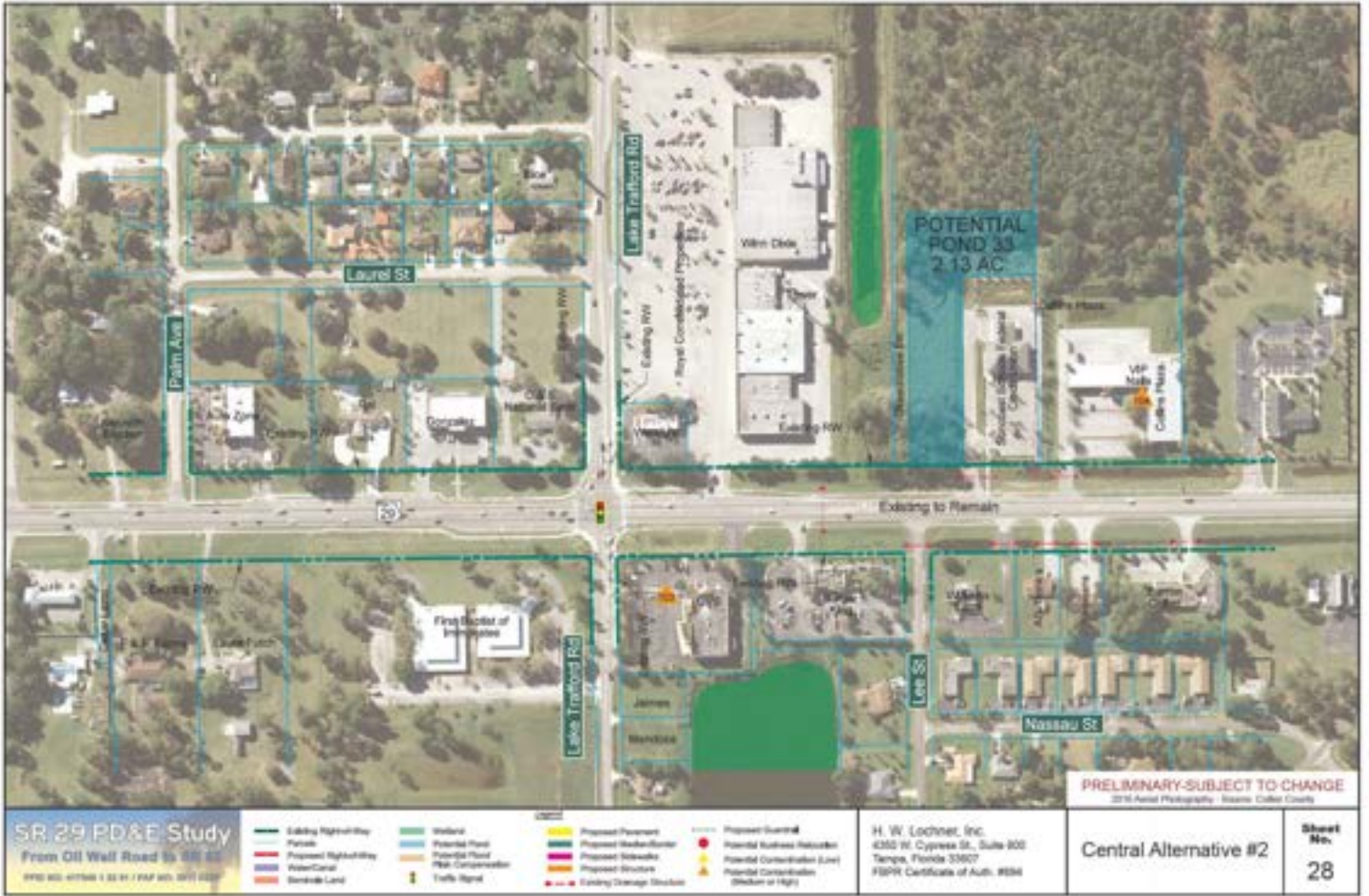
SR 29 PD&E Study
 From Oil Well Road to SR 29
 9050-905-437540 • 00-01 / 00P-905-3077-0000

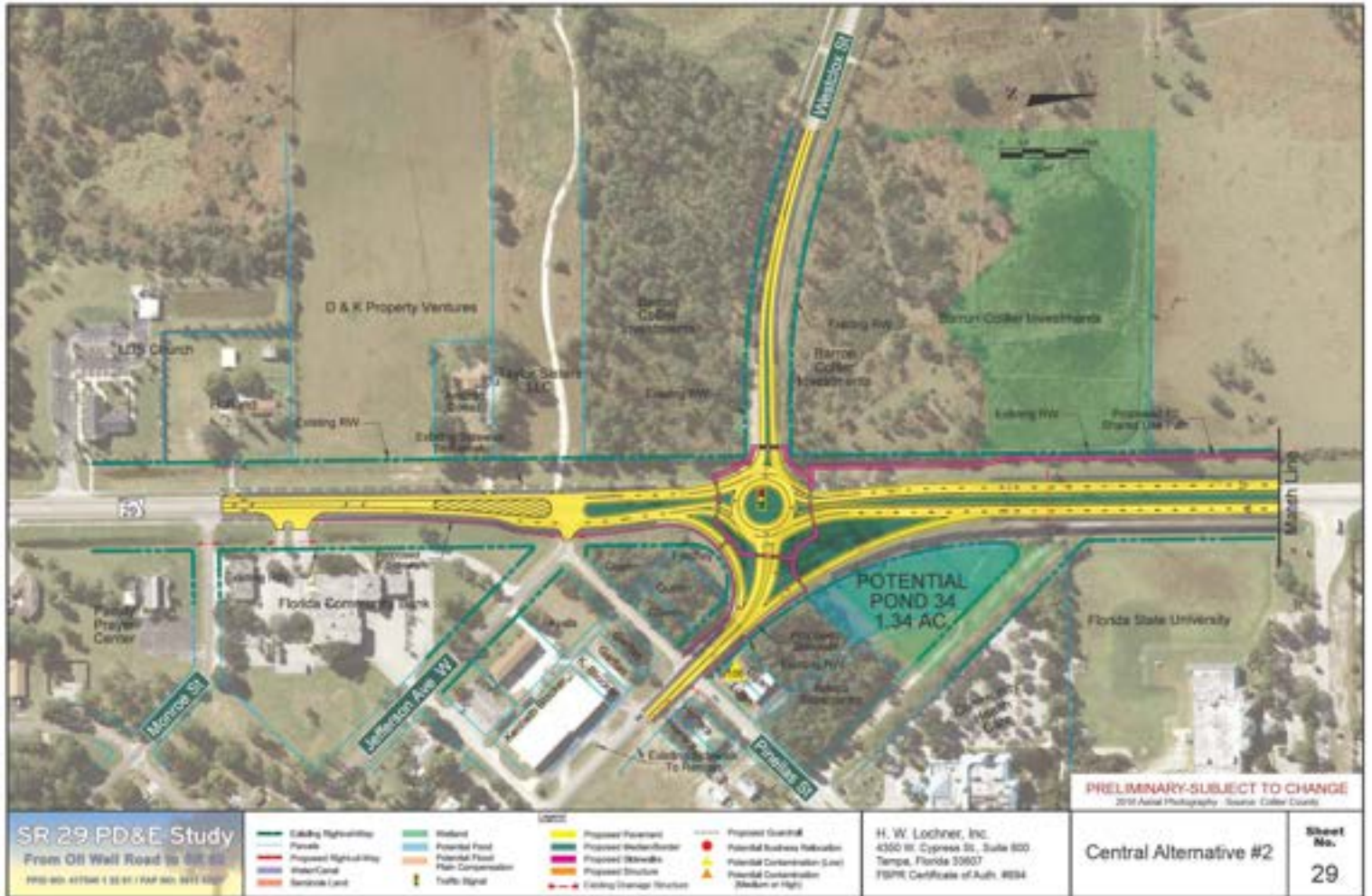
Existing Right-of-Way	Wetland	Proposed Pavement	Proposed Shoulder
Permit	Potential Pond	Proposed Median/Barrier	Potential Business Relocation
Proposed Right-of-Way	Potential Pond	Proposed Shoulder	Potential Construction Load
Water/Canal	Public Construction	Proposed Structure	Potential Construction (Medium or High)
Sand/Soil Land	Traffic Signal	Existing Drainage Structure	

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 FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
 27







PRELIMINARY-SUBJECT TO CHANGE
 2016 Aerial Photography - Source: Collier County

SR 29 PD&E Study
 From Oil Well Road to SR 29
 9040-900-4373440 | 904-911-7247 | 904-911-5142

Existing Right-of-Way	Wetland	Proposed Pavement	Proposed Quarrel
Potential	Potential Pond	Proposed Median/Border	Potential Business Relocation
Proposed Right-of-Way	Potential Pond	Proposed Sidewalk	Potential Construction (Low)
Water/Canal	Public Construction	Proposed Structure	Potential Construction (Medium or High)
Sand/Soil Land	Traffic Signal	Existing Drainage Structure	

H. W. Lochner, Inc.
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 Tampa, Florida 33607
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Central Alternative #2

Sheet No.
30



PRELIMINARY-SUBJECT TO CHANGE
2016 Aerial Photography - Source: Collier County

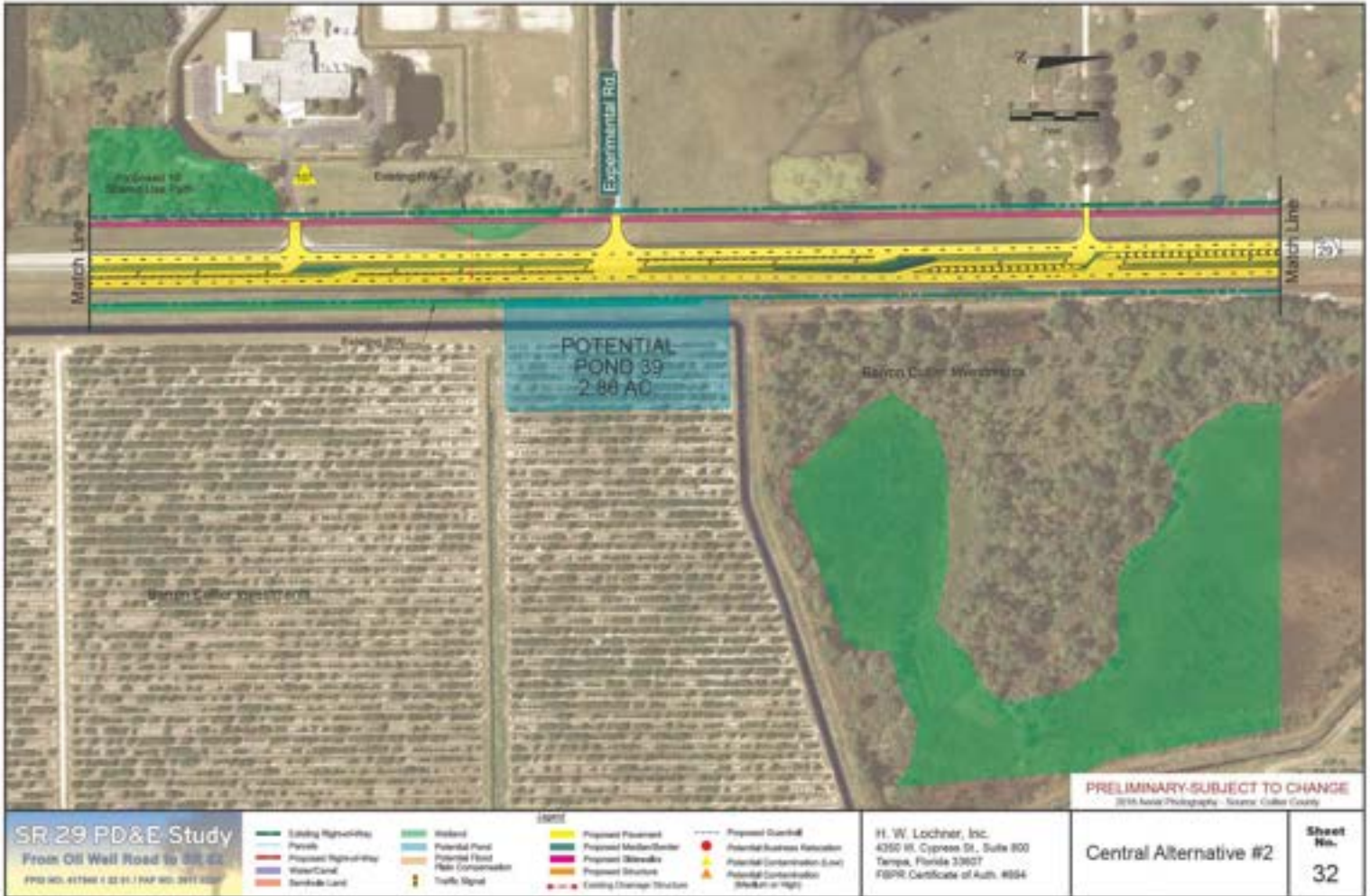
SR 29 PD&E Study
From Oil Well Road to US 90
PHS 901 477548 / 1-888-211-1547 / PMP 901 3671 2100

- | | | | | | | | |
|-----------------------|----------------|-----------------------------|-----------------------|---------------------|------------------------|------------------------------|---|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Right-of-Way | Potential Pond | Proposed Median/Border | Proposed Gravel | Potential Business Relocation |
| Proposed Right-of-Way | Potential Pond | Proposed Sidewalk | Water/Canal | Public Compensation | Proposed Structure | Potential Compensation (Low) | Potential Compensation (Medium or High) |
| Sand/Soil Land | Traffic Signal | Existing Drainage Structure | | | | | |

H. W. Lochner, Inc.
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FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
31





PRELIMINARY-SUBJECT TO CHANGE
© 2014 Aerial Photography - Source: Collier County

SR 29 PD&E Study
 From Oil Well Road to SR 62
SR 29 400' - 600' 1' 20' 21' / P&P 400' - 600' 1' 20' 21'

- | | | | |
|-----------------------|---------------------|---------------------------|---|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Structure |
| Fenceline | Potential Flood | Proposed Median/Center | Potential Business Relocation |
| Proposed Right-of-Way | Pipeline/Compressor | Proposed Milemarker | Potential Contaminated Area |
| Water Canal | Traffic Signal | Proposed Structure | Potential Contaminated (Medium to High) |
| Barren/Land | | Existing Change Structure | |

H. W. Lochner, Inc.
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 Tampa, Florida 33607
 FSPR Certificate #F.Auth. 8894

Central Alternative #2

Sheet No.
33



PRELIMINARY-SUBJECT TO CHANGE
2016 Aerial Photography - Source: Collier County

SR 29 PD&E Study
From Oil Well Road to SR 29
9890-900-437540 | 03/01/2017 | 9890-900-5071-5147

- | | | | |
|-----------------------|----------------------|-------------------------|-----------------------------|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Shoulder |
| Permits | Potential Pond | Proposed Median/Barrier | Proposed Shoulder |
| Proposed Right-of-Way | Potential Pond | Proposed Shoulder | Existing Drainage Structure |
| Water/Canal | Public Contamination | Proposed Shoulder | Proposed Shoulder |
| Sand/Soil Land | Traffic Signal | Proposed Shoulder | Proposed Shoulder |

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Tampa, Florida 33607
FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
34



PRELIMINARY-SUBJECT TO CHANGE
2016 Aerial Photography - Source: Collier County

SR 29 PD&E Study
From Oil Well Road to SR 29
9890-900-437540 | 02-01 | 10:47 AM, 02/11/2017

- | | | | |
|-----------------------|---------------------|-----------------------------|---|
| Existing Right-of-Way | Wetland | Proposed Pavement | Proposed Shoulder |
| Permit | Potential Pond | Proposed Median/Border | Potential Business Relocation |
| Proposed Right-of-Way | Potential Pond | Proposed Shoulder | Potential Construction Lane |
| Water/Canal | Public Construction | Proposed Structure | Potential Construction (Medium or High) |
| Sand/Soil Land | Traffic Signal | Existing Drainage Structure | |

H. W. Lochner, Inc.
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Tampa, Florida 33607
FSPR Certificate of Auth. #894

Central Alternative #2

Sheet No.
35

Appendix B
Typical Section Package
(UPDATED for CR 846 to SR 82
Refinements, see Appendix H)

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION PACKAGE

FINANCIAL PROJECT ID 417540-1-22-01
COLLIER COUNTY (03080)
STATE ROAD NO. 29
SR 29 P&E (DILL WELL ROAD TO S. DP SR 82)



APPROVED BY:



THIS DOCUMENT HAS BEEN REVIEWED AND SEALED BY:

PROVEN EVIDENCE OF THIS DOCUMENT AND ANY CORRECTIONS ISSUED AND RETURNED TO THE ORIGINAL USER BY REGISTERED IN THE ELECTRONIC CONTRACT.

ABE M. NEEMAN, P.E.
1111 W. STARBUCK STREET
SUITE 404
TAMPA, FL 33604-2887
TEL: 813-271-1111
CELL: 813-271-1111
FAX: 813-271-1111

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61E12-2.001, F.A.C.

TYPICAL SECTION PACKAGE

SHEET NO.	SHEET DESCRIPTION
1	COVER SHEET
2	PROPOSED PLAN
3	PROPOSED PROFILE
4	PROPOSED P&E
5	PROPOSED P&E
6	PROPOSED P&E
7	PROPOSED P&E
8	PROPOSED P&E
9	PROPOSED P&E
10	PROPOSED P&E
11	PROPOSED P&E
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45	PROPOSED P&E
46	PROPOSED P&E
47	PROPOSED P&E
48	PROPOSED P&E
49	PROPOSED P&E
50	PROPOSED P&E

TYPICAL SECTION CONCURRENCE

Digitally signed by Eduardo A Ponce
Date: 2015.06.01 12:30:12
for
POST DISTRICT DESIGN ENGINEER

Digitally signed by Andra G Diggs
Date: 2015.06.01 12:30:12
for
POST DISTRICT STRUCTURAL DESIGN ENGINEER

Digitally signed by William A Hartmann
Date: 2015.06.01 12:30:12
for
POST DISTRICT PROJECT DEVELOPMENT MANAGER

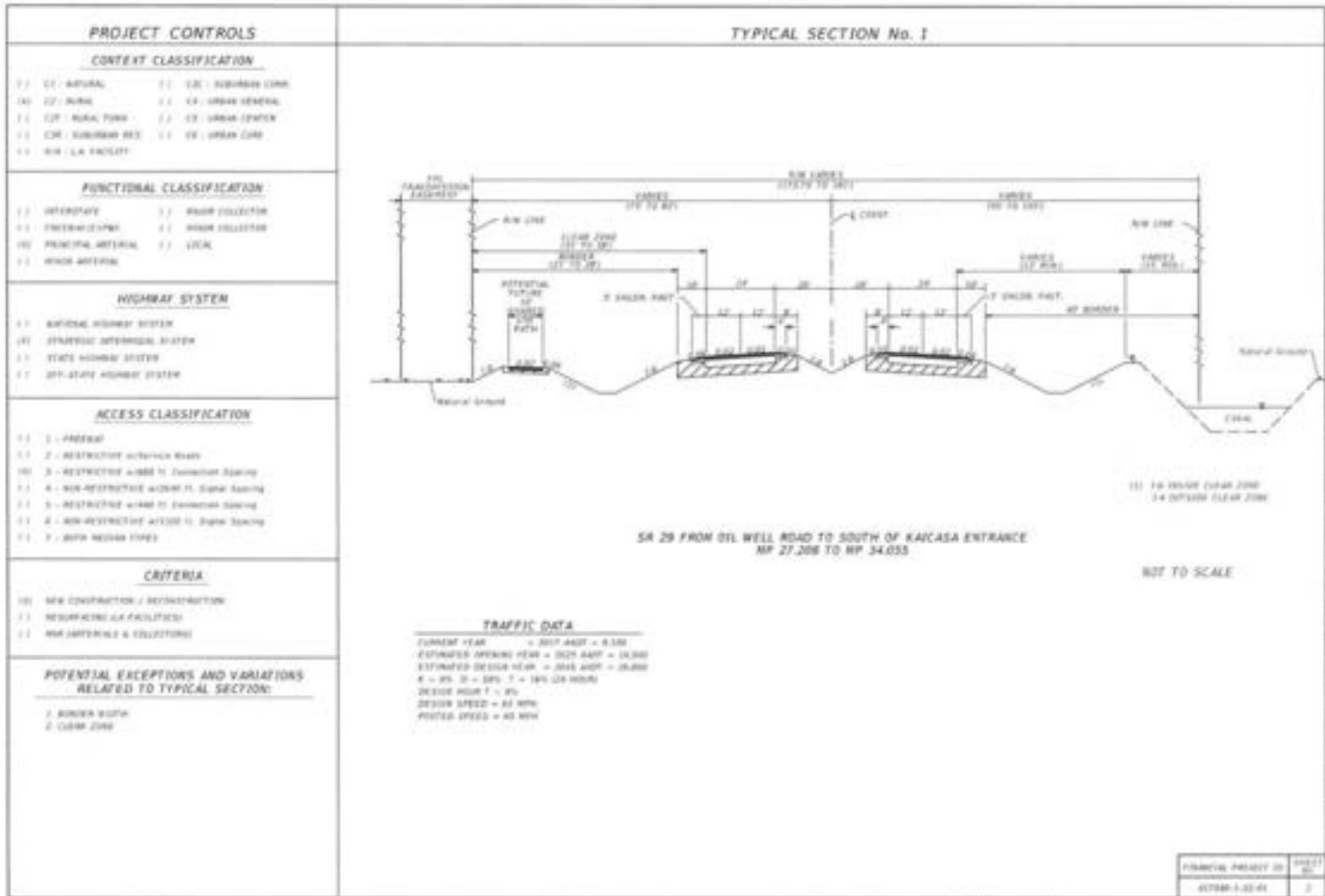
DESIGN SPEED AND POSTED SPEED CONCURRENCE:

Digitally signed by Ryan R. Blaker
Date: 2015.06.01 12:30:12
for
POST DISTRICT TRAFFIC OPERATIONS ENGINEER

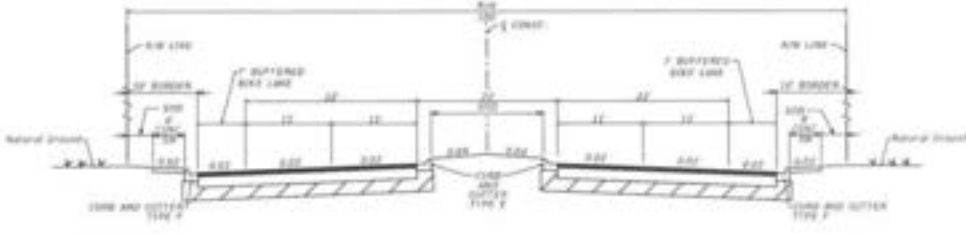
Digitally signed by Eduardo A Ponce
Date: 2015.06.01 12:30:12
for
POST DISTRICT DESIGN ENGINEER

CONTENT CLASSIFICATION CONCURRENCE:

Digitally signed by William A Hartmann
Date: 2015.06.01 12:30:12
for
POST DISTRICT PROJECT DEVELOPMENT MANAGER



THE OFFICIAL RECORD OF THIS PROJECT IS THE ELECTRONIC FILE. PRINTED DRAWINGS MAY BE USED FOR INFORMATIONAL PURPOSES ONLY. 11-1

PROJECT CONTROLS	TYPICAL SECTION No. 3				
<p>CONTEXT CLASSIFICATION</p> <p>1.1 C1 - RURAL 1.2 C3C - SUBURBAN CORN 1.2 C2 - RURAL 1.3 C4 - URBAN CENTER 1.3 C2F - RURAL TOWN 1.4 C5 - URBAN CENTER 1.4 C3D - SUBURBAN RES. 1.5 C6 - URBAN CORN 1.5 R1 - LA FACILITY</p>	 <p style="text-align: center;">SR 29 FROM SEWINDLE CROSSING TRAIL TO COPHER RIDGE ROAD MP 36.367 TO MP 37.916</p> <p style="text-align: right;">NOT TO SCALE</p>				
<p>FUNCTIONAL CLASSIFICATION</p> <p>1.1 INTERSTATE 1.2 MAJOR COLLECTOR 1.3 FEDERAL/STATE 1.4 MAJOR COLLECTOR 1.5 PRINCIPAL ARTERIAL 1.6 LOCAL 1.7 MINOR ARTERIAL</p>					
<p>HIGHWAY SYSTEM</p> <p>1.1 NATIONAL HIGHWAY SYSTEM 1.2 STRATEGIC INTERMODAL SYSTEM 1.3 STATE HIGHWAY SYSTEM 1.4 METRO-LOCAL HIGHWAY SYSTEM</p>					
<p>ACCESS CLASSIFICATION</p> <p>1.1 1 - FREEWAY 1.2 2 - RESTRICTIVE w/Service Road 1.3 3 - RESTRICTIVE w/NO Ft. Connection Spacing 1.4 4 - NON-RESTRICTIVE w/NO Ft. Spacing 1.5 5 - RESTRICTIVE w/NO Ft. Connection Spacing 1.6 6 - NON-RESTRICTIVE w/NO Ft. Spacing 1.7 7 - BOTH MEDIAN TYPES</p>					
<p>CRITERIA</p> <p>1.01 NEW CONSTRUCTION / RECONSTRUCTION 1.1 MODIFICATIONS FACILITIES 1.2 NEW INTERCHANGES & COLLECTIONS</p>	<p style="text-align: center;">TRAFFIC DATA</p> <p>CURRENT YEAR = 2017 ADIT = 8,500 ESTIMATED OPENING YEAR = 2025 ADIT = 16,000 ESTIMATED 2035 YEAR = 2028 ADIT = 26,000 K = 3%, D = 5%, T = 180 (24 HOUR) DESIGN HOUR T = 30 DESIGN SPEED = 45 MPH POSTED SPEED = 45-45 MPH</p>				
<p>POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:</p> <p>1. BUFFER WIDTH</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%; text-align: right;">FINANCIAL PROJECT ID</td> <td style="width: 20%; text-align: center;">000000</td> </tr> <tr> <td style="text-align: right;">017540-1-22-00</td> <td style="text-align: center;">1</td> </tr> </table>	FINANCIAL PROJECT ID	000000	017540-1-22-00	1
FINANCIAL PROJECT ID	000000				
017540-1-22-00	1				

THE APPLICABLE VERSION OF THIS SHEET IS THE LATEST REVISION. ANY CHANGES TO THIS SHEET SHALL BE SHOWN ON A REVISION SHEET.

PROJECT CONTROLS	TYPICAL SECTION No. 4				
CONTEXT CLASSIFICATION 1.1 U1 - URBAN 1.2 U2 - SUBURBAN CORE 1.3 U3 - RURAL 1.4 U4 - URBAN GENERAL 1.5 U5 - RURAL TRANS 1.6 U6 - URBAN CENTER 1.7 U7 - SUBURBAN PERI. 1.8 U8 - URBAN CORN. 1.9 U9 - L.A. PERI.	<p data-bbox="755 1144 1242 1176">SR 29 FROM GOPHER RIDGE ROAD TO SR 29/SR 29 BYPASS JUNCTION MP 27.918 TO MP 29.818</p> <p data-bbox="1339 1081 1485 1123">10' 24" MIN. CLEAR. ZONE 14' 20" MIN. CLEAR. ZONE</p> <p data-bbox="1339 1176 1453 1207">NOT TO SCALE</p>				
FUNCTIONAL CLASSIFICATION 1.1 INTERSTATE 1.2 MAJOR COLLECTOR 1.3 FREIGHTWAY 1.4 MINOR COLLECTOR 1.5 PRINCIPAL ARTERIAL 1.6 LOCAL 1.7 HIGH ARTERIAL					
HIGHWAY SYSTEM 1.1 NATIONAL HIGHWAY SYSTEM 1.2 STRATEGIC INTERNATIONAL SYSTEM 1.3 STATE HIGHWAY SYSTEM 1.4 OFF-STATE HIGHWAY SYSTEM					
ACCESS CLASSIFICATION 1.1 1 - FREEWAY 1.2 2 - RESTRICTIVE w/Service Roads 1.3 3 - RESTRICTIVE w/400 ft. Connection Spacing 1.4 4 - NON-RESTRICTIVE w/2000 ft. Spacing 1.5 5 - RESTRICTIVE w/400 ft. Connection Spacing 1.6 6 - NON-RESTRICTIVE w/1200 ft. Spacing 1.7 7 - BOTH NON-RESTRICTIVE TYPES					
CRITERIA 1.1 NEW CONSTRUCTION / RECONSTRUCTION 1.2 REPAIRING L.A. FACILITIES 1.3 IMPROVEMENTS & COLLECTORS					
POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:	<p data-bbox="609 1239 722 1260">TRAFFIC DATA</p> <p data-bbox="527 1260 803 1365">CURRENT YEAR = 2017 ADT = 9,000 ESTIMATED OPENING YEAR = 2021 ADT = 10,000 ESTIMATED DESIGN YEAR = 2041 ADT = 16,000 A = 8% D = 3% T = 30% (24 HOUR) DESIGN HOUR T = 8% DESIGN SPEED = 55 MPH POSTED SPEED = 45 MPH</p>				
	<table border="1" data-bbox="1380 1501 1542 1554"> <tr> <td>FINANCIAL PROJECT NO.</td> <td>SHEET NO.</td> </tr> <tr> <td>457946-1-23-01</td> <td>3</td> </tr> </table>	FINANCIAL PROJECT NO.	SHEET NO.	457946-1-23-01	3
FINANCIAL PROJECT NO.	SHEET NO.				
457946-1-23-01	3				

THE PORTION NUMBER OF THIS SHEET IS THE CALCULATED TOTAL SHEETS. FINISHED AND REVISIONS SHOULD BE KEPT WITH THIS SHEET AND SHOULD BE KEPT WITH THIS SHEET.

PROJECT CONTROLS

CONTEXT CLASSIFICATION

- 1.1 C1 - RURAL 1.1 C2 - SUBURBAN CORN
- 1.1 C3 - RURAL TOWN 1.1 C4 - URBAN CENTER
- 1.1 C5 - RURAL TOWN 1.1 C6 - URBAN CENTER
- 1.1 C7 - SUBURBAN RES. 1.1 C8 - URBAN CORN
- 1.1 C9 - L.A. FACILITY

FUNCTIONAL CLASSIFICATION

- 1.1 INTERSTATE 1.1 MAJOR COLLECTOR
- 1.1 MAJOR ARTERIAL 1.1 MINOR COLLECTOR
- 1.1 MAJOR ARTERIAL 1.1 LOCAL
- 1.1 MAJOR ARTERIAL

HIGHWAY SYSTEM

- 1.1 NATIONAL HIGHWAY SYSTEM
- 1.1 STRATEGIC INTERSTATE SYSTEM
- 1.1 STATE HIGHWAY SYSTEM
- 1.1 OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

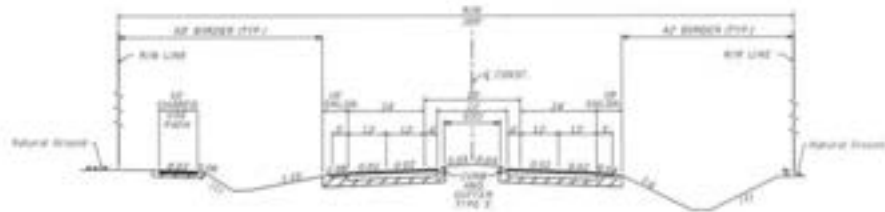
- 1.1 1 - FREEWAY
- 1.1 2 - RESTRICTED ACCESS ROAD
- 1.1 3 - RESTRICTED ACCESS w/ 11' Shoulder Spacing
- 1.1 4 - NON-RESTRICTED ACCESS w/ 11' Shoulder Spacing
- 1.1 5 - RESTRICTED ACCESS w/ 11' Shoulder Spacing
- 1.1 6 - NON-RESTRICTED ACCESS w/ 11' Shoulder Spacing
- 1.1 7 - BOTH MEDIAN TYPES

CRITERIA

- 1.1 NEW CONSTRUCTION / RECONSTRUCTION
- 1.1 RECONSTRUCTING EXISTING
- 1.1 NEW IMPROVEMENTS & CORRECTIONS

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No. 5



1.1 1.8' SHOULDER CLEARANCE
1.1 1.4' SHOULDER CLEARANCE

SR 29 FROM NORTH OF WESTCLOX STREET TO EXPERIMENTAL ROAD
MP 39.878 TO MP 40.857

NOT TO SCALE

TRAFFIC DATA

NORTH OF WESTCLOX STREET TO SR 29/28 BYPASS JUNCTION

CURRENT YEAR = 2017 ADT = 11,000
ESTIMATED OPENING YEAR = 2025 ADT = 8,200
ESTIMATED DESIGN YEAR = 2045 ADT = 14,000
K = 9% D = 5% T = 9% (24 HOUR)
DESIGN HOUR T = 3%

DESIGN SPEED = 55 MPH
POSTED SPEED = 55 MPH (50 MPH AFTER SR 28 BYPASS IS CONSTRUCTED)

55 MPH FROM NORTH OF WESTCLOX STREET TO SR 29/28 BYPASS JUNCTION WHEN SR 28 BYPASS IS CONSTRUCTED.
*NOT AN EMERGING SUE WHEN SR 28 BYPASS IS CONSTRUCTED.

SR 29/28 BYPASS JUNCTION TO EXPERIMENTAL ROAD

CURRENT YEAR = 2017 ADT = 14,000
ESTIMATED OPENING YEAR = 2025 ADT = 11,000
ESTIMATED DESIGN YEAR = 2045 ADT = 14,000
K = 9% D = 5% T = 9% (24 HOUR)
DESIGN HOUR T = 3%

FINANCIAL PROJECT NO.	PROJECT NO.
02740-1-22-01	5

PROJECT CONTROLS

CONTEXT CLASSIFICATION

- 1.1 01 - RURAL
- 1.2 02 - RURAL TOWN
- 1.3 03 - SUBURBAN RCT.
- 1.4 04 - SUBURBAN COMM.
- 1.5 05 - URBAN CENTER
- 1.6 06 - URBAN CORE
- 1.7 07 - URBAN EDGE

FUNCTIONAL CLASSIFICATION

- 1.1 01 - INTERSTATE
- 1.2 02 - MAJOR COLLECTOR
- 1.3 03 - MINOR COLLECTOR
- 1.4 04 - LOCAL
- 1.5 05 - ROAD

HIGHWAY SYSTEM

- 1.1 01 - NATIONAL HIGHWAY SYSTEM
- 1.2 02 - STATE HIGHWAY SYSTEM
- 1.3 03 - COUNTY HIGHWAY SYSTEM
- 1.4 04 - LOCAL ROAD SYSTEM

ACCESS CLASSIFICATION

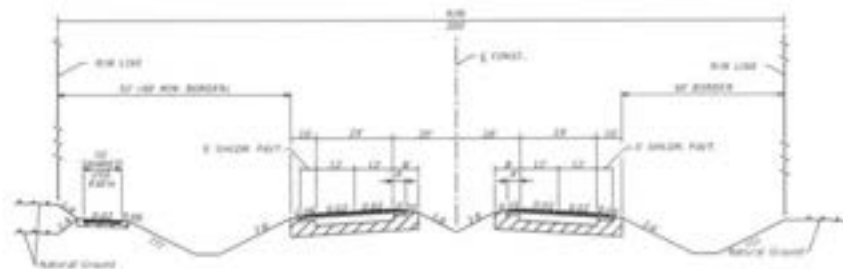
- 1.1 01 - FREEWAY
- 1.2 02 - RESTRICTIVE INTERCHANGE
- 1.3 03 - RESTRICTIVE INTERCHANGE WITH CONTROLLED ACCESS
- 1.4 04 - RESTRICTIVE INTERCHANGE WITH SIGNAL CONTROL
- 1.5 05 - RESTRICTIVE INTERCHANGE WITH SIGNAL CONTROL AND CONTROLLED ACCESS
- 1.6 06 - RESTRICTIVE INTERCHANGE WITH SIGNAL CONTROL AND CONTROLLED ACCESS AND MEDIAN
- 1.7 07 - OTHER MEDIAN TYPES

CRITERIA

- 1.1 01 - NEW CONSTRUCTION / RECONSTRUCTION
- 1.2 02 - RECONSTRUCTION / IMPROVEMENT
- 1.3 03 - IMPROVEMENT / COLLECTOR

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No. 6



SR 29 FROM EXPERIMENTAL ROAD TO SOUTH OF SR 82
MP 40.857 TO MP 42.062

11' 10" MINIMUM CLEAR ZONE
14' 0" MINIMUM CLEAR ZONE

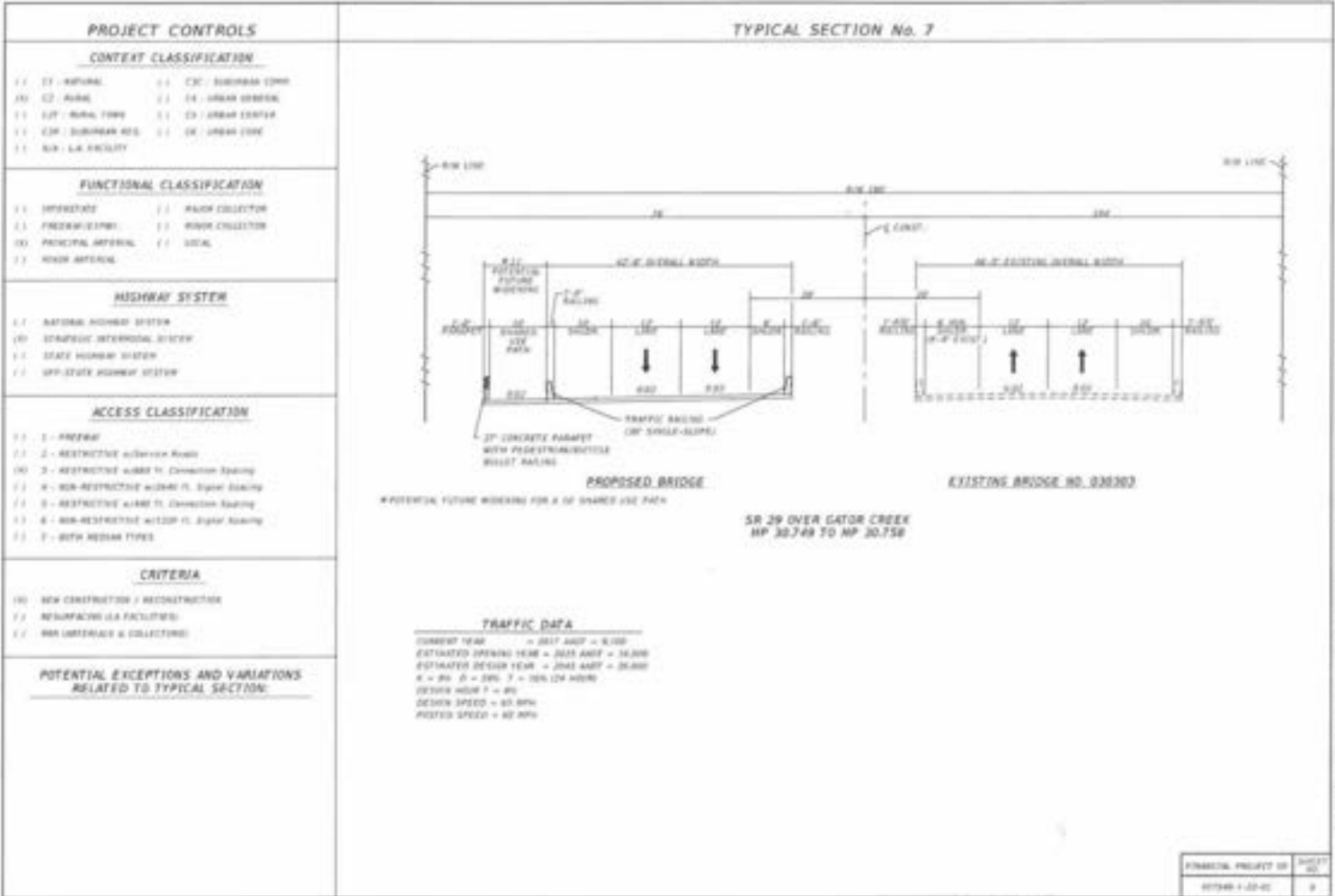
NOT TO SCALE

TRAFFIC DATA

CURRENT YEAR = 2017 AADT = 16,000
 ESTIMATED OPENING YEAR = 2021 AADT = 16,000
 ESTIMATED DESIGN YEAR = 2040 AADT = 41,000
 K = 3% D = 50% T = 10% LR 10%
 DESIGN HOUR T = 3%
 DESIGN SPEED = 55 MPH
 POSTED SPEED = 55 MPH

FINANCIAL PROJECT ID	PROJECT ID
SR29-1-22-01	1

THE OFFICIAL RECORD OF THIS PROJECT IS THE ELECTRONIC FILE SUBMITTED THROUGH THE DESIGN ASSISTANCE TOOL (DAT) SYSTEM ON 08/15/2022 AT 10:00 AM CDT.



THE INFORMATION ON THIS SHEET IS THE EXISTING FILE PROVIDED FOR THE PROJECT AND SHOULD NOT BE USED FOR ANY OTHER PROJECT.

Appendix C
Long Range Estimates
(UPDATED for CR 846 to SR 82
Refinements, see Appendix I)

Date: 5/29/2018 8:52:08 AM

FDOT Long Range Estimating System - Production
R3: Project Details by Sequence Report

Project: 417540-2-52-01**Letting Date:** 01/2099**Description:** SR 29 FROM OIL WELL ROAD TO SUNNILAND NURSERY ROAD

District: 01 **County:** 03 COLLIER **Market Area:** 10 **Units:** English

Contract Class: 1 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 4.762 MI

Project Manager: JMK-RML-MWS**Version 6 Project Grand Total****\$25,850,160.21****Description:** PD&E - SEGMENT 1 - 5/23/18**Sequence:** 1 WDR - Widen/Resurface, Divided, Rural**Net** 4.639 MI**Length:** 24,496 LF

Description: NB RESURFACING SR 29 FROM OIL WELL ROAD TO SUNNILAND
NURSERY ROAD.

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	20.00 / 20.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	4.639
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
	6.00 % / 6.00 %

Existing Outside Shoulder Cross Slope L/R	
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	22.49	AC	\$20,515.11	\$461,384.82
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	19,740.29	CY	\$18.32	\$361,642.11
Earthwork Component Total					\$823,026.93

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	2
Existing Roadway Pavement Width L/R	0.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 0.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	0
Widened Friction Course Spread Rate	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	48,992.06	SY	\$3.56	\$174,411.73
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	65,322.75	SY	\$2.13	\$139,137.46
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	7,185.50	TN	\$113.49	\$815,482.40
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	2,612.91	TN	\$149.57	\$390,812.95

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	626.00	EA	\$4.85	\$3,036.10
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	37.12	GM	\$1,062.52	\$39,440.74

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	816.53	TN	\$151.40	\$123,622.64
536-1-1	GUARDRAIL- ROADWAY, GEN TL-3	24,496.00	LF	\$17.87	\$437,743.52

Roadway Component Total

\$2,123,687.54

SHOULDER COMPONENT**User Input Data**

Description	Value
	0.00 / 0.00

Existing Total Outside Shoulder Width L/R	
New Total Outside Shoulder Width L/R	0.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 5.00
Existing Paved Outside Shoulder Width L/R	0.00 / 0.00
New Paved Outside Shoulder Width L/R	0.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	14,507.09	SY	\$12.55	\$182,063.98
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	748.49	TN	\$113.49	\$84,946.13
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	544.36	TN	\$149.57	\$81,419.93
570-1-1	PERFORMANCE TURF	13,608.91	SY	\$1.14	\$15,514.16

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	56,340.87	LF	\$1.11	\$62,538.37
104-11	FLOATING TURBIDITY BARRIER	463.94	LF	\$10.36	\$4,806.42
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	463.94	LF	\$8.02	\$3,720.80
104-15	SOIL TRACKING PREVENTION DEVICE	5.00	EA	\$1,692.58	\$8,462.90
107-1	LITTER REMOVAL	33.73	AC	\$28.98	\$977.50
107-2	MOWING	33.73	AC	\$46.24	\$1,559.68
Shoulder Component Total					\$446,009.87

MEDIAN COMPONENT

User Input Data

Description	Value
Total Median Width	40.00
Performance Turf Width	24.00
New Total Median Shoulder Width L/R	0.00 / 8.00
New Paved Median Shoulder Width L/R	0.00 / 4.00
Existing Total Median Shoulder Width L/R	0.00 / 0.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips $\frac{1}{2}$ No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	11,785.31	SY	\$12.55	\$147,905.64
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	598.79	TN	\$113.49	\$67,956.68
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	435.49	TN	\$149.57	\$65,136.24
570-1-1	PERFORMANCE TURF	65,322.75	SY	\$1.14	\$74,467.94

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	3,907.00	LF	\$23.74	\$92,752.18
Median Component Total					\$448,218.68

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	83.51	CY	\$1,404.50	\$117,289.80
		3,712.00	LF	\$79.94	\$296,737.28

430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD			
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	376.00 LF	\$86.26	\$32,433.76
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	186.00 EA	\$1,990.35	\$370,205.10
570-1-1	PERFORMANCE TURF	3,266.14 SY	\$1.14	\$3,723.40

Box Culvert 1

Description	Value
Size	6 x 4
Length	75.00
Multiplier	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-4-1	CONC CLASS IV, CULVERTS	59.65	CY	\$1,550.79	\$92,504.62
415-1-1	REINF STEEL- ROADWAY	9,145.00	LB	\$0.98	\$8,962.10

Retention Basin 1

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 5

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220		1,025.00	LF	\$14.45	\$14,811.25

	FENCING, TYPE B, 5.1-6.0', STANDARD			
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00 SY	\$1.14	\$8,276.40

Retention Basin 2

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 6

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40

Retention Basin 3

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 7

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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110-1-1	CLEARING & GRUBBING	1.50 AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00 CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00 CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00 LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00 SY	\$1.14	\$8,276.40

Retention Basin 4

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 8

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40

Retention Basin 5

Description	Value
Size	1 AC
Multiplier	1
Depth	6.00
Description	Pond 9

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.00	AC	\$20,515.11	\$20,515.11
120-1	REGULAR EXCAVATION	9,680.00	CY	\$8.67	\$83,925.60
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	840.00	LF	\$14.45	\$12,138.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	4,840.00	SY	\$1.14	\$5,517.60

Retention Basin 6

Description	Value
Size	2 AC
Multiplier	1
Depth	6.00
Description	Pond 10

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.00	AC	\$20,515.11	\$41,030.22
120-1	REGULAR EXCAVATION	19,360.00	CY	\$8.67	\$167,851.20
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541		1.00	EA	\$3,583.09	\$3,583.09

	INLETS, DT BOT, TYPE D, <10'			
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,180.00 LF	\$14.45	\$17,051.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	9,680.00 SY	\$1.14	\$11,035.20

Retention Basin 7

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 11

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40

Retention Basin 8

Description	Value
Size	1.5 AC

Multiplier	1
Depth	6.00
Description	Pond 12

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40

Retention Basin 9

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 13

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88

430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00 LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00 SY	\$1.14	\$8,276.40

Retention Basin 10

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 14

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40

Retention Basin 11

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 15

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40

Retention Basin 12

Description	Value
Size	5 AC
Multiplier	1
Depth	4.00
Description	FPC A

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.00	AC	\$20,515.11	\$102,575.55
120-1	REGULAR EXCAVATION	32,266.67	CY	\$8.67	\$279,752.03
400-2-2	CONC CLASS II, ENDWALLS	30.00	CY	\$1,404.50	\$42,135.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	2.00	EA	\$5,737.64	\$11,475.28
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	\$183.10	\$73,240.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,860.00	LF	\$14.45	\$26,877.00
550-60-234		2.00	EA	\$1,836.75	\$3,673.50

	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN			
570-1-1	PERFORMANCE TURF	24,200.00 SY	\$1.14	\$27,588.00

Retention Basin 13

Description	Value
Size	5 AC
Multiplier	1
Depth	4.00
Description	FPC B

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.00	AC	\$20,515.11	\$102,575.55
120-1	REGULAR EXCAVATION	32,266.67	CY	\$8.67	\$279,752.03
400-2-2	CONC CLASS II, ENDWALLS	30.00	CY	\$1,404.50	\$42,135.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	2.00	EA	\$5,737.64	\$11,475.28
430-175- 142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175- 160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	\$183.10	\$73,240.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,860.00	LF	\$14.45	\$26,877.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00	EA	\$1,836.75	\$3,673.50
570-1-1	PERFORMANCE TURF	24,200.00	SY	\$1.14	\$27,588.00
Drainage Component Total					\$4,925,258.09

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	10.00	AS	\$331.85	\$3,318.50
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	112.00	AS	\$1,051.24	\$117,738.88
700-1-50	SINGLE POST SIGN, RELOCATE	10.00	AS	\$188.32	\$1,883.20

700-1-60	SINGLE POST SIGN, REMOVE	112.00 AS	\$21.46	\$2,403.52
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	10.00 AS	\$4,870.56	\$48,705.60
700-2-60	MULTI- POST SIGN, REMOVE	10.00 AS	\$829.30	\$8,293.00
Signing Component Total				\$182,342.70

LIGHTING COMPONENT

Rural Lighting Subcomponent

Description		Value			
Multiplier (Number of Poles)		143			
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	28,600.00	LF	\$7.88	\$225,368.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	143.00	EA	\$813.38	\$116,313.34
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	85,800.00	LF	\$2.18	\$187,044.00
715-4-14	LIGHT POLE COMPLETE, F&I- STD, 45'	143.00	EA	\$5,051.47	\$722,360.21
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	143.00	EA	\$488.78	\$69,895.54
Subcomponent Total					\$1,320,981.09
Lighting Component Total					\$1,320,981.09

BRIDGES COMPONENT

Bridge 030303

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	50.00
Width (LF)	47.00
Type	Low Level
Cost Factor	1.00
Structure No.	030303
Removal of Existing Structures area	0.00

Default Cost per SF	\$114.00
Factored Cost per SF	\$114.00
Final Cost per SF	\$135.38
Basic Bridge Cost	\$267,900.00

Description NEW BRIDGE OVER GATOR CREEK (SB),
EXISTING BRIDGE NO. 030303

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	104.44	CY	\$321.86	\$33,615.06
415-1-9	REINF STEEL- APPROACH SLABS	18,277.00	LB	\$0.91	\$16,632.07
Bridge 030303 Total					\$318,147.13
Bridges Component Total					\$318,147.13
<hr/>					
Sequence 1 Total					\$10,587,672.03
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Sequence: 2 NUR - New Construction, Undivided, Rural**Net** 4.639 MI**Length:** 24,496 LF**Description:** SB NEW CONSTRUCTION SR 29 FROM OIL WELL ROAD TO
SUNNILAND NURSERY ROAD

EARTHWORK COMPONENT**User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	4.639
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	56.23	AC	\$20,515.11	\$1,153,564.64
120-6	EMBANKMENT	158,294.23	CY	\$8.35	\$1,321,756.82
Earthwork Component Total					\$2,475,321.46

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	24.00 / 0.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	114,314.82	SY	\$3.56	\$406,960.76
285-709	OPTIONAL BASE,BASE GROUP 09	66,220.94	SY	\$13.38	\$886,036.18
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	8,981.88	TN	\$113.49	\$1,019,353.56
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	5,389.13	TN	\$136.70	\$736,694.07

Turnouts/Crossovers Subcomponent

Description	Value
Asphalt Adjustment	10.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	11,431.48	SY	\$3.56	\$40,696.07
285-709	OPTIONAL BASE,BASE GROUP 09	6,622.09	SY	\$13.38	\$88,603.56
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	898.19	TN	\$113.49	\$101,935.58
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	538.91	TN	\$136.70	\$73,669.00

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	626.00	EA	\$4.85	\$3,036.10

710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	18.56 GM	\$1,062.52	\$19,720.37
710-11-231	PAINTED PAVT MARK,STD,YELLOW,SKIP,6"	9.28 GM	\$422.18	\$3,917.83
Roadway Component Total				\$3,380,623.08

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	10.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 4.00
Paved Outside Shoulder Width L/R	5.00 / 4.00
Structural Spread Rate	110
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{r}_i / No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	26,292.41	SY	\$12.55	\$329,969.75
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,347.28	TN	\$113.49	\$152,902.81
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	2,020.92	TN	\$136.70	\$276,259.76
570-1-1	PERFORMANCE TURF	24,496.03	SY	\$1.14	\$27,925.47

Erosion Control

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	63,689.68	LF	\$1.11	\$70,695.54
104-11	FLOATING TURBIDITY BARRIER	1,159.85	LF	\$10.36	\$12,016.05
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	1,159.85	LF	\$8.02	\$9,302.00
104-15	SOIL TRACKING PREVENTION DEVICE	5.00	EA	\$1,692.58	\$8,462.90
107-1	LITTER REMOVAL	56.23	AC	\$28.98	\$1,629.55
107-2	MOWING	56.23	AC	\$46.24	\$2,600.08

Shoulder Component Total**\$891,763.91****DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	83.51	CY	\$1,404.50	\$117,289.80
430-174-124	PIPE CULV, OPT MATL, ROUND, 24" SD	3,712.00	LF	\$79.94	\$296,737.28
430-175-136	PIPE CULV, OPT MATL, ROUND, 36" S/CD	784.00	LF	\$86.26	\$67,627.84
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	186.00	EA	\$1,990.35	\$370,205.10
570-1-1	PERFORMANCE TURF	3,266.14	SY	\$1.14	\$3,723.40
Drainage Component Total					\$855,583.42

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	10.00	AS	\$331.85	\$3,318.50
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	93.00	AS	\$1,051.24	\$97,765.32
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	10.00	AS	\$4,870.56	\$48,705.60
Signing Component Total					\$149,789.42

Sequence 2 Total**\$7,753,081.29**

Sequence: 3 WDR - Widen/Resurface, Divided, Rural**Net** 0.556 MI**Length:** 2,938 LF**Description:** NB RESURFACING SR 29 FROM 2340' SOUTH OF OIL WELL ROAD TO 600' NORTH OF OIL WELL ROAD**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	20.00 / 20.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.556
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.70	AC	\$20,515.11	\$55,390.80
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	939.42	CY	\$18.32	\$17,210.17
Earthwork Component Total					\$72,600.97

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	3
Existing Roadway Pavement Width L/R	0.00 / 26.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 0.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	0
Widened Friction Course Spread Rate	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	3,264.21	SY	\$3.56	\$11,620.59
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	8,486.95	SY	\$2.13	\$18,077.20
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	933.57	TN	\$113.49	\$105,950.86
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	339.48	TN	\$149.57	\$50,776.02

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	150.00	EA	\$4.85	\$727.50
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	4.45	GM	\$1,062.52	\$4,728.21

710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.11 GM	\$363.84	\$403.86
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Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	22.03	TN	\$151.40	\$3,335.34
536-1-1	GUARDRAIL- ROADWAY, GEN TL-3	661.00	LF	\$17.87	\$11,812.07
Roadway Component Total					\$207,431.65

SHOULDER COMPONENT**User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	0.00 / 0.00
New Total Outside Shoulder Width L/R	0.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 5.00
Existing Paved Outside Shoulder Width L/R	0.00 / 0.00
New Paved Outside Shoulder Width L/R	0.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{r}_L / 1/2 No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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285-704	OPTIONAL BASE, BASE GROUP 04	1,739.83 SY	\$12.55	\$21,834.87
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	89.77 TN	\$113.49	\$10,188.00
337-7-25	ASPH CONC FC, INC BIT, FC-5, PG76-22	65.28 TN	\$149.57	\$9,763.93
570-1-1	PERFORMANCE TURF	1,632.11 SY	\$1.14	\$1,860.61

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	6,756.92	LF	\$1.11	\$7,500.18
104-11	FLOATING TURBIDITY BARRIER	55.64	LF	\$10.36	\$576.43
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	55.64	LF	\$8.02	\$446.23
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$1,692.58	\$1,692.58
107-1	LITTER REMOVAL	4.05	AC	\$28.98	\$117.37
107-2	MOWING	4.05	AC	\$46.24	\$187.27
Shoulder Component Total					\$54,167.47

MEDIAN COMPONENT**User Input Data**

Description	Value
Total Median Width	22.00
Performance Turf Width	22.00
New Total Median Shoulder Width L/R	0.00 / 0.00
New Paved Median Shoulder Width L/R	0.00 / 0.00
Existing Total Median Shoulder Width L/R	0.00 / 0.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	0
Friction Course Spread Rate	0
Total Width (T) / 8" Overlap (O)	T
Rumble Strips $i_{\frac{1}{2}}$ No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
570-1-1	PERFORMANCE TURF	7,181.27	SY	\$1.14	\$8,186.65
X-Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	5,875.00	LF	\$23.74	\$139,472.50
Median Component Total					\$147,659.15

DRAINAGE COMPONENT

Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	10.02	CY	\$1,404.50	\$14,073.09
430-174-124	PIPE CULV, OPT MATL, ROUND, 24"SD	448.00	LF	\$79.94	\$35,813.12
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	48.00	LF	\$86.26	\$4,140.48
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	23.00	EA	\$1,990.35	\$45,778.05
570-1-1	PERFORMANCE TURF	391.71	SY	\$1.14	\$446.55
Drainage Component Total					\$100,251.29

SIGNING COMPONENT

Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	2.00	AS	\$331.85	\$663.70
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	14.00	AS	\$1,051.24	\$14,717.36
700-1-50	SINGLE POST SIGN, RELOCATE	2.00	AS	\$188.32	\$376.64
700-1-60	SINGLE POST SIGN, REMOVE	14.00	AS	\$21.46	\$300.44
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	2.00	AS	\$4,870.56	\$9,741.12

700-2-60	MULTI- POST SIGN, REMOVE	2.00 AS	\$829.30	\$1,658.60
Signing Component Total				\$27,457.86

SIGNALIZATIONS COMPONENT

Signalization 1

Description	Value
Type	4 Lane Strain Pole
Multiplier	1
Description	SIGNAL AT SR 29 AND OIL WELL ROAD

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	750.00	LF	\$7.88	\$5,910.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	200.00	LF	\$22.93	\$4,586.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$4,842.56	\$4,842.56
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00	PI	\$7,045.71	\$7,045.71
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	14.00	EA	\$813.38	\$11,387.32
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	\$3,808.27	\$3,808.27
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00	LF	\$7.92	\$237.60
641-2-16	PREST CNC POLE,F&I,TYP P-VI	4.00	EA	\$9,719.73	\$38,878.92
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	12.00	AS	\$908.80	\$10,905.60
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00	AS	\$597.25	\$4,778.00
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	12.00	EA	\$194.38	\$2,332.56
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	12.00	AS	\$1,228.53	\$14,742.36
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	\$204.94	\$1,639.52
670-5-111		1.00	AS	\$24,961.04	\$24,961.04

700-3-101	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT SIGN PANEL, F&I GM, UP TO 12 SF	4.00 EA	\$156.31	\$625.24
Signalizations Component Total				\$136,680.70

LIGHTING COMPONENT

Rural Lighting Subcomponent

Description				Value	
Multiplier (Number of Poles)				15	
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	3,000.00	LF	\$7.88	\$23,640.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	15.00	EA	\$813.38	\$12,200.70
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	9,000.00	LF	\$2.18	\$19,620.00
715-4-14	LIGHT POLE COMPLETE, F&I- STD, 45'	15.00	EA	\$5,051.47	\$75,772.05
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	15.00	EA	\$488.78	\$7,331.70
Subcomponent Total					\$138,564.45
Lighting Component Total					\$138,564.45
Sequence 3 Total					\$884,813.54

Sequence: 4 NUR - New Construction, Undivided, Rural**Net** 0.556 MI**Length:** 2,938 LF**Description:** SB RECONSTRUCTION SR 29 FROM 2340' SOUTH OF OIL WELL ROAD TO 600' NORTH OF OIL WELL ROAD**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.556
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	6.74	AC	\$20,515.11	\$138,271.84
120-6	EMBANKMENT	19,573.37	CY	\$8.35	\$163,437.64
Earthwork Component Total					\$301,709.48

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	26.00 / 0.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	11,751.17	SY	\$3.56	\$41,834.17
285-709	OPTIONAL BASE,BASE GROUP 09	8,594.67	SY	\$13.38	\$114,996.68
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,166.96	TN	\$113.49	\$132,438.29
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	700.17	TN	\$136.70	\$95,713.24

Turnouts/Crossovers Subcomponent

Description	Value
Asphalt Adjustment	10.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	1,175.12	SY	\$3.56	\$4,183.43
285-709	OPTIONAL BASE,BASE GROUP 09	859.47	SY	\$13.38	\$11,499.71
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	116.70	TN	\$113.49	\$13,244.28
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	70.02	TN	\$136.70	\$9,571.73

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	75.00	EA	\$4.85	\$363.75

710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	2.23 GM	\$1,062.52	\$2,369.42
710-11-231	PAINTED PAVT MARK,STD,YELLOW,SKIP,6"	1.11 GM	\$422.18	\$468.62
Roadway Component Total				\$426,683.32

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	10.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 0.00
Paved Outside Shoulder Width L/R	5.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{r}_i / No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	1,739.83	SY	\$12.55	\$21,834.87
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	89.77	TN	\$113.49	\$10,188.00
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	134.65	TN	\$136.70	\$18,406.66
570-1-1	PERFORMANCE TURF	1,632.11	SY	\$1.14	\$1,860.61

Erosion Control

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	7,638.26	LF	\$1.11	\$8,478.47
104-11	FLOATING TURBIDITY BARRIER	139.10	LF	\$10.36	\$1,441.08
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	139.10	LF	\$8.02	\$1,115.58
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$1,692.58	\$1,692.58
107-1	LITTER REMOVAL	6.74	AC	\$28.98	\$195.33
107-2	MOWING	6.74	AC	\$46.24	\$311.66

Shoulder Component Total \$65,524.84

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	10.02	CY	\$1,404.50	\$14,073.09
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	448.00	LF	\$79.94	\$35,813.12
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	96.00	LF	\$86.26	\$8,280.96
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	23.00	EA	\$1,990.35	\$45,778.05
570-1-1	PERFORMANCE TURF	391.71	SY	\$1.14	\$446.55
Drainage Component Total					\$104,391.77

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	2.00	AS	\$331.85	\$663.70
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	12.00	AS	\$1,051.24	\$12,614.88
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	2.00	AS	\$4,870.56	\$9,741.12
Signing Component Total					\$23,019.70

Sequence 4 Total \$921,329.11

Sequence: 5 WUR - Widen/Resurface, Undivided, Rural**Net** 0.395 MI
Length: 2,087 LF**Description:** OIL WELL ROAD AT SR 29**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	40.00 / 40.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.395
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	3.83	AC	\$20,515.11	\$78,572.87
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	1,750.36	CY	\$18.32	\$32,066.60
Earthwork Component Total					\$110,639.47

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	2
Existing Roadway Pavement Width L/R	0.00 / 24.00

Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	12.00 / 0.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	7,421.10	SY	\$3.56	\$26,419.12
285-709	OPTIONAL BASE,BASE GROUP 09	2,859.44	SY	\$13.38	\$38,259.31
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	5,565.82	SY	\$2.13	\$11,855.20
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	459.18	TN	\$113.49	\$52,112.34
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	382.65	TN	\$113.49	\$43,426.95
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	222.63	TN	\$136.70	\$30,433.52
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	229.59	TN	\$136.70	\$31,384.95

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	53.00	EA	\$4.85	\$257.05
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	1.58	GM	\$1,062.52	\$1,678.78
710-11-231	PAINTED PAVT MARK,STD,YELLOW,SKIP,6"	0.79	GM	\$422.18	\$333.52

Roadway Component Total

\$236,160.74

SHOULDER COMPONENT**User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	0.00 / 0.00
New Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Existing Paved Outside Shoulder Width L/R	0.00 / 0.00
New Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{i}_L / 2 No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	2,472.15	SY	\$12.55	\$31,025.48
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	127.55	TN	\$113.49	\$14,475.65
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	92.76	TN	\$136.70	\$12,680.29
570-1-1	PERFORMANCE TURF	2,319.09	SY	\$1.14	\$2,643.76

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	4,800.52	LF	\$1.11	\$5,328.58
104-11	FLOATING TURBIDITY BARRIER	39.53	LF	\$10.36	\$409.53
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	39.53	LF	\$8.02	\$317.03
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$1,692.58	\$1,692.58

104-18	INLET PROTECTION SYSTEM	1.00 EA	\$118.93	\$118.93
107-1	LITTER REMOVAL	0.96 AC	\$28.98	\$27.82
107-2	MOWING	0.96 AC	\$46.24	\$44.39
Shoulder Component Total				\$68,764.04

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	7.12	CY	\$1,404.50	\$10,000.04
430-174-124	PIPE CULV, OPT MATL, ROUND, 24" SD	64.00	LF	\$79.94	\$5,116.16
430-175-136	PIPE CULV, OPT MATL, ROUND, 36" S/CD	32.00	LF	\$86.26	\$2,760.32
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	4.00	EA	\$1,990.35	\$7,961.40
570-1-1	PERFORMANCE TURF	159.70	SY	\$1.14	\$182.06
Drainage Component Total					\$26,019.98

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$331.85	\$331.85
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	8.00	AS	\$1,051.24	\$8,409.92
700-1-50	SINGLE POST SIGN, RELOCATE	1.00	AS	\$188.32	\$188.32
700-1-60	SINGLE POST SIGN, REMOVE	8.00	AS	\$21.46	\$171.68
700-2-13	MULTI- POST SIGN, F&I GM, 21-30 SF	1.00	AS	\$4,571.10	\$4,571.10
700-2-60	MULTI- POST SIGN, REMOVE	1.00	AS	\$829.30	\$829.30
Signing Component Total					\$14,502.17

Sequence 5 Total				\$456,086.40
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Date: 5/29/2018 8:52:09 AM

FDOT Long Range Estimating System - Production
R3: Project Details by Sequence Report

Project: 417540-2-52-01**Letting Date:** 01/2099**Description:** SR 29 FROM OIL WELL ROAD TO SUNNILAND NURSERY ROAD**District:** 01 **County:** 03 COLLIER **Market Area:** 10 **Units:** English**Contract Class:** 1 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 4.762 MI**Project Manager:** JMK-RML-MWS**Version 6 Project Grand Total** **\$25,850,160.21****Description:** PD&E - SEGMENT 1 - 5/23/18

Project Sequences Subtotal **\$20,602,982.37**

102-1	Maintenance of Traffic	10.00 %	\$2,060,298.24
101-1	Mobilization	8.00 %	\$1,813,062.45

Project Sequences Total **\$24,476,343.06**

Project Unknowns	5.00 %	\$1,223,817.15
Design/Build	0.00 %	\$0.00

Non-Bid Components:

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

Project Non-Bid Subtotal **\$150,000.00****Version 6 Project Grand Total** **\$25,850,160.21**

Date: 5/29/2018 8:47:57 AM

FDOT Long Range Estimating System - Production
R3: Project Details by Sequence Report

Project: 417540-3-52-01**Letting Date:** 01/2099**Description:** SR 29 FROM SUNNILAND NURSERY ROAD TO S OF AGRICULTURE WAY**District:** 01 **County:** 03 COLLIER **Market Area:** 10 **Units:** English**Contract Class:** 1 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 2.550 MI**Project Manager:** JMK-WHB-JRR**Version 6 Project Grand Total** **\$16,732,746.95****Description:** PD&E - SEGMENT 2 - 5/23/18**Sequence:** 1 WDR - Widen/Resurface, Divided, Rural **Net** 1.871 MI
Length: 9,879 LF**Description:** NB RESURFACING SR 29 FROM SUNNILAND NURSERY ROAD TO SOUTH OF MILTON'S CANAL**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	20.00 / 20.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	1.871
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %

Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	9.07	AC	\$20,515.11	\$186,072.05
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	7,961.65	CY	\$18.32	\$145,857.43
Earthwork Component Total					\$331,929.48

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	2
Existing Roadway Pavement Width L/R	0.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 0.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	0
Widened Friction Course Spread Rate	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	19,757.76	SY	\$3.56	\$70,337.63
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	26,343.68	SY	\$2.13	\$56,112.04
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	2,897.80	TN	\$113.49	\$328,871.32
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	1,053.75	TN	\$149.57	\$157,609.39

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	253.00	EA	\$4.85	\$1,227.05
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	14.97	GM	\$1,062.52	\$15,905.92

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	328.93	TN	\$151.40	\$49,800.00
536-1-1	GUARDRAIL- ROADWAY, GEN TL-3	9,868.00	LF	\$17.87	\$176,341.16

Roadway Component Total

\$856,204.51

SHOULDER COMPONENT**User Input Data**

Description	Value
	0.00 / 0.00

Existing Total Outside Shoulder Width L/R	
New Total Outside Shoulder Width L/R	0.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 5.00
Existing Paved Outside Shoulder Width L/R	0.00 / 0.00
New Paved Outside Shoulder Width L/R	0.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	5,850.49	SY	\$12.55	\$73,423.65
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	301.85	TN	\$113.49	\$34,256.96
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	219.53	TN	\$149.57	\$32,835.10
570-1-1	PERFORMANCE TURF	5,488.27	SY	\$1.14	\$6,256.63

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	22,721.42	LF	\$1.11	\$25,220.78
104-11	FLOATING TURBIDITY BARRIER	187.10	LF	\$10.36	\$1,938.36
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	187.10	LF	\$8.02	\$1,500.54
104-15	SOIL TRACKING PREVENTION DEVICE	2.00	EA	\$1,692.58	\$3,385.16
107-1	LITTER REMOVAL	13.60	AC	\$28.98	\$394.13
107-2	MOWING	13.60	AC	\$46.24	\$628.86
Shoulder Component Total					\$179,840.17

MEDIAN COMPONENT

User Input Data

Description	Value
Total Median Width	40.00
Performance Turf Width	24.00
New Total Median Shoulder Width L/R	0.00 / 8.00
New Paved Median Shoulder Width L/R	0.00 / 4.00
Existing Total Median Shoulder Width L/R	0.00 / 0.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{i}_L / \bar{i}_R / No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	4,752.84	SY	\$12.55	\$59,648.14
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	241.48	TN	\$113.49	\$27,405.57
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	175.62	TN	\$149.57	\$26,267.48
570-1-1	PERFORMANCE TURF	26,343.68	SY	\$1.14	\$30,031.80

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	3,339.00	LF	\$23.74	\$79,267.86
Median Component Total					\$222,620.85

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	33.68	CY	\$1,404.50	\$47,303.56
		1,496.00	LF	\$79.94	\$119,590.24

430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD			
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	152.00 LF	\$86.26	\$13,111.52
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	75.00 EA	\$1,990.35	\$149,276.25
570-1-1	PERFORMANCE TURF	1,317.18 SY	\$1.14	\$1,501.59

Retention Basin 1

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 16

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40

Retention Basin 2

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 17

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40

Retention Basin 3

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 18

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234		1.00	EA	\$1,836.75	\$1,836.75

	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN			
570-1-1	PERFORMANCE TURF	7,260.00 SY	\$1.14	\$8,276.40

Retention Basin 4

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 19

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40

Retention Basin 5

Description	Value
Size	10 AC
Multiplier	1
Depth	4.00
Description	FPC C

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	10.00	AC	\$20,515.11	\$205,151.10
120-1	REGULAR EXCAVATION	64,533.33	CY	\$8.67	\$559,503.97

400-2-2	CONC CLASS II, ENDWALLS	36.00 CY	\$1,404.50	\$50,562.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	2.00 EA	\$3,583.09	\$7,166.18
425-2-71	MANHOLES, J-7, <10'	2.00 EA	\$5,737.64	\$11,475.28
430-175- 142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	104.00 LF	\$111.48	\$11,593.92
430-175- 160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00 LF	\$183.10	\$73,240.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	2,780.00 LF	\$14.45	\$40,171.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	3.00 EA	\$1,836.75	\$5,510.25
570-1-1	PERFORMANCE TURF	48,400.00 SY	\$1.14	\$55,176.00
Drainage Component Total				\$2,386,533.18

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00	AS	\$331.85	\$1,327.40
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	45.00	AS	\$1,051.24	\$47,305.80
700-1-50	SINGLE POST SIGN, RELOCATE	4.00	AS	\$188.32	\$753.28
700-1-60	SINGLE POST SIGN, REMOVE	45.00	AS	\$21.46	\$965.70
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	4.00	AS	\$4,870.56	\$19,482.24
700-2-60	MULTI- POST SIGN, REMOVE	4.00	AS	\$829.30	\$3,317.20
Signing Component Total					\$73,151.62

LIGHTING COMPONENT

Rural Lighting Subcomponent

Description	Value
Multiplier (Number of Poles)	57

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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630-2-11	CONDUIT, F& I, OPEN TRENCH	11,400.00 LF	\$7.88	\$89,832.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	57.00 EA	\$813.38	\$46,362.66
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	34,200.00 LF	\$2.18	\$74,556.00
715-4-14	LIGHT POLE COMPLETE, F&I- STD, 45'	57.00 EA	\$5,051.47	\$287,933.79
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	57.00 EA	\$488.78	\$27,860.46
	Subcomponent Total			\$526,544.91
	Lighting Component Total			\$526,544.91
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	Sequence 1 Total			\$4,576,824.72
<hr/>				

Sequence: 2 NUR - New Construction, Undivided, Rural**Net** 1.871 MI**Length:** 9,879 LF**Description:** SB NEW CONSTRUCTION FROM SUNNILAND NURSERY ROAD TO SOUTH OF MILTON'S CANAL.**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	1.871
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	22.68	AC	\$20,515.11	\$465,282.69
120-6	EMBANKMENT	63,843.18	CY	\$8.35	\$533,090.55
Earthwork Component Total					\$998,373.24

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	24.00 / 0.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	46,101.44	SY	\$3.56	\$164,121.13
285-709	OPTIONAL BASE,BASE GROUP 09	26,705.91	SY	\$13.38	\$357,325.08
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	3,622.26	TN	\$113.49	\$411,090.29
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	2,173.35	TN	\$136.70	\$297,096.94

Turnouts/Crossovers Subcomponent

Description	Value
Asphalt Adjustment	10.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	4,610.14	SY	\$3.56	\$16,412.10
285-709	OPTIONAL BASE,BASE GROUP 09	2,670.59	SY	\$13.38	\$35,732.49
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	362.23	TN	\$113.49	\$41,109.48
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	217.34	TN	\$136.70	\$29,710.38

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	253.00	EA	\$4.85	\$1,227.05

710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	7.48 GM	\$1,062.52	\$7,947.65
710-11-231	PAINTED PAVT MARK,STD,YELLOW,SKIP,6"	3.74 GM	\$422.18	\$1,578.95
Roadway Component Total				\$1,363,351.55

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	10.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 4.00
Paved Outside Shoulder Width L/R	5.00 / 4.00
Structural Spread Rate	110
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{r}_i / No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	10,603.33	SY	\$12.55	\$133,071.79
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	543.34	TN	\$113.49	\$61,663.66
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	815.01	TN	\$136.70	\$111,411.87
570-1-1	PERFORMANCE TURF	9,878.88	SY	\$1.14	\$11,261.92

Erosion Control

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	25,685.09	LF	\$1.11	\$28,510.45
104-11	FLOATING TURBIDITY BARRIER	467.75	LF	\$10.36	\$4,845.89
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	467.75	LF	\$8.02	\$3,751.36
104-15	SOIL TRACKING PREVENTION DEVICE	2.00	EA	\$1,692.58	\$3,385.16
107-1	LITTER REMOVAL	22.68	AC	\$28.98	\$657.27
107-2	MOWING	22.68	AC	\$46.24	\$1,048.72

Shoulder Component Total \$359,608.09

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	33.68	CY	\$1,404.50	\$47,303.56
430-174-124	PIPE CULV, OPT MATL, ROUND, 24" SD	1,496.00	LF	\$79.94	\$119,590.24
430-175-136	PIPE CULV, OPT MATL, ROUND, 36" S/CD	320.00	LF	\$86.26	\$27,603.20
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	75.00	EA	\$1,990.35	\$149,276.25
570-1-1	PERFORMANCE TURF	1,317.18	SY	\$1.14	\$1,501.59
Drainage Component Total					\$345,274.84

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00	AS	\$331.85	\$1,327.40
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	38.00	AS	\$1,051.24	\$39,947.12
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	4.00	AS	\$4,870.56	\$19,482.24
Signing Component Total					\$60,756.76

Sequence 2 Total \$3,127,364.48

Sequence: 3 WDR - Widen/Resurface, Divided, Rural**Net** 1.246 MI**Length:** 6,579 LF**Description:** NB RESURFACING SR 29 FROM SOUTH OF MILTON'S CANAL TO
SOUTH OF AGRICULTURE WAY

EARTHWORK COMPONENT**User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	20.00 / 20.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	1.246
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	6.04	AC	\$20,515.11	\$123,911.26
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	3,827.93	CY	\$18.32	\$70,127.68
Earthwork Component Total					\$194,038.94

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	2
Existing Roadway Pavement Width L/R	0.00 / 24.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 0.00
Widened Inside Pavement Width L/R	0.00 / 4.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	10,233.81	SY	\$3.56	\$36,432.36
285-709	OPTIONAL BASE,BASE GROUP 09	3,165.17	SY	\$13.38	\$42,349.97
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	17,543.68	SY	\$2.13	\$37,368.04
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,929.80	TN	\$113.49	\$219,013.00
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	482.45	TN	\$113.49	\$54,753.25
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	701.75	TN	\$149.57	\$104,960.75
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	116.96	TN	\$149.57	\$17,493.71

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	168.00	EA	\$4.85	\$814.80
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	9.97	GM	\$1,062.52	\$10,593.32

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	219.30	TN	\$151.40	\$33,202.02
536-1-1	GUARDRAIL- ROADWAY, GEN TL-3	6,579.00	LF	\$17.87	\$117,566.73
Roadway Component Total					\$674,547.95

SHOULDER COMPONENT**User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	0.00 / 0.00
New Total Outside Shoulder Width L/R	0.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 3.00
Existing Paved Outside Shoulder Width L/R	0.00 / 0.00
New Paved Outside Shoulder Width L/R	0.00 / 7.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	5,358.13	SY	\$12.55	\$67,244.53
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	281.43	TN	\$113.49	\$31,939.49
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	204.68	TN	\$149.57	\$30,613.99
570-1-1	PERFORMANCE TURF	2,192.96	SY	\$1.14	\$2,499.97

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	15,131.42	LF	\$1.11	\$16,795.88
104-11	FLOATING TURBIDITY BARRIER	124.60	LF	\$10.36	\$1,290.86
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	124.60	LF	\$8.02	\$999.29
104-15	SOIL TRACKING PREVENTION DEVICE	2.00	EA	\$1,692.58	\$3,385.16
107-1	LITTER REMOVAL	9.06	AC	\$28.98	\$262.56
107-2	MOWING	9.06	AC	\$46.24	\$418.93

Shoulder Component Total

\$155,450.66

MEDIAN COMPONENT**User Input Data**

Description	Value
Total Median Width	30.00
Performance Turf Width	17.50
New Total Median Shoulder Width L/R	0.00 / 0.00
New Paved Median Shoulder Width L/R	0.00 / 0.00
Existing Total Median Shoulder Width L/R	0.00 / 0.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	0
Friction Course Spread Rate	0

Total Width (T) / 8" Overlap (O)	T
Rumble Strips $\frac{1}{2}$ No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
570-1-1	PERFORMANCE TURF	12,792.27	SY	\$1.14	\$14,583.19

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	13,157.00	LF	\$23.74	\$312,347.18

Median Component Total					\$326,930.37
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DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	22.43	CY	\$1,404.50	\$31,502.94
430-174-124	PIPE CULV, OPT MATL, ROUND, 24"SD	1,000.00	LF	\$79.94	\$79,940.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	104.00	LF	\$86.26	\$8,971.04
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	50.00	EA	\$1,990.35	\$99,517.50
570-1-1	PERFORMANCE TURF	877.18	SY	\$1.14	\$999.99

Box Culvert 1

Description	Value
Size	Dbl. 10 x 5
Length	52.00
Multiplier	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-4-1	CONC CLASS IV, CULVERTS	120.52	CY	\$1,550.79	\$186,901.21
415-1-1	REINF STEEL- ROADWAY	18,750.00	LB	\$0.98	\$18,375.00

Retention Basin 1

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 20

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40

Retention Basin 2

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 21

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541		1.00	EA	\$3,583.09	\$3,583.09

	INLETS, DT BOT, TYPE D, <10'			
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00 LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00 SY	\$1.14	\$8,276.40

Retention Basin 3

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 22

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40

Retention Basin 4

Description	Value
Size	1.5 AC

Multiplier	1
Depth	6.00
Description	Pond 23

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40

Retention Basin 5

Description	Value
Size	2.5 AC
Multiplier	1
Depth	4.00
Description	FPC D

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50	AC	\$20,515.11	\$51,287.78
120-1	REGULAR EXCAVATION	16,133.33	CY	\$8.67	\$139,875.97
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00	EA	\$3,539.11	\$3,539.11
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88

430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00 LF	\$14.45	\$19,290.75
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	12,100.00 SY	\$1.14	\$13,794.00
Drainage Component Total				\$1,765,913.88

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	3.00 AS	\$331.85	\$995.55
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	30.00 AS	\$1,051.24	\$31,537.20
700-1-50	SINGLE POST SIGN, RELOCATE	3.00 AS	\$188.32	\$564.96
700-1-60	SINGLE POST SIGN, REMOVE	30.00 AS	\$21.46	\$643.80
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	3.00 AS	\$4,870.56	\$14,611.68
700-2-60	MULTI- POST SIGN, REMOVE	3.00 AS	\$829.30	\$2,487.90
Signing Component Total				\$50,841.09

LIGHTING COMPONENT

Rural Lighting Subcomponent

Description	Value			
Multiplier (Number of Poles)	27			
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	5,400.00 LF	\$7.88	\$42,552.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	27.00 EA	\$813.38	\$21,961.26
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	16,200.00 LF	\$2.18	\$35,316.00

715-4-14	LIGHT POLE COMPLETE, F&I- STD, 45'	27.00 EA	\$5,051.47	\$136,389.69
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	27.00 EA	\$488.78	\$13,197.06
	Subcomponent Total			\$249,416.01
	Lighting Component Total			\$249,416.01
<hr/>				
	Sequence 3 Total			\$3,417,138.90
<hr/>				

Sequence: 4 NUR - New Construction, Undivided, Rural**Net** 1.246 MI**Length:** 6,579 LF**Description:** SB NEW CONSTRUCTION SR 29 FROM SOUTH OF MILTON'S CANAL
TO SOUTH OF AGRICULTURE WAY

EARTHWORK COMPONENT**User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	1.246
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	15.10	AC	\$20,515.11	\$309,778.16
120-6	EMBANKMENT	44,989.79	CY	\$8.35	\$375,664.75
Earthwork Component Total					\$685,442.91

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	28.00 / 0.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	27,777.49	SY	\$3.56	\$98,887.86
285-709	OPTIONAL BASE,BASE GROUP 09	20,708.85	SY	\$13.38	\$277,084.41
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	2,814.30	TN	\$113.49	\$319,394.91
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	1,688.58	TN	\$136.70	\$230,828.89

Turnouts/Crossovers Subcomponent

Description	Value
Asphalt Adjustment	10.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	2,777.75	SY	\$3.56	\$9,888.79
285-709	OPTIONAL BASE,BASE GROUP 09	2,070.89	SY	\$13.38	\$27,708.51
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	281.43	TN	\$113.49	\$31,939.49
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	168.86	TN	\$136.70	\$23,083.16

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	168.00	EA	\$4.85	\$814.80

710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	4.98 GM	\$1,062.52	\$5,291.35
710-11-231	PAINTED PAVT MARK,STD,YELLOW,SKIP,6"	2.49 GM	\$422.18	\$1,051.23
Roadway Component Total				\$1,025,973.40

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	10.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	3.00 / 0.00
Paved Outside Shoulder Width L/R	7.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{r}_i / No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	5,358.13	SY	\$12.55	\$67,244.53
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	281.43	TN	\$113.49	\$31,939.49
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	422.14	TN	\$136.70	\$57,706.54
570-1-1	PERFORMANCE TURF	2,192.96	SY	\$1.14	\$2,499.97

Erosion Control

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	17,105.09	LF	\$1.11	\$18,986.65
104-11	FLOATING TURBIDITY BARRIER	311.50	LF	\$10.36	\$3,227.14
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	311.50	LF	\$8.02	\$2,498.23
104-15	SOIL TRACKING PREVENTION DEVICE	2.00	EA	\$1,692.58	\$3,385.16
107-1	LITTER REMOVAL	15.10	AC	\$28.98	\$437.60
107-2	MOWING	15.10	AC	\$46.24	\$698.22

Shoulder Component Total \$188,623.53

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	22.43	CY	\$1,404.50	\$31,502.94
430-174-124	PIPE CULV, OPT MATL, ROUND, 24" SD	1,000.00	LF	\$79.94	\$79,940.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36" S/CD	216.00	LF	\$86.26	\$18,632.16
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	50.00	EA	\$1,990.35	\$99,517.50
570-1-1	PERFORMANCE TURF	877.18	SY	\$1.14	\$999.99
Drainage Component Total					\$230,592.59

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	3.00	AS	\$331.85	\$995.55
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	25.00	AS	\$1,051.24	\$26,281.00
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	3.00	AS	\$4,870.56	\$14,611.68
Signing Component Total					\$41,888.23

Sequence 4 Total \$2,172,520.66

Date: 5/29/2018 8:47:58 AM

FDOT Long Range Estimating System - Production
R3: Project Details by Sequence Report

Project: 417540-3-52-01**Letting Date:** 01/2099**Description:** SR 29 FROM SUNNILAND NURSERY ROAD TO S OF AGRICULTURE WAY

District: 01 **County:** 03 COLLIER **Market Area:** 10 **Units:** English
Contract Class: 1 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 2.550 MI
Project Manager: JMK-WHB-JRR

Version 6 Project Grand Total **\$16,732,746.95****Description:** PD&E - SEGMENT 2 - 5/23/18

Project Sequences Subtotal **\$13,293,848.76**

102-1	Maintenance of Traffic	10.00 %	\$1,329,384.88
101-1	Mobilization	8.00 %	\$1,169,858.69

Project Sequences Total **\$15,793,092.33**

Project Unknowns	5.00 %	\$789,654.62
Design/Build	0.00 %	\$0.00

Non-Bid Components:

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

Project Non-Bid Subtotal **\$150,000.00****Version 6 Project Grand Total** **\$16,732,746.95**

Date: 5/29/2018 8:54:25 AM

FDOT Long Range Estimating System - Production
R3: Project Details by Sequence Report

Project: 417540-4-52-01**Letting Date:** 01/2099**Description:** SR 29 FROM S OF AGRICULTURE WAY TO CR 846 E**District:** 01 **County:** 03 COLLIER **Market Area:** 10 **Units:** English**Contract Class:** 1 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 2.250 MI**Project Manager:** JMK-AEB-KSJ**Version 6 Project Grand Total****\$15,197,221.08****Description:** PD&E - SEGMENT 3 - 5/23/18**Sequence:** 1 NDS - New, Divided, Suburban (Urban In/Rural Out)**Net** 1.005 MI**Length:** 5,306 LF**Description:** SR 29 FROM SOUTH OF AGRICULTURE WAY TO SEMINOLE
CROSSING TRAIL

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	80.00 / 100.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	1.005
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	21.93	AC	\$20,515.11	\$449,896.36
120-6	EMBANKMENT	104,874.12	CY	\$8.35	\$875,698.90
Earthwork Component Total					\$1,325,595.26

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	28.00 / 28.00
Structural Spread Rate	330
Friction Course Spread Rate	80

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	47,851.94	SY	\$3.56	\$170,352.91
285-709	OPTIONAL BASE,BASE GROUP 09	33,795.87	SY	\$13.38	\$452,188.74
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	5,447.90	TN	\$113.49	\$618,282.17
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	1,320.70	TN	\$149.57	\$197,537.10

Turnouts/Crossovers Subcomponent

Description	Value
Asphalt Adjustment	10.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	4,785.19	SY	\$3.56	\$17,035.28
285-709	OPTIONAL BASE,BASE GROUP 09	3,379.59	SY	\$13.38	\$45,218.91
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	544.79	TN	\$113.49	\$61,828.22

337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	132.07 TN	\$149.57	\$19,753.71
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Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	407.00	EA	\$4.85	\$1,973.95
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	8.04	GM	\$1,062.52	\$8,542.66
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	4.02	GM	\$363.84	\$1,462.64

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	176.97	TN	\$151.40	\$26,793.26
536-1-1	GUARDRAIL- ROADWAY, GEN TL-3	5,309.00	LF	\$17.87	\$94,871.83

Roadway Component Total					\$1,715,841.38
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SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	3.00 / 3.00
Paved Outside Shoulder Width L/R	7.00 / 7.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{i}_L / No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	8,643.54	SY	\$12.55	\$108,476.43
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	453.99	TN	\$113.49	\$51,523.33
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	330.18	TN	\$149.57	\$49,385.02
570-1-1	PERFORMANCE TURF	3,537.60	SY	\$1.14	\$4,032.86

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" Comment: 10' SIDEWALK ON WEST SIDE OF SR 29 FROM FARM WORKERS WAY NORTH.	4,340.00	SY	\$37.60	\$163,184.00

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	13,796.64	LF	\$1.11	\$15,314.27
104-11	FLOATING TURBIDITY BARRIER	251.25	LF	\$10.36	\$2,602.95
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	251.25	LF	\$8.02	\$2,015.02
104-15	SOIL TRACKING PREVENTION DEVICE	2.00	EA	\$1,692.58	\$3,385.16
104-18		9.00	EA	\$118.93	\$1,070.37

	INLET PROTECTION SYSTEM			
107-1	LITTER REMOVAL	18.02 AC	\$28.98	\$522.22
107-2	MOWING	18.02 AC	\$46.24	\$833.24
Shoulder Component Total				\$402,344.88

MEDIAN COMPONENT

User Input Data

Description	Value
Total Median Width	30.00
Performance Turf Width	17.50

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	10,612.80	LF	\$23.74	\$251,947.87
570-1-1	PERFORMANCE TURF	10,318.00	SY	\$1.14	\$11,762.52
Median Component Total					\$263,710.39

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	18.09	CY	\$1,404.50	\$25,407.40
425-1-551	INLETS, DT BOT, TYPE E, <10'	9.00	EA	\$4,618.62	\$41,567.58
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	424.00	LF	\$88.61	\$37,570.64
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	240.00	LF	\$86.26	\$20,702.40
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	9.00	EA	\$1,990.35	\$17,913.15
570-1-1	PERFORMANCE TURF	385.92	SY	\$1.14	\$439.95

Retention Basin 1

Description	Value
Size	1 AC
Multiplier	1

Depth 6.00
 Description Pond 24

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.00	AC	\$20,515.11	\$20,515.11
120-1	REGULAR EXCAVATION	9,680.00	CY	\$8.67	\$83,925.60
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	840.00	LF	\$14.45	\$12,138.00
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	4,840.00	SY	\$1.14	\$5,517.60

Retention Basin 2

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 25

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
		200.00	LF	\$183.10	\$36,620.00

430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD				
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40
Drainage Component Total					\$604,048.88

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	25.00	AS	\$331.85	\$8,296.25
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	3.00	AS	\$1,051.24	\$3,153.72
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	3.00	AS	\$4,870.56	\$14,611.68
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	3.00	AS	\$6,758.66	\$20,275.98
Signing Component Total					\$46,337.63

SIGNALIZATIONS COMPONENT

Signalization 1

Description	Value
Type	4 Lane Strain Pole
Multiplier	1
Description	SIGNAL AT SR 29 AND FARM WORKERS WAY

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	750.00	LF	\$7.88	\$5,910.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	200.00	LF	\$22.93	\$4,586.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$4,842.56	\$4,842.56

634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00 PI	\$7,045.71	\$7,045.71
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	14.00 EA	\$813.38	\$11,387.32
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00 AS	\$3,808.27	\$3,808.27
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00 LF	\$7.92	\$237.60
641-2-16	PREST CNC POLE,F&I,TYP P-VI	4.00 EA	\$9,719.73	\$38,878.92
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	12.00 AS	\$908.80	\$10,905.60
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$597.25	\$4,778.00
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	12.00 EA	\$194.38	\$2,332.56
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	12.00 AS	\$1,228.53	\$14,742.36
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$204.94	\$1,639.52
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$24,961.04	\$24,961.04
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00 EA	\$156.31	\$625.24
Signalizations Component Total				\$136,680.70

LIGHTING COMPONENT

Conventional Lighting Subcomponent

Description				Value
Spacing				MAX
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	5,306.40 LF	\$7.88	\$41,814.43
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	692.44 LF	\$22.93	\$15,877.65
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	22.00 EA	\$813.38	\$17,894.36
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	17,996.54 LF	\$2.18	\$39,232.46
715-4-13		22.00 EA	\$6,110.26	\$134,425.72

	LIGHT POLE COMPLETE, F&I- STD, 40'			
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	22.00 EA	\$488.78	\$10,753.16
	Subcomponent Total			\$259,997.78
	Lighting Component Total			\$259,997.78

BRIDGES COMPONENT

Bridge PED

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	420.00
Width (LF)	20.00
Type	Pedestrian Overpass
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	7,320.00
Default Cost per SF	\$470.00
Factored Cost per SF	\$470.00
Final Cost per SF	\$470.00
Basic Bridge Cost	\$3,948,000.00
Description	PEDESTRIAN STRUCTURE OVER FARM WORKERS WAY

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	7,320.00	SF	\$17.18	\$125,757.60
	Bridge PED Total				\$4,073,757.60
	Bridges Component Total				\$4,073,757.60
Sequence 1 Total					\$8,828,314.50

Sequence: 2 NDU - New Construction, Divided, Urban

Net 0.474 MI

Length: 2,500 LF

Description: SR 29 FROM SEMINOLE CROSSING TRAIL TO CR 846 E

EARTHWORK COMPONENT**User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.474
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.75	AC	\$20,515.11	\$117,961.88
120-6	EMBANKMENT	57,021.23	CY	\$8.35	\$476,127.27

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	15,671.00	CY	\$8.67	\$135,867.57
	Comment: CANAL RELOCATION NEAR SEMINOLE CROSSING TRAIL				
120-6	EMBANKMENT	4,692.00	CY	\$8.35	\$39,178.20
	Comment: CANAL RELOCATION NEAR SEMINOLE CROSSING TRAIL				

Earthwork Component Total

\$769,134.92

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	29.00 / 29.00
Structural Spread Rate	330
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	18,978.39	SY	\$3.56	\$67,563.07
285-709	OPTIONAL BASE,BASE GROUP 09	16,111.63	SY	\$13.38	\$215,573.61
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	2,658.42	TN	\$113.49	\$301,704.09
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	1,329.21	TN	\$136.70	\$181,703.01

Turnouts/Crossovers Subcomponent

Description	Value
Asphalt Adjustment	10.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	1,897.84	SY	\$3.56	\$6,756.31
285-709	OPTIONAL BASE,BASE GROUP 09	1,611.16	SY	\$13.38	\$21,557.32
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	265.84	TN	\$113.49	\$30,170.18
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	132.92	TN	\$136.70	\$18,170.16

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt 2

Solid Stripe No. of Paint Applications	
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	192.00	EA	\$4.85	\$931.20
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	3.79	GM	\$1,062.52	\$4,026.95
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.89	GM	\$363.84	\$687.66
Roadway Component Total					\$848,843.56

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	13.25 / 13.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	6.00 / 6.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,500.08	LF	\$30.78	\$76,952.46
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,500.08	LF	\$30.78	\$76,952.46
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	3,333.44	SY	\$37.60	\$125,337.34
570-1-1	PERFORMANCE TURF	2,777.87	SY	\$1.14	\$3,166.77

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	5,000.16	LF	\$1.11	\$5,550.18
104-11		118.38	LF	\$10.36	\$1,226.42

	FLOATING TURBIDITY BARRIER			
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	118.38 LF	\$8.02	\$949.41
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$1,692.58	\$1,692.58
104-18	INLET PROTECTION SYSTEM	25.00 EA	\$118.93	\$2,973.25
107-1	LITTER REMOVAL	12.05 AC	\$28.98	\$349.21
107-2	MOWING	12.05 AC	\$46.24	\$557.19
Shoulder Component Total				\$295,707.27

MEDIAN COMPONENT

User Input Data

Description	Value
Total Median Width	22.00
Performance Turf Width	18.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	5,000.16	LF	\$23.74	\$118,703.80
570-1-1	PERFORMANCE TURF	5,000.16	SY	\$1.14	\$5,700.18
Median Component Total					\$124,403.98

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	8.52	CY	\$1,404.50	\$11,966.34
425-1-351	INLETS, CURB, TYPE P-5, <10'	18.00	EA	\$3,074.07	\$55,333.26
425-1-451	INLETS, CURB, TYPE J-5, <10'	5.00	EA	\$4,340.12	\$21,700.60
425-1-521	INLETS, DT BOT, TYPE C, <10'	3.00	EA	\$1,743.65	\$5,230.95
425-2-41	MANHOLES, P-7, <10'	3.00	EA	\$4,248.55	\$12,745.65
		1,256.00	LF	\$88.61	\$111,294.16

430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD			
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	112.00 LF	\$86.26	\$9,661.12
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	2,368.00 LF	\$123.95	\$293,513.60
570-1-1	PERFORMANCE TURF	143.94 SY	\$1.14	\$164.09

Box Culvert 1

Description	Value
Size	Trip. 10 x 6
Length	50.00
Multiplier	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-4-1	CONC CLASS IV, CULVERTS	162.30	CY	\$1,550.79	\$251,693.22
415-1-1	REINF STEEL- ROADWAY	25,238.00	LB	\$0.98	\$24,733.24

Retention Basin 1

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 26

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220		1,025.00	LF	\$14.45	\$14,811.25

	FENCING, TYPE B, 5.1-6.0', STANDARD			
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00 SY	\$1.14	\$8,276.40
Drainage Component Total				\$1,057,086.31

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	12.00 AS	\$331.85	\$3,982.20
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,051.24	\$1,051.24
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	1.00 AS	\$6,758.66	\$6,758.66
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	1.00 AS	\$7,795.35	\$7,795.35
Signing Component Total				\$19,587.45

LIGHTING COMPONENT

Conventional Lighting Subcomponent

Description				Value
Spacing				MAX
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	2,500.08 LF	\$7.88	\$19,700.63
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	326.24 LF	\$22.93	\$7,480.68
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	10.00 EA	\$813.38	\$8,133.80
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	8,478.96 LF	\$2.18	\$18,484.13
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	10.00 EA	\$6,110.26	\$61,102.60
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	10.00 EA	\$488.78	\$4,887.80

Subcomponent Total	\$119,789.65
Lighting Component Total	\$119,789.64
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Sequence 2 Total	\$3,234,553.13
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Date: 5/29/2018 8:54:26 AM

FDOT Long Range Estimating System - Production
R3: Project Details by Sequence Report

Project: 417540-4-52-01**Letting Date:** 01/2099**Description:** SR 29 FROM S OF AGRICULTURE WAY TO CR 846 E**District:** 01 **County:** 03 COLLIER **Market Area:** 10 **Units:** English**Contract Class:** 1 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 2.250 MI**Project Manager:** JMK-AEB-KSJ**Version 6 Project Grand Total** **\$15,197,221.08****Description:** PD&E - SEGMENT 3 - 5/23/18

Project Sequences Subtotal **\$12,062,867.63**

102-1	Maintenance of Traffic	10.00 %	\$1,206,286.76
101-1	Mobilization	8.00 %	\$1,061,532.35

Project Sequences Total **\$14,330,686.74**

Project Unknowns	5.00 %	\$716,534.34
Design/Build	0.00 %	\$0.00

Non-Bid Components:

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

Project Non-Bid Subtotal **\$150,000.00****Version 6 Project Grand Total** **\$15,197,221.08**

Date: 5/29/2018 9:05:00 AM

FDOT Long Range Estimating System - Production
R3: Project Details by Sequence Report

Project: 417540-5-52-01**Letting Date:** 01/2099**Description:** SR 29 FROM CR 846 E TO N OF NEW MARKET ROAD N**District:** 01 **County:** 03 COLLIER **Market Area:** 10 **Units:** English**Contract Class:** 1 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 3.480 MI**Project Manager:** JMK-NEM-AEB**Version 6 Project Grand Total****\$30,916,534.86****Description:** PD&E - SEGMENT 4 -(ALTERNATIVE 1R)- 5/23/18**Sequence:** 1 NDU - New Construction, Divided, Urban**Net** 2.025 MI**Length:** 10,692 LF**Description:** SR 29 FROM CR 846 E TO NORTH OF MADISON AVENUE W.

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	60.00 / 60.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	2.025
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	29.45	AC	\$20,515.11	\$604,169.99
120-6	EMBANKMENT	243,603.36	CY	\$8.35	\$2,034,088.06
Earthwork Component Total					\$2,638,258.05

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	29.00 / 29.00
Structural Spread Rate	330
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	81,164.16	SY	\$3.56	\$288,944.41
285-709	OPTIONAL BASE,BASE GROUP 09	68,904.00	SY	\$13.38	\$921,935.52
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	11,369.16	TN	\$113.49	\$1,290,285.97
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	5,684.58	TN	\$136.70	\$777,082.09

Turnouts/Crossovers Subcomponent

Description	Value
Asphalt Adjustment	10.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	8,116.42	SY	\$3.56	\$28,894.46
285-709	OPTIONAL BASE,BASE GROUP 09	6,890.40	SY	\$13.38	\$92,193.55
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,136.92	TN	\$113.49	\$129,029.05

337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	568.46 TN	\$136.70	\$77,708.48
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Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	820.00	EA	\$4.85	\$3,977.00
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	16.20	GM	\$1,062.52	\$17,212.82
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	8.10	GM	\$363.84	\$2,947.10
Roadway Component Total					\$3,630,210.45

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	13.25 / 13.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	6.00 / 6.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	10,692.00	LF	\$30.78	\$329,099.76
520-1-10	CONCRETE CURB & GUTTER, TYPE F	10,692.00	LF	\$30.78	\$329,099.76
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	14,256.00	SY	\$37.60	\$536,025.60
570-1-1	PERFORMANCE TURF	11,880.00	SY	\$1.14	\$13,543.20

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	21,384.00	LF	\$1.11	\$23,736.24
104-11	FLOATING TURBIDITY BARRIER	506.25	LF	\$10.36	\$5,244.75
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	506.25	LF	\$8.02	\$4,060.12
104-15	SOIL TRACKING PREVENTION DEVICE	3.00	EA	\$1,692.58	\$5,077.74
104-18	INLET PROTECTION SYSTEM	104.00	EA	\$118.93	\$12,368.72
107-1	LITTER REMOVAL	51.54	AC	\$28.98	\$1,493.63
107-2	MOWING	51.54	AC	\$46.24	\$2,383.21
Shoulder Component Total					\$1,262,132.74

MEDIAN COMPONENT**User Input Data**

Description	Value
Total Median Width	22.00
Performance Turf Width	17.50

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	21,384.00	LF	\$23.74	\$507,656.16
570-1-1	PERFORMANCE TURF	20,790.00	SY	\$1.14	\$23,700.60
Median Component Total					\$531,356.76

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	36.45	CY	\$1,404.50	\$51,194.02
425-1-351	INLETS, CURB, TYPE P-5, <10'	73.00	EA	\$3,074.07	\$224,407.11

425-1-451	INLETS, CURB, TYPE J-5, <10'	21.00 EA	\$4,340.12	\$91,142.52
425-1-521	INLETS, DT BOT, TYPE C, <10'	11.00 EA	\$1,743.65	\$19,180.15
425-2-41	MANHOLES, P-7, <10'	11.00 EA	\$4,248.55	\$46,734.05
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	5,360.00 LF	\$88.61	\$474,949.60
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	480.00 LF	\$86.26	\$41,404.80
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	10,128.00 LF	\$123.95	\$1,255,365.60
570-1-1	PERFORMANCE TURF	615.60 SY	\$1.14	\$701.78

Box Culvert 1

Description	Value
Size	Dbl. 10 x 5
Length	30.00
Multiplier	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-4-1	CONC CLASS IV, CULVERTS	79.60	CY	\$1,550.79	\$123,442.88
415-1-1	REINF STEEL- ROADWAY	11,655.00	LB	\$0.98	\$11,421.90

Retention Basin 1

Description	Value
Size	2 AC
Multiplier	1
Depth	6.00
Description	Pond 27

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.00	AC	\$20,515.11	\$41,030.22
120-1	REGULAR EXCAVATION	19,360.00	CY	\$8.67	\$167,851.20
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64

430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,180.00 LF	\$14.45	\$17,051.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	9,680.00 SY	\$1.14	\$11,035.20

Retention Basin 2

Description	Value
Size	2.5 AC
Multiplier	1
Depth	6.00
Description	Pond 1R-E

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50	AC	\$20,515.11	\$51,287.78
120-1	REGULAR EXCAVATION	24,200.00	CY	\$8.67	\$209,814.00
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00	EA	\$3,539.11	\$3,539.11
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00	LF	\$14.45	\$19,290.75
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	12,100.00	SY	\$1.14	\$13,794.00

Retention Basin 3

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 1R-D

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40
Drainage Component Total					\$3,288,707.39

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	49.00	AS	\$331.85	\$16,260.65
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	5.00	AS	\$1,051.24	\$5,256.20
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	5.00	AS	\$6,758.66	\$33,793.30
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	5.00	AS	\$7,795.35	\$38,976.75
Signing Component Total					\$94,286.90

SIGNALIZATIONS COMPONENT**Signalization 1**

Description	Value
Type	4 Lane Strain Pole

Multiplier 1
 Description NEW SIGNAL AT SR 29
 AND CR 486 E

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	750.00	LF	\$7.88	\$5,910.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	200.00	LF	\$22.93	\$4,586.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$4,842.56	\$4,842.56
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00	PI	\$7,045.71	\$7,045.71
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	14.00	EA	\$813.38	\$11,387.32
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	\$3,808.27	\$3,808.27
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00	LF	\$7.92	\$237.60
641-2-16	PREST CNC POLE,F&I,TYP P-VI	4.00	EA	\$9,719.73	\$38,878.92
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	12.00	AS	\$908.80	\$10,905.60
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00	AS	\$597.25	\$4,778.00
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	12.00	EA	\$194.38	\$2,332.56
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	12.00	AS	\$1,228.53	\$14,742.36
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	\$204.94	\$1,639.52
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00	AS	\$24,961.04	\$24,961.04
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00	EA	\$156.31	\$625.24

Signalization 2

Description	Value
Type	4 Lane Strain Pole
Multiplier	1
Description	

NEW SIGNAL AT SR 29
AND NEW MARKET
ROAD

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	750.00	LF	\$7.88	\$5,910.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	200.00	LF	\$22.93	\$4,586.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$4,842.56	\$4,842.56
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00	PI	\$7,045.71	\$7,045.71
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	14.00	EA	\$813.38	\$11,387.32
639-1-112	ELECTRICAL POWER SRV, F&I, OH, M, PUR BY CON	1.00	AS	\$3,808.27	\$3,808.27
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00	LF	\$7.92	\$237.60
641-2-16	PREST CNC POLE, F&I, TYP P-VI	4.00	EA	\$9,719.73	\$38,878.92
650-1-14	VEH TRAF SIGNAL, F&I ALUMINUM, 3 S 1 W	12.00	AS	\$908.80	\$10,905.60
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00	AS	\$597.25	\$4,778.00
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	12.00	EA	\$194.38	\$2,332.56
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	12.00	AS	\$1,228.53	\$14,742.36
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	\$204.94	\$1,639.52
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00	AS	\$24,961.04	\$24,961.04
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00	EA	\$156.31	\$625.24

Signalization 3

Description	Value
Type	4 Lane Strain Pole
Multiplier	1
Description	

NEW SIGNAL AT SR 29
AND CHARLOTTE
STREET

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	750.00	LF	\$7.88	\$5,910.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	200.00	LF	\$22.93	\$4,586.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$4,842.56	\$4,842.56
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00	PI	\$7,045.71	\$7,045.71
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	14.00	EA	\$813.38	\$11,387.32
639-1-112	ELECTRICAL POWER SRV, F&I, OH, M, PUR BY CON	1.00	AS	\$3,808.27	\$3,808.27
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00	LF	\$7.92	\$237.60
641-2-16	PREST CNC POLE, F&I, TYP P-VI	4.00	EA	\$9,719.73	\$38,878.92
650-1-14	VEH TRAF SIGNAL, F&I ALUMINUM, 3 S 1 W	12.00	AS	\$908.80	\$10,905.60
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00	AS	\$597.25	\$4,778.00
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	12.00	EA	\$194.38	\$2,332.56
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	12.00	AS	\$1,228.53	\$14,742.36
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	\$204.94	\$1,639.52
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00	AS	\$24,961.04	\$24,961.04
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00	EA	\$156.31	\$625.24
Signalizations Component Total					\$410,042.10

LIGHTING COMPONENT**Conventional Lighting Subcomponent**

Description	Value
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Spacing				MAX	
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	10,692.00	LF	\$7.88	\$84,252.96
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	1,395.22	LF	\$22.93	\$31,992.39
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	43.00	EA	\$813.38	\$34,975.34
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	36,261.67	LF	\$2.18	\$79,050.44
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	43.00	EA	\$6,110.26	\$262,741.18
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	43.00	EA	\$488.78	\$21,017.54
	Subcomponent Total				\$514,029.86
	Lighting Component Total				\$514,029.85
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Sequence 1 Total					\$12,369,024.24
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Sequence: 2 NDS - New, Divided, Suburban (Urban In/Rural Out)**Net** 1.925 MI**Length:** 10,164 LF**Description:** SR 29 FROM NORTH OF MADISON AVENUE TO NORTH OF NEW MARKET ROAD. INCLUDES BYPASS CONNECTION.**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	125.00 / 75.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	1.925
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	46.67	AC	\$20,515.11	\$957,440.18
120-6	EMBANKMENT	197,753.80	CY	\$8.35	\$1,651,244.23

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	1,976.00	CY	\$8.67	\$17,131.92
	Comment: CANAL RELOCATION NORTH OF MADISON AVE W.				

Earthwork Component Total

\$2,625,816.33

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	28.00 / 28.00
Structural Spread Rate	330
Friction Course Spread Rate	80

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	87,139.36	SY	\$3.56	\$310,216.12
285-709	OPTIONAL BASE,BASE GROUP 09	64,733.39	SY	\$13.38	\$866,132.76
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	10,435.04	TN	\$113.49	\$1,184,272.69
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	2,529.71	TN	\$149.57	\$378,368.72

Turnouts/Crossovers Subcomponent

Description	Value
Asphalt Adjustment	10.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	8,713.94	SY	\$3.56	\$31,021.63
285-709	OPTIONAL BASE,BASE GROUP 09	6,473.34	SY	\$13.38	\$86,613.29
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,043.50	TN	\$113.49	\$118,426.82
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	252.97	TN	\$149.57	\$37,836.72

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4

Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	780.00	EA	\$4.85	\$3,783.00
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	15.40	GM	\$1,062.52	\$16,362.81
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	7.70	GM	\$363.84	\$2,801.57
Roadway Component Total					\$3,035,836.13

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	3.00 / 3.00
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{i}_L / 1/2 No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	12,038.69	SY	\$12.55	\$151,085.56
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	621.13	TN	\$113.49	\$70,492.04
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	451.73	TN	\$149.57	\$67,565.26
570-1-1	PERFORMANCE TURF	6,776.00	SY	\$1.14	\$7,724.64

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-701	OPTIONAL BASE,BASE GROUP 01	5,281.00	SY	\$6.19	\$32,689.39

Comment: 10' SHARED USE PATH.
ASSUME BASE EXTENDS 2' ON EITHER
SIDE OF PATH.

334-1-11	SUPERPAVE ASPHALTIC CONC, TRAFFIC A	207.00 TN	\$100.68	\$20,840.76
	Comment: ASSUME 3772 SY SUPERPAVE, AT 1" THICKNESS			

Erosion Control

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	26,426.40	LF	\$1.11	\$29,333.30
104-11	FLOATING TURBIDITY BARRIER	481.25	LF	\$10.36	\$4,985.75
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	481.25	LF	\$8.02	\$3,859.62
104-15	SOIL TRACKING PREVENTION DEVICE	2.00	EA	\$1,692.58	\$3,385.16
104-18	INLET PROTECTION SYSTEM	16.00	EA	\$118.93	\$1,902.88
107-1	LITTER REMOVAL	34.52	AC	\$28.98	\$1,000.39
107-2	MOWING	34.52	AC	\$46.24	\$1,596.20
Shoulder Component Total					\$396,460.96

MEDIAN COMPONENT

User Input Data

Description	Value
Total Median Width	30.00
Performance Turf Width	17.50

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	20,328.00	LF	\$23.74	\$482,586.72
570-1-1	PERFORMANCE TURF	19,763.33	SY	\$1.14	\$22,530.20
Median Component Total					\$505,116.92

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	34.65	CY	\$1,404.50	\$48,665.92
425-1-551	INLETS, DT BOT, TYPE E, <10'	16.00	EA	\$4,618.62	\$73,897.92
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	800.00	LF	\$88.61	\$70,888.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	456.00	LF	\$86.26	\$39,334.56
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	16.00	EA	\$1,990.35	\$31,845.60
570-1-1	PERFORMANCE TURF	739.20	SY	\$1.14	\$842.69

Retention Basin 1

Description	Value
Size	1 AC
Multiplier	1
Depth	6.00
Description	Pond 1R-C

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.00	AC	\$20,515.11	\$20,515.11
120-1	REGULAR EXCAVATION	9,680.00	CY	\$8.67	\$83,925.60
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	840.00	LF	\$14.45	\$12,138.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	4,840.00	SY	\$1.14	\$5,517.60

Retention Basin 2

Description	Value
Size	2.5 AC
Multiplier	1
Depth	6.00
Description	Pond 1R-B

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50	AC	\$20,515.11	\$51,287.78
120-1	REGULAR EXCAVATION	24,200.00	CY	\$8.67	\$209,814.00
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00	EA	\$3,539.11	\$3,539.11
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00	LF	\$14.45	\$19,290.75
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	12,100.00	SY	\$1.14	\$13,794.00

Retention Basin 3

Description	Value
Size	2.5 AC
Multiplier	1
Depth	6.00
Description	Pond 1R-A

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50	AC	\$20,515.11	\$51,287.78
120-1	REGULAR EXCAVATION	24,200.00	CY	\$8.67	\$209,814.00
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00	EA	\$3,539.11	\$3,539.11
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64

430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00 LF	\$14.45	\$19,290.75
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	12,100.00 SY	\$1.14	\$13,794.00

Retention Basin 4

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 31

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40

Retention Basin 5

Description	Value
Size	2 AC
Multiplier	1
Depth	6.00
Description	Pond 32

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.00	AC	\$20,515.11	\$41,030.22
120-1	REGULAR EXCAVATION	19,360.00	CY	\$8.67	\$167,851.20
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,180.00	LF	\$14.45	\$17,051.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	9,680.00	SY	\$1.14	\$11,035.20

Retention Basin 6

Description	Value
Size	1 AC
Multiplier	1
Depth	6.00
Description	POND 1R-B (ADDITIONAL ACREAGE)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.00	AC	\$20,515.11	\$20,515.11
120-1	REGULAR EXCAVATION	9,680.00	CY	\$8.67	\$83,925.60
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
		200.00	LF	\$183.10	\$36,620.00

430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD				
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	840.00	LF	\$14.45	\$12,138.00
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	4,840.00	SY	\$1.14	\$5,517.60
Drainage Component Total					\$1,990,476.92

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	47.00	AS	\$331.85	\$15,596.95
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	4.00	AS	\$1,051.24	\$4,204.96
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	4.00	AS	\$4,870.56	\$19,482.24
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	4.00	AS	\$6,758.66	\$27,034.64
Signing Component Total					\$66,318.79

SIGNALIZATIONS COMPONENT

Signalization 1

Description	Value
Type	4 Lane Strain Pole
Multiplier	1
Description	NEW SIGNAL AT SR 29 BYPASS CONNECTION

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	750.00	LF	\$7.88	\$5,910.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	200.00	LF	\$22.93	\$4,586.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$4,842.56	\$4,842.56

634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00 PI	\$7,045.71	\$7,045.71
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	14.00 EA	\$813.38	\$11,387.32
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00 AS	\$3,808.27	\$3,808.27
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00 LF	\$7.92	\$237.60
641-2-16	PREST CNC POLE,F&I,TYP P-VI	4.00 EA	\$9,719.73	\$38,878.92
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	12.00 AS	\$908.80	\$10,905.60
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$597.25	\$4,778.00
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	12.00 EA	\$194.38	\$2,332.56
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	12.00 AS	\$1,228.53	\$14,742.36
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$204.94	\$1,639.52
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$24,961.04	\$24,961.04
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00 EA	\$156.31	\$625.24
Signalizations Component Total				\$136,680.70

LIGHTING COMPONENT

Conventional Lighting Subcomponent

Description				Value	
Spacing				MIN	
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	10,164.00	LF	\$7.88	\$80,092.32
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	2,017.40	LF	\$22.93	\$46,258.98
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	68.00	EA	\$813.38	\$55,309.84
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	37,121.70	LF	\$2.18	\$80,925.31
715-4-13		68.00	EA	\$6,110.26	\$415,497.68

	LIGHT POLE COMPLETE, F&I- STD, 40'			
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	68.00 EA	\$488.78	\$33,237.04
	Subcomponent Total			\$711,321.17
	Lighting Component Total			\$711,321.17

BRIDGES COMPONENT

Bridge BRDGE1

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	150.00
Width (LF)	25.00
Type	Low Level
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$114.00
Factored Cost per SF	\$114.00
Final Cost per SF	\$121.13
Basic Bridge Cost	\$427,500.00
Description	NEW BRIDGE OVER CANAL AT MADISON AVE W.

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	55.56	CY	\$321.86	\$17,882.54
415-1-9	REINF STEEL- APPROACH SLABS	9,723.00	LB	\$0.91	\$8,847.93
	Bridge BRDGE1 Total				\$454,230.47

Bridge BRDGE2

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	190.00
Width (LF)	40.00

Type	Low Level
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$114.00
Factored Cost per SF	\$114.00
Final Cost per SF	\$119.63
Basic Bridge Cost	\$866,400.00
Description	NEW BRIDGE AT CANAL NORTH OF MADISON AVE W.

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	88.89	CY	\$321.86	\$28,610.14
415-1-9	REINF STEEL- APPROACH SLABS	15,555.75	LB	\$0.91	\$14,155.73
Bridge BRDGE2 Total					\$909,165.87

Bridge BRDGE3

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	100.00
Width (LF)	30.00
Type	Low Level
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$114.00
Factored Cost per SF	\$114.00
Final Cost per SF	\$124.69
Basic Bridge Cost	\$342,000.00
Description	NEW BRIDGE OVER CANAL AT INDIAN RIVER STREET

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	66.67	CY	\$321.86	\$21,458.41

415-1-9	REINF STEEL- APPROACH SLABS	11,667.25 LB	\$0.91	\$10,617.20
	Bridge BRDGE3 Total			\$374,075.61
	Bridges Component Total			\$1,737,471.95
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	Sequence 2 Total			\$11,205,499.87
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Sequence: 3 NUR - New Construction, Undivided, Rural**Net** 0.694 MI**Length:** 3,666 LF**Description:** ONE LANE RAMPS AT SR 29 BYPASS CONNECTION**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	20.00 / 20.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.694
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	3.36	AC	\$20,515.11	\$68,930.77
120-6	EMBANKMENT	19,462.97	CY	\$8.35	\$162,515.80
Earthwork Component Total					\$231,446.57

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	1
Roadway Pavement Width L/R	15.00 / 0.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	12,627.00	SY	\$3.56	\$44,952.12
285-709	OPTIONAL BASE,BASE GROUP 09	6,244.26	SY	\$13.38	\$83,548.20
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	840.10	TN	\$113.49	\$95,342.95
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	504.06	TN	\$136.70	\$68,905.00

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	2.78	GM	\$1,062.52	\$2,953.81

Roadway Component Total

\$295,702.08

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	3.00 / 3.00
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{i}_i / No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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285-704	OPTIONAL BASE,BASE GROUP 04	4,342.06 SY	\$12.55	\$54,492.85
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	224.03 TN	\$113.49	\$25,425.16
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	336.04 TN	\$136.70	\$45,936.67
570-1-1	PERFORMANCE TURF	2,443.94 SY	\$1.14	\$2,786.09

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	9,531.35	LF	\$1.11	\$10,579.80
104-11	FLOATING TURBIDITY BARRIER	173.58	LF	\$10.36	\$1,798.29
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	173.58	LF	\$8.02	\$1,392.11
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$1,692.58	\$1,692.58
107-1	LITTER REMOVAL	8.41	AC	\$28.98	\$243.72
107-2	MOWING	8.41	AC	\$46.24	\$388.88
Shoulder Component Total					\$144,736.15

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	12.50	CY	\$1,404.50	\$17,556.25
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	560.00	LF	\$83.97	\$47,023.20
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	120.00	LF	\$86.26	\$10,351.20
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	28.00	EA	\$1,990.35	\$55,729.80
570-1-1	PERFORMANCE TURF	488.79	SY	\$1.14	\$557.22
Drainage Component Total					\$131,217.67

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	2.00	AS	\$331.85	\$663.70
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	14.00	AS	\$1,051.24	\$14,717.36
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	2.00	AS	\$4,870.56	\$9,741.12
Signing Component Total					\$25,122.18
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Sequence 3 Total					\$828,224.65
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Sequence: 4 NUR - New Construction, Undivided, Rural**Net** 0.158 MI
Length: 833 LF**Description:** 2-LANE RAMP AT SR 29 BYPASS CONNECTION**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	20.00 / 20.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.158
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.77	AC	\$20,515.11	\$15,796.63
120-6	EMBANKMENT	7,656.78	CY	\$8.35	\$63,934.11
Earthwork Component Total					\$79,730.74

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	2,962.43	SY	\$3.56	\$10,546.25
285-709	OPTIONAL BASE,BASE GROUP 09	2,282.92	SY	\$13.38	\$30,545.47
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	305.50	TN	\$113.49	\$34,671.20
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	183.30	TN	\$136.70	\$25,057.11

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	21.00	EA	\$4.85	\$101.85
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.63	GM	\$1,062.52	\$669.39
710-11-231	PAINTED PAVT MARK,STD,YELLOW,SKIP,6"	0.32	GM	\$422.18	\$135.10

Roadway Component Total

\$101,726.37

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	0.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 3.00
Paved Outside Shoulder Width L/R	0.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{i}_L / 1/2 No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	493.43	SY	\$12.55	\$6,192.55
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	25.46	TN	\$113.49	\$2,889.46
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	38.19	TN	\$136.70	\$5,220.57
570-1-1	PERFORMANCE TURF	277.73	SY	\$1.14	\$316.61

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	833.00	LF	\$23.74	\$19,775.42

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	2,166.28	LF	\$1.11	\$2,404.57
104-11	FLOATING TURBIDITY BARRIER	39.45	LF	\$10.36	\$408.70
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	39.45	LF	\$8.02	\$316.39
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$1,692.58	\$1,692.58
107-1	LITTER REMOVAL	1.91	AC	\$28.98	\$55.35
107-2	MOWING	1.91	AC	\$46.24	\$88.32

Shoulder Component Total

\$39,360.52

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	2.84	CY	\$1,404.50	\$3,988.78
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	128.00	LF	\$83.97	\$10,748.16
430-175-136		32.00	LF	\$86.26	\$2,760.32

	PIPE CULV, OPT MATL, ROUND, 36"S/CD			
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	7.00 EA	\$1,990.35	\$13,932.45
570-1-1	PERFORMANCE TURF	111.09 SY	\$1.14	\$126.64
Drainage Component Total				\$31,556.35

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$331.85	\$331.85
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	4.00	AS	\$1,051.24	\$4,204.96
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$4,870.56	\$4,870.56
Signing Component Total					\$9,407.37

Sequence 4 Total	\$261,781.35
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FDOT Long Range Estimating System - Production
R3: Project Details by Sequence Report

Project: 417540-5-52-01**Letting Date:** 01/2099**Description:** SR 29 FROM CR 846 E TO N OF NEW MARKET ROAD N**District:** 01 **County:** 03 COLLIER **Market Area:** 10 **Units:** English**Contract Class:** 1 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 3.480 MI**Project Manager:** JMK-NEM-AEB**Version 6 Project Grand Total** **\$30,916,534.86****Description:** PD&E - SEGMENT 4 -(ALTERNATIVE 1R)- 5/23/18

Project Sequences Subtotal **\$24,664,530.11**

102-1	Maintenance of Traffic	10.00 %	\$2,466,453.01
101-1	Mobilization	8.00 %	\$2,170,478.65

Project Sequences Total **\$29,301,461.77**

Project Unknowns	5.00 %	\$1,465,073.09
Design/Build	0.00 %	\$0.00

Non-Bid Components:

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

Project Non-Bid Subtotal **\$150,000.00****Version 6 Project Grand Total** **\$30,916,534.86**

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FDOT Long Range Estimating System - Production
R3: Project Details by Sequence Report

Project: 417540-5-52-01**Letting Date:** 01/2099**Description:** SR 29 FROM CR 846 E TO N OF NEW MARKET ROAD N**District:** 01 **County:** 03 COLLIER **Market Area:** 10 **Units:** English**Contract Class:** 1 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 3.480 MI**Project Manager:** JMK-NEM-AEB**Version 7 Project Grand Total****\$36,424,658.33****Description:** PD&E - SEGMENT 4 -(ALTERNATIVE C2)- 5/23/18**Sequence:** 1 NDU - New Construction, Divided, Urban**Net** 1.696 MI**Length:** 8,953 LF**Description:** SR 29 FROM CR 846 E TO GOPHER RIDGE RD.

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	60.00 / 60.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	1.696
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	24.67	AC	\$20,515.11	\$506,107.76
120-6	EMBANKMENT	204,025.33	CY	\$8.35	\$1,703,611.51
Earthwork Component Total					\$2,209,719.27

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	29.00 / 29.00
Structural Spread Rate	330
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	67,961.46	SY	\$3.56	\$241,942.80
285-709	OPTIONAL BASE,BASE GROUP 09	57,695.62	SY	\$13.38	\$771,967.40
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	9,519.78	TN	\$113.49	\$1,080,399.83
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	4,759.89	TN	\$136.70	\$650,676.96

Turnouts/Crossovers Subcomponent

Description	Value
Asphalt Adjustment	10.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	6,796.15	SY	\$3.56	\$24,194.29
285-709	OPTIONAL BASE,BASE GROUP 09	5,769.56	SY	\$13.38	\$77,196.71
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	951.98	TN	\$113.49	\$108,040.21

337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	475.99 TN	\$136.70	\$65,067.83
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Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	687.00	EA	\$4.85	\$3,331.95
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	13.56	GM	\$1,062.52	\$14,407.77
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	6.78	GM	\$363.84	\$2,466.84

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	42.67	TN	\$189.36	\$8,079.99
536-1-1	GUARDRAIL- ROADWAY, GEN TL-3	1,280.00	LF	\$17.87	\$22,873.60

Roadway Component Total					\$3,070,646.18
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SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	13.25 / 13.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	6.00 / 6.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	8,952.77	LF	\$30.78	\$275,566.26
520-1-10	CONCRETE CURB & GUTTER, TYPE F	8,952.77	LF	\$30.78	\$275,566.26
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	11,937.02	SY	\$37.60	\$448,831.95
570-1-1	PERFORMANCE TURF	9,947.52	SY	\$1.14	\$11,340.17

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	17,905.54	LF	\$1.11	\$19,875.15
104-11	FLOATING TURBIDITY BARRIER	423.90	LF	\$10.36	\$4,391.60
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	423.90	LF	\$8.02	\$3,399.68
104-15	SOIL TRACKING PREVENTION DEVICE	2.00	EA	\$1,692.58	\$3,385.16
104-18	INLET PROTECTION SYSTEM	87.00	EA	\$118.93	\$10,346.91
107-1	LITTER REMOVAL	43.15	AC	\$28.98	\$1,250.49
107-2	MOWING	43.15	AC	\$46.24	\$1,995.26
Shoulder Component Total					\$1,055,948.89

MEDIAN COMPONENT**User Input Data**

Description	Value
Total Median Width	22.00
Performance Turf Width	17.50

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	17,905.54	LF	\$23.74	\$425,077.52
570-1-1	PERFORMANCE TURF	17,408.16	SY	\$1.14	\$19,845.30
Median Component Total					\$444,922.82

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	30.52	CY	\$1,404.50	\$42,865.34
425-1-351	INLETS, CURB, TYPE P-5, <10'	62.00	EA	\$3,074.07	\$190,592.34
425-1-451	INLETS, CURB, TYPE J-5, <10'	17.00	EA	\$4,340.12	\$73,782.04
425-1-521	INLETS, DT BOT, TYPE C, <10'	9.00	EA	\$1,743.65	\$15,692.85
425-2-41	MANHOLES, P-7, <10'	9.00	EA	\$4,248.55	\$38,236.95
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	4,488.00	LF	\$88.61	\$397,681.68
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	408.00	LF	\$86.26	\$35,194.08
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	8,480.00	LF	\$123.95	\$1,051,096.00
570-1-1	PERFORMANCE TURF	515.46	SY	\$1.14	\$587.62

Box Culvert 1

Description	Value
Size	Dbl. 10 x 5
Length	30.00
Multiplier	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-4-1	CONC CLASS IV, CULVERTS	79.60	CY	\$1,550.79	\$123,442.88
415-1-1	REINF STEEL- ROADWAY	11,655.00	LB	\$0.98	\$11,421.90

Retention Basin 1

Description	Value
Size	2 AC
Multiplier	1
Depth	6.00
Description	Pond 27

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.00	AC	\$20,515.11	\$41,030.22
120-1	REGULAR EXCAVATION	19,360.00	CY	\$8.67	\$167,851.20
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,180.00	LF	\$14.45	\$17,051.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	9,680.00	SY	\$1.14	\$11,035.20

Retention Basin 2

Description	Value
Size	2.5 AC
Multiplier	1
Depth	6.00
Description	Pond 2-E

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50	AC	\$20,515.11	\$51,287.78
120-1	REGULAR EXCAVATION	24,200.00	CY	\$8.67	\$209,814.00
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-361		1.00	EA	\$3,539.11	\$3,539.11

	INLETS, CURB, TYPE P-6, <10'			
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$5,737.64	\$5,737.64
430-175- 142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$111.48	\$6,242.88
430-175- 160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00 LF	\$14.45	\$19,290.75
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	12,100.00 SY	\$1.14	\$13,794.00

Retention Basin 3

Description	Value
Size	1 AC
Multiplier	1
Depth	6.00
Description	Pond 2-D

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.00	AC	\$20,515.11	\$20,515.11
120-1	REGULAR EXCAVATION	9,680.00	CY	\$8.67	\$83,925.60
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175- 142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175- 160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	840.00	LF	\$14.45	\$12,138.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	4,840.00	SY	\$1.14	\$5,517.60
Drainage Component Total					\$2,871,704.24

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	41.00	AS	\$331.85	\$13,605.85
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	4.00	AS	\$1,051.24	\$4,204.96
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	4.00	AS	\$6,758.66	\$27,034.64
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	4.00	AS	\$7,795.35	\$31,181.40
Signing Component Total					\$76,026.85

SIGNALIZATIONS COMPONENT**Signalization 1**

Description	Value
Type	4 Lane Strain Pole
Multiplier	1
Description	NEW SIGNAL AT SR 29 AND CR 846 E

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	750.00	LF	\$7.88	\$5,910.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	200.00	LF	\$22.93	\$4,586.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$4,842.56	\$4,842.56
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00	PI	\$7,045.71	\$7,045.71
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	14.00	EA	\$813.38	\$11,387.32
639-1-112	ELECTRICAL POWER SRV, F&I, OH, M, PUR BY CON	1.00	AS	\$3,808.27	\$3,808.27
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00	LF	\$7.92	\$237.60
641-2-16	PREST CNC POLE, F&I, TYP P-VI	4.00	EA	\$9,719.73	\$38,878.92
650-1-14	VEH TRAF SIGNAL, F&I ALUMINUM, 3 S 1 W	12.00	AS	\$908.80	\$10,905.60

653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$597.25	\$4,778.00
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	12.00 EA	\$194.38	\$2,332.56
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	12.00 AS	\$1,228.53	\$14,742.36
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$204.94	\$1,639.52
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$24,961.04	\$24,961.04
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00 EA	\$156.31	\$625.24
Signalizations Component Total				\$136,680.70

LIGHTING COMPONENT

Conventional Lighting Subcomponent

Description				Value
Spacing				MIN
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	8,952.77 LF	\$7.88	\$70,547.83
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	1,776.99 LF	\$22.93	\$40,746.38
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	60.00 EA	\$813.38	\$48,802.80
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	32,697.95 LF	\$2.18	\$71,281.53
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	60.00 EA	\$6,110.26	\$366,615.60
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	60.00 EA	\$488.78	\$29,326.80
Subcomponent Total				\$627,320.94
Lighting Component Total				\$627,320.94

BRIDGES COMPONENT

Bridge BRDGE1

Description	Value
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Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	320.00
Width (LF)	100.00
Type	Low Level
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$114.00
Factored Cost per SF	\$114.00
Final Cost per SF	\$117.34
Basic Bridge Cost	\$3,648,000.00
Description	

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	222.22	CY	\$321.86	\$71,523.73
415-1-9	REINF STEEL- APPROACH SLABS	38,888.50	LB	\$0.91	\$35,388.54
Bridge BRDGE1 Total					\$3,754,912.27
Bridges Component Total					\$3,754,912.27
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Sequence 1 Total					\$14,247,882.16
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Sequence: 2 NDS - New, Divided, Suburban (Urban In/Rural Out)**Net** 2.412 MI**Length:** 12,734 LF**Description:** SR 29 FROM GOPHER RIDGE ROAD TO NORTH OF NEW MARKET ROAD. INCLUDES BYPASS CONNECTION INCLUDES BYPASS CONNECTION.**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	60.00 / 60.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	2.412
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	35.08	AC	\$20,515.11	\$719,670.06
120-6	EMBANKMENT	247,782.94	CY	\$8.35	\$2,068,987.55
Earthwork Component Total					\$2,788,657.61

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	28.00 / 28.00
Structural Spread Rate	330
Friction Course Spread Rate	80

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	109,170.91	SY	\$3.56	\$388,648.44
285-709	OPTIONAL BASE,BASE GROUP 09	81,100.00	SY	\$13.38	\$1,085,118.00
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	13,073.34	TN	\$113.49	\$1,483,693.36
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	3,169.30	TN	\$149.57	\$474,032.20

Turnouts/Crossovers Subcomponent

Description	Value
Asphalt Adjustment	10.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	10,917.09	SY	\$3.56	\$38,864.84
285-709	OPTIONAL BASE,BASE GROUP 09	8,110.00	SY	\$13.38	\$108,511.80
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,307.33	TN	\$113.49	\$148,368.88
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	316.93	TN	\$149.57	\$47,403.22

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	977.00 EA	\$4.85	\$4,738.45
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	19.29 GM	\$1,062.52	\$20,496.01
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	9.65 GM	\$363.84	\$3,511.06

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	64.00	TN	\$189.36	\$12,119.04
536-1-1	GUARDRAIL- ROADWAY, GEN TL-3	1,920.00	LF	\$17.87	\$34,310.40
Roadway Component Total					\$3,849,815.70

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	3.00 / 3.00
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{i}_L / No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	15,082.45	SY	\$12.55	\$189,284.75

334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	778.18 TN	\$113.49	\$88,315.65
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	565.95 TN	\$149.57	\$84,649.14
570-1-1	PERFORMANCE TURF	8,489.18 SY	\$1.14	\$9,677.67

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-701	OPTIONAL BASE,BASE GROUP 01 Comment: 10' SHARED USE PATH. ASSUME BASE EXTENDS 2' ON EITHER SIDE OF PATH.	5,281.00	SY	\$6.19	\$32,689.39
334-1-11	SUPERPAVE ASPHALTIC CONC, TRAFFIC A Comment: ASSUME 3772 SY SUPERPAVE, AT 1" THICKNESS	207.00	TN	\$100.68	\$20,840.76

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	33,107.82	LF	\$1.11	\$36,749.68
104-11	FLOATING TURBIDITY BARRIER	602.93	LF	\$10.36	\$6,246.35
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	602.93	LF	\$8.02	\$4,835.50
104-15	SOIL TRACKING PREVENTION DEVICE	3.00	EA	\$1,692.58	\$5,077.74
104-18	INLET PROTECTION SYSTEM	20.00	EA	\$118.93	\$2,378.60
107-1	LITTER REMOVAL	43.24	AC	\$28.98	\$1,253.10
107-2	MOWING	43.24	AC	\$46.24	\$1,999.42
Shoulder Component Total					\$483,997.75

MEDIAN COMPONENT**User Input Data**

Description	Value
Total Median Width	30.00
Performance Turf Width	17.50

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	25,467.55	LF	\$23.74	\$604,599.64
570-1-1	PERFORMANCE TURF	24,760.12	SY	\$1.14	\$28,226.54
Median Component Total					\$632,826.18

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	43.41	CY	\$1,404.50	\$60,969.34
425-1-551	INLETS, DT BOT, TYPE E, <10'	20.00	EA	\$4,618.62	\$92,372.40
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	1,008.00	LF	\$88.61	\$89,318.88
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	576.00	LF	\$86.26	\$49,685.76
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	20.00	EA	\$1,990.35	\$39,807.00
570-1-1	PERFORMANCE TURF	926.09	SY	\$1.14	\$1,055.74

Retention Basin 1

Description	Value
Size	2.5 AC
Multiplier	1
Depth	6.00
Description	Pond 2-C

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50	AC	\$20,515.11	\$51,287.78
120-1	REGULAR EXCAVATION	24,200.00	CY	\$8.67	\$209,814.00
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00	EA	\$3,539.11	\$3,539.11
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64

430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00 LF	\$14.45	\$19,290.75
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	12,100.00 SY	\$1.14	\$13,794.00

Retention Basin 2

Description	Value
Size	2.5 AC
Multiplier	1
Depth	6.00
Description	Pond 2-B

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50	AC	\$20,515.11	\$51,287.78
120-1	REGULAR EXCAVATION	24,200.00	CY	\$8.67	\$209,814.00
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00	EA	\$3,539.11	\$3,539.11
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00	LF	\$14.45	\$19,290.75
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	12,100.00	SY	\$1.14	\$13,794.00

Retention Basin 3

Description	Value
Size	2.5 AC
Multiplier	1
Depth	6.00
Description	Pond 2-A

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50	AC	\$20,515.11	\$51,287.78
120-1	REGULAR EXCAVATION	24,200.00	CY	\$8.67	\$209,814.00
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00	EA	\$3,539.11	\$3,539.11
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00	LF	\$14.45	\$19,290.75
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	12,100.00	SY	\$1.14	\$13,794.00

Retention Basin 4

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 31

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220		1,025.00	LF	\$14.45	\$14,811.25

	FENCING, TYPE B, 5.1-6.0', STANDARD			
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00 SY	\$1.14	\$8,276.40

Retention Basin 5

Description	Value
Size	2 AC
Multiplier	1
Depth	6.00
Description	Pond 32

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.00	AC	\$20,515.11	\$41,030.22
120-1	REGULAR EXCAVATION	19,360.00	CY	\$8.67	\$167,851.20
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,180.00	LF	\$14.45	\$17,051.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	9,680.00	SY	\$1.14	\$11,035.20

Retention Basin 6

Description	Value
Size	.5 AC
Multiplier	1
Depth	6.00
Description	POND 2-C (ADDITIONAL ACREAGE)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.50	AC	\$20,515.11	\$10,257.56
120-1	REGULAR EXCAVATION	4,840.00	CY	\$8.67	\$41,962.80
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	600.00	LF	\$14.45	\$8,670.00
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	2,420.00	SY	\$1.14	\$2,758.80

Retention Basin 7

Description	Value
Size	.5 AC
Multiplier	1
Depth	6.00
Description	POND 2-B (ADDITIONAL ACREAGE)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.50	AC	\$20,515.11	\$10,257.56
120-1	REGULAR EXCAVATION	4,840.00	CY	\$8.67	\$41,962.80
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220		600.00	LF	\$14.45	\$8,670.00

	FENCING, TYPE B, 5.1-6.0', STANDARD			
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	2,420.00 SY	\$1.14	\$2,758.80
Drainage Component Total				\$2,314,760.96

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	58.00 AS	\$331.85	\$19,247.30
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	5.00 AS	\$1,051.24	\$5,256.20
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	5.00 AS	\$4,870.56	\$24,352.80
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	5.00 AS	\$6,758.66	\$33,793.30
Signing Component Total				\$82,649.60

SIGNALIZATIONS COMPONENT

Signalization 1

Description	Value
Type	4 Lane Strain Pole
Multiplier	1
Description	NEW SIGNAL AT SR 29 BYPASS CONNECTION

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	750.00 LF	\$7.88	\$5,910.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	200.00 LF	\$22.93	\$4,586.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00 PI	\$4,842.56	\$4,842.56
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00 PI	\$7,045.71	\$7,045.71

635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	14.00 EA	\$813.38	\$11,387.32
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00 AS	\$3,808.27	\$3,808.27
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00 LF	\$7.92	\$237.60
641-2-16	PREST CNC POLE,F&I,TYP P-VI	4.00 EA	\$9,719.73	\$38,878.92
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	12.00 AS	\$908.80	\$10,905.60
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00 AS	\$597.25	\$4,778.00
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	12.00 EA	\$194.38	\$2,332.56
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	12.00 AS	\$1,228.53	\$14,742.36
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00 EA	\$204.94	\$1,639.52
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	\$24,961.04	\$24,961.04
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00 EA	\$156.31	\$625.24
Signalizations Component Total				\$136,680.70

LIGHTING COMPONENT

Conventional Lighting Subcomponent

Description		Value			
Spacing		MIN			
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	12,733.78	LF	\$7.88	\$100,342.19
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	2,527.46	LF	\$22.93	\$57,954.66
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	85.00	EA	\$813.38	\$69,137.30
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	46,507.22	LF	\$2.18	\$101,385.74
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	85.00	EA	\$6,110.26	\$519,372.10

715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	85.00 EA	\$488.78	\$41,546.30
	Subcomponent Total			\$889,738.28
	Lighting Component Total			\$889,738.29

BRIDGES COMPONENT

Bridge BRDGE1

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	164.00
Width (LF)	30.00
Type	Low Level
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$114.00
Factored Cost per SF	\$114.00
Final Cost per SF	\$120.52
Basic Bridge Cost	\$560,880.00
Description	NEW BRIDGE OVER CANAL NORTH OF GOPHER RIDGE ROAD

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	66.67	CY	\$321.86	\$21,458.41
415-1-9	REINF STEEL- APPROACH SLABS	11,667.25	LB	\$0.91	\$10,617.20
	Bridge BRDGE1 Total				\$592,955.61

Bridge BRDGE2

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	164.00
Width (LF)	30.00
Type	Low Level
Cost Factor	1.00
Structure No.	

Removal of Existing Structures area	0.00
Default Cost per SF	\$114.00
Factored Cost per SF	\$114.00
Final Cost per SF	\$120.52
Basic Bridge Cost	\$560,880.00

Description NEW BRIDGE AT CANAL NORTH OF GOPHER RIDGE ROAD

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	66.67	CY	\$321.86	\$21,458.41
415-1-9	REINF STEEL- APPROACH SLABS	11,667.25	LB	\$0.91	\$10,617.20

Bridge BRDGE2 Total \$592,955.61

Bridge BRDGE3

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	250.00
Width (LF)	22.00
Type	Low Level
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$114.00
Factored Cost per SF	\$114.00
Final Cost per SF	\$118.28
Basic Bridge Cost	\$627,000.00

Description NEW BRIDGE OVER CANAL NORTH OF FLAGLER STREET

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	48.89	CY	\$321.86	\$15,735.74
415-1-9	REINF STEEL- APPROACH SLABS	8,555.75	LB	\$0.91	\$7,785.73

Bridge BRDGE3 Total

\$650,521.47

Bridge BRDGE4

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	150.00
Width (LF)	40.00
Type	Low Level
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$114.00
Factored Cost per SF	\$114.00
Final Cost per SF	\$121.13
Basic Bridge Cost	\$684,000.00
Description	NEW BRIDGE OVER CANAL NEAR INDIAN RIVER STREET

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	88.89	CY	\$321.86	\$28,610.14
415-1-9	REINF STEEL- APPROACH SLABS	15,555.75	LB	\$0.91	\$14,155.73
	Bridge BRDGE4 Total				\$726,765.87
	Bridges Component Total				\$2,563,198.56

Sequence 2 Total

\$13,742,325.35

Sequence: 3 NUR - New Construction, Undivided, Rural**Net** 0.694 MI**Length:** 3,666 LF**Description:** ONE LANE RAMPS AT SR 29 BYPASS CONNECTION**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	20.00 / 20.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.694
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	3.36	AC	\$20,515.11	\$68,930.77
120-6	EMBANKMENT	19,462.97	CY	\$8.35	\$162,515.80
Earthwork Component Total					\$231,446.57

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	1
Roadway Pavement Width L/R	15.00 / 0.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	12,627.00	SY	\$3.56	\$44,952.12
285-709	OPTIONAL BASE,BASE GROUP 09	6,244.26	SY	\$13.38	\$83,548.20
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	840.10	TN	\$113.49	\$95,342.95
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	504.06	TN	\$136.70	\$68,905.00

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	2.78	GM	\$1,062.52	\$2,953.81

Roadway Component Total

\$295,702.08

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	3.00 / 3.00
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{i}_i / No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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285-704	OPTIONAL BASE,BASE GROUP 04	4,342.06 SY	\$12.55	\$54,492.85
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	224.03 TN	\$113.49	\$25,425.16
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	336.04 TN	\$136.70	\$45,936.67
570-1-1	PERFORMANCE TURF	2,443.94 SY	\$1.14	\$2,786.09

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	9,531.35 LF	\$1.11	\$10,579.80
104-11	FLOATING TURBIDITY BARRIER	173.58 LF	\$10.36	\$1,798.29
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	173.58 LF	\$8.02	\$1,392.11
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$1,692.58	\$1,692.58
107-1	LITTER REMOVAL	8.41 AC	\$28.98	\$243.72
107-2	MOWING	8.41 AC	\$46.24	\$388.88
Shoulder Component Total				\$144,736.15

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	12.50 CY	\$1,404.50	\$17,556.25
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	560.00 LF	\$83.97	\$47,023.20
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	120.00 LF	\$86.26	\$10,351.20
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	28.00 EA	\$1,990.35	\$55,729.80
570-1-1	PERFORMANCE TURF	488.79 SY	\$1.14	\$557.22
Drainage Component Total				\$131,217.67

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	2.00	AS	\$331.85	\$663.70
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	14.00	AS	\$1,051.24	\$14,717.36
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	2.00	AS	\$4,870.56	\$9,741.12
Signing Component Total					\$25,122.18
<hr/>					
Sequence 3 Total					\$828,224.65
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Sequence: 4 NUR - New Construction, Undivided, Rural**Net** 0.158 MI
Length: 833 LF**Description:** 2-LANE RAMP AT SR 29 BYPASS CONNECTION**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	20.00 / 20.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.158
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.77	AC	\$20,515.11	\$15,796.63
120-6	EMBANKMENT	7,656.78	CY	\$8.35	\$63,934.11
Earthwork Component Total					\$79,730.74

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	2,962.43	SY	\$3.56	\$10,546.25
285-709	OPTIONAL BASE,BASE GROUP 09	2,282.92	SY	\$13.38	\$30,545.47
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	305.50	TN	\$113.49	\$34,671.20
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	183.30	TN	\$136.70	\$25,057.11

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	21.00	EA	\$4.85	\$101.85
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.63	GM	\$1,062.52	\$669.39
710-11-231	PAINTED PAVT MARK,STD,YELLOW,SKIP,6"	0.32	GM	\$422.18	\$135.10

Roadway Component Total

\$101,726.37

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	0.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 3.00
Paved Outside Shoulder Width L/R	0.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{i}_L / 1/2 No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	493.43	SY	\$12.55	\$6,192.55
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	25.46	TN	\$113.49	\$2,889.46
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	38.19	TN	\$136.70	\$5,220.57
570-1-1	PERFORMANCE TURF	277.73	SY	\$1.14	\$316.61

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	833.00	LF	\$23.74	\$19,775.42

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	2,166.28	LF	\$1.11	\$2,404.57
104-11	FLOATING TURBIDITY BARRIER	39.45	LF	\$10.36	\$408.70
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	39.45	LF	\$8.02	\$316.39
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$1,692.58	\$1,692.58
107-1	LITTER REMOVAL	1.91	AC	\$28.98	\$55.35
107-2	MOWING	1.91	AC	\$46.24	\$88.32

Shoulder Component Total

\$39,360.52

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	2.84	CY	\$1,404.50	\$3,988.78
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	128.00	LF	\$83.97	\$10,748.16
430-175-136		32.00	LF	\$86.26	\$2,760.32

	PIPE CULV, OPT MATL, ROUND, 36"S/CD			
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	7.00 EA	\$1,990.35	\$13,932.45
570-1-1	PERFORMANCE TURF	111.09 SY	\$1.14	\$126.64
Drainage Component Total				\$31,556.35

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$331.85	\$331.85
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	4.00	AS	\$1,051.24	\$4,204.96
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$4,870.56	\$4,870.56
Signing Component Total					\$9,407.37

Sequence 4 Total	\$261,781.35
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Date: 5/29/2018 9:07:27 AM

FDOT Long Range Estimating System - Production
R3: Project Details by Sequence Report

Project: 417540-5-52-01**Letting Date:** 01/2099**Description:** SR 29 FROM CR 846 E TO N OF NEW MARKET ROAD N**District:** 01 **County:** 03 COLLIER **Market Area:** 10 **Units:** English**Contract Class:** 1 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 3.480 MI**Project Manager:** JMK-NEM-AEB**Version 7 Project Grand Total** **\$36,424,658.33****Description:** PD&E - SEGMENT 4 -(ALTERNATIVE C2)- 5/23/18

Project Sequences Subtotal **\$29,080,213.51**

102-1	Maintenance of Traffic	10.00 %	\$2,908,021.35
101-1	Mobilization	8.00 %	\$2,559,058.79

Project Sequences Total **\$34,547,293.65**

Project Unknowns	5.00 %	\$1,727,364.68
Design/Build	0.00 %	\$0.00

Non-Bid Components:

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

Project Non-Bid Subtotal **\$150,000.00****Version 7 Project Grand Total** **\$36,424,658.33**

Date: 5/29/2018 9:11:46 AM

FDOT Long Range Estimating System - Production
R3: Project Details by Sequence Report

Project: 417540-6-52-01**Letting Date:** 01/2099**Description:** SR 29 FROM N OF NEW MARKET RD N ROAD TO SR 82**District:** 01 **County:** 03 COLLIER **Market Area:** 10 **Units:** English**Contract Class:** 1 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 3.040 MI**Project Manager:** JMK-WHB-JPV**Version 7 Project Grand Total****\$15,035,788.09****Description:** PD&E - SEGMENT 5 - 5/23/18**Sequence:** 1 WUR - Widen/Resurface, Undivided, Rural**Net** 0.517 MI**Length:** 2,727 LF**Description:** SR 29 AT WESTCLOX ROAD AND NEW MARKET ROAD.

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	45.00 / 45.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.516
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.63	AC	\$20,515.11	\$115,500.07
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	242.18	CY	\$18.32	\$4,436.74
Earthwork Component Total					\$119,936.81

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	3
Existing Roadway Pavement Width L/R	24.00 / 16.00
Structural Spread Rate	275
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 5.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	7,575.33	SY	\$3.56	\$26,968.17
285-709	OPTIONAL BASE,BASE GROUP 09	1,615.06	SY	\$13.38	\$21,609.50
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	12,120.53	SY	\$2.13	\$25,816.73
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,666.57	TN	\$113.49	\$189,139.03
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	208.32	TN	\$113.49	\$23,642.24
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	484.82	TN	\$136.70	\$66,274.89
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	124.99	TN	\$136.70	\$17,086.13

Pavement Marking Subcomponent

Description	Value
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Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	279.00	EA	\$4.85	\$1,353.15
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	2.07	GM	\$1,062.52	\$2,199.42
710-11-231	PAINTED PAVT MARK,STD,YELLOW,SKIP,6"	2.07	GM	\$422.18	\$873.91
Roadway Component Total					\$374,963.17

SHOULDER COMPONENT**User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{t}_L / 1/2 No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	3,230.12	SY	\$12.55	\$40,538.01

327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	3,030.13 SY	\$2.00	\$6,060.26
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	166.66 TN	\$113.49	\$18,914.24
337-7-83	ASPH CONC FC, TRAFFIC C, FC-12.5, PG 76-22	121.21 TN	\$136.70	\$16,569.41
570-1-1	PERFORMANCE TURF	1,618.09 SY	\$1.14	\$1,844.62

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	1,042.00	SY	\$37.60	\$39,179.20

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	6,272.38	LF	\$1.11	\$6,962.34
104-11	FLOATING TURBIDITY BARRIER	51.65	LF	\$10.36	\$535.09
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	51.65	LF	\$8.02	\$414.23
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$1,692.58	\$1,692.58
104-18	INLET PROTECTION SYSTEM	2.00	EA	\$118.93	\$237.86
107-1	LITTER REMOVAL	1.25	AC	\$28.98	\$36.22
107-2	MOWING	1.25	AC	\$46.24	\$57.80
Shoulder Component Total					\$133,041.87

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	9.30	CY	\$1,404.50	\$13,061.85
430-174-124	PIPE CULV, OPT MATL, ROUND, 24" SD	80.00	LF	\$79.94	\$6,395.20
430-175-136	PIPE CULV, OPT MATL, ROUND, 36" S/CD	40.00	LF	\$86.26	\$3,450.40
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	6.00	EA	\$1,990.35	\$11,942.10

570-1-1	PERFORMANCE TURF	208.67 SY	\$1.14	\$237.88
Drainage Component Total				\$35,087.43

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	2.00	AS	\$331.85	\$663.70
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	11.00	AS	\$1,051.24	\$11,563.64
700-1-50	SINGLE POST SIGN, RELOCATE	2.00	AS	\$188.32	\$376.64
700-1-60	SINGLE POST SIGN, REMOVE	11.00	AS	\$21.46	\$236.06
700-2-13	MULTI- POST SIGN, F&I GM, 21-30 SF	2.00	AS	\$4,571.10	\$9,142.20
700-2-60	MULTI- POST SIGN, REMOVE	2.00	AS	\$829.30	\$1,658.60
Signing Component Total				\$23,640.84	
Sequence 1 Total				\$686,670.12	

Sequence: 2 NDS - New, Divided, Suburban (Urban In/Rural Out)**Net** 0.875 MI**Length:** 4,619 LF**Description:** SR 29 FROM NEW MARKET ROAD/WESTCLOX ROAD TO BYPASS CONNECTION AND FROM BYPASS CONNECTION TO NORTH OF EXPERIMENTAL ROAD.**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	125.00 / 175.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.875
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	31.82	AC	\$20,515.11	\$652,790.80
120-6	EMBANKMENT	89,888.09	CY	\$8.35	\$750,565.55
Earthwork Component Total					\$1,403,356.35

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	28.00 / 28.00
Structural Spread Rate	330
Friction Course Spread Rate	80

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	39,599.75	SY	\$3.56	\$140,975.11
285-709	OPTIONAL BASE,BASE GROUP 09	29,417.54	SY	\$13.38	\$393,606.69
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	4,742.12	TN	\$113.49	\$538,183.20
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	1,149.60	TN	\$149.57	\$171,945.67

Turnouts/Crossovers Subcomponent

Description	Value
Asphalt Adjustment	10.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	3,959.98	SY	\$3.56	\$14,097.53
285-709	OPTIONAL BASE,BASE GROUP 09	2,941.75	SY	\$13.38	\$39,360.62
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	474.21	TN	\$113.49	\$53,818.09
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	114.96	TN	\$149.57	\$17,194.57

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	354.00 EA	\$4.85	\$1,716.90
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	7.00 GM	\$1,062.52	\$7,437.64
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	3.50 GM	\$363.84	\$1,273.44
Roadway Component Total				\$1,379,609.46

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	8.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	3.00 / 3.00
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{i}_L / \bar{i}_R / No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	5,470.88	SY	\$12.55	\$68,659.54
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	282.27	TN	\$113.49	\$32,034.82
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	205.29	TN	\$149.57	\$30,705.23
570-1-1	PERFORMANCE TURF	3,079.30	SY	\$1.14	\$3,510.40

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-701	OPTIONAL BASE,BASE GROUP 01 Comment: 10' SHARED USE PATH. ASSUME BASE EXTENDS 2' ON EITHER SIDE OF PATH.	7,061.60	SY	\$6.19	\$43,711.30
334-1-11	SUPERPAVE ASPHALTIC CONC, TRAFFIC A	249.70	TN	\$100.68	\$25,139.80

Comment: ASSUME 3772 SY SUPERPAVE,
AT 1" THICKNESS

Erosion Control

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	12,009.25	LF	\$1.11	\$13,330.27
104-11	FLOATING TURBIDITY BARRIER	218.70	LF	\$10.36	\$2,265.73
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	218.70	LF	\$8.02	\$1,753.97
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$1,692.58	\$1,692.58
104-18	INLET PROTECTION SYSTEM	7.00	EA	\$118.93	\$832.51
107-1	LITTER REMOVAL	15.69	AC	\$28.98	\$454.70
107-2	MOWING	15.69	AC	\$46.24	\$725.51
Shoulder Component Total					\$224,816.36

MEDIAN COMPONENT

User Input Data

Description	Value
Total Median Width	30.00
Performance Turf Width	17.50

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	9,237.89	LF	\$23.74	\$219,307.51
570-1-1	PERFORMANCE TURF	8,981.28	SY	\$1.14	\$10,238.66
Median Component Total					\$229,546.17

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	15.75	CY	\$1,404.50	\$22,120.88

425-1-551	INLETS, DT BOT, TYPE E, <10'	7.00 EA	\$4,618.62	\$32,330.34
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	368.00 LF	\$88.61	\$32,608.48
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	208.00 LF	\$86.26	\$17,942.08
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	7.00 EA	\$1,990.35	\$13,932.45
570-1-1	PERFORMANCE TURF	335.92 SY	\$1.14	\$382.95

Retention Basin 1

Description	Value
Size	1 AC
Multiplier	1
Depth	6.00
Description	Pond 30

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.00	AC	\$20,515.11	\$20,515.11
120-1	REGULAR EXCAVATION	9,680.00	CY	\$8.67	\$83,925.60
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	840.00	LF	\$14.45	\$12,138.00
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	4,840.00	SY	\$1.14	\$5,517.60

Retention Basin 2

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 33

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40

Retention Basin 3

Description	Value
Size	2 AC
Multiplier	1
Depth	6.00
Description	Pond 34

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.00	AC	\$20,515.11	\$41,030.22
120-1	REGULAR EXCAVATION	19,360.00	CY	\$8.67	\$167,851.20
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220		1,180.00	LF	\$14.45	\$17,051.00

	FENCING, TYPE B, 5.1-6.0', STANDARD			
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	9,680.00 SY	\$1.14	\$11,035.20

Retention Basin 4

Description	Value
Size	10 AC
Multiplier	1
Depth	4.00
Description	FLOOD PLAIN COMP. E

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	10.00	AC	\$20,515.11	\$205,151.10
120-1	REGULAR EXCAVATION	64,533.33	CY	\$8.67	\$559,503.97
400-2-2	CONC CLASS II, ENDWALLS	36.00	CY	\$1,404.50	\$50,562.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	2.00	EA	\$3,583.09	\$7,166.18
425-2-71	MANHOLES, J-7, <10'	2.00	EA	\$5,737.64	\$11,475.28
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	104.00	LF	\$111.48	\$11,593.92
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	\$183.10	\$73,240.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	2,780.00	LF	\$14.45	\$40,171.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	3.00	EA	\$1,836.75	\$5,510.25
570-1-1	PERFORMANCE TURF	48,400.00	SY	\$1.14	\$55,176.00

Retention Basin 5

Description	Value
Size	2 AC
Multiplier	1
Depth	4.00
Description	FPC E (ADDITIONAL ACREAGE)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price
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				Extended Amount
110-1-1	CLEARING & GRUBBING	2.00 AC	\$20,515.11	\$41,030.22
120-1	REGULAR EXCAVATION	12,906.67 CY	\$8.67	\$111,900.83
400-2-2	CONC CLASS II, ENDWALLS	18.00 CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$5,737.64	\$5,737.64
430-175- 142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$111.48	\$6,242.88
430-175- 160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,180.00 LF	\$14.45	\$17,051.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	9,680.00 SY	\$1.14	\$11,035.20
Drainage Component Total				\$2,175,902.22

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	21.00	AS	\$331.85	\$6,968.85
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	2.00	AS	\$1,051.24	\$2,102.48
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	2.00	AS	\$4,870.56	\$9,741.12
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	2.00	AS	\$6,758.66	\$13,517.32
Signing Component Total					\$32,329.77

LIGHTING COMPONENT

Conventional Lighting Subcomponent

Description				Value
Spacing				MIN
Pay Items				
Pay item	Description	Quantity	Unit	Extended Amount

			Unit Price	
630-2-11	CONDUIT, F& I, OPEN TRENCH	4,618.94 LF	\$7.88	\$36,397.25
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	916.79 LF	\$22.93	\$21,021.99
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	31.00 EA	\$813.38	\$25,214.78
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	16,869.64 LF	\$2.18	\$36,775.82
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	31.00 EA	\$6,110.26	\$189,418.06
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	31.00 EA	\$488.78	\$15,152.18
	Subcomponent Total			\$323,980.08
	Lighting Component Total			\$323,980.08
<hr/>				
	Sequence 2 Total			\$5,769,540.41
<hr/>				

Sequence: 3 NDR - New Construction, Divided, Rural**Net** 1.208 MI**Length:** 6,380 LF**Description:** SR 29 FROM EXPERIMENTAL ROAD TO SOUTH OF SR 82**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	100.00 / 100.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	1,208
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	29.28	AC	\$20,515.11	\$600,682.42
120-6	EMBANKMENT	119,433.73	CY	\$8.35	\$997,271.65
Earthwork Component Total					\$1,597,954.07

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	330
Friction Course Spread Rate	80

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	59,545.02	SY	\$3.56	\$211,980.27
285-709	OPTIONAL BASE,BASE GROUP 09	34,961.44	SY	\$13.38	\$467,784.07
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	5,614.25	TN	\$113.49	\$637,161.23
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	1,361.03	TN	\$149.57	\$203,569.26

Turnouts/Crossovers Subcomponent

Description	Value
Asphalt Adjustment	10.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	5,954.50	SY	\$3.56	\$21,198.02
285-709	OPTIONAL BASE,BASE GROUP 09	3,496.14	SY	\$13.38	\$46,778.35
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	561.42	TN	\$113.49	\$63,715.56
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	136.10	TN	\$149.57	\$20,356.48

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3		489.00	EA	\$4.85	\$2,371.65

	RETRO-REFLECTIVE PAVEMENT MARKERS			
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	9.67 GM	\$1,062.52	\$10,274.57
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	4.83 GM	\$363.84	\$1,757.35
Roadway Component Total				\$1,686,946.81

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips \bar{i}_L / \bar{i}_R / No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	7,556.55	SY	\$12.55	\$94,834.70
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	389.88	TN	\$113.49	\$44,247.48
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	283.55	TN	\$149.57	\$42,410.57
570-1-1	PERFORMANCE TURF	7,088.69	SY	\$1.14	\$8,081.11

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-701	OPTIONAL BASE,BASE GROUP 01 Comment: ASSUME BASE EXTENDS 2' FROM EITHER SIDE OF SHARED USE PATH.	9,724.40	SY	\$6.19	\$60,194.04
334-1-11	SUPERPAVE ASPHALTIC CONC, TRAFFIC A Comment: ASSUME 6946 SY AT 1" DEPTH	382.03	TN	\$100.68	\$38,462.78

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	16,587.54	LF	\$1.11	\$18,412.17
104-11	FLOATING TURBIDITY BARRIER	302.08	LF	\$10.36	\$3,129.55
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	302.08	LF	\$8.02	\$2,422.68
104-15	SOIL TRACKING PREVENTION DEVICE	2.00	EA	\$1,692.58	\$3,385.16
104-18	INLET PROTECTION SYSTEM	8.00	EA	\$118.93	\$951.44
107-1	LITTER REMOVAL	29.29	AC	\$28.98	\$848.82
107-2	MOWING	29.29	AC	\$46.24	\$1,354.37
Shoulder Component Total					\$318,734.87

MEDIAN COMPONENT**User Input Data**

Description	Value
Total Median Width	40.00
Performance Turf Width	32.00
Total Median Shoulder Width L/R	8.00 / 8.00
Paved Median Shoulder Width L/R	4.00 / 4.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips $\frac{1}{2}$ No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	6,138.81	SY	\$12.55	\$77,042.07
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	311.90	TN	\$113.49	\$35,397.53
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	226.84	TN	\$149.57	\$33,928.46
570-1-1	PERFORMANCE TURF	22,683.82	SY	\$1.14	\$25,859.55

Median Component Total

\$172,227.61

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	21.75	CY	\$1,404.50	\$30,547.88
425-1-551	INLETS, DT BOT, TYPE E, <10'	8.00	EA	\$4,618.62	\$36,948.96
430-174-124	PIPE CULV, OPT MATL, ROUND, 24"SD	968.00	LF	\$79.94	\$77,381.92
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	416.00	LF	\$88.61	\$36,861.76
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	360.00	LF	\$86.26	\$31,053.60
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	49.00	EA	\$1,990.35	\$97,527.15
524-1-1	CONCRETE DITCH PAVT, NR, 3"	2,416.60	SY	\$119.52	\$288,832.03
570-1-1	PERFORMANCE TURF	850.64	SY	\$1.14	\$969.73

Retention Basin 1

Description	Value
Size	2.5 AC
Multiplier	1
Depth	6.00
Description	Pond 35

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50	AC	\$20,515.11	\$51,287.78
120-1	REGULAR EXCAVATION	24,200.00	CY	\$8.67	\$209,814.00
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00	EA	\$3,539.11	\$3,539.11
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00

550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00 LF	\$14.45	\$19,290.75
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	12,100.00 SY	\$1.14	\$13,794.00

Retention Basin 2

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	Pond 36

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50	AC	\$20,515.11	\$30,772.66
120-1	REGULAR EXCAVATION	14,520.00	CY	\$8.67	\$125,888.40
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,404.50	\$25,281.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,583.09	\$3,583.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$5,737.64	\$5,737.64
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	\$111.48	\$6,242.88
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$183.10	\$36,620.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00	LF	\$14.45	\$14,811.25
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$1,836.75	\$1,836.75
570-1-1	PERFORMANCE TURF	7,260.00	SY	\$1.14	\$8,276.40
Drainage Component Total					\$1,232,617.02

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	3.00	AS	\$331.85	\$995.55
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	29.00	AS	\$1,051.24	\$30,485.96

700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	3.00 AS	\$4,870.56	\$14,611.68
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	8.00 AS	\$6,758.66	\$54,069.28
Signing Component Total				\$100,162.47

LIGHTING COMPONENT

Rural Lighting Subcomponent

Description				Value	
Multiplier (Number of Poles)				40	
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	8,000.00	LF	\$7.88	\$63,040.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	40.00	EA	\$813.38	\$32,535.20
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	24,000.00	LF	\$2.18	\$52,320.00
715-4-14	LIGHT POLE COMPLETE, F&I- STD, 45'	40.00	EA	\$5,051.47	\$202,058.80
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	40.00	EA	\$488.78	\$19,551.20
Subcomponent Total					\$369,505.20
Lighting Component Total					\$369,505.20
Sequence 3 Total					\$5,478,148.05

Date: 5/29/2018 9:11:47 AM

FDOT Long Range Estimating System - Production
R3: Project Details by Sequence Report

Project: 417540-6-52-01**Letting Date:** 01/2099**Description:** SR 29 FROM N OF NEW MARKET RD N ROAD TO SR 82**District:** 01 **County:** 03 COLLIER **Market Area:** 10 **Units:** English**Contract Class:** 1 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 3.040 MI**Project Manager:** JMK-WHB-JPV**Version 7 Project Grand Total** **\$15,035,788.09****Description:** PD&E - SEGMENT 5 - 5/23/18

Project Sequences Subtotal **\$11,934,358.58**

102-1	Maintenance of Traffic	10.00 %	\$1,193,435.86
101-1	Mobilization	8.00 %	\$1,050,223.56

Project Sequences Total **\$14,178,018.00**

Project Unknowns	5.00 %	\$708,900.90
Design/Build	0.00 %	\$0.00

Non-Bid Components:

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$148,869.19	\$148,869.19

Project Non-Bid Subtotal **\$148,869.19****Version 7 Project Grand Total** **\$15,035,788.09**

Appendix D
Roundabout Screening Evaluation

SIGNATURE INDEX SHEET
FLORIDA DEPARTMENT OF TRANSPORTATION
STEP 1 - ROUNDABOUT SCREENING

Financial Project ID: 417540-1-22-01
 FAP No.: 3911-022-P
 County: Collier
 Project Name: SR 29 from Oil Well Road to SR 82
 State Road: SR 29

Intersecting Road:									
Oil Well Road	Farm Worker Way	CR 846 - 12 th Street	29 - New Market Road	New Market Road - Charlotte	CR 846	New Market Road	Existing 29 - Westclox Road	SR 29 - New Bypass	

EXISTING CONTROL/PROJECT CLASSIFICATION

Control	Signal								
	2 Way Stop	X	X	X	X		X	X	X
Alternative	1 Revised, 2, or Both	Both	Both	1 R	1 R	1 R	2	2	Both

SCREENING CRITERIA

1 Does the intersection have physical or geometric constraints that would limit visibility or complicate construction?	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No
2 Does the major roadway AADT exceed 90% of the total intersection AADT?	Yes	Yes	No	No	No	No	Yes	No	No
3 Does the intersection have pedestrians with special needs that would have difficulty crossing the road?	No	Yes	No	No	Yes	No	No	No	No
4 Is the intersection located within a coordinated signal network?	No	No	Yes	Yes	No	No	No	No	No
5 Is there downstream traffic control or conditions that could cause queues to back up into the intersection?	No	No	No	Yes	No	No	Yes	No	No
6 Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required?	No	No	Yes	Yes	Yes	Yes	Yes	No	No

Please refer to individual Step 1 - Roundabout Screening sheets for comments.

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2	No	No	No	No	No	No	No	Yes	Yes
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Approved by:


 KEITH SLATER, P.E. Date
 District Traffic Operations Engineer


 B.A. MASING, P.E. Date
 FDOT District Design Engineer

FLORIDA DEPARTMENT OF TRANSPORTATION STEP 1 - ROUNDABOUT SCREENING



Prepared by: *H.W. Lochner, Inc.*
 Financial Project ID: *417540-1-22-01*
 FAP No.: *3911-022-P*
 County: *Collier*

Date Prepared: *March 12, 2018*
 Project Name: *SR 29 from Oil Well Road to SR 82*
 State Road: *29*
 Intersecting Road: *Oil Well Road*

Central Alternative #1 Revised

EXISTING CONTROL/PROJECT CLASSIFICATION

Control: Signal All Way Stop 2 Way Stop Yield None

Classification: Design. Traffic Operations Other

SCREENING CRITERIA

1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? *(comment below if "yes")* yes no
 The canal running parallel to the east side of SR 29 and the FP&L Transmission easement on the west side of SR 29 would complicate construction of a roundabout.
2. Does the major roadway AADT exceed 90% of the total intersection AADT? *(comment below if "yes")* yes no
 The SR 29 AADT makes up 90.7% of the total intersection AADT.
3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? *(comment below if "yes")* yes no
4. Is the intersection located within a coordinated signal network? *(comment below if "yes")* yes no
5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? *(comment below if "yes")* yes no
6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? *(comment below if "yes")* yes no

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation yes no

Approved by: DDE or DTOE

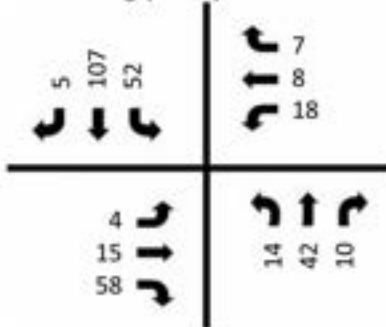
Signature: _____ Date: _____

Central Alternative #1 Revised

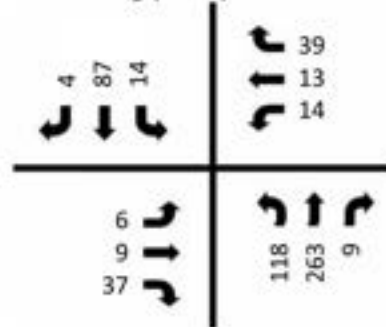
SR 29 and Oil Well Road



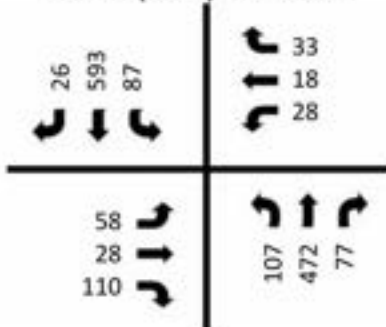
Existing (2017) Traffic AM



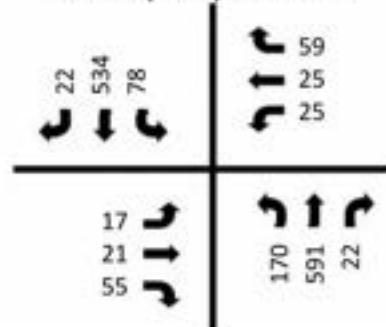
Existing (2017) Traffic PM



Future (2045) Traffic AM



Future (2045) Traffic PM



FLORIDA DEPARTMENT OF TRANSPORTATION STEP 1 - ROUNDABOUT SCREENING



Prepared by: *H.W. Lochner, Inc.*
 Financial Project ID: *417540-1-22-01*
 FAP No.: *3911-022-P*
 County: *Collier*

Date Prepared: *March 12, 2018*
 Project Name: *SR 29 from Oil Well Road to SR 82*
 State Road: *29*
 Intersecting Road: *Farm Workers Way*

Central Alternative #1 Revised

EXISTING CONTROL/PROJECT CLASSIFICATION

Control: Signal All Way Stop 2 Way Stop Yield None

Classification: Design. Traffic Operations Other

SCREENING CRITERIA

1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? *(comment below if "yes")* yes no
The pedestrian crossing bridge would limit visibility and complicate construction.
2. Does the major roadway AADT exceed 90% of the total intersection AADT? *(comment below if "yes")* yes no
The SR 29 AADT makes up 90.0% of the total intersection AADT.
3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? *(comment below if "yes")* yes no
Village Oaks Elementary School is on the northwest quadrant of the intersection, so students are crossing SR 29 from Farm Workers Village to get to and from school.
4. Is the intersection located within a coordinated signal network? *(comment below if "yes")* yes no
5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? *(comment below if "yes")* yes no
6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? *(comment below if "yes")* yes no

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation yes no

Approved by: DDE or DTOE

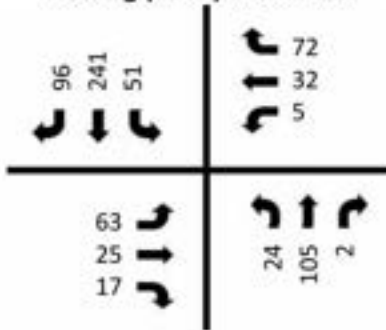
Signature: _____ Date: _____

Central Alternative #1 Revised

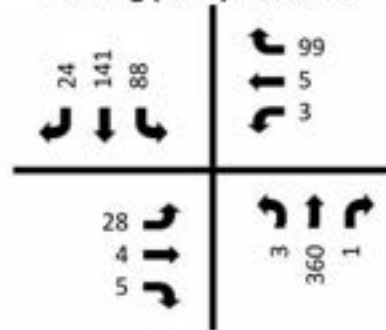
SR 29 and Farm Workers Way



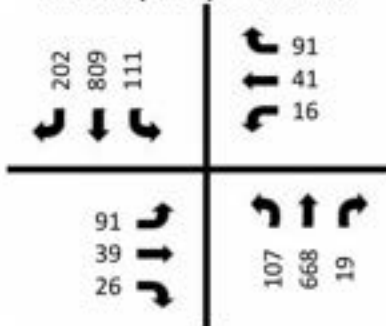
Existing (2017) Traffic AM



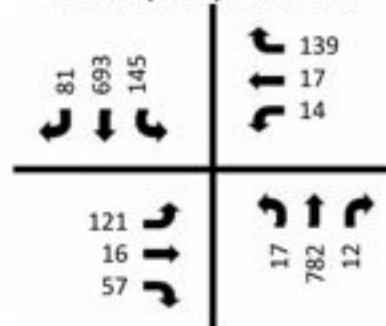
Existing (2017) Traffic PM



Future (2045) Traffic AM



Future (2045) Traffic PM



FLORIDA DEPARTMENT OF TRANSPORTATION STEP 1 - ROUNDABOUT SCREENING



Prepared by: *H.W. Lochner, Inc.*
 Financial Project ID: *417540-1-22-01*
 FAP No.: *3911-022-P*
 County: *Collier*

Date Prepared: *March 12, 2018*
 Project Name: *SR 29 from Oil Well Road to SR 82*
 State Road: *29*
 Intersecting Road: *CR 846*

Central Alternative #1 Revised

EXISTING CONTROL/PROJECT CLASSIFICATION

Control: Signal All Way Stop 2 Way Stop Yield None

Classification: Design. Traffic Operations Other

SCREENING CRITERIA

1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? *(comment below if "yes")* yes no

The current intersection geometry is challenging and would complicate the construction of a roundabout.

2. Does the major roadway AADT exceed 90% of the total intersection AADT? yes no
(comment below if "yes")

3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? *(comment below if "yes")* yes no

4. Is the intersection located within a coordinated signal network? *(comment below if "yes")* yes no
Not currently, but coordination with the signal at New Market Road is likely with this alternative, if signalized.

5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? *(comment below if "yes")* yes no

6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? *(comment below if "yes")* yes no

The roundabout could cause the relocation of the Sunoco gas station. Airport Park on the northwest quadrant is a Section 4(f) resource. The gas station is a potential contamination site and a major economic resource for the community.

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation yes no

Approved by: DDE or DTOE

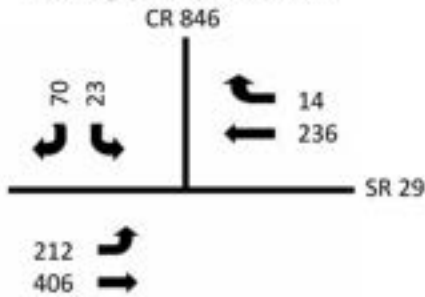
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Central Alternative #1 Revised

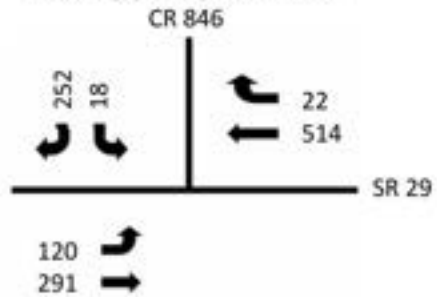
SR 29 and CR 846/12th Street



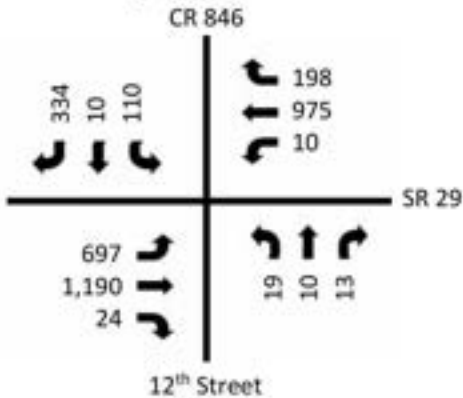
Existing (2017) Traffic AM



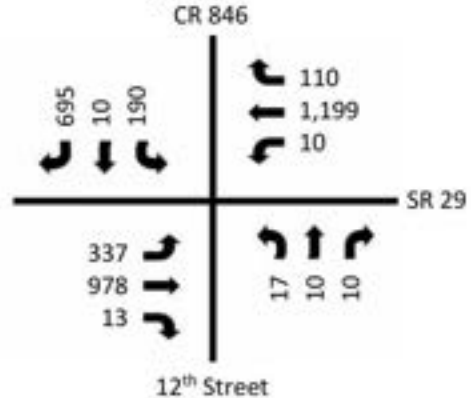
Existing (2017) Traffic PM



Future (2045) Traffic AM



Future (2045) Traffic PM



FLORIDA DEPARTMENT OF TRANSPORTATION STEP 1 - ROUNDABOUT SCREENING



Prepared by: *H.W. Lochner, Inc.*
 Financial Project ID: *417540-1-22-01*
 FAP No.: *3911-022-P*
 County: *Collier*

Date Prepared: *March 12, 2018*
 Project Name: *SR 29 from Oil Well Road to SR 82*
 State Road: *29*
 Intersecting Road: *New Market Road*

Central Alternative #1 Revised

EXISTING CONTROL/PROJECT CLASSIFICATION

Control: Signal All Way Stop 2 Way Stop Yield None

Classification: Design. Traffic Operations Other

SCREENING CRITERIA

1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? *(comment below if "yes")* yes no
The potential for a roundabout at this intersection would be influenced by the decision to put a roundabout at SR 29 and CR 846 or not.
2. Does the major roadway AADT exceed 90% of the total intersection AADT? *(comment below if "yes")* yes no
3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? *(comment below if "yes")* yes no
4. Is the intersection located within a coordinated signal network? *(comment below if "yes")* yes no
Not currently, but coordination with the signal at CR 846 is likely with this alternative, if signalized.
5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? *(comment below if "yes")* yes no
The southbound left turn at the CR 846 intersection would back up into the intersection.
6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? *(comment below if "yes")* yes no
The relocation of El Expreso Bus in the northeast quadrant of the intersection and Balgas on the south side of intersection may be required.

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation yes no

Approved by: DDE or DTOE

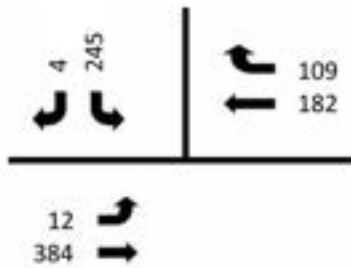
Signature: _____ Date: _____

Central Alternative #1 Revised

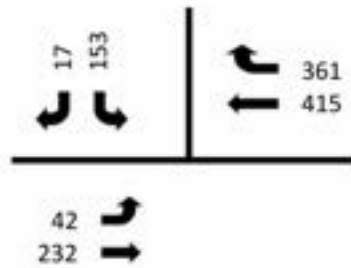
SR 29 and New Market Road



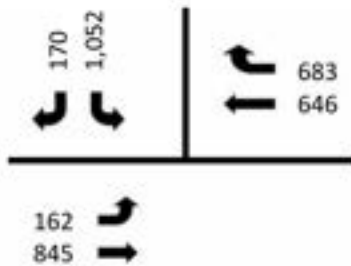
Existing (2017) Traffic AM



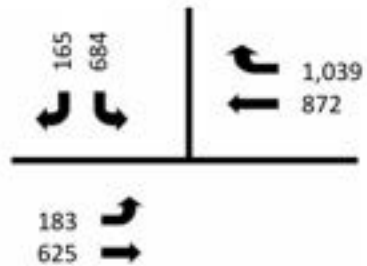
Existing (2017) Traffic PM



Future (2045) Traffic AM



Future (2045) Traffic PM



**FLORIDA DEPARTMENT OF TRANSPORTATION
STEP 1 - ROUNDABOUT SCREENING**



Prepared by: H.W. Lochner, Inc.
Financial Project ID: 417540-1-22-01
FAP No.: 3911-022-P
County: Collier

Date Prepared: March 12, 2018
Project Name: SR 29 from Oil Well Road to SR 82
State Road: 29A
Intersecting Road: Charlotte Road

Central Alternative #1 Revised

EXISTING CONTROL/PROJECT CLASSIFICATION

Control: Signal All Way Stop 2 Way Stop Yield None
Classification: Design. Traffic Operations Other

SCREENING CRITERIA

1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? *(comment below if "yes")* yes no
2. Does the major roadway AADT exceed 90% of the total intersection AADT? *(comment below if "yes")* yes no
3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? *(comment below if "yes")* yes no
Immokalee High School is located just west of the intersection.
4. Is the intersection located within a coordinated signal network? *(comment below if "yes")* yes no
5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? *(comment below if "yes")* yes no
6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? *(comment below if "yes")* yes no
The relocation of New Market Services in the southwest quadrant, Fortune Cookie Chinese Fast in the northwest quadrant, and Vikings in the northeast quadrant may be required.

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation yes no

Approved by: DDE or DTOE

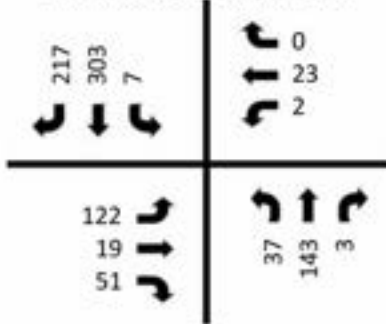
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Central Alternative #1 Revised

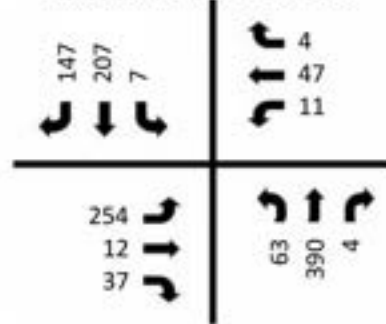
New Market Road and Charlotte Street



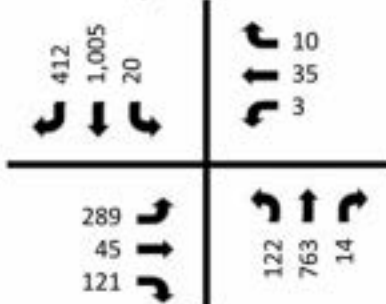
Existing (2017) Traffic AM



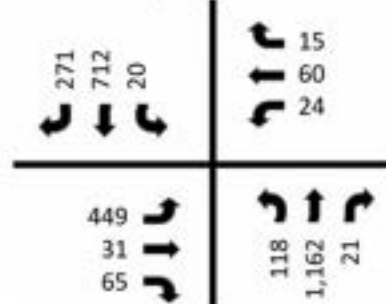
Existing (2017) Traffic PM



Future (2045) Traffic AM



Future (2045) Traffic PM



**FLORIDA DEPARTMENT OF TRANSPORTATION
STEP 1 - ROUNDABOUT SCREENING**



Prepared by: H.W. Lochner, Inc.
Financial Project ID: 417540-1-22-01
FAP No.: 3911-022-P
County: Collier

Date Prepared: March 12, 2018
Project Name: SR 29 from Oil Well Road to SR 82
State Road: 29
Intersecting Road: Westclox Road/New Market Road

Central Alternative #1 Revised

EXISTING CONTROL/PROJECT CLASSIFICATION

Control: Signal All Way Stop 2 Way Stop Yield None

Classification: Design. Traffic Operations Other

SCREENING CRITERIA

1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? *(comment below if "yes")* yes no
2. Does the major roadway AADT exceed 90% of the total intersection AADT? *(comment below if "yes")* yes no
3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? *(comment below if "yes")* yes no
4. Is the intersection located within a coordinated signal network? *(comment below if "yes")* yes no
5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? *(comment below if "yes")* yes no
6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? *(comment below if "yes")* yes no

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation yes no

Approved by: DDE or DTOE

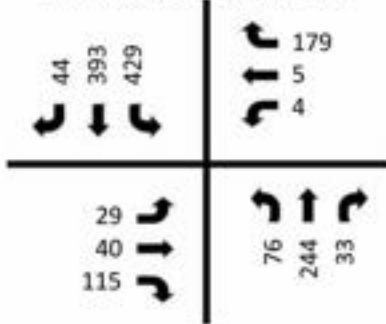
Signature: _____ **Date:** _____

Central Alternative #1 Revised

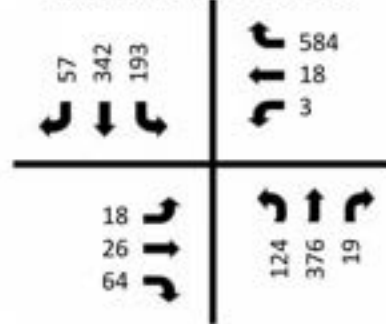
SR 29 and Westclox Road/New Market Road



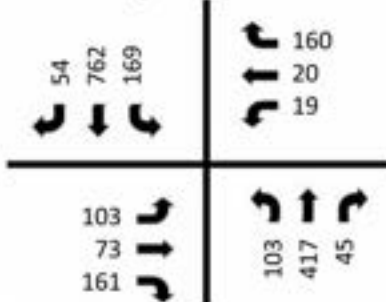
Existing (2017) Traffic AM



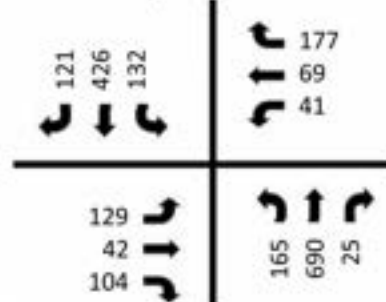
Existing (2017) Traffic PM



Future (2045) Traffic AM



Future (2045) Traffic PM



**FLORIDA DEPARTMENT OF TRANSPORTATION
STEP 1 - ROUNDABOUT SCREENING**



Prepared by: H.W. Lochner, Inc.	Date Prepared: March 12, 2018
Financial Project ID: 417540-1-22-01	Project Name: SR 29 from Oil Well Road to SR 82
FAP No.: 3911-022-P	State Road: 29
County: Collier	Intersecting Road: SR 29 Bypass Alternative 1 Revised

Central Alternative #1 Revised

EXISTING CONTROL/PROJECT CLASSIFICATION

Control: Signal All Way Stop 2 Way Stop Yield None

Classification: Design. Traffic Operations Other

SCREENING CRITERIA

1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? *(comment below if "yes")* yes no
2. Does the major roadway AADT exceed 90% of the total intersection AADT? *(comment below if "yes")* yes no
3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? *(comment below if "yes")* yes no
4. Is the intersection located within a coordinated signal network? *(comment below if "yes")* yes no
5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? *(comment below if "yes")* yes no
6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? *(comment below if "yes")* yes no

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation yes no

Approved by: DDE or DTOE

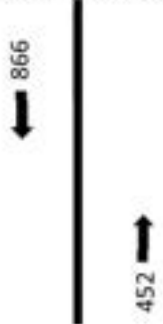
Signature: _____ Date: _____

Central Alternative #1 Revised

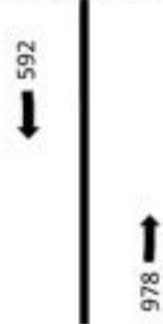
SR 29 and SR 29 Bypass Alternative 1 Revised



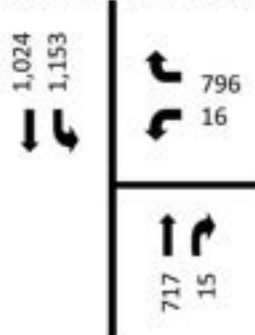
Existing (2017) Traffic AM



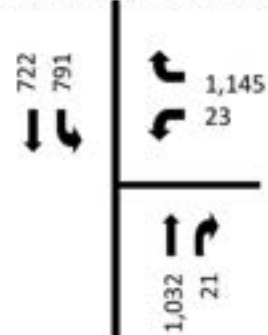
Existing (2017) Traffic PM



Future (2045) Traffic AM



Future (2045) Traffic PM



FLORIDA DEPARTMENT OF TRANSPORTATION STEP 1 - ROUNDABOUT SCREENING



Prepared by:	H.W. Lochner, Inc.	Date Prepared:	March 12, 2018
Financial Project ID:	417540-1-22-01	Project Name:	SR 29 from Oil Well Road to SR 82
FAP No.:	3911-022-P	State Road:	29
County:	Collier	Intersecting Road:	Oil Well Road

Central Alternative #2

EXISTING CONTROL/PROJECT CLASSIFICATION

Control:	<input type="checkbox"/> Signal	<input type="checkbox"/> All Way Stop	<input checked="" type="checkbox"/> 2 Way Stop	<input type="checkbox"/> Yield	<input type="checkbox"/> None
Classification:	<input type="checkbox"/> Design.	<input type="checkbox"/> Traffic Operations	<input checked="" type="checkbox"/> Other		

SCREENING CRITERIA

1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? *(comment below if "yes")* yes no
 The canal running parallel to the east side of SR 29 and the FP&L Transmission easement on the west side of SR 29 would complicate construction of a roundabout.
2. Does the major roadway AADT exceed 90% of the total intersection AADT? yes no
(comment below if "yes")
 The SR 29 AADT makes up 91.0% of the total intersection AADT.
3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? *(comment below if "yes")* yes no
4. Is the intersection located within a coordinated signal network? *(comment below if "yes")* yes no
5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? *(comment below if "yes")* yes no
6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? *(comment below if "yes")* yes no

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation yes no

Approved by: DDE or DTOE

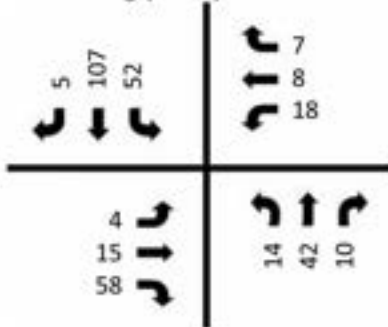
Signature: _____ Date: _____

Central Alternative #2

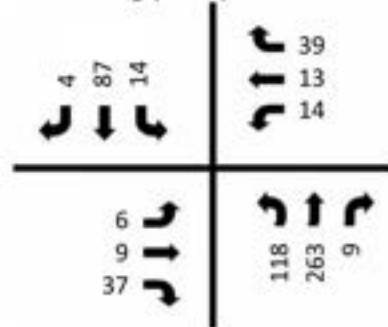
SR 29 and Oil Well Road



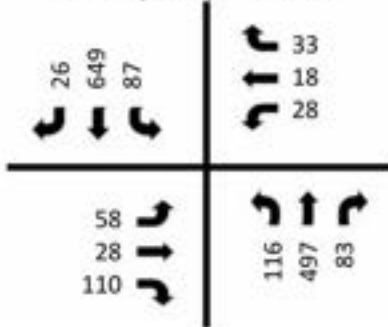
Existing (2017) Traffic AM



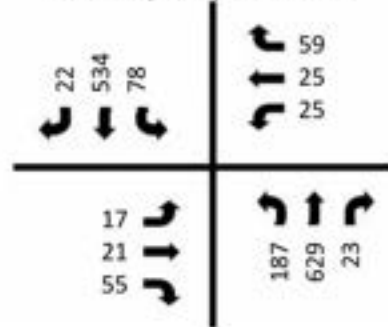
Existing (2017) Traffic PM



Future (2045) Traffic AM



Future (2045) Traffic PM



FLORIDA DEPARTMENT OF TRANSPORTATION STEP 1 - ROUNDABOUT SCREENING



Prepared by: *H.W. Lochner, Inc.*
 Financial Project ID: *417540-1-22-01*
 FAP No.: *3911-022-P*
 County: *Collier*

Date Prepared: *March 12, 2018*
 Project Name: *SR 29 from Oil Well Road to SR 82*
 State Road: *29*
 Intersecting Road: *Farm Workers Way*

Central Alternative #2

EXISTING CONTROL/PROJECT CLASSIFICATION

Control: Signal All Way Stop 2 Way Stop Yield None

Classification: Design. Traffic Operations Other

SCREENING CRITERIA

1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? *(comment below if "yes")* yes no
The pedestrian crossing bridge would limit visibility and complicate construction.
2. Does the major roadway AADT exceed 90% of the total intersection AADT? *(comment below if "yes")* yes no
The SR 29 AADT makes up 90.3% of the total intersection AADT.
3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? *(comment below if "yes")* yes no
Village Oaks Elementary School is on the northwest quadrant of the intersection, so students are crossing SR 29 from Farm Workers Village to get to and from school.
4. Is the intersection located within a coordinated signal network? *(comment below if "yes")* yes no
5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? *(comment below if "yes")* yes no
6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? *(comment below if "yes")* yes no

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation yes no

Approved by: DDE or DTOE

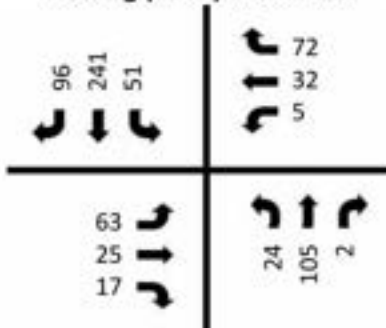
Signature: _____ Date: _____

Central Alternative #2

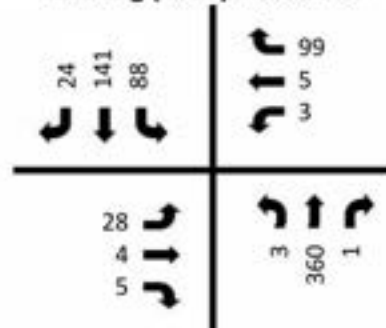
SR 29 and Farm Workers Way



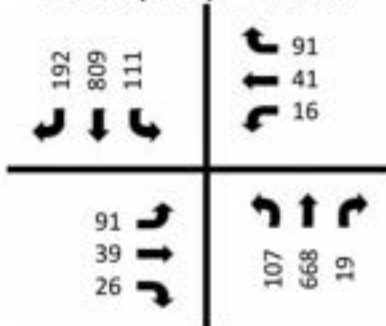
Existing (2017) Traffic AM



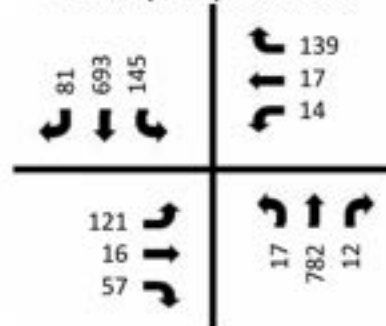
Existing (2017) Traffic PM



Future (2045) Traffic AM



Future (2045) Traffic PM



FLORIDA DEPARTMENT OF TRANSPORTATION STEP 1 - ROUNDABOUT SCREENING



Prepared by: *H.W. Lochner, Inc.*
 Financial Project ID: *417540-1-22-01*
 FAP No.: *3911-022-P*
 County: *Collier*

Date Prepared: *March 12, 2018*
 Project Name: *SR 29 from Oil Well Road to SR 82*
 State Road: *29*
 Intersecting Road: *CR 846*

Central Alternative #2

EXISTING CONTROL/PROJECT CLASSIFICATION

Control: Signal All Way Stop 2 Way Stop Yield None

Classification: Design. Traffic Operations Other

SCREENING CRITERIA

1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? *(comment below if "yes")* yes no

The current intersection geometry is challenging and would complicate construction of a roundabout.

2. Does the major roadway AADT exceed 90% of the total intersection AADT? yes no
(comment below if "yes")

3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? *(comment below if "yes")* yes no

4. Is the intersection located within a coordinated signal network? *(comment below if "yes")* yes no

5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? *(comment below if "yes")* yes no

6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? *(comment below if "yes")* yes no

The roundabout could cause the relocation of the Sunoco gas station. Airport Park on the northwest quadrant is a Section 4(f) resource. The gas station is a potential contamination site and a major economic resource for the community.

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation yes no

Approved by: DDE or DTOE

Signature: _____ Date: _____

Central Alternative #2

SR 29 and CR 846/12th Street Existing (2017) Conditions

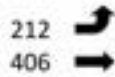


Existing (2017) Traffic AM

CR 846



SR 29

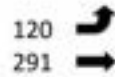


Existing (2017) Traffic PM

CR 846

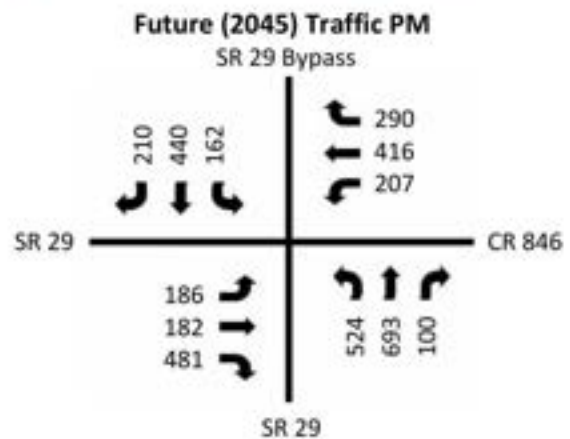
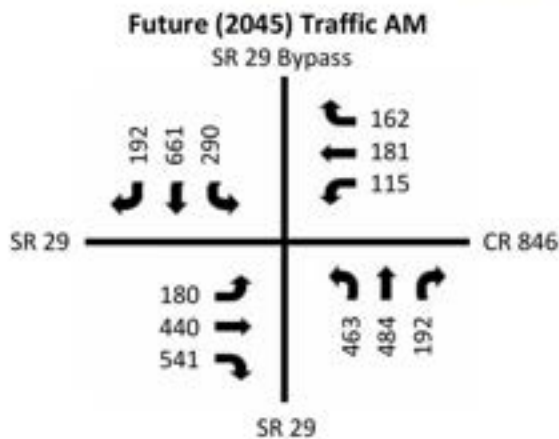


SR 29



Central Alternative #2

SR 29 and CR 846/12th Street Future (2045) Conditions



FLORIDA DEPARTMENT OF TRANSPORTATION STEP 1 - ROUNDABOUT SCREENING



Prepared by: *H.W. Lochner, Inc.*
 Financial Project ID: *417540-1-22-01*
 FAP No.: *3911-022-P*
 County: *Collier*

Date Prepared: *March 12, 2018*
 Project Name: *SR 29 from Oil Well Road to SR 82*
 State Road: *29*
 Intersecting Road: *New Market Road*

Central Alternative #2

EXISTING CONTROL/PROJECT CLASSIFICATION

Control: Signal All Way Stop 2 Way Stop Yield None

Classification: Design. Traffic Operations Other

SCREENING CRITERIA

1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? *(comment below if "yes")* yes no

The potential for a roundabout at this intersection would be influenced by the decision to put a roundabout at SR 29 and CR 846 or not.

2. Does the major roadway AADT exceed 90% of the total intersection AADT? yes no
(comment below if "yes")

The SR 29 AADT makes up 97.5% of the total intersection AADT.

3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? *(comment below if "yes")* yes no

4. Is the intersection located within a coordinated signal network? *(comment below if "yes")* yes no

5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? *(comment below if "yes")* yes no

The eastbound right turn at the CR 846 intersection would back up into the intersection.

6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? *(comment below if "yes")* yes no

The relocation of El Expreso Bus in the northeast quadrant of the intersection and Balgas on the south side of the intersection may be required.

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation yes no

Approved by: DDE or DTOE

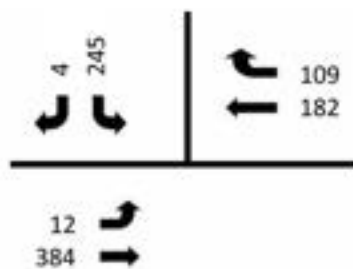
Signature: _____ Date: _____

Central Alternative #2

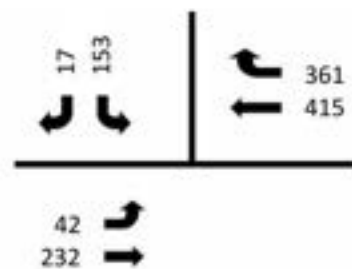
SR 29 and New Market Road



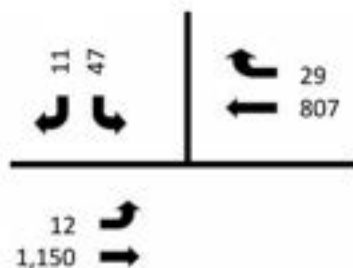
Existing (2017) Traffic AM



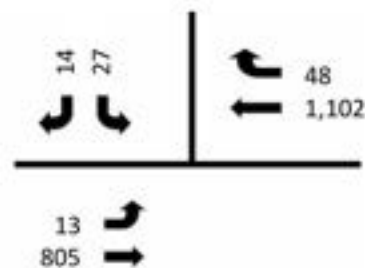
Existing (2017) Traffic PM



Future (2045) Traffic AM



Future (2045) Traffic PM



**FLORIDA DEPARTMENT OF TRANSPORTATION
STEP 1 - ROUNDABOUT SCREENING**



Prepared by: H.W. Lochner, Inc.
Financial Project ID: 417540-1-22-01
FAP No.: 3911-022-P
County: Collier

Date Prepared: March 12, 2018
Project Name: SR 29 from Oil Well Road to SR 82
State Road: 29
Intersecting Road: Westclox Road/New Market Road

Central Alternative #2

EXISTING CONTROL/PROJECT CLASSIFICATION

Control: Signal All Way Stop 2 Way Stop Yield None

Classification: Design. Traffic Operations Other

SCREENING CRITERIA

1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? *(comment below if "yes")* yes no
2. Does the major roadway AADT exceed 90% of the total intersection AADT? *(comment below if "yes")* yes no
3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? *(comment below if "yes")* yes no
4. Is the intersection located within a coordinated signal network? *(comment below if "yes")* yes no
5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? *(comment below if "yes")* yes no
6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? *(comment below if "yes")* yes no

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation yes no

Approved by: DDE or DTOE

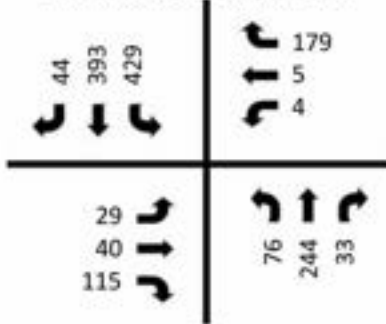
Signature: _____ **Date:** _____

Central Alternative #2

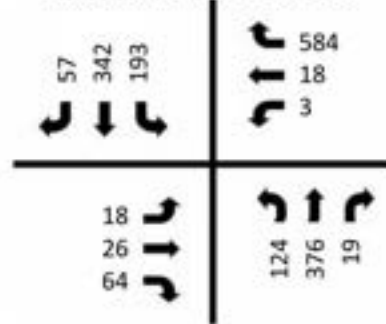
SR 29 and Westclox Road/New Market Road



Existing (2017) Traffic AM



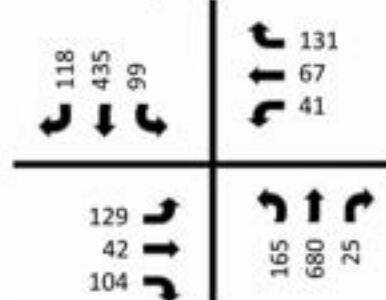
Existing (2017) Traffic PM



Future (2045) Traffic AM



Future (2045) Traffic PM



FLORIDA DEPARTMENT OF TRANSPORTATION STEP 1 - ROUNDABOUT SCREENING



Prepared by: *H.W. Lochner, Inc.*
 Financial Project ID: *417540-1-22-01*
 FAP No.: *3911-022-P*
 County: *Collier*

Date Prepared: *March 12, 2018*
 Project Name: *SR 29 from Oil Well Road to SR 82*
 State Road: *29*
 Intersecting Road: *SR 29 Bypass Alternative 2*

Central Alternative #2

EXISTING CONTROL/PROJECT CLASSIFICATION

Control: Signal All Way Stop 2 Way Stop Yield None

Classification: Design. Traffic Operations Other

SCREENING CRITERIA

1. Does the intersection have physical or geometric constraints that would limit visibility or complicate construction? *(comment below if "yes")* yes no
2. Does the major roadway AADT exceed 90% of the total intersection AADT? *(comment below if "yes")* yes no
3. Does the intersection have pedestrians with special needs that would have difficulty crossing the road? *(comment below if "yes")* yes no
4. Is the intersection located within a coordinated signal network? *(comment below if "yes")* yes no
5. Is there downstream traffic control or conditions that could cause queues to back up into the intersection? *(comment below if "yes")* yes no
6. Would the installation of a roundabout create impacts to historical, 4(f), or environmentally sensitive sites? Would the relocation of residences or businesses be required? *(comment below if "yes")* yes no

Step 2 evaluation is required if no is checked for all criteria. Level 2 is optional if yes is checked for one or more of the criteria.

Advance Roundabout Alternative to step 2 Roundabout b/c Evaluation yes no

Approved by: DDE or DTOE

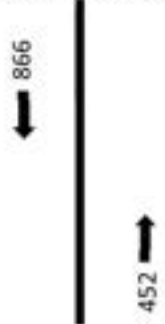
Signature: _____ Date: _____

Central Alternative #2

SR 29 and SR 29 Bypass Alternative 2



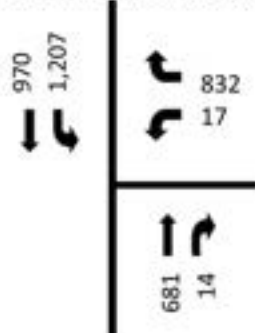
Existing (2017) Traffic AM



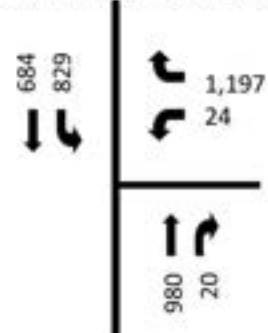
Existing (2017) Traffic PM



Future (2045) Traffic AM



Future (2045) Traffic PM



FLORIDA DEPARTMENT OF TRANSPORTATION



STEP 2 - b/c EVALUATION

Prepared by:	<i>H.W. Lochner</i>	Date Prepared:	<i>29-May-18</i>
Financial Project ID:	<i>417540-1-22-01</i>	Project Name:	<i>SR 29 PD&E</i>
FAP No.:	<i>3911-022-P</i>	State Road:	<i>29</i>
County:	<i>Collier</i>	Intersecting Rd:	<i>Westclox Street</i>

ANNUAL COSTS		
	Roundabout	Traffic Signal
Safety Cost (Crashes)	\$ 463,645	\$ 2,208,478
Delay Cost	\$ 52,883	\$ 49,642
O & M Cost	\$ 2,750	\$ 5,517

Initial Capital Cost		
Preliminary Engineering	\$ 1,753,496	\$ 1,335,306
Right-of-way and Utilities	\$ -	\$ -
Construction	\$ 5,844,987	\$ 1,630,192

TOTAL DISCOUNTED LIFE CYCLE COSTS (OPENING YEAR)		
	Roundabout	Traffic Signal
Safety Cost (Crashes)	\$ 6,897,871	\$ 32,856,575
Delay Cost	\$ 1,110,537	\$ 1,042,483
O & M Cost	\$ 40,913	\$ 82,074
Initial Capital Cost	\$ 7,598,483	\$ 2,965,498
Total Life Cycle Costs	\$ 15,647,804	\$ 36,946,630

LIFECYCLE BENEFIT/COST RATIO	
Safety Benefit of a Roundabout	\$ 25,958,704
Delay Reduction Benefit of a Roundabout	\$ (68,054)
Total Benefit	\$ 25,890,650
Added O & M Costs of a Roundabout	\$ (41,161)
Added Capital Costs of a Roundabout	\$ 4,632,985
Total Cost	\$ 4,591,824
Life Cycle Benefit/Cost Ratio	5.6

Advance to Level 3 Geometric and Operational Analysis: YES NO

Approved by: DDE or DTOE

Signature: _____ Date: _____

FLORIDA DEPARTMENT OF TRANSPORTATION



STEP 2 - b/c EVALUATION

Prepared by:	<i>H.W. Lochner</i>	Date Prepared:	<i>29-May-18</i>
Financial Project ID:	<i>417540-1-22-01</i>	Project Name:	<i>SR 29 PD&E</i>
FAP No.:	<i>3911-022-P</i>	State Road:	<i>29</i>
County:	<i>Collier</i>	Intersecting Rd:	<i>Bypass Alt 1 Revised</i>

ANNUAL COSTS		
	Roundabout	Traffic Signal
Safety Cost (Crashes)	\$ -	\$ -
Delay Cost	\$ 172,601	\$ 184,357
O & M Cost	\$ 2,750	\$ 5,517

Initial Capital Cost		
Preliminary Engineering	\$ 1,929,520	\$ 1,147,187
Right-of-way and Utilities	\$ -	\$ -
Construction	\$ 6,431,735	\$ 3,823,958

TOTAL DISCOUNTED LIFE CYCLE COSTS (OPENING YEAR)		
	Roundabout	Traffic Signal
Safety Cost (Crashes)	\$ -	\$ -
Delay Cost	\$ 3,624,621	\$ 3,871,494
O & M Cost	\$ 40,913	\$ 82,074
Initial Capital Cost	\$ 8,361,255	\$ 4,971,145
Total Life Cycle Costs	\$ 12,026,789	\$ 8,924,713

LIFECYCLE BENEFIT/COST RATIO	
Safety Benefit of a Roundabout	\$ -
Delay Reduction Benefit of a Roundabout	\$ 246,872
Total Benefit	\$ 246,872
Added O & M Costs of a Roundabout	\$ (41,161)
Added Capital Costs of a Roundabout	\$ 3,390,110
Total Cost	\$ 3,348,949
Life Cycle Benefit/Cost Ratio	0.1

Advance to Level 3 Geometric and Operational Analysis: YES NO

Approved by: DDE or DTOE

Signature: _____ Date: _____

FLORIDA DEPARTMENT OF TRANSPORTATION



STEP 2 - b/c EVALUATION

Prepared by:	<i>H.W. Lochner</i>	Date Prepared:	<i>29-May-18</i>
Financial Project ID:	<i>417540-1-22-01</i>	Project Name:	<i>SR 29 PD&E</i>
FAP No.:	<i>3911-022-P</i>	State Road:	<i>29</i>
County:	<i>Collier</i>	Intersecting Rd:	<i>Westclox Street</i>

ANNUAL COSTS		
	Roundabout	Traffic Signal
Safety Cost (Crashes)	\$ 450,467	\$ 2,138,610
Delay Cost	\$ 47,573	\$ 47,440
O & M Cost	\$ 2,750	\$ 5,517

Initial Capital Cost		
Preliminary Engineering	\$ 1,753,496	\$ 1,335,306
Right-of-way and Utilities	\$ -	\$ -
Construction	\$ 5,844,987	\$ 1,630,192

TOTAL DISCOUNTED LIFE CYCLE COSTS (OPENING YEAR)		
	Roundabout	Traffic Signal
Safety Cost (Crashes)	\$ 6,701,809	\$ 31,817,121
Delay Cost	\$ 999,023	\$ 996,239
O & M Cost	\$ 40,913	\$ 82,074
Initial Capital Cost	\$ 7,598,483	\$ 2,965,498
Total Life Cycle Costs	\$ 15,340,228	\$ 35,860,932

LIFECYCLE BENEFIT/COST RATIO	
Safety Benefit of a Roundabout	\$ 25,115,312
Delay Reduction Benefit of a Roundabout	\$ (2,784)
Total Benefit	\$ 25,112,528
Added O & M Costs of a Roundabout	\$ (41,161)
Added Capital Costs of a Roundabout	\$ 4,632,985
Total Cost	\$ 4,591,824
Life Cycle Benefit/Cost Ratio	5.5

Advance to Level 3 Geometric and Operational Analysis: YES NO

Approved by: DDE or DTOE

Signature: _____ Date: _____

FLORIDA DEPARTMENT OF TRANSPORTATION



STEP 2 - b/c EVALUATION

Prepared by:	<i>H.W. Lochner</i>	Date Prepared:	<i>29-May-18</i>
Financial Project ID:	<i>417540-1-22-01</i>	Project Name:	<i>SR 29 PD&E</i>
FAP No.:	<i>3911-022-P</i>	State Road:	<i>29</i>
County:	<i>Collier</i>	Intersecting Rd:	<i>Bypass Alt 2</i>

ANNUAL COSTS		
	Roundabout	Traffic Signal
Safety Cost (Crashes)	\$ -	\$ -
Delay Cost	\$ 170,655	\$ 181,433
O & M Cost	\$ 2,750	\$ 5,517

Initial Capital Cost		
Preliminary Engineering	\$ 1,929,520	\$ 1,147,187
Right-of-way and Utilities	\$ -	\$ -
Construction	\$ 6,431,735	\$ 3,823,958

TOTAL DISCOUNTED LIFE CYCLE COSTS (OPENING YEAR)		
	Roundabout	Traffic Signal
Safety Cost (Crashes)	\$ -	\$ -
Delay Cost	\$ 3,583,751	\$ 3,810,095
O & M Cost	\$ 40,913	\$ 82,074
Initial Capital Cost	\$ 8,361,255	\$ 4,971,145
Total Life Cycle Costs	\$ 11,985,919	\$ 8,863,314

LIFECYCLE BENEFIT/COST RATIO	
Safety Benefit of a Roundabout	\$ -
Delay Reduction Benefit of a Roundabout	\$ 226,343
Total Benefit	\$ 226,343
Added O & M Costs of a Roundabout	\$ (41,161)
Added Capital Costs of a Roundabout	\$ 3,390,110
Total Cost	\$ 3,348,949
Life Cycle Benefit/Cost Ratio	0.1

Advance to Level 3 Geometric and Operational Analysis: YES NO

Approved by: DDE or DTOE

Signature: _____ Date: _____

Appendix E
Design Variation Request

To: Mr. B.A. Masing, P.E.

Date: July 19, 2018

Financial Project ID: 417540-1-22-01

New Construction (X) RRR ()

Federal Aid Number: 3911 022 P

Project Name: SR 29 Project Development and Environment (PD&E) Study from Oil Well Rd. to SR 82

State Road Number: SR 29

Co./Sec./Sub.: 03080000

Begin Project MP: 27.208

End Project MP: 42.062

Full Federal Oversight: Yes () No (X)

Request for Design Exception (), Design Variation(s) (X)

(For Design Exception or Variations Requiring Central Office Approval)

Re-submittal: Yes () No (X) Original Ref # _____ - _____ - _____

Requested for the following element(s):

- () Design Speed () Lane Widths () Shoulder Widths () Bridge Widths
- () Structural Capacity () Vertical Clearance () Grades () Cross Slope
- () Superelevation () Horizontal Alignment () Vertical Alignment () Stopping Sight Distance
- () Horizontal Clearance (x) Other – **Border Width**

A Design Variation is requested for a border width reduction along SR 29 within the limits of this project.

Recommended by:

William G. Howell Date 7/19/2018
William G. Howell, PE

Approvals:

B.A. Masing Date 2-18-19 N/A Date _____
B.A. Masing, P.E. District Structures Design Engineer

N/A Date _____ N/A Date _____
State Roadway Design Engineer State Structures Design Engineer

N/A Date _____ N/A Date _____
State Chief Engineer FHWA Division Administrator

INTRODUCTION

This design variation is being requested as part of the widening reconstruction of the SR 29 mainline from Oil Well Rd. to SR 82 in Collier County, Florida.

SR 29 will be reconstructed from Oil Well Rd. to SR 82. There are four typical sections associated with this Design Variation for Border Width. The limits of the first typical section are from Oil Well Rd. to south of Kaicasa Entrance, the limits of the second typical section are from south of Kaicasa Entrance to Seminole Crossing Trail, the limits of the third typical section are from Seminole Crossing Trail to Gopher Ridge Rd., and the limits of the fourth typical section are from Experimental Rd. to south of SR 82.

The typical section from Oil Well Rd. to S. of Kaicasa Entrance proposes to widen SR 29 from a two-lane undivided roadway to a four-lane divided rural facility with a 65 mph design speed, 12 foot lanes, 10 foot outside shoulder (five foot paved) and a 40 foot depressed median. The typical section from south of Kaicasa Entrance to Seminole Crossing Trail proposes to widen SR 29 from a two-lane undivided roadway to a four-lane divided suburban facility with a 55 mph design speed, 12 foot lanes, 10 foot outside shoulder (five foot paved) and a 30 foot raised median. The typical section from Seminole Crossing Trail to Gopher Ridge Rd. proposes to widen SR 29 from a two-lane undivided roadway to a four-lane divided urban facility with a 45 mph design speed, 11 foot lanes, seven foot buffered-bike lanes, Type-F curb and gutter, six foot sidewalks on both sides and a 22 foot raised median. The typical section from Experimental Rd. to south of SR 82 proposes to widen SR 29 from a two-lane undivided roadway to a four-lane divided rural section with a 60 mph design speed, 12 foot lanes, 10 foot outside shoulder (five foot paved) and a 40 foot depressed median. The improvements will include a 10 foot shared use path along the west side of SR 29.

SR 29 is classified as a "Rural Principal Arterial – Other" from Oil Well Rd. to approximately 0.43 miles south of Agriculture Way and from Westclox St./New Market Rd. to SR 82. From approximately 0.43 miles south of Agriculture Way to Westclox St./New Market Rd., SR 29 is classified as an "Urban Principal Arterial – Other".

A Design Variation is being requested for a border width reduction for the following areas along the project:

SR 29	Proposed Context Classification	Min. Proposed Border Width	Required Border Width	Source (FDM)
Northbound				
MP 27.208 to MP 33.84	C2 - Rural	21.00 – 28.00 ft.	40 ft.	Table 210.7.1
MP 33.84 to MP 36.11	C3 - Suburban	26.00 – 31.00 ft.	40 ft.	Table 210.7.1
MP 36.11 to MP 37.59	C3 - Suburban	10 ft.	14 ft.	Table 210.7.1
MP 40.84 to MP 42.32	C2 - Rural	26.00 – 39.00 ft.	40 ft.	Table 210.7.1

DESIGN VARIATION

The reduced border width along the west side of SR 29 from MP 27.208 to MP 36.11 is located on the west, adjacent to an existing Florida Power and Light (FPL) easement. A reduced border width of 21.00 feet – 28.00 feet from MP 27.208 to MP 33.84 (west side) and 26.00 feet – 31.00 feet from MP 33.84 to MP 36.11 (west side) is provided in order to reduce the impacts to this easement and the existing utilities within this easement.

The reduced border width along both the east and west sides of SR 29 from MP 36.11 to MP 37.59 is located in an area where the existing right of way is narrow (100 feet wide). The reduced border width of 10 feet being provided in this area will limit excess right of way impacts and associated impacts to businesses and properties adjacent to the roadway.

The reduced border width along the east side of SR 29 from MP 40.84 to MP 42.32 is located adjacent to many large farm lands. The reduced border width of 26.00 feet – 39.00 feet being provided in this area will limit the excess right of way impacts to these farm lands.

1. Design Criteria vs. Proposed Criteria

The FDOT Design Manual (FDM), Volume 1, Table 210.7.1 states the minimum border width for a rural (C2) context classification, with flush shoulder design and speeds greater than 50 mph, is 40 feet measured from the shoulder break. Table 210.7.1 states the minimum border width for a suburban (C3) context classification, with flush shoulders and speed greater than 50 mph, is 40 feet measured from the shoulder break. Table 210.7.1 states the minimum border width for a suburban (C3) context classification, with curb and gutter and speed of 45 mph is 12 feet measured from outside edge of pavement (lip of gutter). The minimum border width provided along SR 29 varies between 21.00 feet and 31.00 feet, in the area of the existing Florida Power and Light (FPL) easement. The minimum border width provided along SR 29 is 10 feet from MP 36.11 to MP 37.59. The minimum border width provided along SR 29 varies between 26.00 feet and 39.00 feet, from MP 40.84 to MP 42.32.

2. Reason the Design Criteria is Not Appropriate

If 40 ft. border width is provided along the west side of SR 29, from MP 27.208 to MP 33.84, the FPL easement will be heavily impacted. Overhead electric transmission towers are located in the easement and would require relocation. Along the east and west sides of SR 29, from MP 36.11 to MP 37.59, no new right of way is being proposed along both sides for the roadway widening. If the minimum border width of 12 feet is to be provided, right-of-way impacts will be introduced, adding cost and schedule implications to the project. Along the west side of SR 29, from MP 40.84 to MP 42.32, providing the required 40 foot border width will introduce impacts to adjacent farm lands.

3. Crash History and Safety Impacts

Analysis of existing crash data is not applicable for this Design Variation because SR 29 will be reconstructed from a 2-lane undivided section to a divided four-lane section including other aspects of the project that will be different from the existing condition.

4. Justification for the Proposed Criteria

The reduced border widths along SR 29 noted herein will eliminate impacts to the FPL easement and other adjacent properties and thereby reduce project cost and avoid project schedule delays. The proposed border widths in this Design Variation are anticipated to be sufficient to accommodate the construction of the roadway improvements, including utilities and the required signage and lighting. Furthermore, the proposed border width is not anticipated to adversely affect safety along the corridor. Providing a wider border width, consistent with the FDOT Design Manual, will result in unnecessary impacts to the easements and adjacent facilities.

RECOMMENDATION

The overriding justification for this design variation is the desire to keep the proposed typical sections within the existing right-of-way on both the east and west sides of SR 29, and to minimize impacts to FPL easement. No safety impacts are anticipated as a result of the noted reductions in the border width. Maintaining the required border width would increase project costs due to the need for right-of-way acquisition and utility relocation. The approval of this Design Variation is therefore recommended for this project.

Recommended by:

William G. Howell

Date 7/19/2018

William G. Howell, P.E.
Responsible Professional Engineer
Florida P.E. No. 37284

Lochner
4350 W. Cypress Street, Suite 800
Tampa, Florida 33607
FBPR Certificate of Authorization #894



Appendix F
Agency Correspondence
(UPDATED for CR 846 to SR 82
Refinements, see AppendixK)

From: Linda.Anderson@dot.gov [mailto:Linda.Anderson@dot.gov]
Sent: Thursday, June 06, 2013 5:34 PM
To: James, Jeffrey W; Schulz, Mark
Cc: Benito.Cunill@dot.gov; BSB.Murthy@dot.gov
Subject: FHWA's Determination re Section 4(f) Applicability for Properties Adjacent to Proposed Alternatives for SR 29 (Immokalee) EIS, FPID # 417540-1-22-01

FHWA has reviewed the Section 4(f) DOA for SR 29 (Immokalee) EIS, FPID # 417540-1-22-01, and made the determination that Immokalee Airport Park, 1st Street Plaza, and 9th Street Plaza are Section 4(f) properties.

Whether the Collier Rural Land Stewardship Sending Area #5 is a Section 4(f) property is a more complex question, given its designated use for both conservation and ranching, and the nature of the Stewardship Easement Agreement between Collier County, FDOT, FDACS, and the property owner.

There are two issues here:

1. Does the land have a designated function as a wildlife or waterfowl refuge. Page 2, #'s 3A and B of the Stewardship Easement Agreement (p. A-7 of DOA) state that the land may be used for "Conservation, Restoration, and Natural Resources Uses" and "Agriculture." The Land Use Matrix on P. A-19 of the DOA defines "Conservation, Restoration and Natural Resources" as "Wildlife management, plant and wildlife conservancies, refuges and sanctuaries." Page 2-1, #1 of the DOA states "those areas within SSAs designated exclusively for conservation use are the only areas considered to fall under the auspices of Section 4(f). Note: the limitation of applicability of Section 4(f) to the areas of the SSA supporting conservation is based on 23 CFR 774.11(d)." However, 23 CFR 774.11(d) does not state that lands have to be "designated exclusively for conservation," only that they have to be "designated in the plans of the administering agency as being for, significant park, recreation, or wildlife and waterfowl refuge purposes." The easement does not appear to designate specific areas within the western portion adjacent to East Alternative #1 for conservation or agriculture. The land may be used for either. Consequently, FHWA's opinion is that Eastern Alternative #1 may have a designated function as a wildlife or waterfowl refuge.
2. Does the easement make this public land? This depends on the nature of the easement as well as other factors (see Question 1B of the Section 4(f) Policy Paper) and is a difficult question that will require additional research.

FHWA's recommendation is that a Section 4(f) determination for Collier Rural Land Stewardship Sending Area #5 be postponed until it is apparent that East Alternative #1 will be retained as a viable alternative. If it is, then we can further explore the question of whether this is a Section 4(f) property.

Linda Anderson
Environmental Protection Specialist
Federal Highway Administration
545 John Knox Rd., Ste. 200
Tallahassee, FL 32303
P: 850-553-2226
F: 850-942-8308



Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

ANANTH PRASAD, P.E.
SECRETARY

March 21, 2014

Ms. Linda Anderson
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, FL 32303

**Subject: Section 4(f) Determination of Applicability Addendum
SR 29 Collier County PD&E Study
From Oil Well Road to SR 82, Collier County, Florida
Financial Project ID: 417540-1-22-01**

Ms. Anderson,

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study for the improvement of SR 29 from Oil Well Road to SR 82 in Collier County, FL.

A Section 4(f) Determination of Applicability (DOA) for this study was prepared and submitted to the Federal Highway Administration in April of 2013. Subsequent to the April 2013 submittal of the DOA, the two eastern most roadway alternatives (East Alternative #1 and East Alternative #2) were dropped from consideration, and a new central alternative was developed for study.

The removal of the two eastern alternatives eliminated the need to further examine potential impacts to Collier Rural Land Stewardship Sending Area #5. However, the newly developed central alternative (Central Alternative #2) places the proposed roadway north and east of existing SR 29, affecting the Immokalee Airport Conservation Easement, a resource potentially subject to the auspices of Section 4(f). The attached is an addendum to the original DOA, and is intended to aid FHWA in the determination of Section 4(f) applicability to the newly identified conservation easement. The FDOT believes that Section 4(f) applies to the Airport Conservation Easement.

Ms. Anderson
Federal Highway Administration
SR 29 Collier County PD&E Study
From Oil Well Road to SR 82, Collier County, Florida
Financial Project ID: 417540-1-22-01
March 21, 2014
Page 2

If you have any questions, or if I may be of assistance, please contact me at Gwen.Pipkin@dot.state.fl.us or (863) 519-2375. Thank you for your assistance with this request.

Sincerely,



Gwen G. Pipkin
District Environmental Administrator
Florida Department of Transportation

Enclosure(s)

cc: Gwen Pipkin, FDOT
Bill Howell, HW Lochner
Ron Gregory, URS

The Federal Highway Administration concurs with this determination.


Linda Anderson, FHWA

4-28-14
Date

FLORIDA DEPARTMENT OF TRANSPORTATION
SECTION 4(F) DETERMINATION OF APPLICABILITY

650-050-45
Environmental
Management
06/17

Project Name:	State Road (SR) 29 from Oil Well Road to SR 82				
FM#:	417540-1-22-01	ETDM#:	3752	FAP#:	3911 022 P
Project Review Date:	6/14/2018				
FDOT District:	1				
County(ies):	Collier				

A DOA IS REQUIRED FOR EACH SECTION 4(f) PROPERTY AND PROPOSED ALTERNATIVE.

Project Description including Section 4(f) Specific Information:

SR 29 extends from south of Oil Well Road north to SR 82 in Collier County and is approximately 15.6 miles in length. Existing SR 29 will be widened from two lanes to four lanes from south of Oil Well Road to CR 846 (Airport Road) and from the central alignment connection north of Immokalee to SR 82. SR 29 is proposed to be on new alignment in the central segment from CR 846 (Airport Road) north to its reconnection at existing SR 29 north of Immokalee. One of the proposed alternatives, Central #2, will require approximately 2.44 acres from the Airport Viewing Area.

Type of Property

Check all that apply:

- Public Parks and Recreation Areas
- Wildlife and Waterfowl Refuges
- Historic Sites

Description of Property: The Immokalee Regional Airport is located northeast of the intersection of SR 29 and CR 846 (Airport Road). The Airport Viewing Area, owned by the Collier County Airport Authority, occupies the southwest corner of the airport property. See the exhibit included in Attachment 1. A Memorandum of Understanding (MOU) was entered into on April 26, 2011 between the Collier County Airport Authority and Collier County, operating through its Parks and Recreation Department. See Attachment 3. The MOU establishes the primary use of the property as one supporting airport operations and consents to the Collier County Parks and Recreation Department use of the Airport Viewing Area for passive recreational purposes and for attendance by large group activities, such as outdoor concerts, festivals, charitable functions, etc.. However, the MOU establishes that the Collier County Airport Authority maintains control and the regulated use occurs on an "as needed basis". The MOU establishes a process by which the Airport Viewing Area may be used and prohibits the placement or installation of any permanent building, trees, structure or fixtures. It does allow for sidewalks and/or bicycle pathways, park benches and picnic tables. It is also stated in the MOU that the Collier County Airport Authority may terminate the agreement upon thirty (30) days written notice and return the Airport Viewing Area to airport use.

Criteria of Selected Property Type(s):

Public Parks and Recreation Areas

- Must be publicly owned which refers to ownership by local, state or federal government
 - Ownership can also include permanent easements and long-term lease agreements
- Must be open to the public during normal hours of operation
- The major purpose must be for park or recreation activities
- Must be designated or function as a significant park or recreational area.
 - Applies to the entire park or recreation area not just a specific feature

Wildlife and Waterfowl Refuge

- Must be publicly owned which refers to ownership by local, state or federal government;
 - Ownership can also include permanent easements and long-term lease agreements;

FLORIDA DEPARTMENT OF TRANSPORTATION
SECTION 4(F) DETERMINATION OF APPLICABILITY

690-050-45
Environmental
Management
06/17

- Must be open to the public but **refuges are able to restrict access for the protection of refuge habitat and species;**
- The major purpose must be for wildlife and waterfowl refuges;
- Must be designated or function as a significant as a wildlife and waterfowl refuges; -
 - Applies to the entire wildlife and waterfowl refuges not just a specific feature

Historic Sites- includes historic buildings, historic transportation facilities, archeological sites, traditional cultural places, historic & archeological districts and historic trails.

- Must be of national, state or local significance and it must be eligible for listing or is listed on the National Register of Historic Places (NRHP); or
- If a site is determined not to be eligible OEM may determine that the application of Section 4(f) is otherwise appropriate when an official (such as the Mayor, president of a local historic society) provides information to support that the historic site is of local importance.

Does the identified resource meet all of the criteria for the selected property type?

Yes, continue to complete the form

No, STOP Section 4(f) does not apply

Identify the Official(s) with Jurisdiction (OWJ) contacted: Justin Lobb, Airports Manager, Collier County Airport Authority. Statement of Significance concurrence provide in Attachment 2.

Date correspondence sent to the OWJ: 6/1/2018

Has the Official(s) with Jurisdiction (OWJ) responded?

Yes No

Has the 30 day response period passed since the initial OWJ correspondence was sent?

Yes No

Please answer the questions below about the resource:

Note: A potential source for this information can include the property management plan, resource website and/or communications with the OWJ (be sure to document these communications in writing).

What is the size and location of the property (include a map of the resource)?

██████████

Who/what organization owns/manages the property?

██████████

What is the primary function (activities, features and attributes) within the meaning of Section 4(f) of the facility or property?

██████████

Please describe the location of available appurtenances and facilities (e.g. tennis courts, pools, shelter houses, sports fields, beaches) on the property:

FLORIDA DEPARTMENT OF TRANSPORTATION
SECTION 4(F) DETERMINATION OF APPLICABILITY

650-050-45
Environmental
Management
06/17

What is the function of/or the available activities on the property?

Access and Usage of the property by the Public:

Relationship to other similarly used lands/facilities in the vicinity:

Are there any unusual characteristics of the property that either limit or enhance the value of the resource? If so please explain:

Describe project activities that could potentially "use" the resource:

If applicable, give a general description of the history of the Historic Site, Archaeological Site or Historic District:

Based on the above information the recommended level of Section 4(f) evaluation for this property is:

Select the level of Section 4(f) evaluation: Choose an Item

Reason the selected level is appropriate:

Supporting Documentation

The following items **must** be attached to this form:

1. A map of the resource based on the guidelines in the PD&E Manual Part 2, Chapter 7, including the proposed alternative being evaluated.
2. Statement of Significance from OWJ or FDOT's presumption of significance.
3. Determination of Eligibility or Listing in the National Register of Historic Places, Archaeological Site (*include criterion of eligibility*) or a Historic District if applicable.

Signatures

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 14, 2016, and executed by FHWA and FDOT.

Signature: Adam Purcell, AECOM : 6/14/2018
Preparer Date

Signature: Gwen G. Pipkin : 6/15/2018
Environmental Manager, or designee Date

FLORIDA DEPARTMENT OF TRANSPORTATION
SECTION 4(F) DETERMINATION OF APPLICABILITY

850-660-45
Environmental
Management
06/17

OEM
Concurrence:



6/26/2018

Signature:



Director of OEM, or designee

6/26/18

Date

FLORIDA DEPARTMENT OF TRANSPORTATION
SECTION 4(F) DETERMINATION OF APPLICABILITY

650-050-45
 Environmental
 Management
 01/19

Project Name:	State Road (SR) 29 from Oil Well Road to SR 82		
FM#:	417540-1-22-01	ETDM#:	3752
FAP#:	3911 022 P		
Project Review Date:	5/10/2019		
FDOT District:	1		
County(ies):	Collier		

Project Description including Section 4(f) Specific Information:

SR 29 is designated as an Emerging Strategic Intermodal System (SIS) and is a major north-south corridor in Collier County. The project extends from Oil Well Road to SR 82 and is approximately 15.6 miles in length. The project proposes to widen existing SR 29 from two lanes to four lanes from Oil Well Road to south of Farm Worker Way and from north of Westclox Street/New Market Road (CR 29A) to SR 82, as well as include a new four-lane alignment from north of Seminole Crossing Trail to north of Westclox Street/New Market Road (CR 29A) (Central Alternative #2). Based on comments received at the Public Hearing held on November 15, 2018 and further coordination with Collier County, the Central Alternative #2 alignment was shifted to the east to avoid impacts to Immokalee Airport Park. The shifted Central Alternative #2 (Preferred Alternative) is now anticipated to impact 5.49 acres of the Immokalee Airport Conservation Easement.

Type of Property

Check all that apply:

- Public Parks and Recreation Areas
- Wildlife and Waterfowl Refuges
- Historic Sites

Description of Property: The Immokalee Airport Conservation Easement, totaling 154.28 acres, located along the western edge of the Immokalee Regional Airport property, is owned by Collier County and the easement is managed by the Florida Fish and Wildlife Conservation Commission (FWC). The deed granted by Collier County to the FWC establishes the purpose of the Immokalee Airport Conservation Easement along with the Immokalee Regional Airport Upland Management Area (which includes the easement area) (see Attachment 1). The referenced management plan (included as part of the Gopher Tortoise Incidental Take Permit issued by FWC to the airport) is provided as Attachment 2; the management plan may be found specifically within Attachment 2 on pp. 45-47 of this pdf document. The Federal Aviation Administration (FAA), in response to their review of the project Environmental Assessment, indicated that airport use is the primary purpose of the Immokalee Airport Conservation Easement; conservation use is ancillary as this area was designated for mitigation as part of the Gopher Tortoise Incidental Take Permit. FAA also requested to serve as the Official With Jurisdiction (OWJ) since the conservation easement is located on Immokalee Regional Airport property (see Attachment 3). The Florida Department of Transportation (FDOT) Office of Environmental Management (OEM) and legal staff reviewed the deed and management plan along with correspondence received from the FAA as part of their review of the Environmental Assessment. The FDOT OEM and legal staff determined that the easement serves as conservation for the airport property permit. The FDOT OEM and legal staff additionally agreed that the FAA is the OWJ over the conservation easement and concurs with FAA's determination that the primary purpose of the land is airport use. Therefore, Section 4(f) does not apply.

Criteria of Selected Property Type(s):

- Public Parks and Recreation Areas**
 - Must be publicly owned which refers to ownership by local, state or federal government
 - Ownership can also include permanent easements and long-term lease agreements
 - Must be open to the public during normal hours of operation
 - The major purpose must be for park or recreation activities
 - Must be designated or function as a significant park or recreational area.
 - Applies to the entire park or recreation area not just a specific feature

FLORIDA DEPARTMENT OF TRANSPORTATION
SECTION 4(F) DETERMINATION OF APPLICABILITY

Wildlife and Waterfowl Refuge

- Must be publicly owned which refers to ownership by local, state or federal government;
 - Ownership can also include permanent easements and long-term lease agreements;
- Must be open to the public but **refuges are able to restrict access for the protection of refuge habitat and species;**
- The major purpose must be for wildlife and waterfowl refuges;
- Must be designated or function as a significant as a wildlife and waterfowl refuges; -
 - Applies to the entire wildlife and waterfowl refuges not just a specific feature

Historic Sites- includes historic buildings, historic transportation facilities, archeological sites, traditional cultural places, historic & archeological districts and historic trails.

- Must be of national, state or local significance and it must be eligible for listing or is listed in the National Register of Historic Places (NRHP); or
- If a site is determined not to be eligible OEM may determine that the application of Section 4(f) is otherwise appropriate when an official (such as the Mayor, president of a local historic society) provides information to support that the historic site is of local importance.

Does the identified resource meet all of the criteria for the selected property type?

Yes, continue to complete the form

No, STOP Section 4(f) does not apply

Identify the Official(s) with Jurisdiction (OWJ) contacted: _____

Date correspondence sent to the OWJ: [Click here to enter a date.](#)

Has the Official(s) with Jurisdiction (OWJ) responded?

Yes No

Has the 30-day response period passed since the initial OWJ correspondence was sent?

Yes No

Please answer the questions below about the resource:

Note: A potential source for this information can include the property management plan, resource website and/or communications with the OWJ (be sure to document these communications in writing).

What is the size and location of the property (include a map of the resource)?

Who/what organization owns/manages the property?

What is the primary function (activities, features and attributes) within the meaning of Section 4(f) of the facility or property?

FLORIDA DEPARTMENT OF TRANSPORTATION
SECTION 4(F) DETERMINATION OF APPLICABILITY

650-050-45
Environmental
Management
01/19

█
Please describe the location of available appurtenances and facilities (e.g. tennis courts, pools, shelter houses, sports fields, beaches) on the property:

█
What is the function of/or the available activities on the property?

█
Access and Usage of the property by the Public:

█
Relationship to other similarly used lands/facilities in the vicinity:

█
Are there any unusual characteristics of the property that either limit or enhance the value of the resource? If so please explain:

█
Describe project activities that could potentially "use" the resource:

█
If applicable, give a general description of the history of the Historic Site, Archaeological Site or Historic District:

█
Based on the above information the recommended type of documentation for this property is:

Select the appropriate documentation (i.e. No Use, Exception, de minimis approval, etc.): Choose an Item

Reason the selected level is appropriate:

█
Supporting Documentation

The following items **must** be attached to this form:

1. A map of the resource based on the guidelines in Part 2, Chapter 7 of the PD&E Manual, including the proposed alternative being evaluated.
2. Statement of Significance from OWJ or FDOT's presumption of significance.
3. Determination of Eligibility or Listing in the National Register of Historic Places, Archaeological Site (*include criterion of eligibility*) or a Historic District if applicable.

Signatures

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 14, 2016, and executed by FHWA and FDOT.

Adam Purcell, AECOM
Preparer

5/10/2019
Date


FLORIDA DEPARTMENT OF TRANSPORTATION
SECTION 4(F) DETERMINATION OF APPLICABILITY

650-050-45
Environmental
Management
01/19

Gwen G. Pipkin
Environmental Manager, or designee

5/10/2019
Date

OEM
Concurrence:


OEM Subject Matter Expert

5/20/2019
Date

FLORIDA DEPARTMENT OF TRANSPORTATION
SECTION 4(F) NO USE DETERMINATION

850-050-49
Environmental
Management
01/19

Name:	State Road (SR) 29 from Oil Well Road to SR 82		
FM#:	417540-1-22-01	ETDM#:	3752
FAP#:	3911 022 P		
Project Review Date:	5/10/2019		
FDOT District:	1		
County(ies):	Collier		

Project Description including Section 4(f) Specific Information:

SR 29 is designated as an Emerging Strategic Intermodal System (SIS) and is a major north-south corridor in Collier County. The project extends from Oil Well Road to SR 82 and is approximately 15.6 miles in length (see Attachment 2, Location Map). The project section of SR 29 specifically traverses the unincorporated community of Immokalee in eastern Collier County. SR 29 will be widened from two lanes to four lanes from Oil Well Road to south of Farm Worker Way and from north of Westclox Street/New Market Road (CR 29A) to SR 82, as well as include the addition of a new four-lane alignment from north of Seminole Crossing Trail to north of Westclox Street/New Market Road (CR 29A) (Central Alternative #2). Based on comments received at the Public Hearing held on November 15, 2018 and further coordination with Collier County, the Central Alternative #2 alignment was shifted to the east to avoid all impacts to Immokalee Airport Park (see Attachment 2, Preferred Alternative). The shifted Central Alternative #2 serves as the Preferred Alternative.

Type of Property: Public Parks and Recreation Areas

Description of Property: The Immokalee Airport Park, totaling 5.1 acres, is owned and operated by Collier County as a public recreational resource, which is open and free to the public. The Immokalee Airport Park occupies part of a Collier County owned parcel that includes the Immokalee Airport as identified by the Collier County Property Appraiser. The park is located immediately outside and adjacent to the airport as shown in the Immokalee Airport Master Plan. Additionally, the boundary of the park is defined by an airport security fence that limits access north of Airport Access Road. Access can only be gained by traveling on New Market Road and is provided on the north side of the facility through a single gate located adjacent to the gravel parking area and is not accessible from SR 29. Airport Park includes an amphitheater, children's playground, picnic pavilions, restrooms, and open space containing picnic tables and benches. On June 6, 2013, FHWA found that protection under Section 4(f) of the US Transportation Act of 1966, as amended and implemented by 23 CFR 774, is applicable to Immokalee Airport Park.

Establishing Section 4(f) Use of the Property

Will the property be "used" as defined in **Section 4(f)** Resources chapter of the FDOT PD&E Manual? Examples of a "use" include but are not limited to acquiring right of way, new easements, and temporary occupancy?

- Yes
 No

An explanation of the relationship between the Section 4(f) property and the project:

The Preferred Alternative (Central Alternative #2) will pass to the east of Immokalee Airport Park avoiding any permanent acquisition. There will be no temporary adverse occupancies and no proximity impacts from the project to the park which significantly impair the protected functions (see Attachment 2, Preferred Alternative). While the park is identified as a noise sensitive site in the Noise Study Report prepared for this project in July 2018, the future traffic noise levels with the proposed roadway improvements are not predicted to approach, meet, or exceed the Activity Category C Noise Abatement Criteria at the park; therefore, no constructive use is anticipated. The existing access road and the gravel parking area will be maintained; no recreational activities, facilities, or features within the bounds of the park will be impacted. The Preferred Alternative will include pedestrian and bicycle facilities along SR 29 and installation of a signalized crosswalk at the new intersection of SR 29 and CR 846, providing additional pedestrian and bicycle access to the park. No use of the park will occur.

FLORIDA DEPARTMENT OF TRANSPORTATION
SECTION 4(F) NO USE DETERMINATION

650-050-49
Environmental
Management
01/19

Documentation

The following items **must** be attached to this form to ensure proper documentation of the Section 4(f) No Use:

1. DOA package (if used)
2. Required communications with the OWJ

Signatures

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 14, 2016, and executed by FHWA and FDOT.

Adam Purcell, AECOM
Preparer

5/10/2019
Date

Gwen G. Pipkin
Environmental Manager, or designee

5/10/2019
Date

OEM
Concurrence:


OEM Subject Matter Expert

5/20/2019
Date

OEM
Approval:


Director of OEM, or designee

5/20/19
Date



Florida Department of Transportation

RICK SCOTT
GOVERNOR

801 North Broadway Avenue
Bartow, FL 33830

MIKE DEW
SECRETARY

July 11, 2018

Timothy A. Parsons, Ph.D., Director
State Historic Preservation Officer
Florida Division of Historical Resources
Florida Department of State
R.A. Gray Building
500 South Bronough Street
Tallahassee, Florida 32399-0250

2018 JUL 13 A 8:12

REC'D
FLORIDA
HISTORIC PRESERVATION

Attention: Ms. Alyssa McManus, Transportation Compliance Review Program

Re: **Cultural Resource Assessment Survey
State Road 29 Project Development and Environment Study from Oil Well Road
(County Road 858) to State Road 82
Collier County, Florida
Financial Project ID No.: 417540-1-22-01**

Dear Dr. Parsons,

The Florida Department of Transportation (FDOT), District One, is pleased to submit the *Cultural Resource Assessment Survey (CRAS) for the State Road (SR) 29 Project Development and Environment (PD&E) Study from Oil Well Road (County Road [CR] 858) to SR 82 in Collier County, Florida*. Please find enclosed the following:

- One unbound copy of the CRAS report;
- One CD containing a .pdf of the CRAS report, an electronic version of the survey log and site file forms, selected photos, and GIS shapefiles of the survey area;
- One unbound copy of all site file forms, and
- One unbound survey log.

Also included is the Cultural Resources Desktop Analysis of Proposed Ponds and Floodplain Compensation Sites associated with the alternatives included in the CRAS. Please note that the objective of this desktop analysis is to provide preliminary cultural resource information to assist in the avoidance of previously recorded resources listed in, determined eligible for, or considered eligible for listing in the *National Register of Historic Places* (National Register). Once final ponds are selected, a cultural resource assessment of those ponds will be conducted.

Timothy A. Parsons, Ph.D.
SR 29 PD&E from Oil Well Road (CR 858) to SR 82
Collier County, Florida
Financial Project ID No.: 417540-1-22-01
July 11, 2018
Page 2 of 4

The CRAS was conducted in compliance with Section 106 of the *National Historic Preservation Act (NHPA) of 1966* (Public Law 89-665, as amended), as implemented by 36 Code of Federal Regulations (CFR) 800 -- *Protection of Historic Properties* (incorporating amendments effective August 5, 2004); Stipulation VII of the *Programmatic Agreement among the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation (ACHP), the Florida Division of Historical Resources (FDHR), the State Historic Preservation Officer (SHPO), and the FDOT Regarding Implementation of the Federal-Aid Highway Program in Florida* (Section 106 Programmatic Agreement, effective March 2016, amended June 7, 2017); the revised Chapter 267, *Florida Statutes (F.S.)*; and the standards embodied in the FDHR's *Cultural Resource Management Standards and Operational Manual* (February 2003), and Chapter 1A-46 (*Archaeological and Historical Report Standards and Guidelines*), *Florida Administrative Code*. In addition, this report was prepared in conformity with standards set forth in Part 2, Chapter 8 (*Archaeological and Historical Resources*) of the *FDOT Project Development and Environment Manual* (effective June 14, 2017). The objective of the CRAS was to identify cultural resources within the project area of potential effect (APE) and assess the resources in terms of their eligibility for listing in the *National Register of Historic Places* (National Register) according to the criteria set forth in 36 CFR Section 60.4.

No previously recorded or newly recorded archaeological sites were identified during the archaeological resources survey. The historic resources survey resulted in the identification of a total of 46 historic resources within the historic resources APE. This includes two previously recorded resources and 44 newly recorded resources. The previously recorded resources include the Immokalee Ice Plant (8CR642) and the Immokalee Regional Airport (8CR1087). The 44 newly recorded resources include 35 buildings (8CR1180-8CR1196, 8CR1236-8CR1238, 8CR1245-8CR1246, 8CR1323-8CR1329, 8CR1331-8CR1334, 8CR1369-8CR1370), two bridges (8CR1496-8CR1497), four canals (8CR1256, 8CR1368, 8CR1498-8CR1499), one road (8CR1309) and two resource groups (8CR1252 and CR1500).

Forty-five of the resources are considered ineligible for listing in the National Register either individually or as part of a historic district. One resource, the Immokalee Ice Plant (8CR642) is considered National Register-eligible. The Ice Plant was constructed in 1945 and, although there have been several additions, it maintains much of its integrity. This resource is representative of Immokalee's conversion from a community of individual isolated farmsteads to a more modern agricultural community and is considered eligible for the National Register under Criterion A for its role in Immokalee's Community Planning and Development, Agriculture, and Industry.

A webinar was held on June 20, 2018 with Alyssa McManus of the SHPO/FDHR Transportation Compliance Review Program, FDOT District 1, and the consultant team to provide an overview of the results of the CRAS and discuss the potential effects of the project on the potentially eligible Immokalee Ice Plant. The level of documentation needed to determine the effects to the Ice Plant were also discussed. Ms. McManus noted that it appeared there would be no adverse effect to the Ice Plant and agreed that the effects analysis could be included in this CRAS transmittal letter.

Timothy A. Parsons, Ph.D.
SR 29 PD&E from Oil Well Road (CR 858) to SR 82
Collier County, Florida
Financial Project ID No.: 417540-1-22-01
July 11, 2018
Page 3 of 4

The Criteria of Adverse Effects, as defined in the Section 106 implementing regulations, 36 CFR part 800.5, states:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative.

Neither of the proposed alternatives included any acquisition of property from the Ice Plant parcel. The proposed at-grade roadway improvements on SR 29 adjacent to the National Register-eligible Immokalee Ice Plant will fall entirely within the existing ROW and will match the existing roadway typical section (Attachment 1). The existing typical section includes two 12-foot lanes, concrete sidewalks and bike lanes in each direction separated by a raised median. The existing driveway access to the Ice Plant will remain. Improvements along SR 29, west of New Market Road, are limited to milling and resurfacing of the existing pavement in order to transition the proposed improvements to the existing roadway. None of the proposed improvements directly or indirectly impact the Ice Plant or diminish its integrity. Therefore, based on the criteria of adverse effect, the proposed project will not adversely affect those characteristics of the Immokalee Ice Plant that qualify this resource for listing in the National Register.

This letter and the enclosed CRAS report are respectfully provided for your review and concurrence with both the determinations of eligibility and the effects determination. This information is being provided in accordance with provisions contained in *Section 106 of the National Historic Preservation Act*. If you have any questions, please do not hesitate to call me at (863) 519-2375 or Gwen.Pipkin@dot.state.fl.us

Sincerely,



Gwen G. Pipkin
Environmental Manager

Timothy A. Parsons, Ph.D.
SR 29 PD&E from Oil Well Road (CR 858) to SR 82
Collier County, Florida
Financial Project ID No.: 417540-1-22-01
July 11, 2018
Page 4 of 4

Enclosures

Cc: Marlon Bizerra, FDOT
Jonathon Bennett, FDOT
Matthew Marino, FDOT
Roy Jackson, FDOT
Bill Howell, Lochner
Amy Streehman, Janus Research
Kathleen Hoffman, Janus Research

The Florida State Historic Preservation Officer finds the attached Cultural Resources Assessment Report complete and sufficient and concurs/ does not concur with the determinations of historic significance provided in this cover letter and does does not find applicable the determinations of effects and adverse effects provided in this cover letter for SHPO/FDHR Project File Number 2018-3480.

FDHR Comments:

CR 688 should be CR 668. Please correct and submit in report - files on disc. However, this office concurs w/ the determinations - findings of this report.

Timothy A. Parsons, Director, and

[DATE]

State Historic Preservation Officer

Florida Division of Historical Resources

From: Pipkin, Gwen G
To: [Bizerra, Marlon](#); [Howell, Bill](#); [Peate, Martin](#); [Brooks, Lauren](#); kwarren@rkk.com
Subject: FW: SR 29 Immokalee
Date: Tuesday, March 20, 2018 10:10:51 AM
Importance: High

We have concurrence from John Wrublik (see below) on our plan to do some species surveys as part of design. We will do the NRE as usual and get concurrence on the species we can do now, and include commitments to do during design for the rest. Please forward as needed.

Gwen G. Pipkin

Environmental Manager

Office - 863.519.2375

Cell - 863-280-5850

gwen.pipkin@dot.state.fl.us

From: Wrublik, John [mailto:john_wrublik@fws.gov]
Sent: Tuesday, March 20, 2018 8:26 AM
To: Pipkin, Gwen G <Gwen.Pipkin@dot.state.fl.us>
Subject: Re: SR 29 Immokalee

Gwen,

The proposal that the listed species surveys indicated for this project be conducted during the design phase of the project is acceptable to the Service. I don't have any further comments at this time.

John

John M. Wrublik
U.S. Fish and Wildlife Service
1339 20th Street
Vero Beach, Florida 32960
Office: (772) 469-4282
Fax: (772) 562-4288
email: John_Wrublik@fws.gov

NOTE: This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.

On Tue, Mar 20, 2018 at 7:30 AM, Pipkin, Gwen G <Gwen.Pipkin@dot.state.fl.us> wrote:

Hi John,

We spoke a while back about completing some of our species surveys during design for this

project. I followed up I with an email (see attached). I would like to know if you have had a chance to review that, and if we could get a response back?

I am also including the following additional information for your use.

- Panther: This is the major wildlife issue south of Immokalee, especially considering the number of panther vehicle strikes. A wildlife crossing at Owl Hammock curve is needed. PHUs for lost habitat will also need to be calculated as part of the PD&E.
- Crested caracara: No nests currently known in PD&E study area; surveys will be required during design for those segments that are not right in town.
- Scrub jay: An updated survey will be required during design for the new alignment segment northwest of the airport (a colony is known to exist in this area). There is no suitable habitat south of Immokalee.
- Wood stork: Suitable foraging habitat is present in all segments and at least three colonies are within 18.6 miles. A foraging habitat assessment should be completed during design.

Thanks, John, I look forward to your response!

Gwen G. Pipkin

Environmental Manager

Office - 863.519.2375

Cell - 863-280-5850

gwen.pipkin@dot.state.fl.us

----- Forwarded message -----

From: "Pipkin, Gwen G" <Gwen.Pipkin@dot.state.fl.us>

To: "John Wrublik (john_wrublik@fws.gov)" <john_wrublik@fws.gov>

Cc:

Bcc:

Date: Thu, 8 Mar 2018 17:36:41 +0000

Subject: 417540-1 - SR 29 from Oil Well Rd to SR 82, Immokalee

John,

We spoke last week about the method FDOT would like to use to accomplish the species surveys for this project, and I was going to send you an email with more information so you could reply back. My apologies for taking so long!

Due to time constraints on the project, and the sensitivity of the species issues in the area, we feel it would be more appropriate to complete the NRE with commitments to do the formal surveys and coordination during the design phase, when the plans are more detailed. The species we feel would be best to complete later are snail kite, scrub jay, caracara, bonneted bat, and panther. The forthcoming NRE will address the rest of the species, and contain the commitments for completing the rest during design.

Also, just to update you, we are planning to move forward with only two build alternatives and the

no-build alternative. We are in the process of officially eliminating Central Alternative #2 Revised, shown in blue below.



Thanks,

Gwen G. Pipkin
Environmental Manager
Office - 863.519.2375
Cell - 863-280-5850
gwen.pipkin@dot.state.fl.us

From: John Wrublik
To: [Bennett, Jonathon](#)
Subject: Re: [EXTERNAL] 417540-1-22-01 NRE Transmittal
Date: Friday, August 03, 2018 9:05:31 AM

EXTERNAL SENDER: Use caution with links and attachments.

John M. Wrublik
U.S. Fish and Wildlife Service
1339 20th Street
Vero Beach, Florida 32960
Office: (772) 469-4282
Fax: (772) 562-4288
email: John.Wrublik@fws.gov

NOTE: This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.

Jonathon,

Yes I have downloaded the documents for the SR 29 project. I thought that I had sent you a response to your email, letter, and NRE dated July 20, 2018, but I can not locate in my records so maybe I neglected to send it. Anyway, her is the response I thought I had sent to you. You indicated in your letter that the FDOT intends to re-initiate consultation with the Service regarding the project's adverse effects to the Florida panther and the Florida scrub-jay during the project's design and permitting phase. In order to avoid unnecessary duplication of effort and better manage my workload, I will respond to determinations for all listed species (i.e., panther, scrub-jay, and all species that you made a MANLAA determination in your July 20th, 2018 letter) at the time of re-initiation of consultation for this project (i.e., during the final design and permitting phase). I have no other comments on the project at this time.

Sincerely,

John Wrublik

On Thu, Aug 2, 2018 at 1:16 PM Bennett, Jonathon <Jonathon.Bennett@dot.state.fl.us> wrote:

Good afternoon,

The email below was sent Friday July 20th, 2018, it is for a review of the SR 29 from Oil Well Rd to SR 82 Collier County Natural Resource Evaluation Report (NRE). The link will expire on Friday August 3rd, please let me know if you need me to resend the link for your availability to download and review the NRE. If you have already retrieved this file, please disregard this email.

Thank you,

Jonathon A. Bennett

Environmental Project Manager

Florida Department of Transportation District One

801 North Broadway Avenue

Bartow, Florida 33830

Office – (863) 519-2495

Main – (863) 519-2300

62.05 MB

417540-1 NRE Transmittal_xxx.pdf

127.30 KB

Thank you for sharing files securely.

Secured by [Acrobat](#)



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MyFWC.com

September 4, 2019

Mr. Jonathon A. Bennett
Environmental Project Manager
Florida Department of Transportation (FDOT) District 1
801 N. Broadway Avenue
Bartow, FL 33830
Jonathon.Bennett@dot.state.fl.us

Re: SR 29 from Oil Well Road to SR 82, Collier County, Natural Resources
Evaluation Report, 2nd Addendum

Dear Mr. Bennett:

The Florida Fish and Wildlife Conservation Commission (FWC) staff has reviewed the 2nd Addendum to the Natural Resources Evaluation Report (NRE) for the above-referenced project, and finds that our August 21, 2018, comments (enclosed) on the NRE and NRE Addendum remain applicable. The preferred alignment has been shifted eastward, and now will require use of an additional 1.04 acres (total of 5.49 acres) of the FWC-held Immokalee Airport Conservation Easement. The FDOT has committed to provide the FWC with compensatory land acquisition, and we look forward to working with you on this endeavor. Also enclosed is our Conservation Easement Acceptance and Release Guidelines for your consideration.

Thank you for the opportunity to review the 2nd Addendum to the NRE for the SR 29 from Oil Well Road to SR 82 project in Collier County. If you need further assistance, please do not hesitate to contact our office by email at FWCConservationPlanningServices@MyFWC.com. If you have specific technical questions regarding the content of this letter, contact Brian Barnett at (772) 579-9746 or email brian.barnett@MyFWC.com.

Sincerely,

Jennifer D. Goff, Director
Office of Conservation Planning Services

jdg/bb
ENV 1-13-2
SR 29 from Oil Well Road to SR 82 Addendum_40082_090419

Enclosures



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August 21, 2018

Mr. Jonathon A. Bennett
Environmental Project Manager
Florida Department of Transportation (FDOT) District 1
801 N. Broadway Avenue
Bartow, FL 33830
Jonathon.Bennett@dot.state.fl.us

Re: SR 29 from Oil Well Road to SR 82, Collier County, Natural Resources
Evaluation Report, File Number 417540-1-22-01

Dear Mr. Bennett:

The Florida Fish and Wildlife Conservation Commission (FWC) staff has reviewed the Natural Resources Evaluation Report (NRE) and the NRE Addendum for the above-referenced project. The NRE was prepared as part of the Project Development and Environment Study for the proposed project. Since 2005, we have been involved in the review of this project via the Efficient Transportation Decision Making process as ETDM 3752, and through meetings and correspondence with FDOT District 1 and environmental resource agency staffs. We provide the following comments and recommendations for your consideration in accordance with Chapter 379, Florida Statutes and Rule 68A-27, Florida Administrative Code (F.A.C.).

Project Description

The project involves the widening of SR 29 from two lanes to four lanes between Oil Well Road and SR 82, a distance of approximately 15.6 miles, and including a new four-lane roadway bypassing the downtown area of Immokalee. The two build alternatives under consideration differ only in their alignment of the Immokalee bypass near the Immokalee Regional Airport. The Central Alternative #1 Revised runs to the west of the airport through developed land within Immokalee, while Central Alternative #2 runs through the Upland Management Area on the west side of airport property where the FWC holds a conservation easement associated with Gopher Tortoise (*Gopherus polyphemus*) Incidental Take Permit No. COL 36, and which is managed to benefit the resident Florida scrub-jays (*Aphelocoma coerulescens*). Central Alternative #2 would result in 4.45 acres of direct impact to this conservation easement. The project area is dominated by agricultural land use (pasture, rangeland, and citrus) with urban land use within the City of Immokalee. Natural land cover includes some pine flatwoods and several forested and herbaceous wetlands. The Big Cypress Area of Critical State Concern borders the east side of SR 29 in the southern portion of the project area.

Potentially Affected Resources

The NRE evaluated potential project impacts to 18 wildlife species classified under the Endangered Species Act as Federally Endangered (FE) or Threatened (FT), or by the State of Florida as Threatened (ST). Listed species were evaluated based on range and

potential appropriate habitat or because the project is within a U.S. Fish and Wildlife Service (USFWS) Consultation Area. Included were: eastern indigo snake (*Drymarchon corais couperi*, FT), American alligator (*Alligator mississippiensis*, FT based on similarity of appearance to American crocodile, *Crocodylus acutus*), Audubon's crested caracara (*Polyborus plancus audubonii*, FT), Everglade snail kite (*Rostrhamus sociabilis plumbeus*, FE), Florida grasshopper sparrow (*Ammodramus savannarum floridanus*, FE), Florida scrub-jay (FT), red-cockaded woodpecker (*Picoides borealis*, FE), wood stork (*Mycteria americana*, FT), Florida panther (*Puma concolor coryi*, FE), Florida bonneted bat (*Eumops floridanus*, FE), gopher tortoise (ST), Florida burrowing owl (*Athene cunicularia floridana*, ST), southeastern American kestrel (*Falco sparverius paulus*, ST), Florida sandhill crane (*Antigone canadensis pratensis*, ST), little blue heron (*Egretta caerulea*, ST), tricolored heron (*Egretta tricolor*, ST), roseate spoonbill (*Platalea ajaja*, ST), and Big Cypress fox squirrel (*Sciurus niger avicennia*, ST). Also evaluated were the bald eagle (*Haliaeetus leucocephalus*), which was delisted by state and federal agencies, but this species remains protected under state rule in Section 68A-16.002, F.A.C., and by the federal Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d); the osprey (*Pandion haliaetus*), which is protected under the Migratory Bird Treaty Act (16 U.S.C. 703-712); and the Florida black bear (*Ursus americanus floridanus*), which is protected in Section 68A-4.009 F.A.C.

Comments and Recommendations

Due to the lack of both appropriate habitat and observation during on-site surveys, project biologists made a finding of "no effect" for the red-cockaded woodpecker and Florida grasshopper sparrow. For the other federally listed species and the gopher tortoise, the biologist's findings were "may affect, but is not likely to adversely affect". The other state-listed species were given a "no adverse effect anticipated" determination. With adherence to the project commitments, we agree with these determinations.

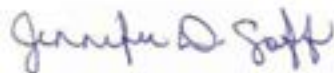
We support the project commitments for protected species, which include the following:

1. The FDOT will perform updated wildlife surveys for the species discussed in the NRE and other wildlife species during the project design phase to ascertain the involvement, if any, of listed/protected species.
2. The FDOT will coordinate further with the FWC during the project design phase for impacts associated with state-listed wildlife species.
3. A Section 7 Consultation with the USFWS will be completed during project design and permitting for the panther, scrub-jay, crested caracara, and wood stork. Appropriate mitigation will be completed for habitat impacts to these species.
4. A wildlife crossing will be constructed near the Owl Hammock curve, which has a high number of panther road kills.
5. The Standard Protection Measures for the Eastern Indigo Snake will be followed during construction.
6. For gopher tortoise burrows that cannot be avoided, the tortoises will be relocated per current FWC guidelines. For gopher tortoise survey methodology and permitting guidance, we recommend that FDOT refer to the FWC's Gopher Tortoise Permitting Guidelines (Revised January 2017) at (<http://www.myfwc.com/license/wildlife/gopher-tortoise-permits/>).

7. Should the Central Alternative #2 be selected for construction, FDOT will provide compensatory land acquisition to mitigate the loss of land within FWC's Immokalee Regional Airport Conservation Easement. As stated in the NRE Addendum, FWC has identified six priority parcels contiguous to the Platt Branch Wildlife and Environmental Area in Highlands County as preferred potential site options for mitigation.
8. The FDOT will resurvey the project limits for the presence of bald eagle nests prior to construction commencement. If a bald eagle nest is identified within the 660-foot construction buffer zone of the project area, the FDOT will coordinate with the FWS (as applicable) to secure all necessary approvals regarding this species prior to project construction.
9. The FDOT will resurvey the project limits for the presence of active osprey nests prior to construction commencement. If an active osprey nest is identified within the project area, the FDOT will coordinate with the FWC (as applicable) to secure all necessary approvals regarding this species prior to project construction.
10. The FDOT will follow the FDOT Supplemental Standard Specification 7-1.4.1 Additional Requirements for the Florida Black Bear to minimize human-bear interactions associated with construction sites during project construction.
11. Wetland impacts resulting from construction of this project will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344. Compensatory mitigation for this project will be completed through the use of mitigation banks and any other mitigation options that satisfy state and federal requirements.
12. During the construction phase of this project, the FDOT will implement the Standard Specifications for Road and Bridge Construction and other best management practices to avoid, where possible, and otherwise minimize adverse impacts to wetlands and water quality within the project limits to the maximum extent practicable.

Thank you for the opportunity to review the NRE for the SR 29 from Oil Well Road to SR 82 project in Collier County. If you need further assistance, please do not hesitate to contact our office by email at FWCConservationPlanningServices@MyFWC.com. If you have specific technical questions regarding the content of this letter, contact Brian Barnett at (772) 579-9746 or email brian.barnett@MyFWC.com.

Sincerely,



Jennifer D. Goff, Director
Office of Conservation Planning Services

Florida Fish and Wildlife Conservation Commission
620 South Meridian Street, Tallahassee, FL 32399

Policy, Position Statement, or Guideline (PPG)



TYPE OF PPG: Guidelines for Accepting or Releasing Perpetual Conservation Easements

ORIGIN: Division of Habitat and Species Conservation

APPROVAL AUTHORITY: Executive Director

EFFECTIVE DATE: June 4, 2019

INTENT OF PERPETUAL CONSERVATION EASEMENTS

Acceptance of conservation easements by the Florida Fish and Wildlife Conservation Commission (FWC) is a transfer of property rights intended to protect and conserve habitat for wildlife in perpetuity. Perpetual easements are commonly provided for mitigation and conservation purposes to offset impacts. When a landowner grants FWC an easement, it is understood that the transfer of title interest is permanent, and that both parties to the easement understand the intent is for permanent conservation. As stewards for wildlife, FWC accepts these permanent easements with the understanding that the habitat will be permanently protected from development or as otherwise specified in the easement.

PURPOSE OF THE GUIDELINES

The following guidelines are to guide Florida Fish and Wildlife Conservation Commission (FWC) staff in the review, approval, monitoring, and tracking process for the acceptance of a conservation easement by the FWC on private or public land (real property) for the conservation of fish and wildlife habitat to further FWC's mission and purpose. It is meant to provide a standard set of criteria to consider across FWC, except where existing protocol exists.

Similarly, these guidelines establish criteria for FWC to consider when evaluating requests for release of conservation easements, or a part thereof, granted to FWC through a gift, donation, or any other conveyance for the purposes of conservation and/or mitigation of impacts to fish and wildlife and their habitat, where a release or a replacement protocol has not previously been approved, or as provided in a Commission-approved management plan specific to the release of conservation easements. These guidelines provide a standard set of criteria to consider across FWC programs. These criteria and procedures for releasing and replacing conservation easements where FWC is the grantee, are meant to provide for consistent, responsive decisions to landowners requesting release of an easement.

A. CONSERVATION EASEMENT ACCEPTANCE GUIDELINES

Conservation easements convey an interest in land from the landowner to the grantee accepting the easement, and as such, are a powerful tool to protect wildlife habitat. However, without proper vetting, an easement can become a burden on the holder. In order to meet its mission, FWC accepts easements that provide enduring benefits to conservation, and for which the continual management is ensured. Factors that staff must consider before recommending acceptance of an easement include:

1. Whether the easement is located in one of FWC's Priority Habitat Areas. Conservation easements proposed for lands outside FWC Priority Habitat Areas may be considered with documentation by FWC staff that the easement would provide perpetual enduring benefits for fish and wildlife resources. Forty (40) acres is the minimum size of contiguous acres that FWC will typically accept under easement; properties smaller than 40 contiguous acres require Acquisition and Restoration Council review to qualify for the tax exemption under s. 196.26, F.S. Smaller parcels may be accepted on a case-by-case basis with justification.
2. Whether the property is likely to have consistent, appropriate management. Staff should consider factors such as: whether the landowner has a management plan, if a trust or some other financial product exists to provide management funding into the future, and if the easement location is adjacent to property being managed by a governmental agency that is willing to undertake the management to protect the conservation benefits of the property.
3. Whether the FWC program recommending the easement has the structure and resources necessary to ensure monitoring and compliance. Conservation easements include terms specific to the property, landowner, or purpose for which the easement was granted. When FWC accepts an easement, it is accepting the responsibility of monitoring the property for compliance, and, if that compliance is not occurring, either accepting the responsibility for management or for enforcement of the terms of the easement.

Since easement requirements are different depending on the program accepting them, each program desiring to accept easements shall create an easement protocol, which shall be submitted to the HSC Division Director or designee(s) for approval. Conservation easement protocols shall adhere to the requirements and guidance described in these guidelines and shall explain the details of how the easement program will be implemented. Elements to be addressed include, but are not limited to, the identification of staff to run the program, program purpose and objectives, selection criteria, success measures, reporting requirements, and internal tracking and reporting. The Conservation Easement Protocol Form (available on [SharePoint](#)) shall be used to prepare and submit all protocols. Identified staff will be responsible for implementing all aspects of each approved protocol, including processing individual easements, tracking compliance, entering appropriate data into a conservation easement database, and providing relevant program status information for annual reviews. The Land Conservation Planning subsection (LCP) in the Division of Habitat and Species Conservation shall periodically review the status of all conservation easement protocols and institute changes as needed based on the respective annual program review reports. Specific characteristics of conservation easement programs that may deviate from these guidelines must be approved by the LCP.

All easements accepted by the agency shall be included in a geodatabase managed by the LCP. The LCP shall review title documents and be included and have commenting authority in the creation of easements that will be held by the agency. Initial site visit and subsequent site reviews shall be the responsibility of the Division originating the easement, with reports provided to LCP.

1. Staff **shall require** the following (referenced forms available on [SharePoint](#)) in order to start a review of a potential conservation easement:
 - a. FWC Conservation Easement Application: Submittal of an FWC Conservation Easement Application by the landowner and, if applicable, an FWC permit application.
 - b. Baseline Report: Completion of a baseline easement report and resource inventory or equivalent acceptable to FWC that documents the condition and type of habitat along with any improvements on the property.
 - c. Management Plan: Include existing habitat management plan, Landowner Assistance Program (LAP) Conservation Plan, Forest Stewardship Plan, grazing plan or equivalent. The habitat management plan accepted by FWC must include a commitment by the landowner to manage the property in perpetuity in compliance with the habitat management plan to ensure the long-term conservation of the habitat and associated fish and wildlife resources.
 - d. Endowment: The landowner must provide an endowment or equivalent FWC-approved financial assurance instrument such as FWC Species Permitting - Financial Assurance Guidelines for funding perpetual management and monitoring requirements of the proposed conservation easement. Financial assurance requirements can be waived for properties that otherwise meet FWC conservation goals.
 - e. Due Diligence: The landowner is responsible for all costs of the conservation easement grant or donation including a Title Commitment and Policy (TCP), Environmental Site Assessment (ESA), Property Boundary Survey (PBS), documentary stamp taxes, and recording fees. A waiver of the TCP and ESA or PBS may be approved by the HSC Division Director according to each conservation easement program protocol. *
 - f. No subdivision: Landowners must agree in the conservation easement documents that they will not subdivide the land held under the easement.

*Due diligence products (title work and policies, boundary surveys, Environmental Site Assessment, etc.) are to be ordered from companies on the State of Florida's [approved list of contractors](#), but may be contracted from companies not on the State's list if approved by the FWC Land Conservation and Planning Administrator.

2. Conservation Easement Application Review
 - a. Responsibilities of the Conservation Easement Project Coordinator
 - i. Each application shall be assigned to a Conservation Easement Project Coordinator who shall coordinate the preparation of the Conservation Easement Application.

- ii. The Coordinator shall document the submittal of a Conservation Easement Application by the landowner along with a copy of the recorded deed verifying ownership in the landowner's name, tax ID number of proposed conservation easement parcel, property appraiser aerial photo and/or tax map of proposed donation parcel, and a legal description and/or existing survey of the proposed conservation easement parcel.
 - iii. The Coordinator shall coordinate completion of a Conservation Geographic Information Systems (GIS) Environmental Resource Analysis of the property and obtain a shapefile or digitized boundary of the property.
 - iv. The Coordinator shall distribute the FWC Conservation GIS Environmental Resource Analysis and Conservation Easement Application for the proposed conservation easement to the appropriate FWC region and Division or Office for evaluation of the potential long-term benefits and to ensure consistency with FWC's Conservation Easement Guidelines.
- b. Each Protocol shall state which staff are responsible for document review, who shall respond to and correspond with the applicant regarding application or due diligence deficiencies, and how the final recommendation of approval or denial shall be processed and provided to the HSC Division Director.
 - c. The HSC Division Director, in consultation with the Executive Director, shall approve or deny Conservation Easement requests.
3. Upon approval, FWC staff will proceed with coordination and preparation of the conservation easement and associated documents, obtain FWC legal approval of the easement and associated documents, and then forward them to the landowner for execution. FWC staff will include an easement acceptance page for agency signature prior to the easement being recorded in the county where the property is located. This is to make sure that FWC agrees and accepts the responsibility of monitoring and enforcing the easement into the future.
- a. Conservation easements shall be treated as contracts and routed, and a copy of the recorded easement archived in FWC's Contracts archive, unless an alternative routing and archiving process is created specifically for easements.
 - b. The Executive Director or Designee shall sign for acceptance of the easement.
 - c. In certain instances, FWC may negotiate conservation easements that may be held by other agencies or organizations. In those cases, each of those agencies or organizations policies for review and approval of conservation easements would also apply.

B. CONSERVATION EASEMENT RELEASE GUIDELINES

Conservation easements are an interest in land held for the public and a conservation purpose and are supposed to protect these interests in perpetuity. However, when landowners request the release of conservation easements, commission staff shall use the following guidelines to determine whether release is appropriate. Requestors shall provide compensation that provides a net conservation benefit. Following the guidelines will ensure that the release meets the requirement of a net conservation benefit, minimizes risks to the agency, and is treated consistently with other release requests.

1. Release Requests: Requestors must provide mitigation to permanently offset the impacts to the habitat/species due to their requested alteration to the conservation easement, even if mitigation requirements have been met for species impacts.
 - a. Avoidance – Landowner must avoid development within a conservation easement unless no other practical and prudent alternative is available, and all steps to minimize impacts as set forth below are implemented. A request to release and replace a conservation easement must include a comparison of the social, economic, and environmental effects of the alternative locations considered for the development impact and why these alternatives were not practical and/or prudent.
 - b. Minimization – Landowners requesting to release and replace a conservation easement, or part thereof, must show that adverse impacts to lands under the conservation easement will be minimized through reasonable measures where applicable by: locating the project in areas where less adverse impacts are expected, such as areas which have already been altered/impacted and are less sensitive than other areas; avoiding significant wildlife habitats, natural aquatic areas, wetlands, or other valuable natural resources; selecting areas to minimize impact to native habitat; employing best management practices in construction and operation activities; designing access roads and site preparation to avoid interference with hydrologic conditions that benefit wildlife and their habitat and reduce impacts on other wildlife resources; selecting areas that will not increase undesirable human activities on the lands under a conservation easement; and generally, not adversely impacting the habitat and species management on such lands.
2. Ideal replacement properties are the same habitat type or habitat that supports the species for which the easement was originally given and are contiguous to the effected parcel or in the same FWC region as the original easement. Replacement habitat shall be in the same condition as the easement property or better. Additional acreage may be required when the easement property being released fragments existing land under an easement, and/or is in better condition than the replacement property.
3. Compensation – If the easement replacement or modification request is accepted by FWC, monetary compensation plus habitat replacement resulting in a net conservation benefit must be received by FWC in conjunction with easement release/replacement acceptance. For example, if a landowner requests to be released from 10 ac of a 100 ac easement, the landowner must pay FWC an amount not less than the fair market value of the 10 ac, plus provide a property interest in similar or like habitat replacement according to the following criteria.
 - a. The applicant will pay the FWC an amount not less than the fair market value of the interest acquired in the parcel on which the linear or non-linear facility and related appurtenances will be located.

- i. Funds provided to FWC or a 3rd party non-governmental organization for management and/or in-kind services in lieu of habitat replacement, will not be considered as a “net conservation benefit.”
 - b. The applicant will provide to FWC the appropriate measure of additional land necessary to offset the actual acres of habitat proposed for release. FWC permits may also be required if impacts to protected species are likely by the proposed work.
 - i. Where habitat and wildlife corridor(s) will still exist (post- easement modification), the preferred “net conservation benefit” is 1.5 times the released acreage of like-habitat contiguous to the easement or lands managed by FWC (or other approved public agency) that yields a conservation benefit to wildlife (refer to the Conservation Easement Acceptance Guidelines above for easement acceptance criteria).
 - ii. Where habitat and wildlife corridor(s) will not exist (post- easement modification), the preferred “net conservation benefit” is 3 times the released acreage of like-habitat contiguous to the easement or lands managed by FWC (or other approved public agency) that yields a conservation benefit to wildlife (refer to the Conservation Easement Acceptance Guidelines above for easement acceptance criteria).
 - iii. In both scenarios, FWC will consider the replacement habitat ratio with the quality of the release habitat compared to replacement habitat, adjacency to other managed protected lands, and wildlife occurrences on the proposed property for release and replacement property.
 - iv. Requestor shall work with staff to determine suitable replacement property.
 - c. Compensation requirements specific to linear facilities – Only after all efforts to avoid and minimize impacts (see 1a and b above) to the lands protected under the conservation easement have been exhausted, FWC will consider easement modification requests for linear facilities and related appurtenances (e.g., electric, telecommunications or pipeline transmission and distribution facilities) for the purposes of providing services for public benefit based on the following criteria.
 - i. If the end result **will not** result in a permanent loss of habitat and the land will continue to provide wildlife habitat and corridors which retain prohibitions on development and conversion, the request must include a proposal for the compensation described in a. The existing easement must also be modified, and the allowable future use of the linear facility must be incorporated into the existing easement.
 - ii. If the end result **will** result in a loss of habitat or impact to the wildlife, the request must include a proposal for compensation described in a. *and* b. The existing easement must also be modified, and the allowable future use of the linear facility must be incorporated into the existing easement.

4. Violations - In cases where there has been a violation of the conservation easement, a release request will only be considered if the landowner provides compensation at a minimum as listed in both 3a and 3bii above.
5. Temporary impacts - Where the landowner is requesting a release due to an impact that is temporary and does not result in permanent loss of habitat, FWC and the landowner may agree to a temporary easement modification with appropriate mitigation for the habitat impacts, in lieu of release.
6. Incentive-based easements - FWC will not consider a release if the easement is provided through an FWC conservation incentive or regulatory program and the landowner has received any portion of the incentive or benefit (e.g., 3rd party mitigation income, or conservation incentive payments) under that easement from that program. If the landowner has not received any portion of the incentive or benefit (e.g., 3rd party mitigation income, or conservation incentive payments), FWC will consider the release in accordance with 1 above.

C. APPLICABLE CONSTITUTIONAL PROVISIONS, STATUTES AND RULES

1. Article XII, Section 28, Florida Constitution; Sections 193.501, 196.26, 259.105, 379.212
2. 704.06 Florida Statutes (F.S.).
3. FWC Internal Management Policies and Procedures (IMPP) 4.2. Contract Routing

D. DEFINITIONS

- **Conservation Easement Project Coordinator** - Conservation Easement Project Coordinators are the lead staff within each respective program office designated for coordinating evaluation and consideration of conservation easements.
- **Conservation easement tracking system** – LCP shall develop and maintain a centralized Geographic Information Systems database to record specific data sets related to all conservation easements held by FWC. This database shall be used for documenting, managing and monitoring conservation easements.
- **FWC Priority Habitat Areas:** FWC priority conservation areas are those areas identified by FWC as meriting strategic conservation priority and include, but are not limited to, Strategic Habitat Conservation Areas (SHCA), Critical Lands and Waters Identification Project (CLIP Priority I and II areas), Florida Forever Project Boundaries, other approved Public Conservation Acquisition Project Boundaries, FWC Florida Forever List Lands, FWC Optimum Conservation Planning Boundaries, FWC Wildlife Conservation Prioritization and Recovery (WCPR) Focal Species Habitat, FWC Landowner Assistance Program (LAP) Focal Areas, U.S. Fish and Wildlife Service's (USFWS) Critical Habitat, FWC Critical Wildlife Areas, USFWS or FWC Conservation Banks, FWC Mitigation Banks, Wetland Mitigation Banks, Species Specific Management Plans and Priority Habitats (for example; Bald Eagle Protection Sites and Gopher Tortoise Priority Habitats and Recipient Sites), and State Wildlife Action Plan Priority Habitats.

- **Net conservation benefit** - any effective action or transaction which promotes the overall characteristics of protected land under a conservation easement to benefit wildlife and their habitat. It is compensation over and above the market value of the affected parcel to offset any requested use or activity which would preclude or affect, in whole or in part, current or future uses of the natural resource lands. With regard to these guidelines, net conservation benefit shall not be solely monetary compensation, but shall include monetary compensation and at least 1.5 acres for every acre released of wildlife habitat in similar or better condition.
- **Perpetual conservation easement** – means a right or interest in real property which is appropriate to retaining land or water areas predominantly in their natural, scenic, open, agricultural, or wooded condition; retaining such areas as suitable habitat for fish, plants, or wildlife in perpetuity and without an expiration date. Because perpetual conservation easements are binding on future owners, the resource values of these properties are protected in perpetuity

E. IMPLEMENTATION PROCEDURES

Once reviewed by the appropriate program/contract manager where the easement applies, the program/contract manager must consult with the Legal Office for consistency with these guidelines and other applicable laws and rules prior to presenting to their Division for approval. Once the release or modification is approved, the amended conservation easement or release approval letter must be routed through LCP and the legal office and signed by the Executive Director or their delegate.

APPROVED:

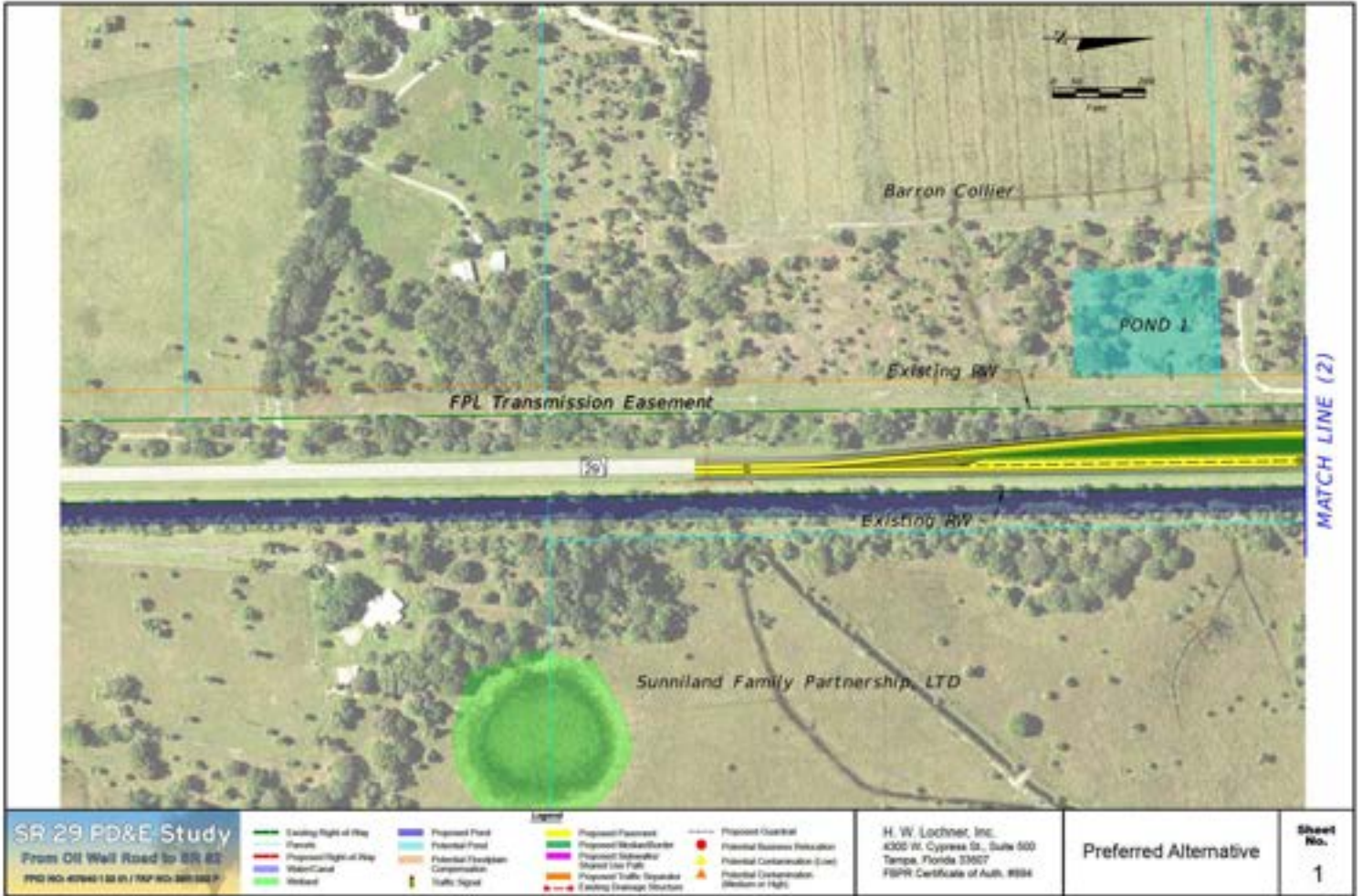
Thomas H. Ean

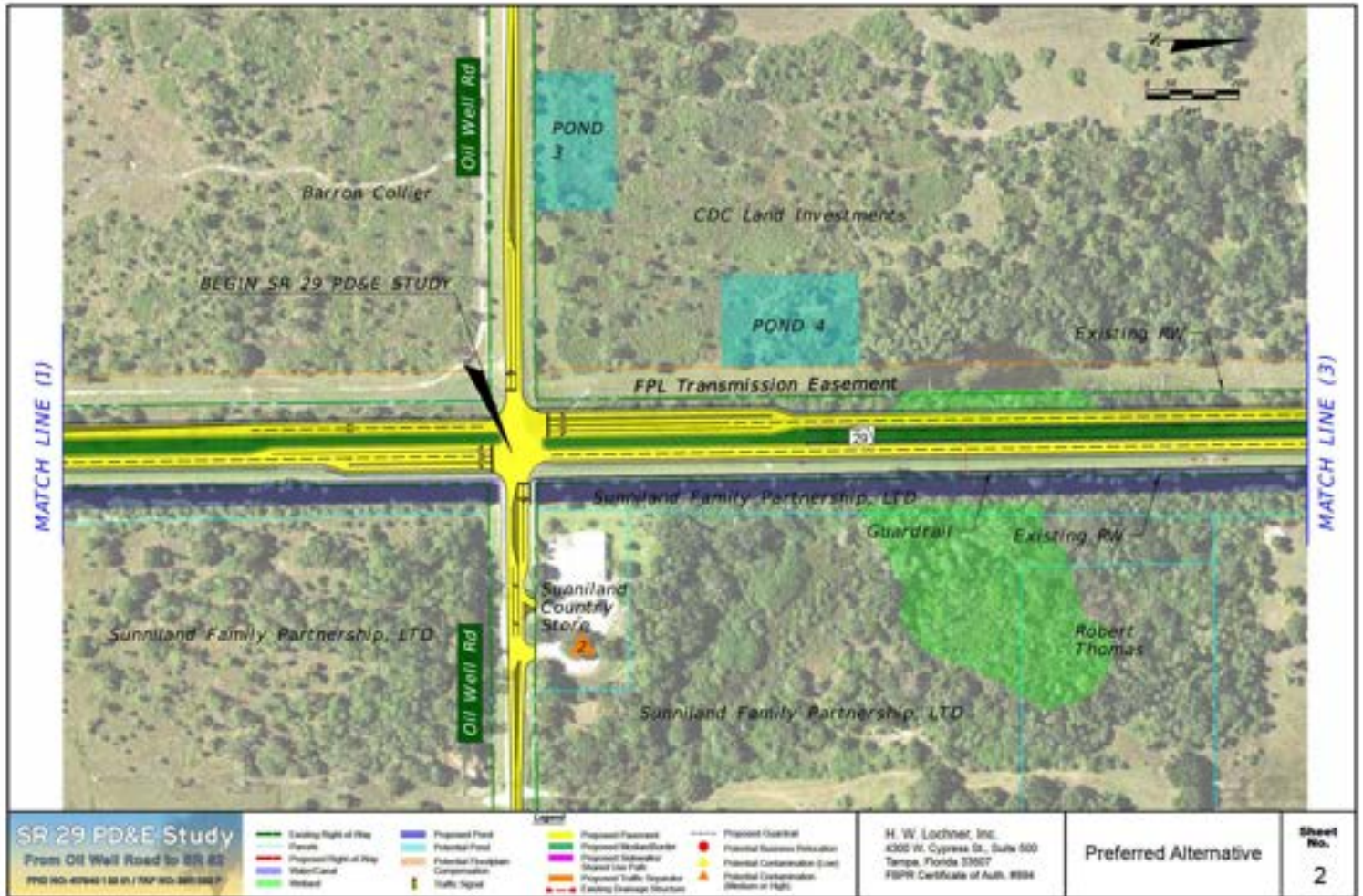
Executive Director or Designee

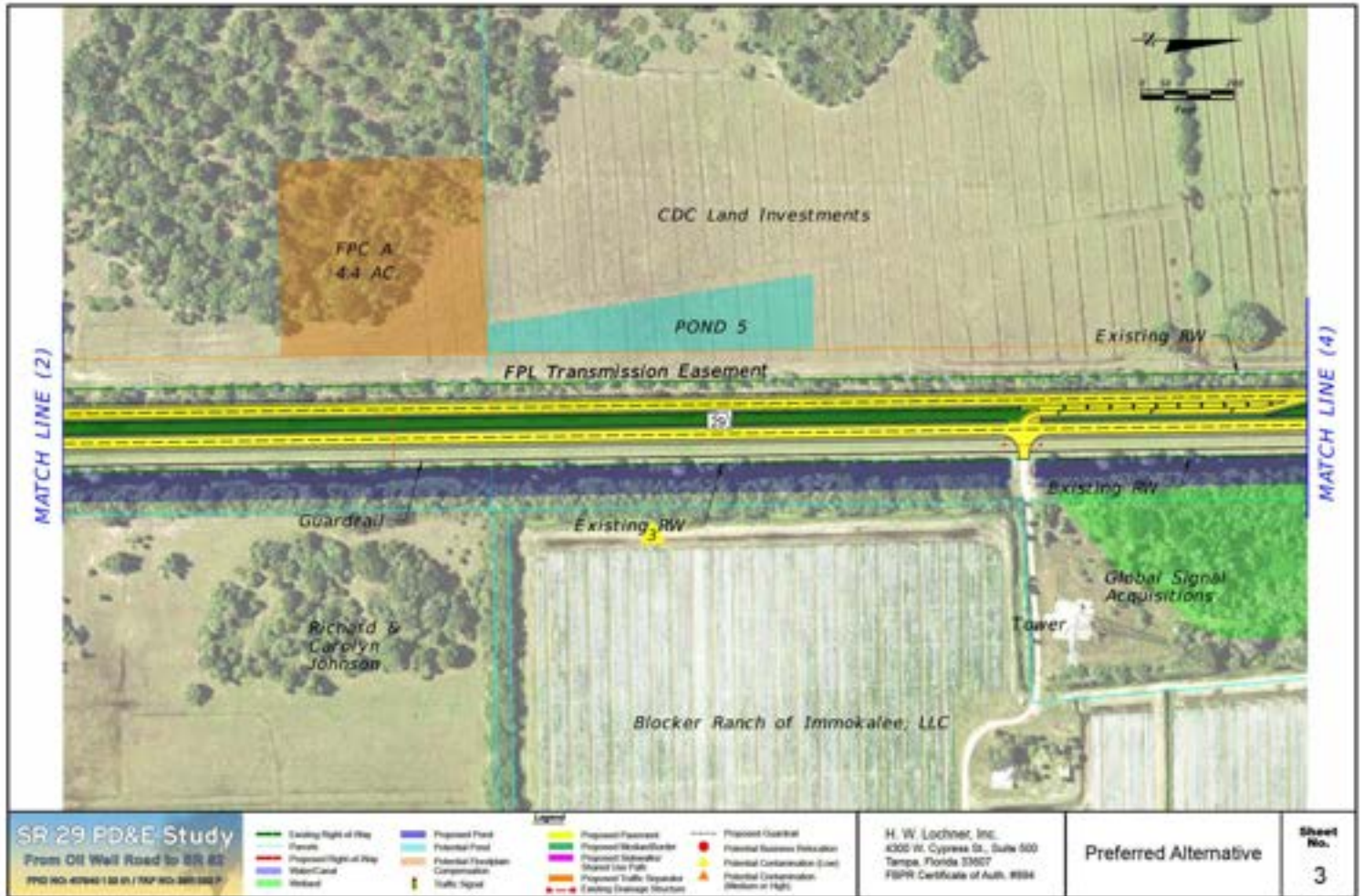
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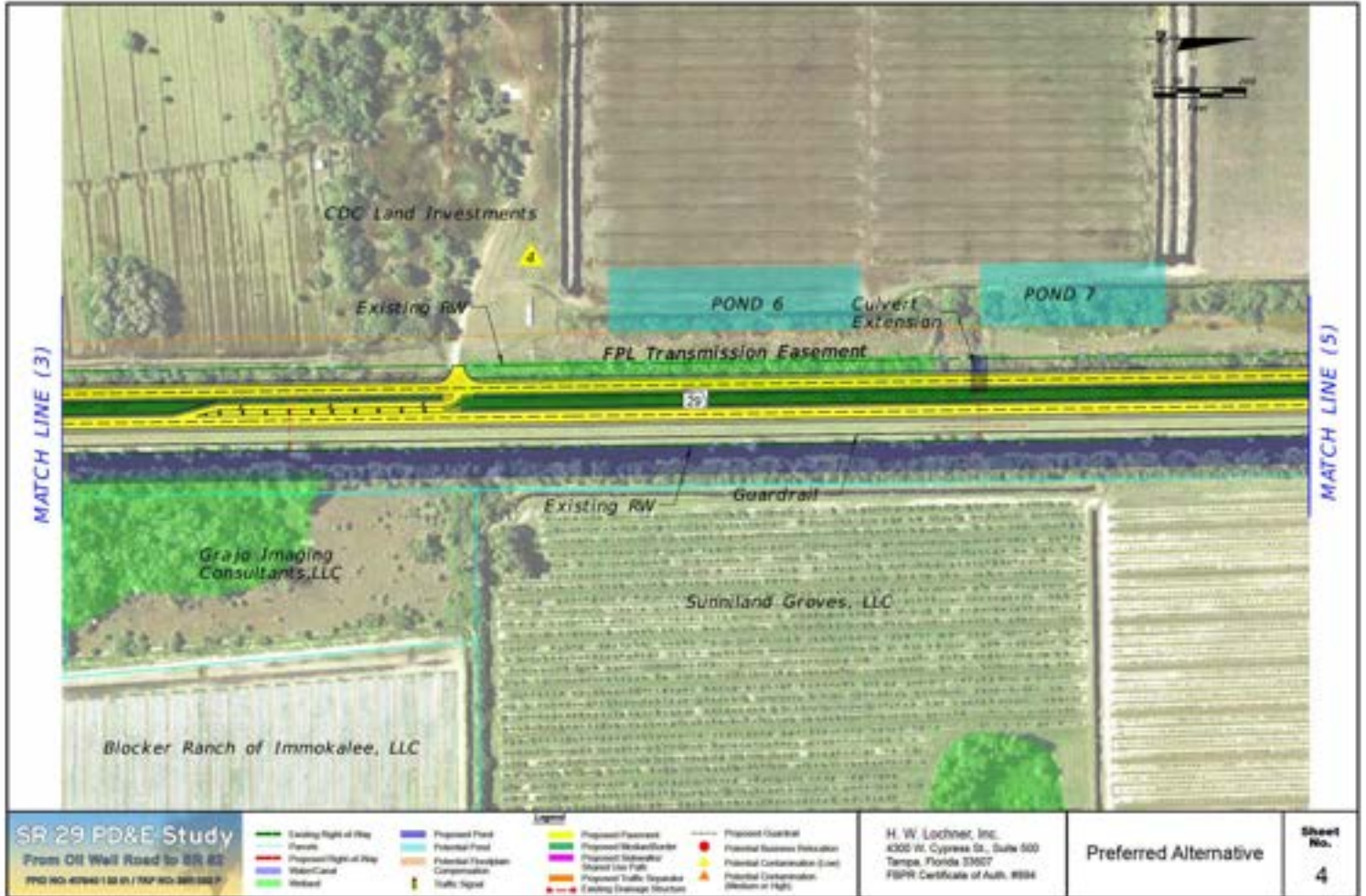
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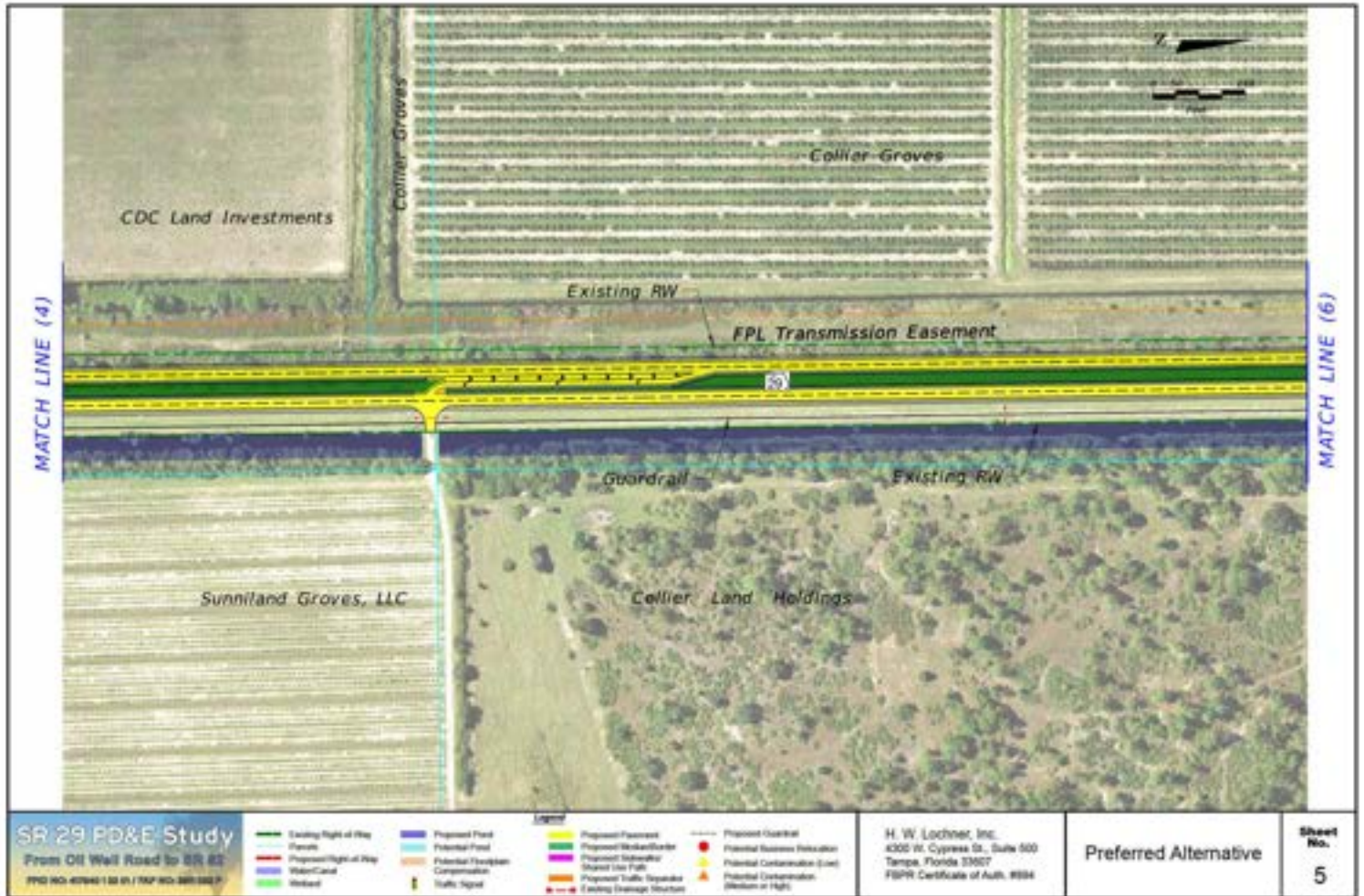
Appendix G
**Preferred Alternative Concept Plans –
CR 846 to SR 82 Refinements**

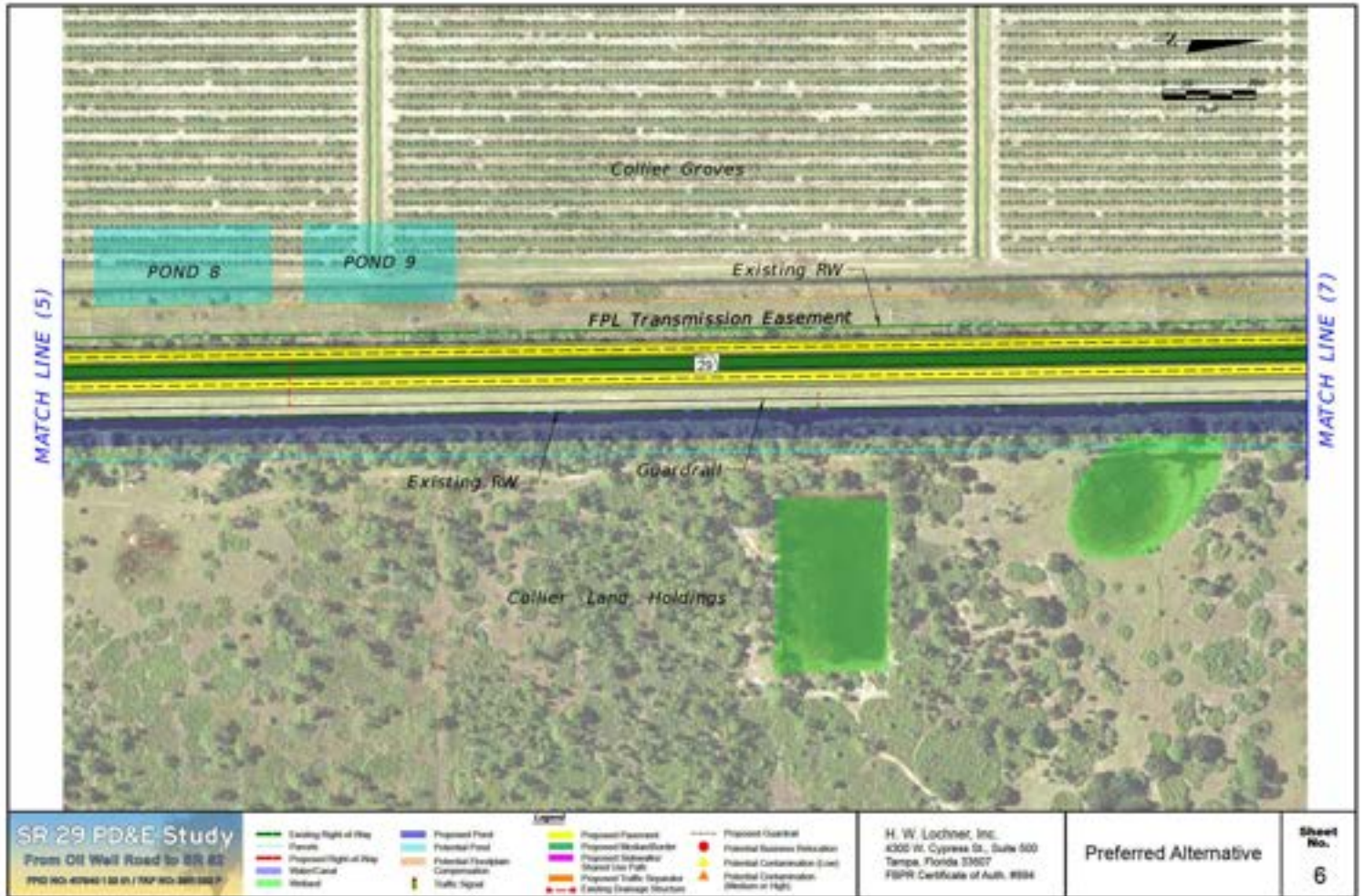












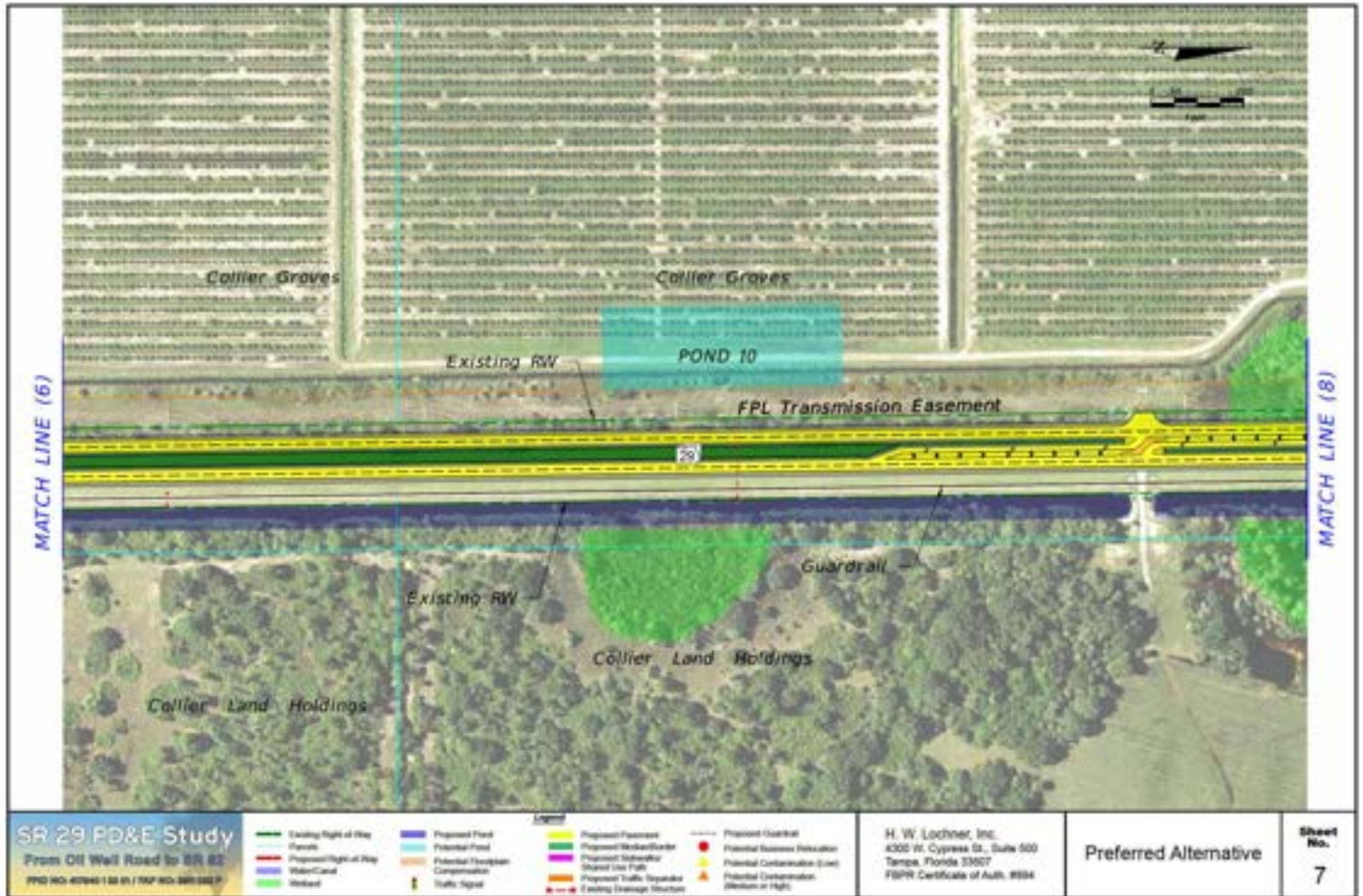
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 280-100-1

Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Potential Business Relocation
Easement	Potential Pond	Proposed Median/Center	Potential Contamination (Low)
Proposed Right of Way	Potential Topsoil/Compaction	Proposed Shoulder/Shoulder Line Right	Potential Contamination (Medium or High)
Water Canal	Traffic Signal	Proposed Traffic Separator	Existing Drainage Structure
Wetland		Existing Drainage Structure	

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6



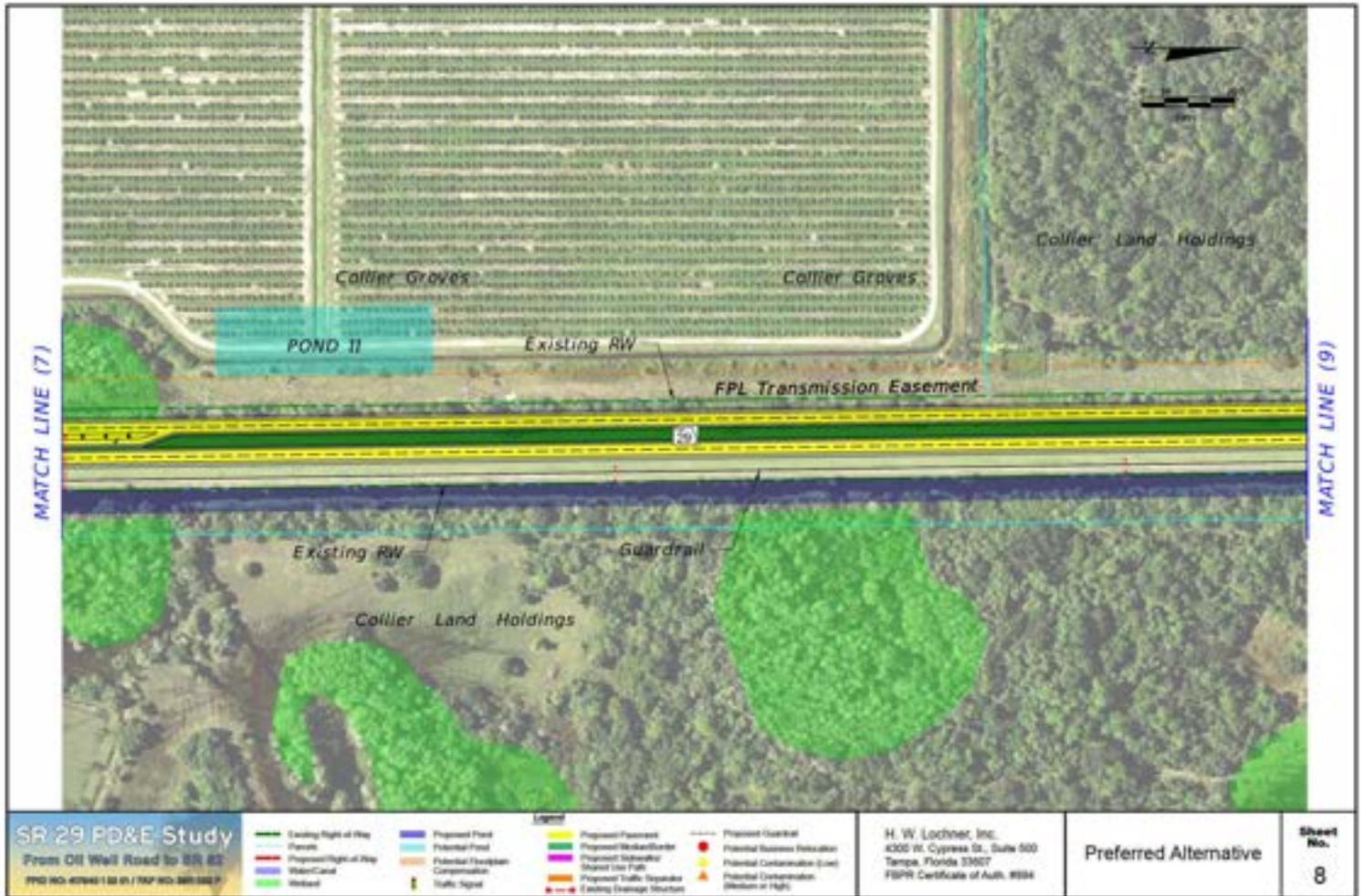
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47945-1 02 01 / PFD NO. 281-002 P

Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Guardrail
Potential Pond	Potential Topsoil Compaction	Proposed Median/Center Street Line Right	Potential Business Relocation
Proposed Right of Way	Traffic Signal	Proposed Water/Canal	Potential Construction (Low)
Water/Canal		Proposed Traffic Separator	Potential Construction (Medium or High)
Wetland		Existing Drainage Structure	

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7



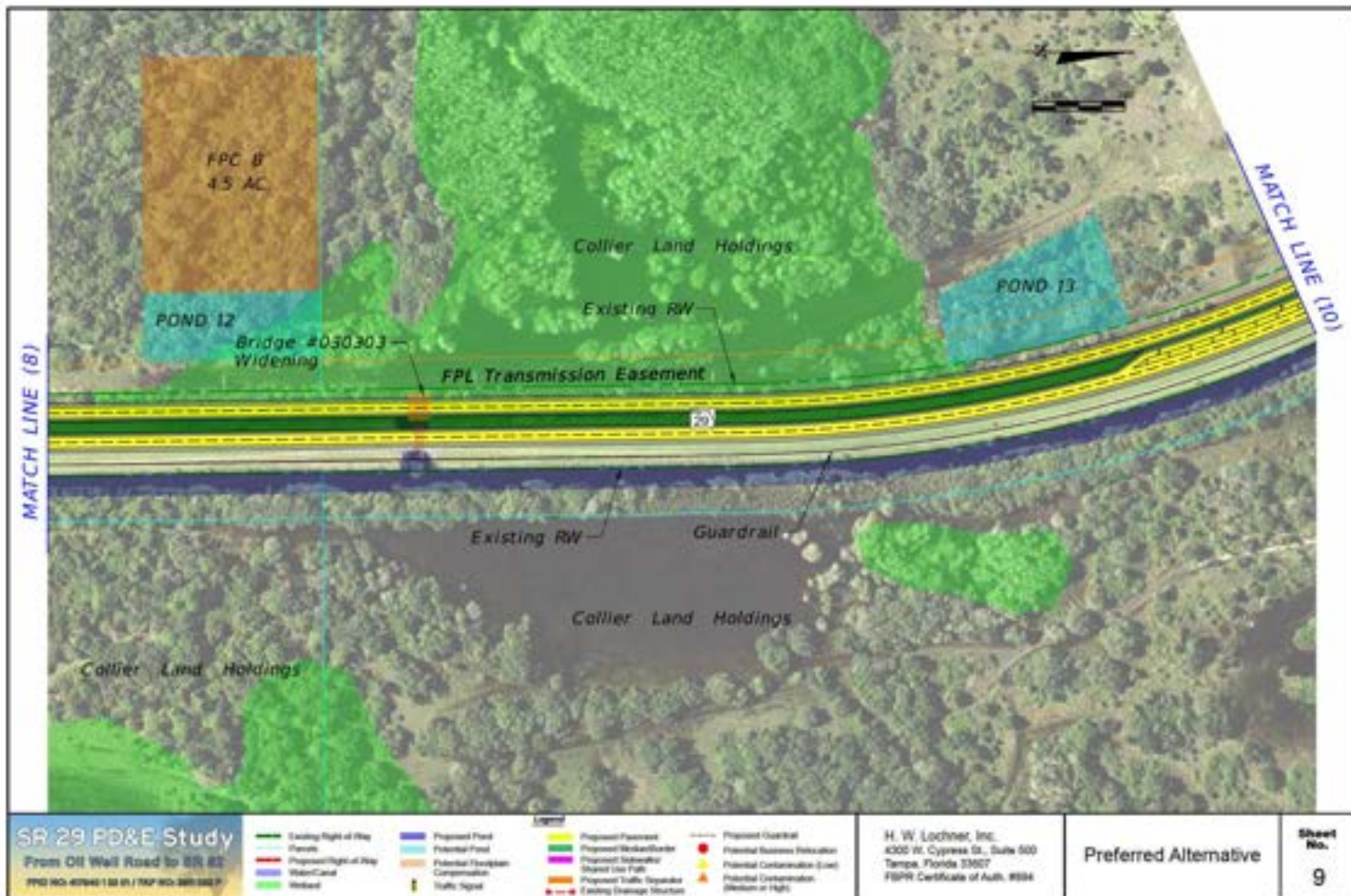
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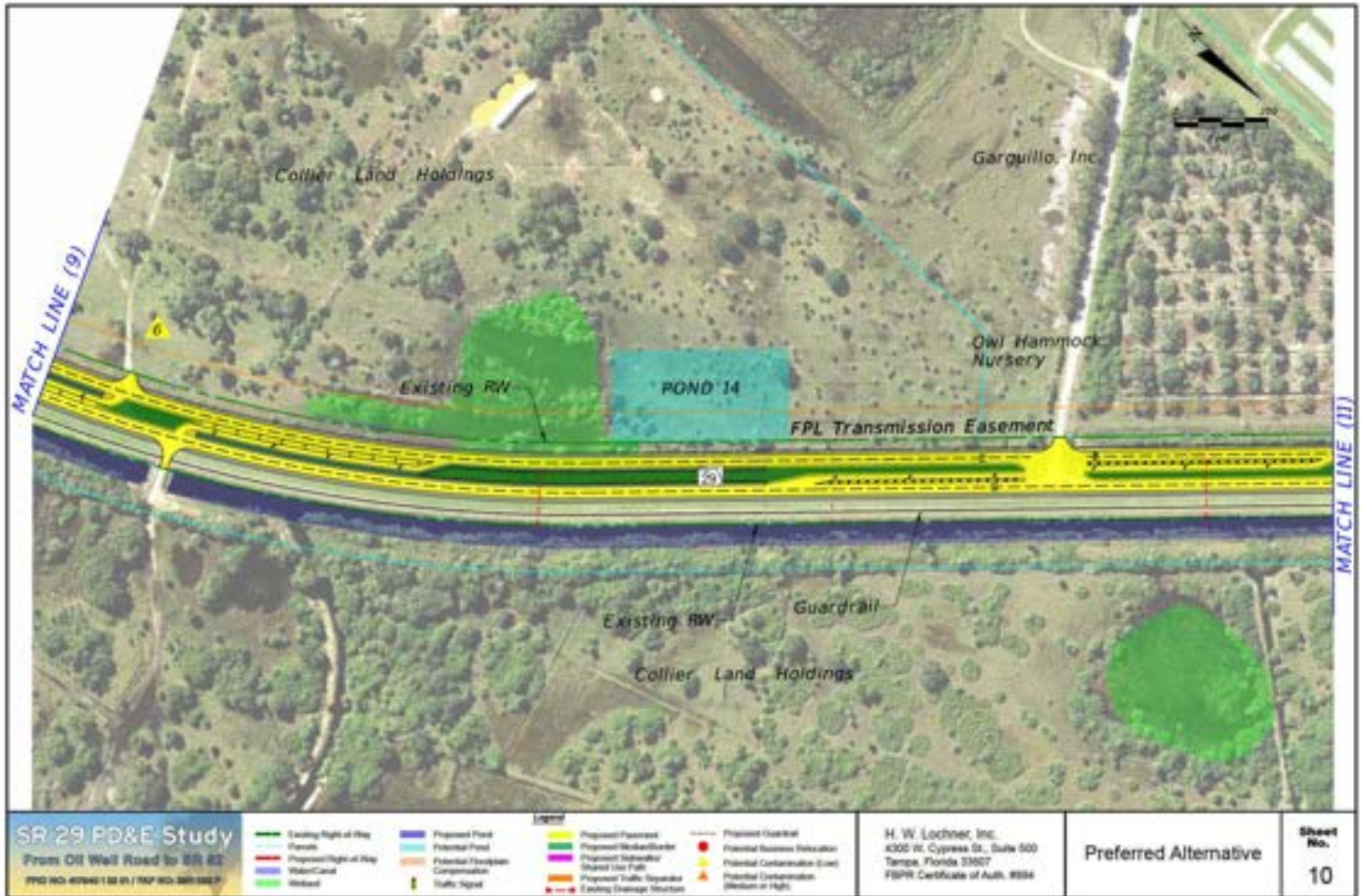
Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Guardrail
Easement	Potential Pond	Proposed Median/Center	Potential Business Relocation
Proposed Right of Way	Potential Obstruction	Proposed Shoulder	Potential Contamination (Low)
Water Canal	Compression	Proposed Traffic Separator	Potential Contamination (Medium or High)
Wetland	Traffic Signal	Existing Drainage Structure	

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Sheet No.
8





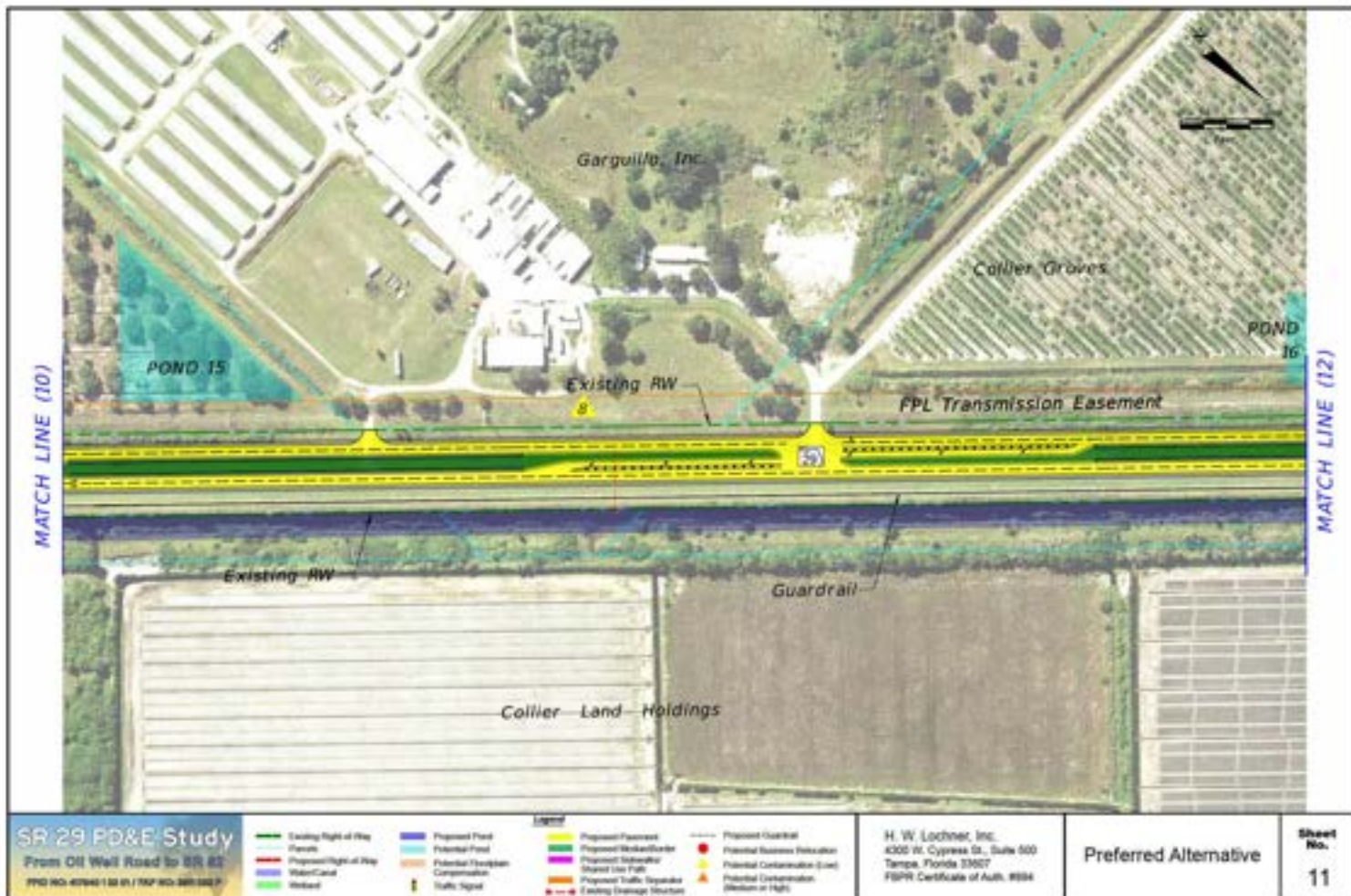
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 289-100-1

Legend			
Existing Right of Way	Proposed Front	Proposed Pavement	Proposed Guardrail
Easement	Potential Pond	Proposed Median/Center	Potential Business Relocation
Proposed Right of Way	Potential Roadway Compression	Proposed Subparallel Shoulder (See Note)	Potential Contamination (Low)
Water/Canal	Traffic Signal	Proposed Traffic Separator	Potential Contamination (Medium or High)
Wetland		Existing Drainage Structure	

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 10



SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / 100' W. 200' S. 200' E.

Existing Right of Way	Proposed Pond	Proposed Pavement	Proposed Guardrail
Driveway	Potential Pond	Proposed Median/Center	Potential Business Relocation
Proposed Right of Way	Potential Roadway Compression	Proposed Subroadway	Potential Concentration (Low)
Water/Canal	Traffic Signal	Proposed Lane Markings	Potential Concentration (High)
Retained		Proposed Traffic Separator	
		Existing Drainage Structure	

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11





SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 289-100-1

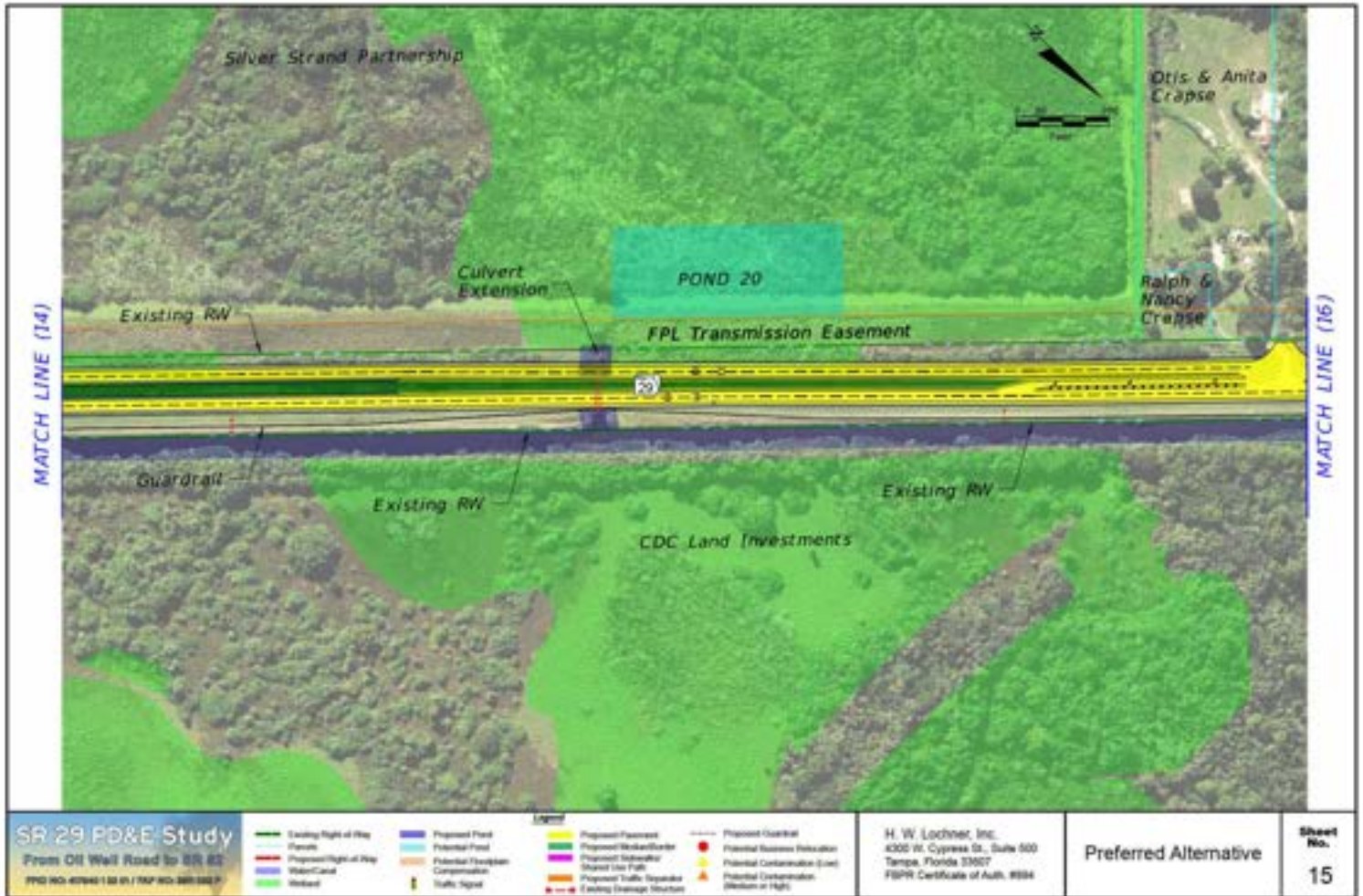
Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Guardrail
Easement	Potential Pond	Proposed Median/Center	Potential Business Relocation
Proposed Right of Way	Potential Floodplain	Proposed Subparallel	Potential Contamination (Low)
Water/Canal	Potential Floodplain Compression	Proposed Overhead	Potential Contamination (Med)
Wetland	Traffic Signal	Proposed Traffic Separator	Potential Contamination (High)
		Existing Drainage Structure	

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 13





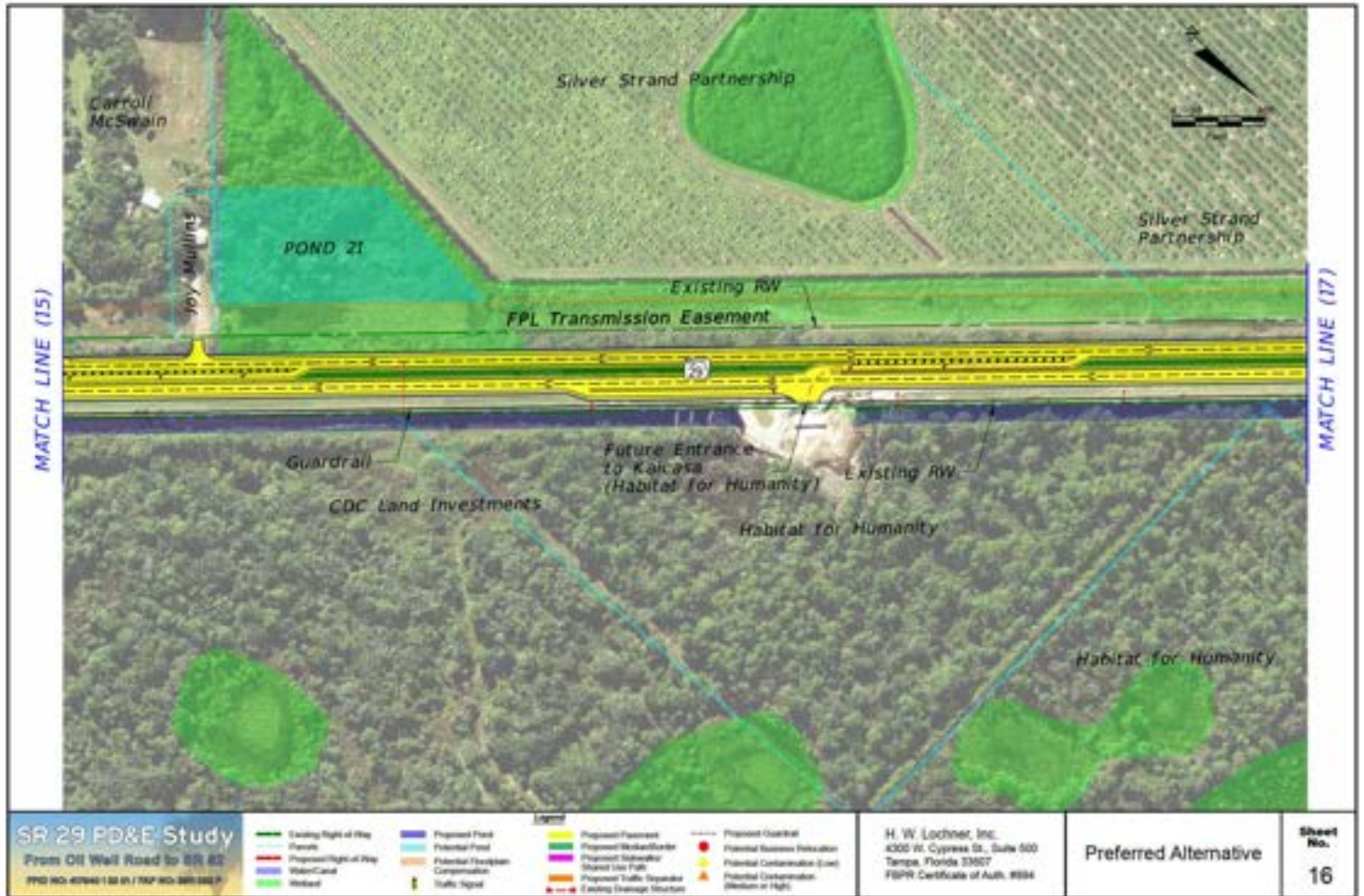
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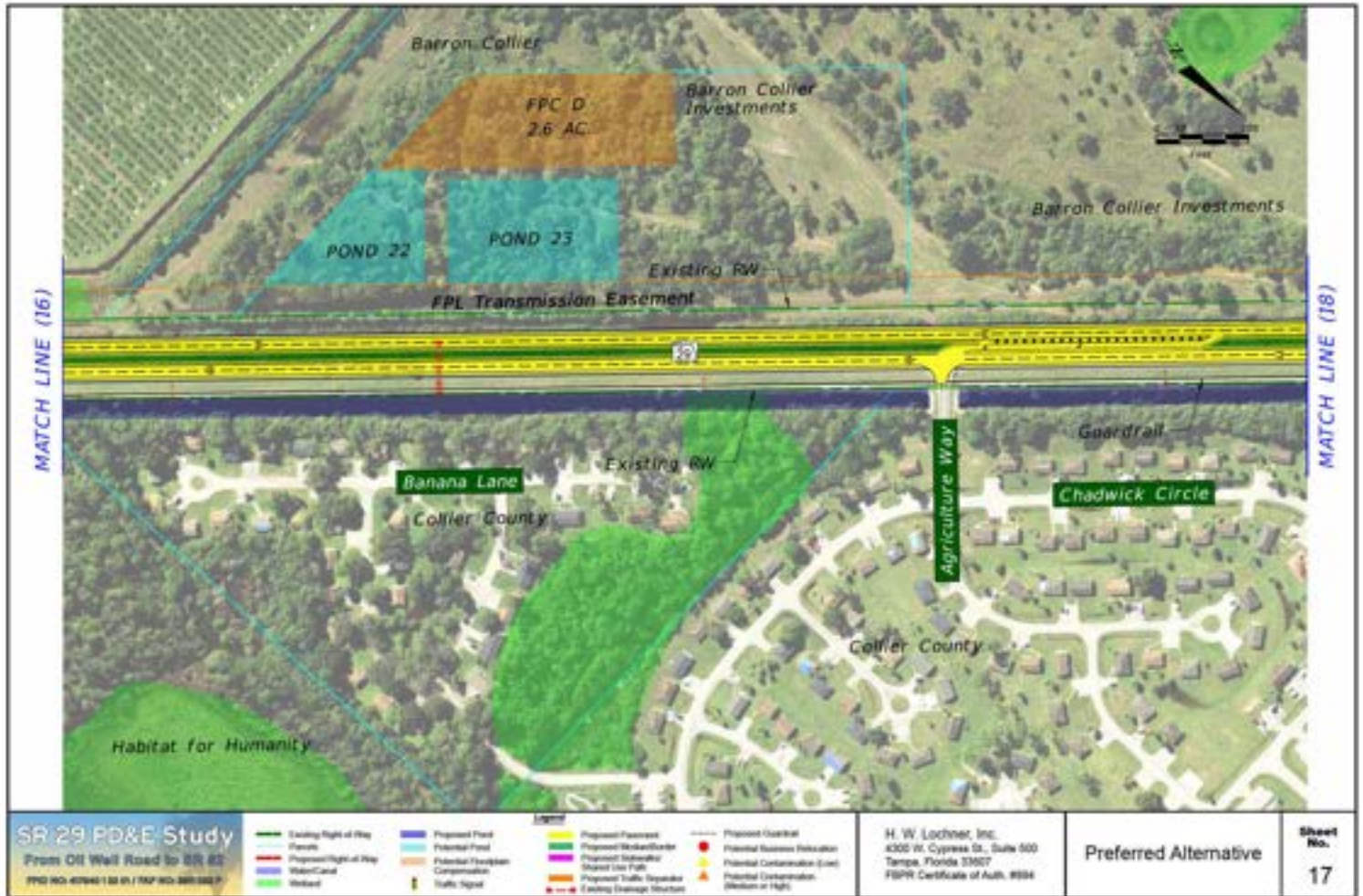
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|-----------------------|-------------------------------|---------------------------------------|---|
| Existing Right of Way | Proposed Pond | Proposed Fences | Proposed Guardrail |
| Ponds | Potential Pond | Proposed Median/Barrier | Potential Business Relocation |
| Proposed Right of Way | Potential Roadway Compression | Proposed Subparallel Street (See PFD) | Potential Construction (Low) |
| Water/Canal | Traffic Signal | Proposed Traffic Separator | Potential Construction (Medium or High) |
| Retard | | Existing Drainage Structure | |

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15





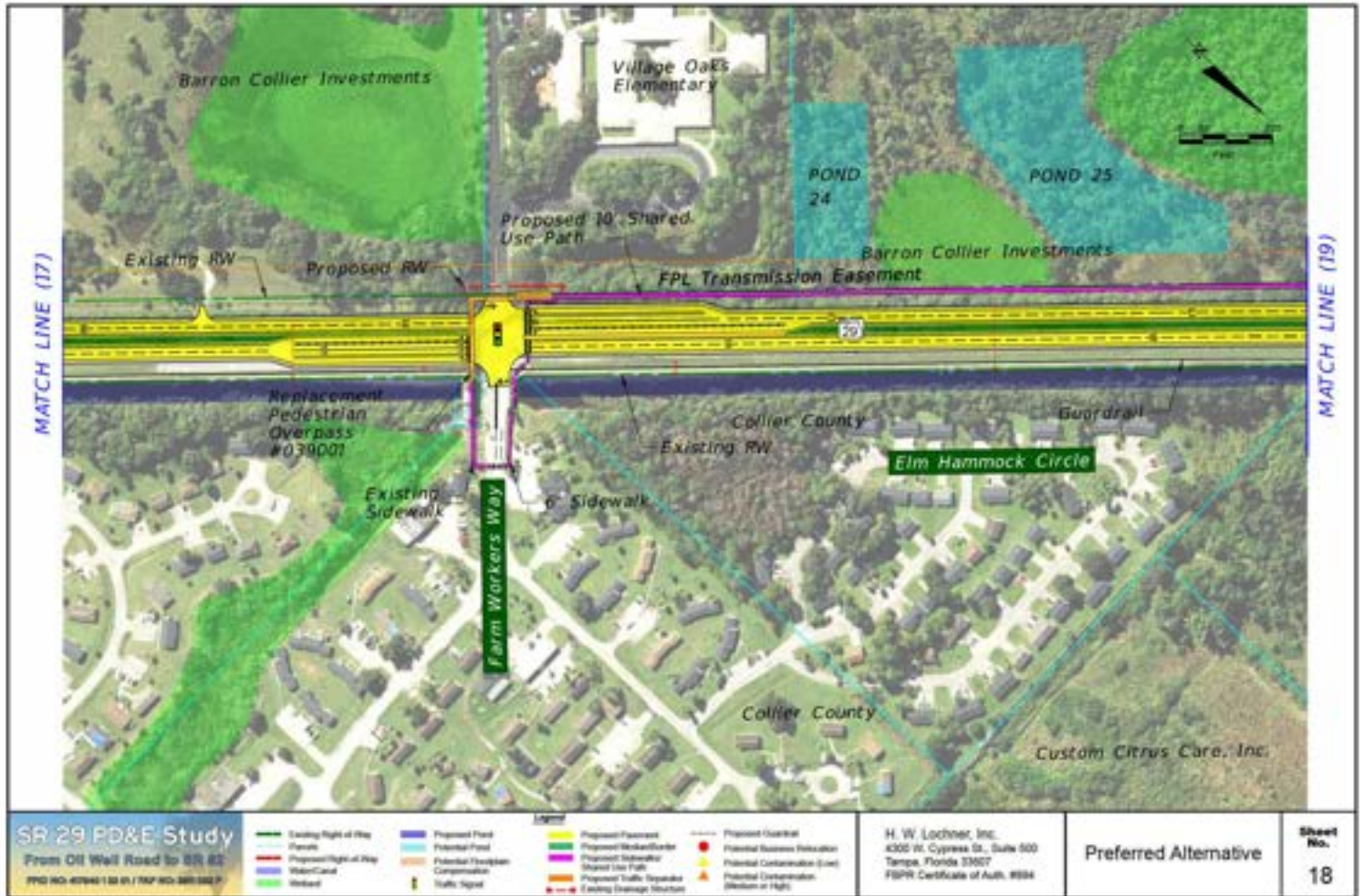
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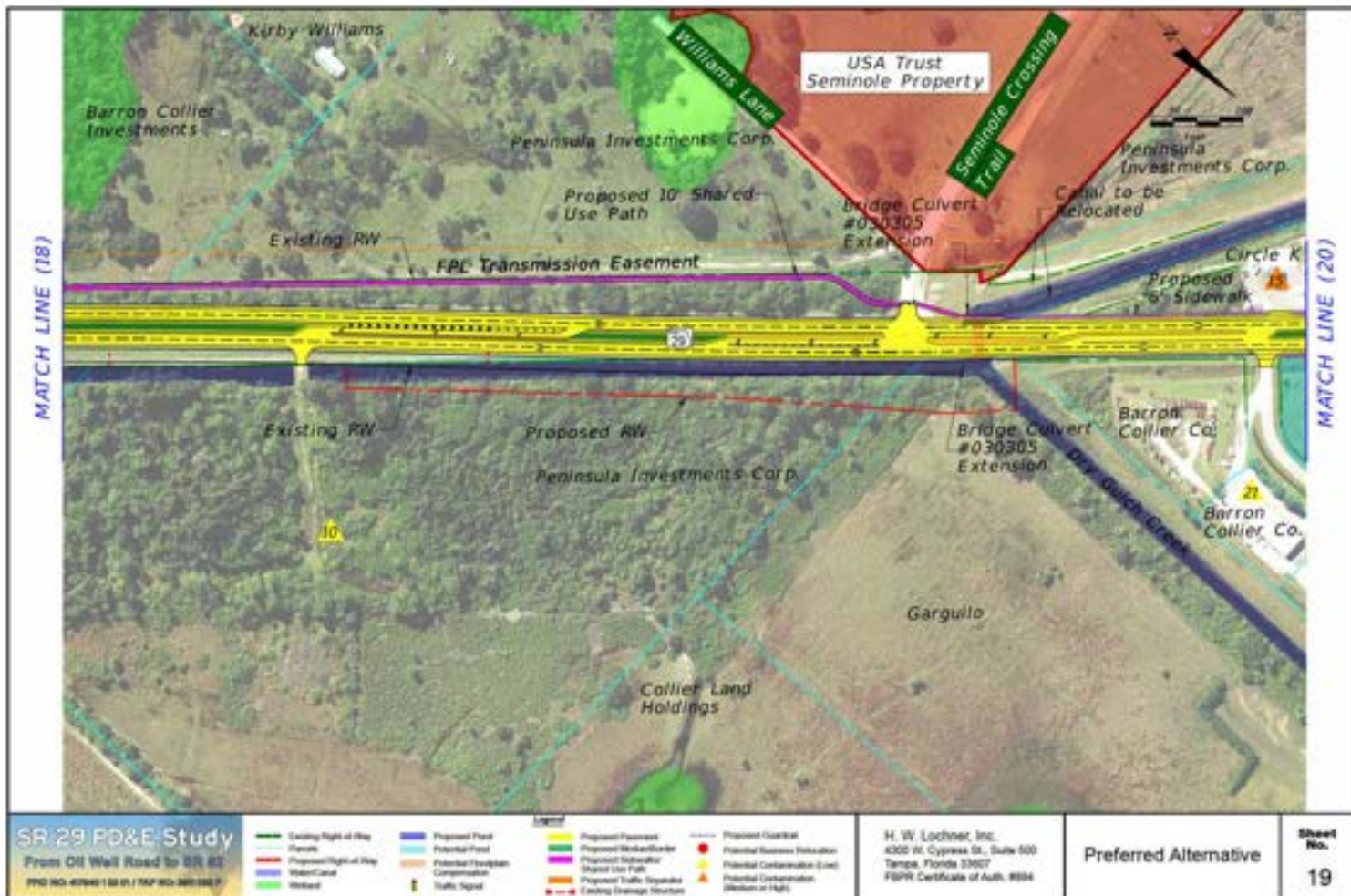
Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Guardrail
Proposed Right of Way	Potential Pond	Proposed Median/Center	Potential Business Relocation
Water/Canal	Potential Roadway Compression	Proposed Signal/Stop Sign/Right	Potential Concentration (East)
Wetland	Traffic Signal	Proposed Traffic Separator	Potential Concentration (West or Right)
	Existing Drainage Structure		

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 17





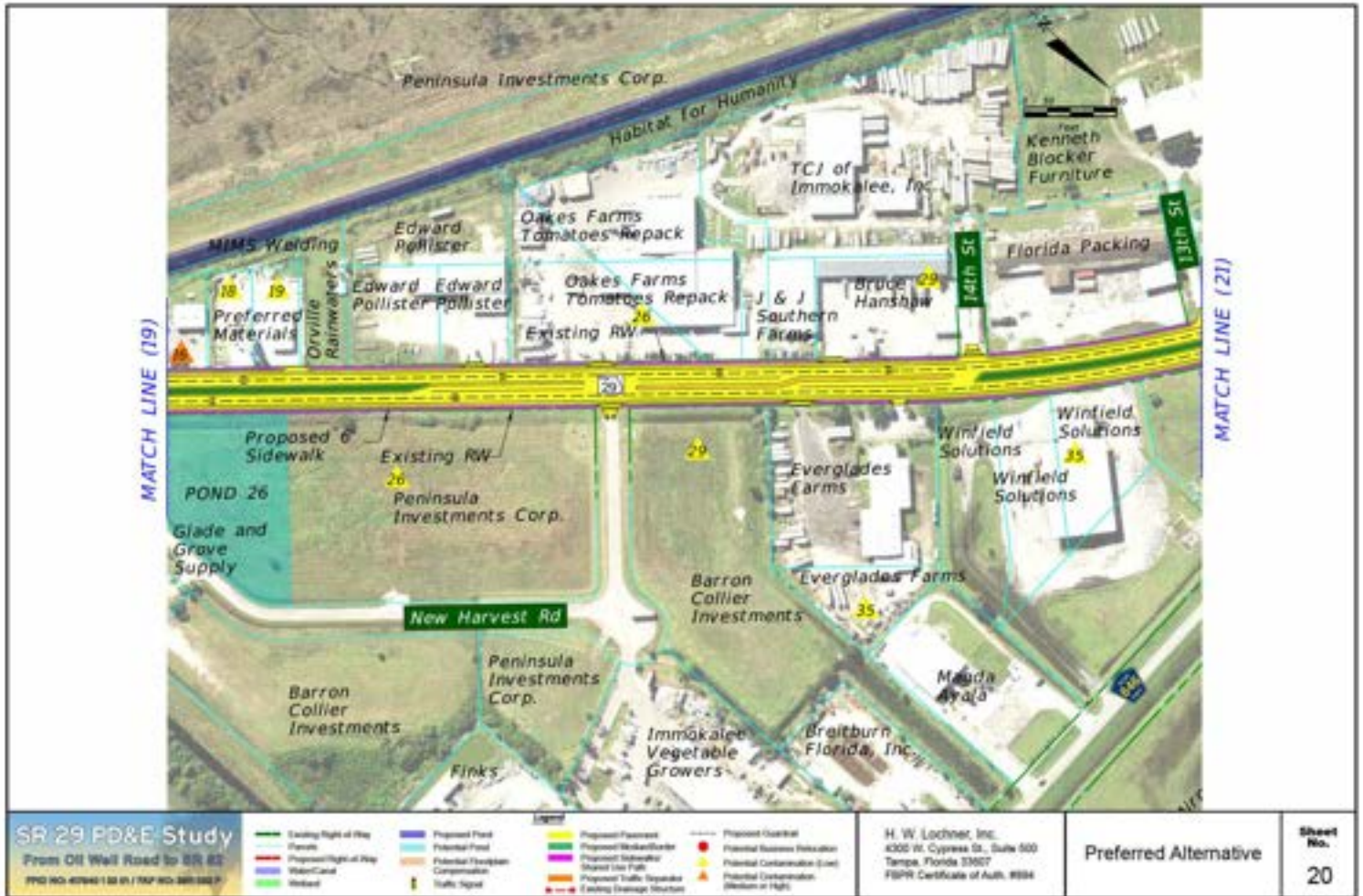
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 280-100 01

Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Corridor
Easement	Potential Pond	Proposed Median/Barrier	Potential Business Relocation
Proposed Right of Way	Potential Obstruction/Compression	Proposed Subparallel Shared Use Path	Potential Contamination (Land)
Water/Canal	Traffic Signal	Proposed Traffic Separator	Potential Contamination (Water or High)
Wetland		Existing Drainage Structure	

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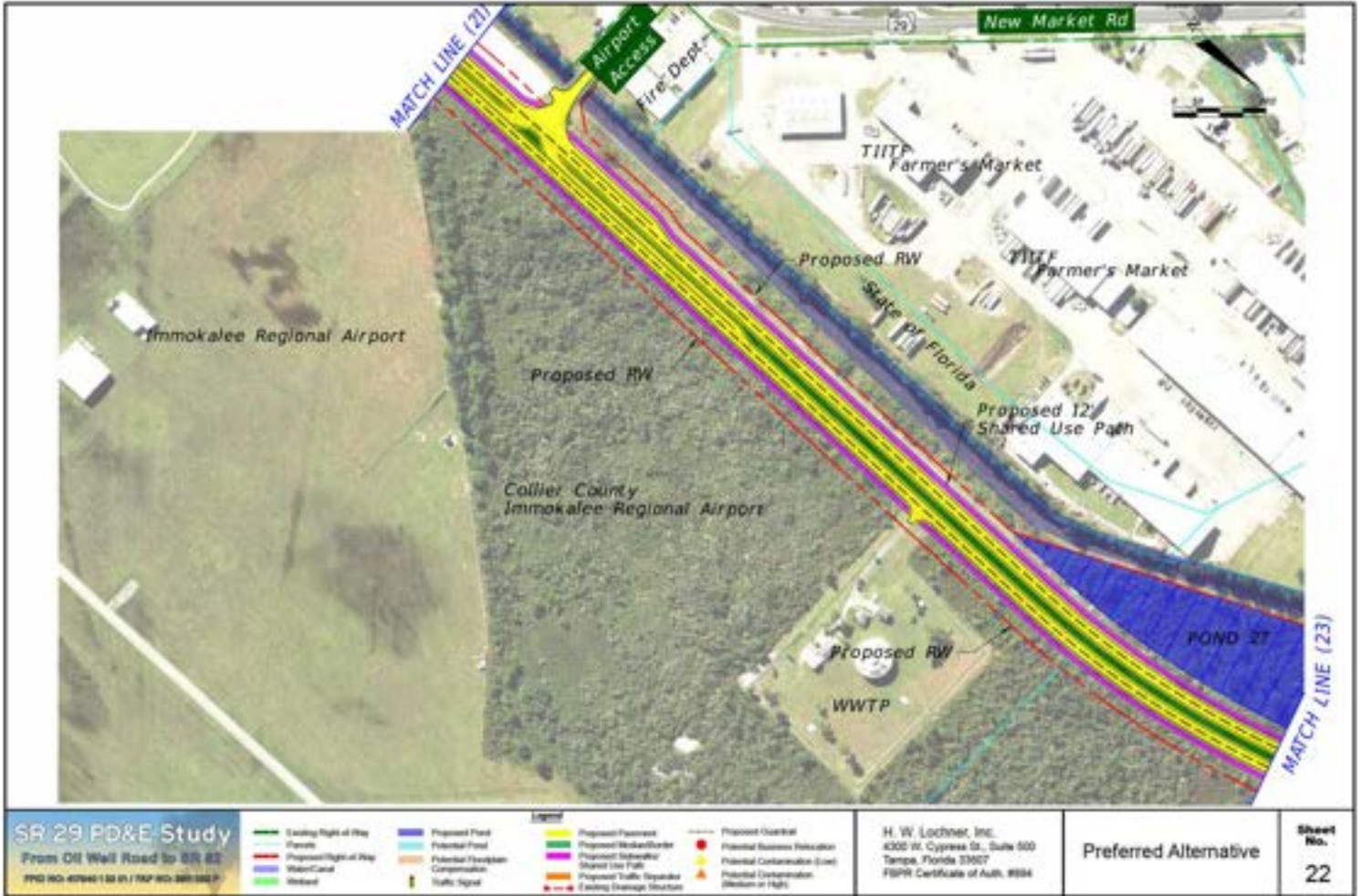
Preferred Alternative

Sheet No.
 19





<p>SR 29 PD&E Study From Old Wall Road to SR 82 PFD NO. 4794-1 03 01 / PFD NO. 2811 03 01</p>	<p>Legend</p> <ul style="list-style-type: none"> Existing Right of Way Proposed Proposed Right of Way Water/Canal Retained Proposed Front Potential Pond Potential Troubled Compression Traffic Signal 	<ul style="list-style-type: none"> Proposed Pavement Proposed Median/Center Proposed Submarket Proposed Low Traffic Proposed Traffic Separator Existing Drainage Structure 	<ul style="list-style-type: none"> Proposed Overhead Potential Business Interruption Potential Contamination (Land) Potential Contamination (Water or High) 	<p>H. W. Lochner, Inc. 4300 W. Cypress St., Suite 500 Tampa, Florida 33607 FSPR Certificate of Auth. #994</p>	<p>Preferred Alternative</p>	<p>Sheet No. 21</p>
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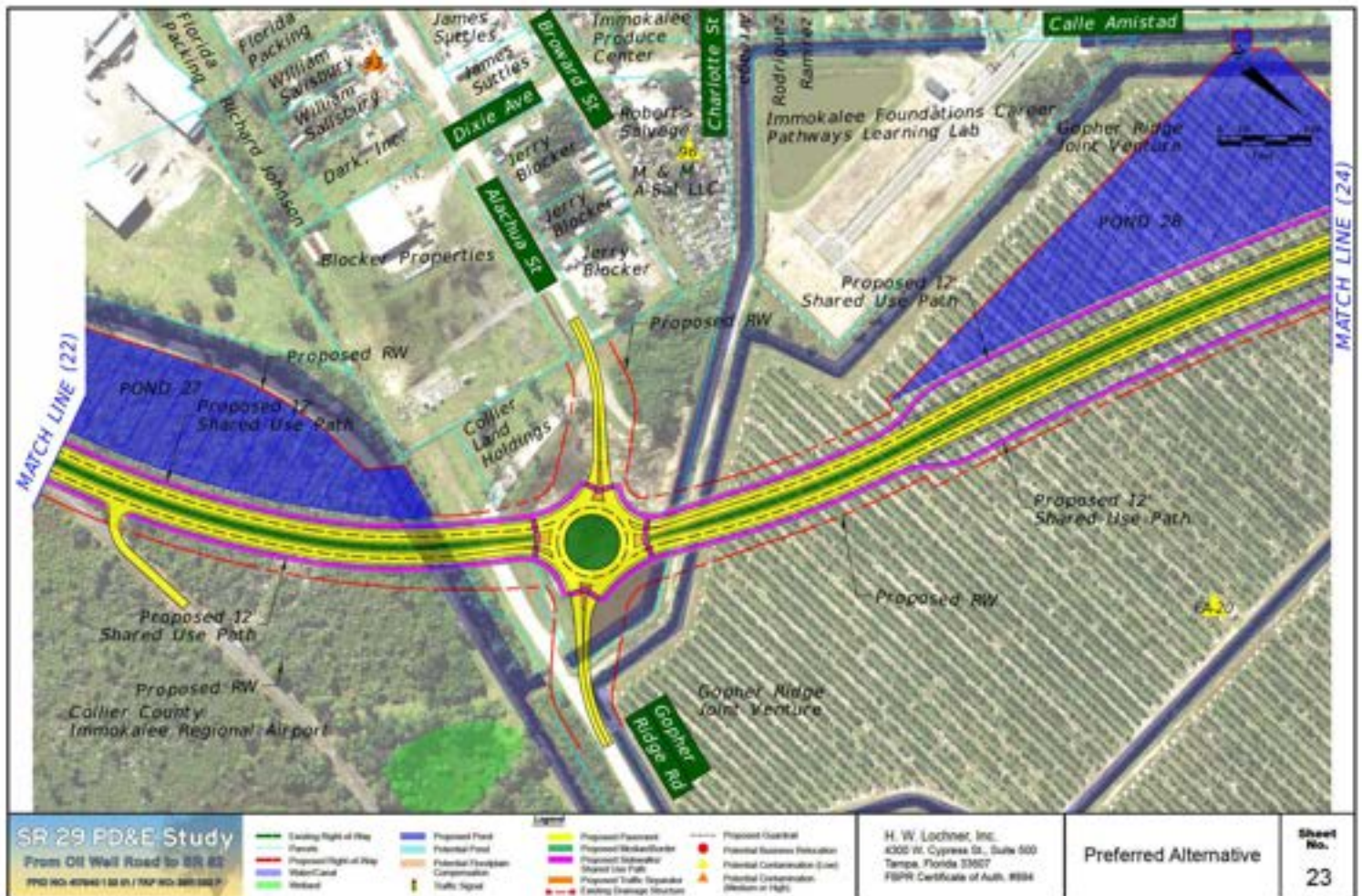
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 280-100-1

- | | | | |
|-----------------------|--------------------------------|--------------------------------------|--|
| Existing Right of Way | Proposed Road | Proposed Median | Proposed Concrete |
| Proposed Right of Way | Potential Flood | Proposed Median/Barrier | Potential Barrier Retention |
| Water Canal | Potential Shoulder Compression | Proposed Shoulder/Shoulder Line Path | Potential Contamination (Low) |
| Retard | Traffic Signal | Proposed Traffic Separator | Potential Contamination (Medium or High) |
| | | Existing Drainage Structure | |

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 22



SR 29 PD&E Study

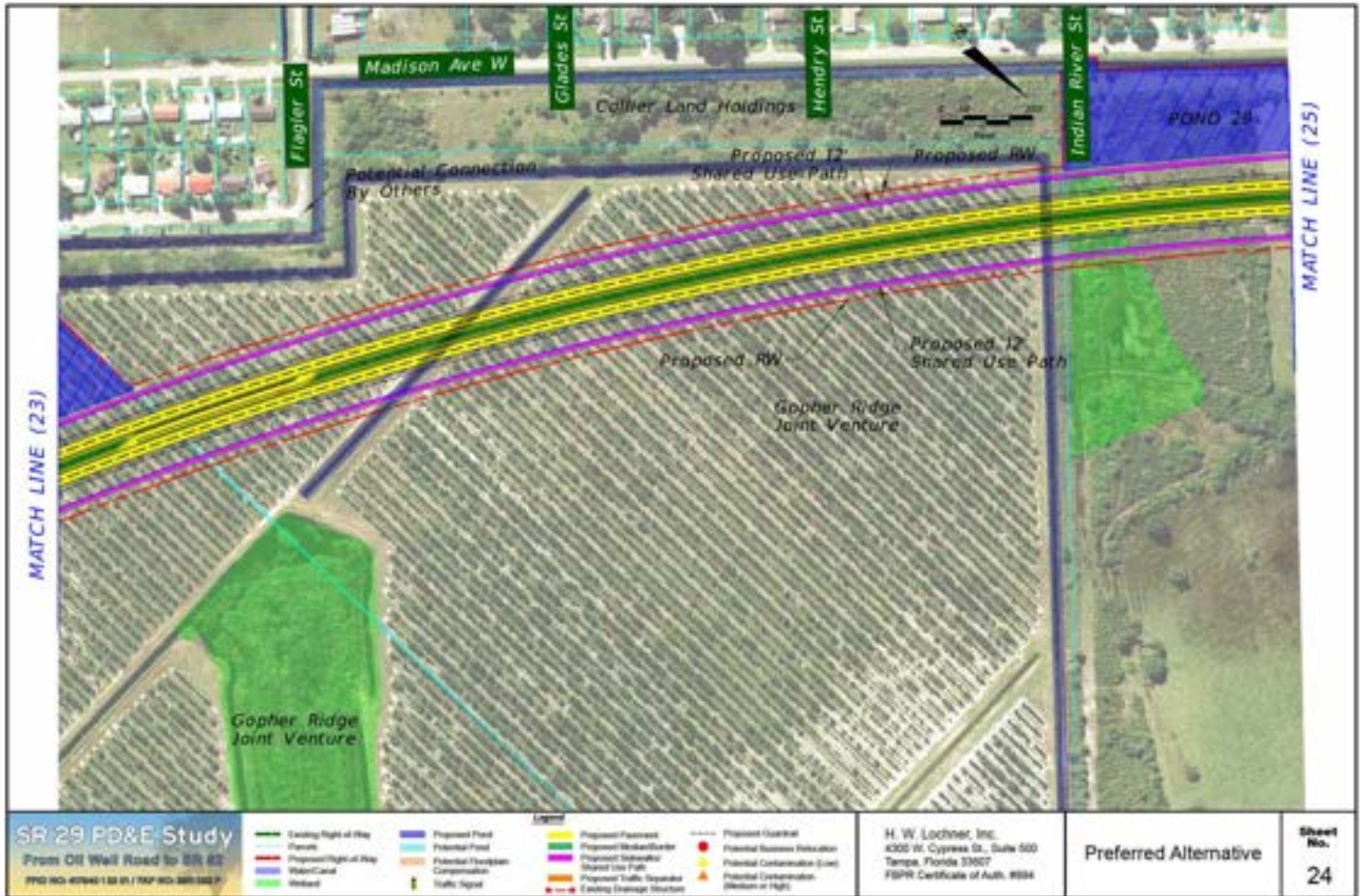
From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 281-002 P

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| <ul style="list-style-type: none"> — Existing Right of Way — Easement — Proposed Right of Way — Water/Canal — Wetland | <ul style="list-style-type: none"> ■ Proposed Pond ■ Potential Obstruction/Compression ■ Traffic Signal | <ul style="list-style-type: none"> — Proposed Pavement — Proposed Wetland Buffer — Proposed Subsurface Shared Use Path — Proposed Trench Separator — Existing Drainage Structure | <ul style="list-style-type: none"> — Proposed Control ● Potential Business Relocation ● Potential Contamination (Leak) ● Potential Contamination (Storm or High) |
|--|---|---|--|

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23



SR 29 PD&E Study

From Old Wall Road to SR 82

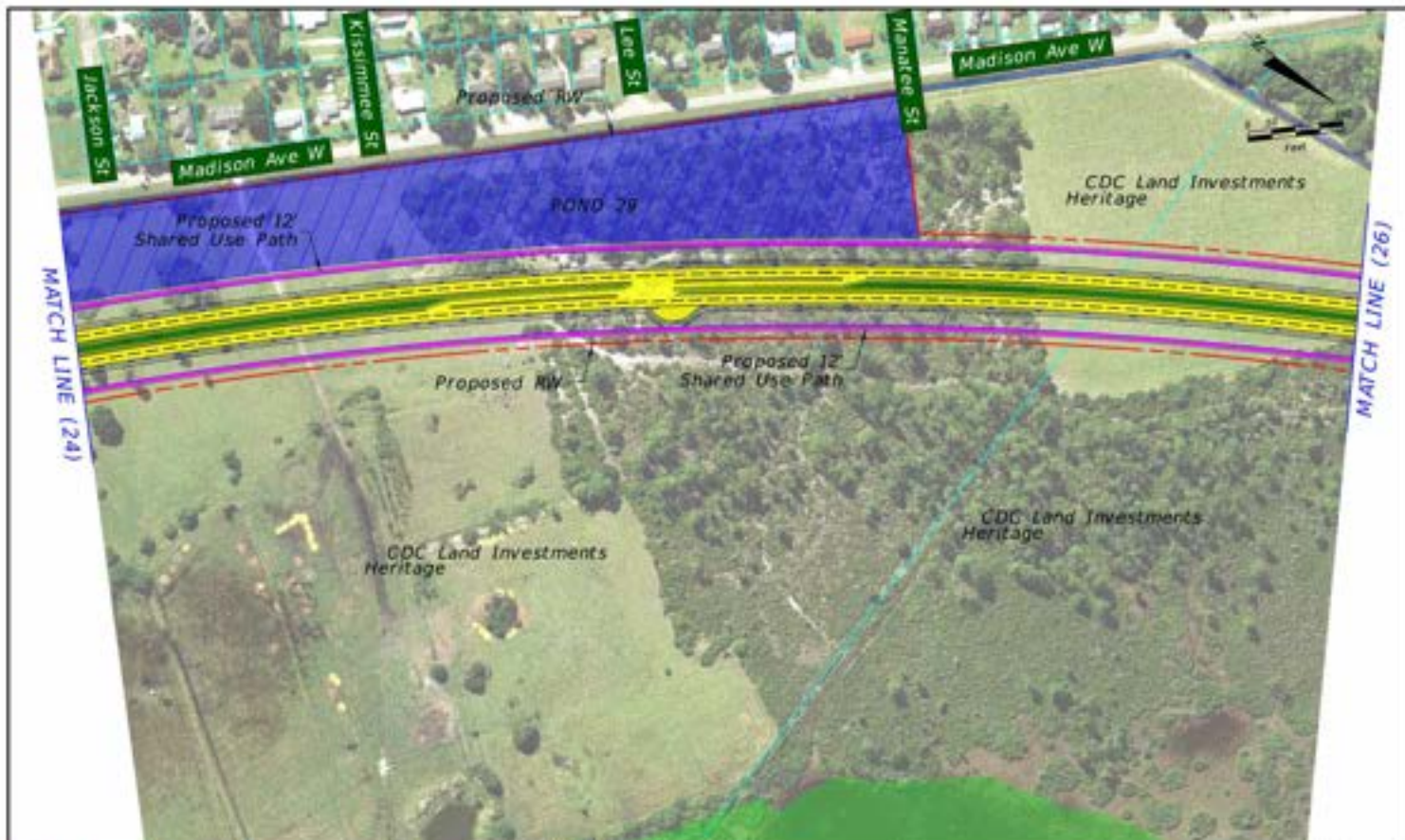
PHD NO. 47940-1 03 01 / 507 NO. 280-100-0

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|-----------------------|-------------------------------|--------------------------------------|---------------------------------------|
| Existing Right of Way | Proposed Pond | Proposed Easement | Proposed Corridor |
| Easement | Potential Pond | Proposed Median/Center | Potential Business Relocation |
| Proposed Right of Way | Potential Roadway Compression | Proposed Subparallel Shared Use Path | Potential Concentration (East) |
| Water Canal | Traffic Signal | Proposed Traffic Separator | Potential Concentration (West or N/S) |
| Wetland | | Existing Drainage Structure | |

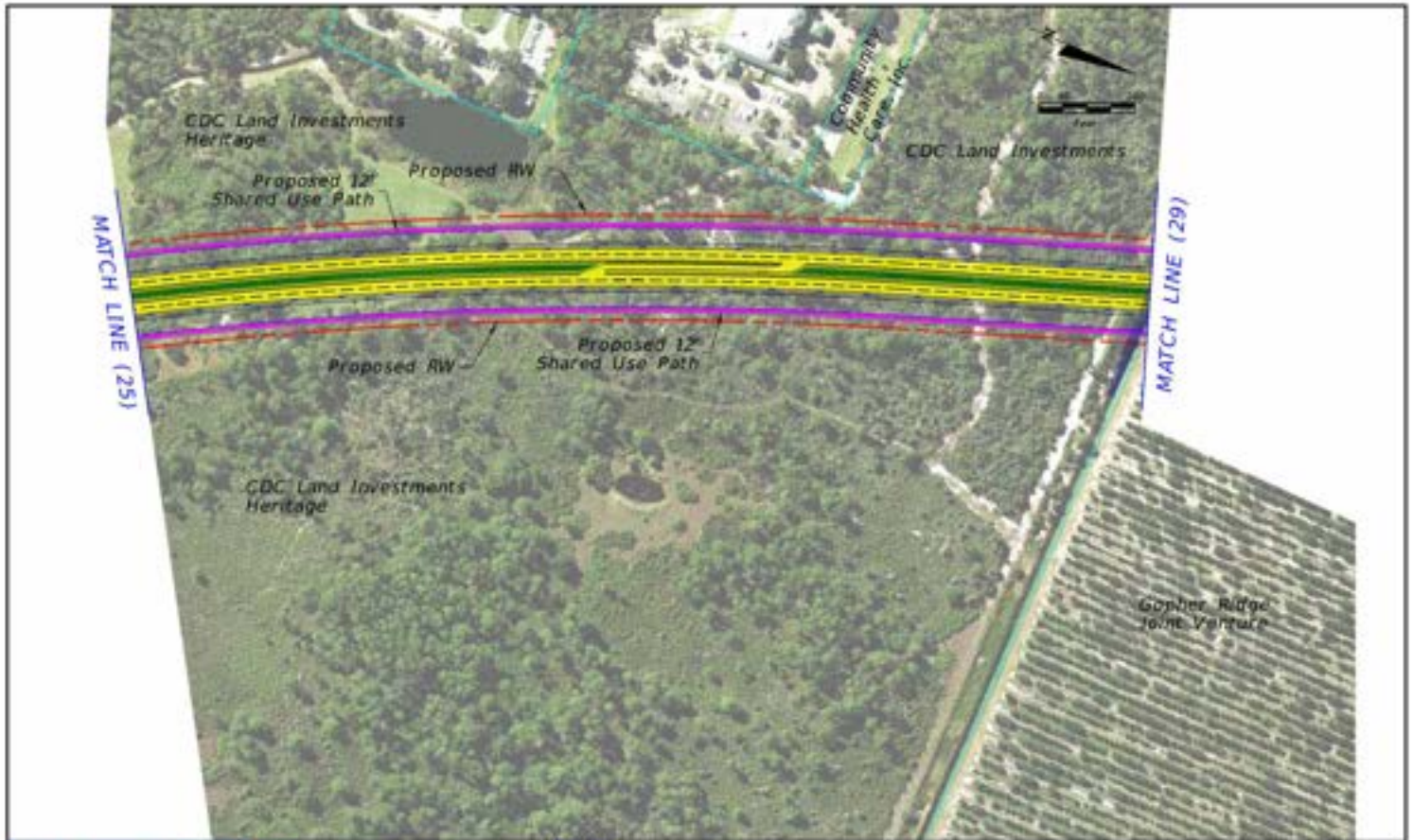
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Sheet No.
 24



<p>SR 29 PD&E Study From Old Wall Road to SR 82 PFD NO. 47940-1 02 01 / PFD NO. 289-100-1</p>	<p>Legend</p> <ul style="list-style-type: none"> Existing Right of Way Proposed Right of Way Water/Canal Retained Proposed Pond Potential Pond Potential Topsoil/Soil Compaction Traffic Signal 	<ul style="list-style-type: none"> Proposed Pavement Proposed Median/Center Proposed Subparallel Shared Use Path Proposed Traffic Separator Existing Drainage Structure 	<ul style="list-style-type: none"> Proposed Shoulder Potential Business Relocation Potential Contamination (Low) Potential Contamination (Medium or High) 	<p>H. W. Lochner, Inc. 4300 W. Cypress St., Suite 500 Tampa, Florida 33607 FSPR Certificate of Auth. #994</p>	<p>Preferred Alternative</p>	<p>Sheet No. 25</p>
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SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 280-100-1

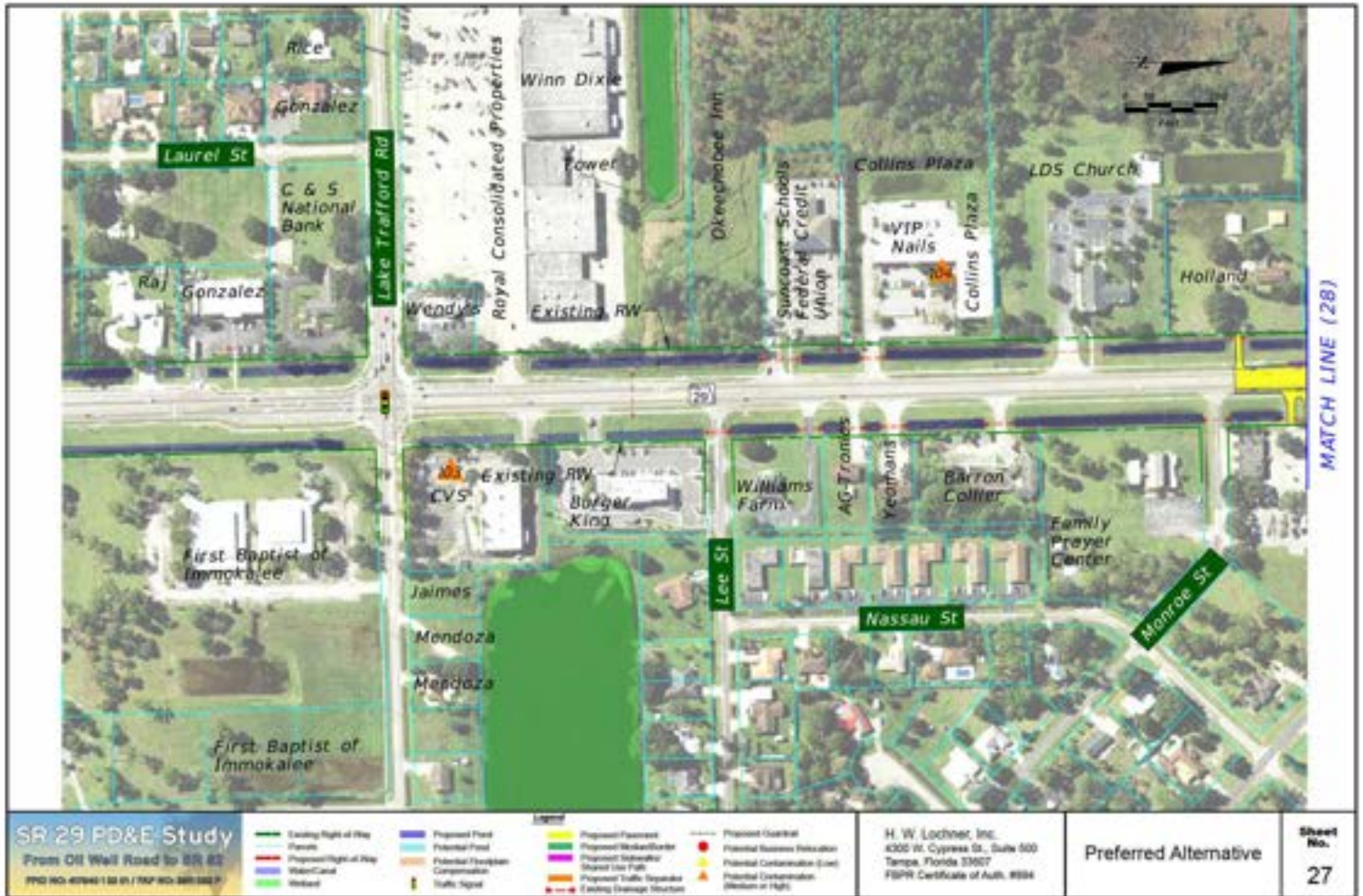
Legend

Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Shoulder
Driveway	Potential Pond	Proposed Median/Center	Potential Business Relocation
Proposed Right of Way	Potential Trench/Utility	Proposed Subgrade	Potential Contamination (Leak)
Water Canal	Proposed Traffic Signal	Proposed Traffic Separator	Potential Contamination (Blowdown of Hg)
Waterway	Traffic Signal	Existing Drainage Structure	

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Sheet No.
 26





SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 02 01 / PFD NO. 280-100-0

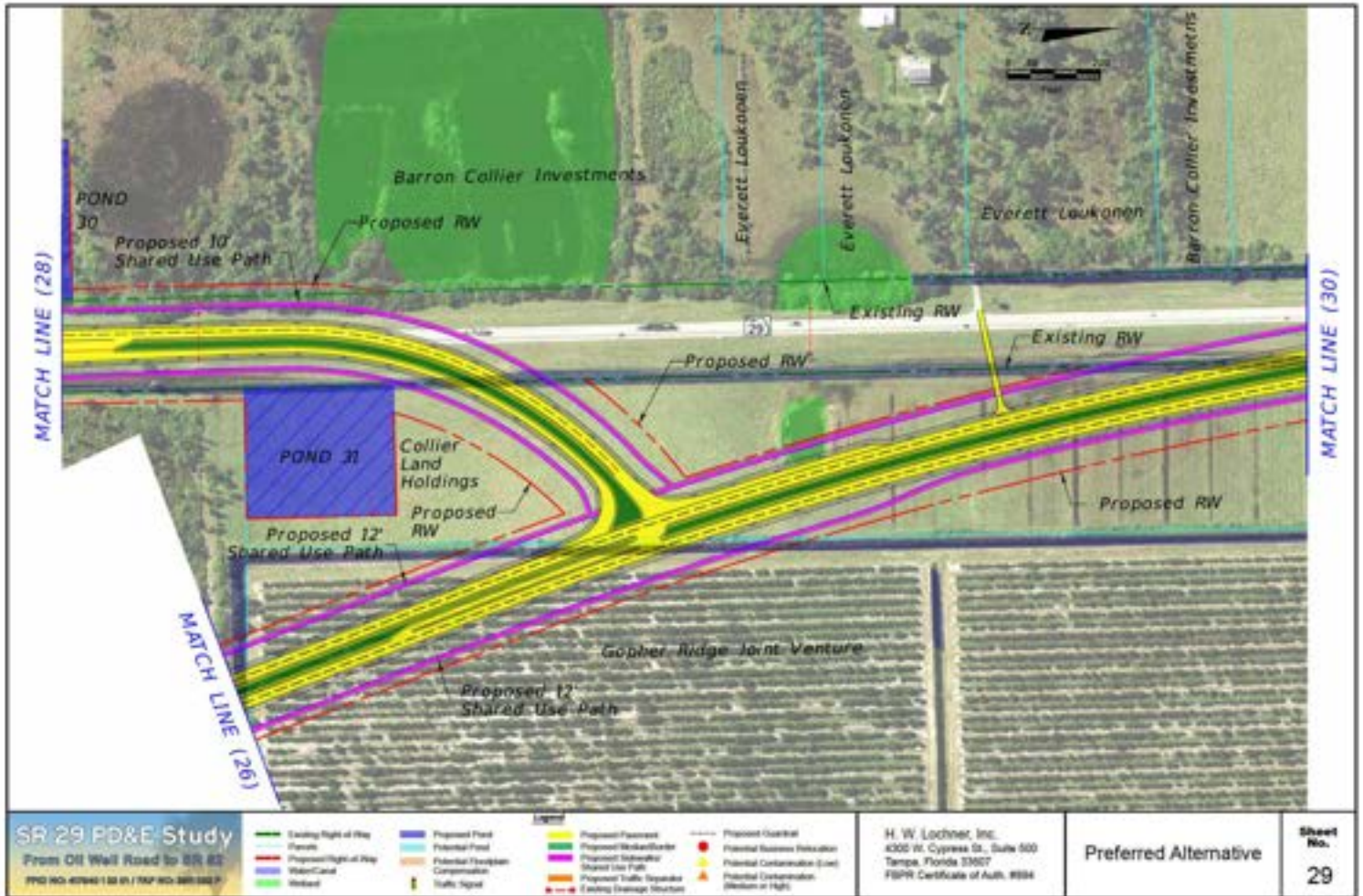
Legend

Existing Right of Way	Proposed Front	Proposed Pavement	Proposed Overhead
Proposed Right of Way	Potential Flood	Proposed Median/Center	Potential Business Relocation
Water/Canal	Potential Trench/Compression	Proposed Sidewalk	Potential Contamination (Low)
Wetland	Traffic Signal	Proposed Shared Use Path	Potential Contamination (Medium or High)
		Proposed Traffic Separator	
		Existing Drainage Structure	

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 28



SR 29 PD&E Study
 From Oil Well Road to SR 82

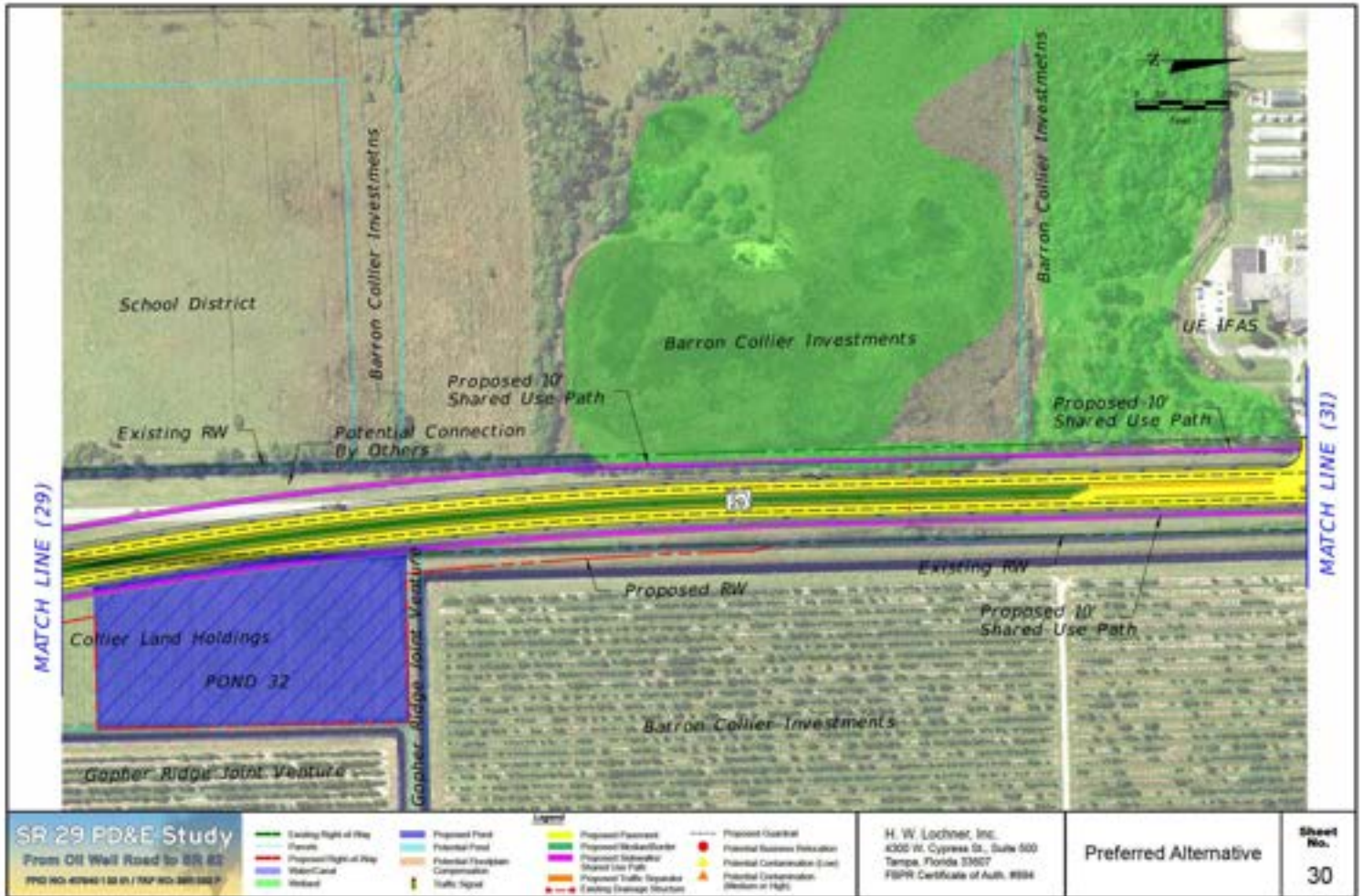
PHD NO. 47940-1 03 01 / 502 NO. 281 002 P

Legend			
	Existing Right of Way		Proposed Road
	Proposed		Potential Pond
	Proposed Right of Way		Potential Troubled Compression
	Water Canal		Proposed Pavement
	Wetland		Proposed Median/Center
	Traffic Signal		Proposed Subparallel Shared Use Path
	Existing Drainage Structure		Proposed Traffic Separator
	Proposed Control		Potential Business Relocation
	Potential Business Relocation		Potential Contamination (Low)
	Potential Contamination (Low)		Potential Contamination (Medium or High)

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Sheet No.
29



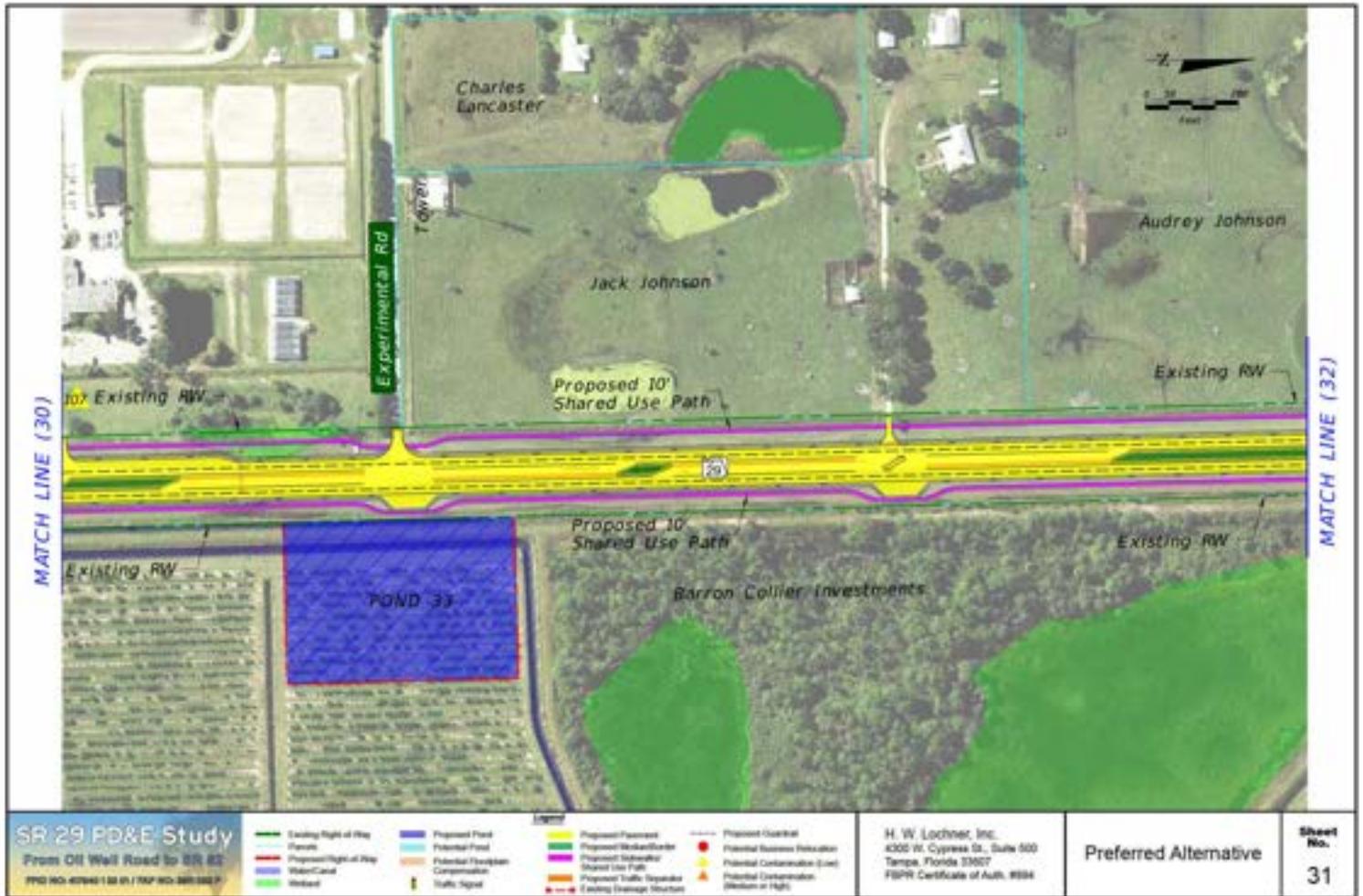
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 02 01 / 100' NO. 280-100-0

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|-----------------------|------------------------------|-------------------------------------|--|
| Existing Right of Way | Proposed Pond | Proposed Pavement | Proposed Overhead |
| Proposed Right of Way | Potential Pond | Proposed Median/Border | Potential Business Relocation |
| Water/Canal | Potential Trench/Compression | Proposed Subsurface Shared Use Path | Potential Contamination (Low) |
| Retard | Traffic Signal | Proposed Traffic Separator | Potential Contamination (Medium or High) |
| | | Existing Drainage Structure | |

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30



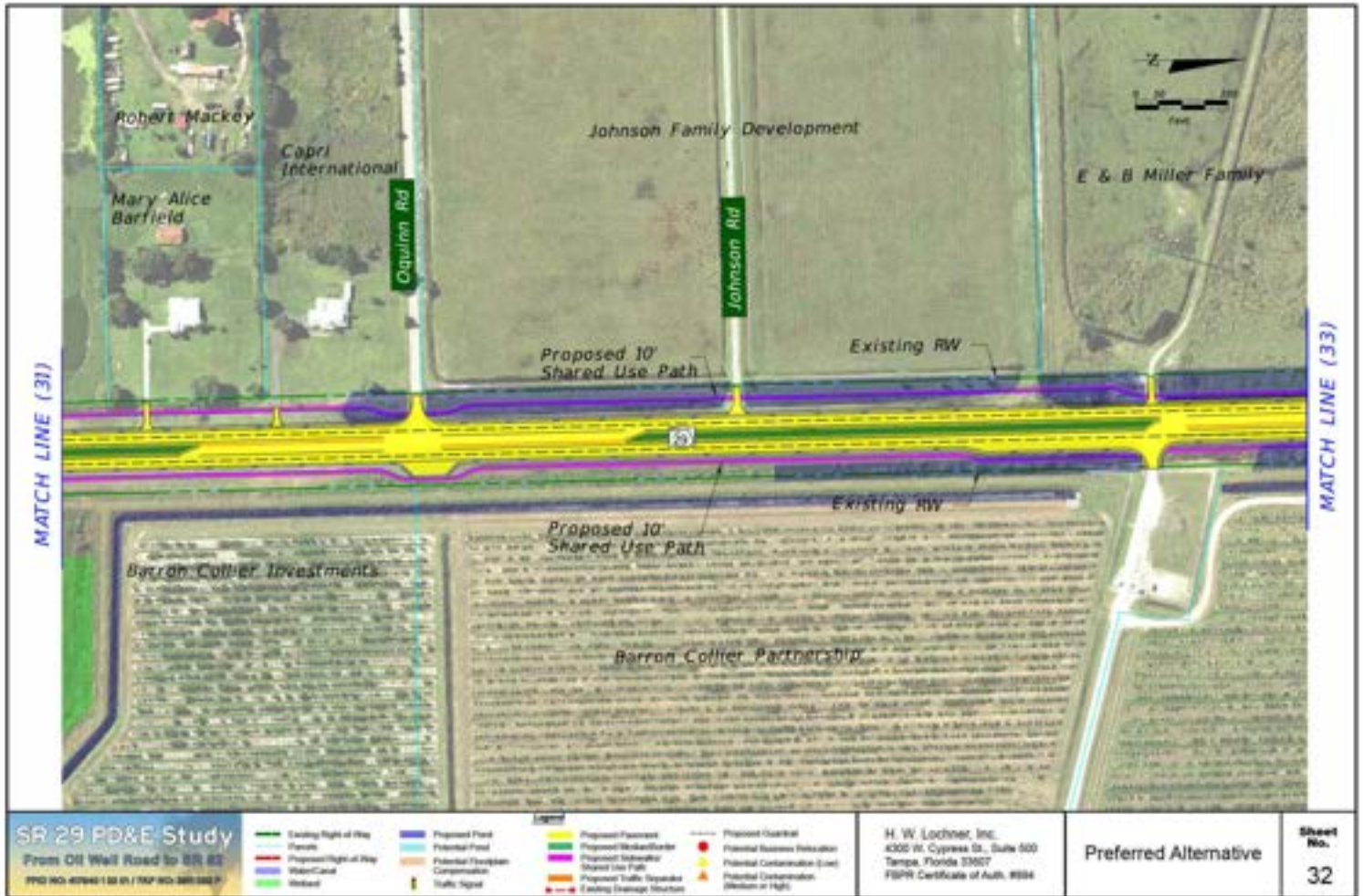
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 289-100 P

Existing Right of Way	Proposed Pond	Proposed Pavement	Proposed Signal
Proposed	Potential Pond	Proposed Median Barrier	Potential Signal Relocation
Proposed Right of Way	Potential Roadway Compression	Proposed Subparallel Shared Use Path	Potential Concentration (Low)
Water Canal	Traffic Signal	Proposed Traffic Separator	Potential Concentration (Medium or High)
Retard		Existing Drainage Structure	

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Sheet No.
31



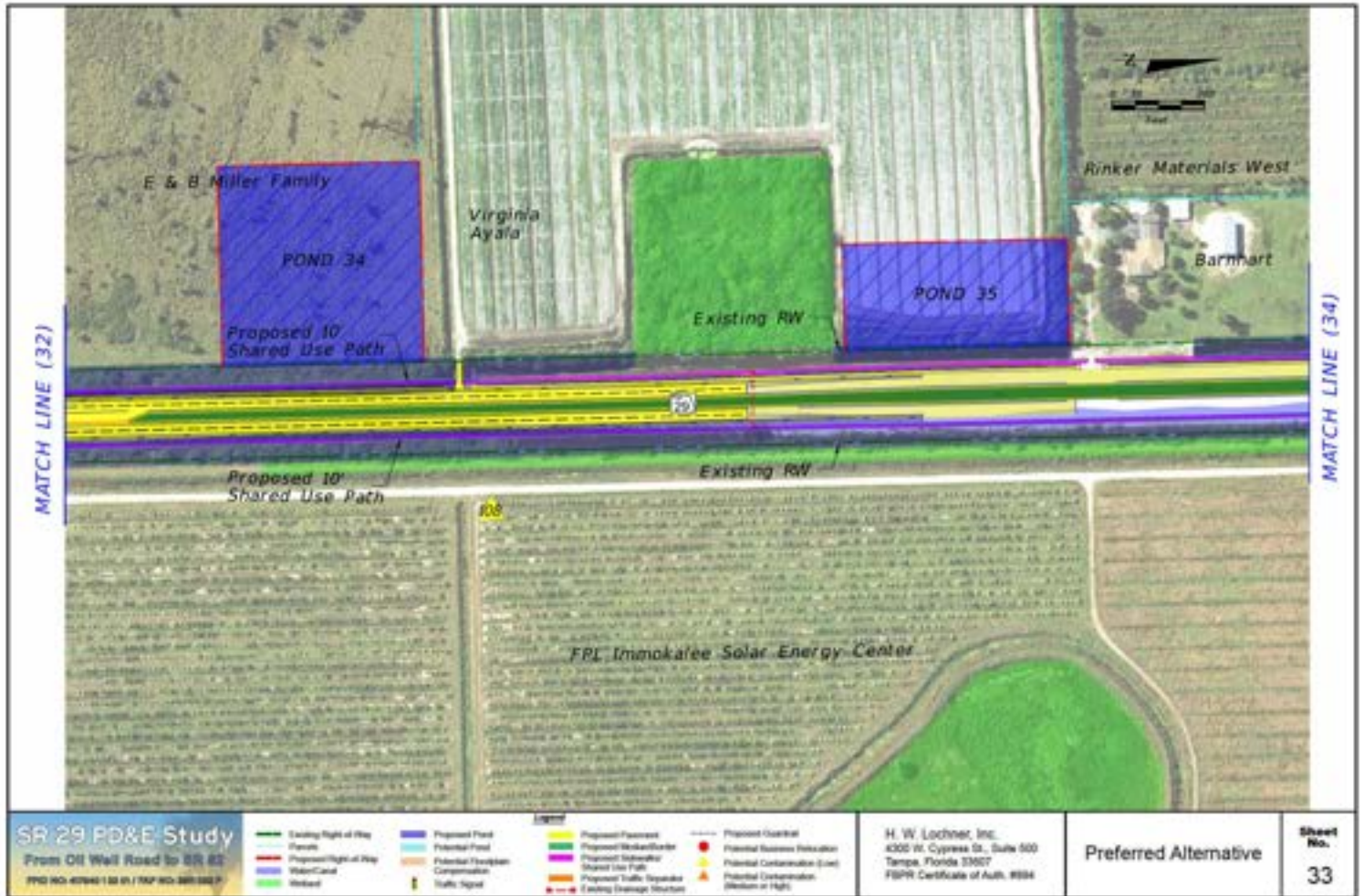
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 02 01 / PFD NO. 289-100-1

Legend	
Existing Right of Way	Proposed Pavement
Proposed Right of Way	Proposed Median/Barrier
Proposed Right of Way	Proposed Subparallel Shared Use Path
Water Canal	Proposed Traffic Separator
Retained	Existing Drainage Structure
Proposed Pond	Proposed Overhead
Potential Pond	Potential Success Relocation
Potential Trench/Bar	Potential Contamination (Low)
Compression	Potential Contamination (Medium or High)
Traffic Signal	

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32



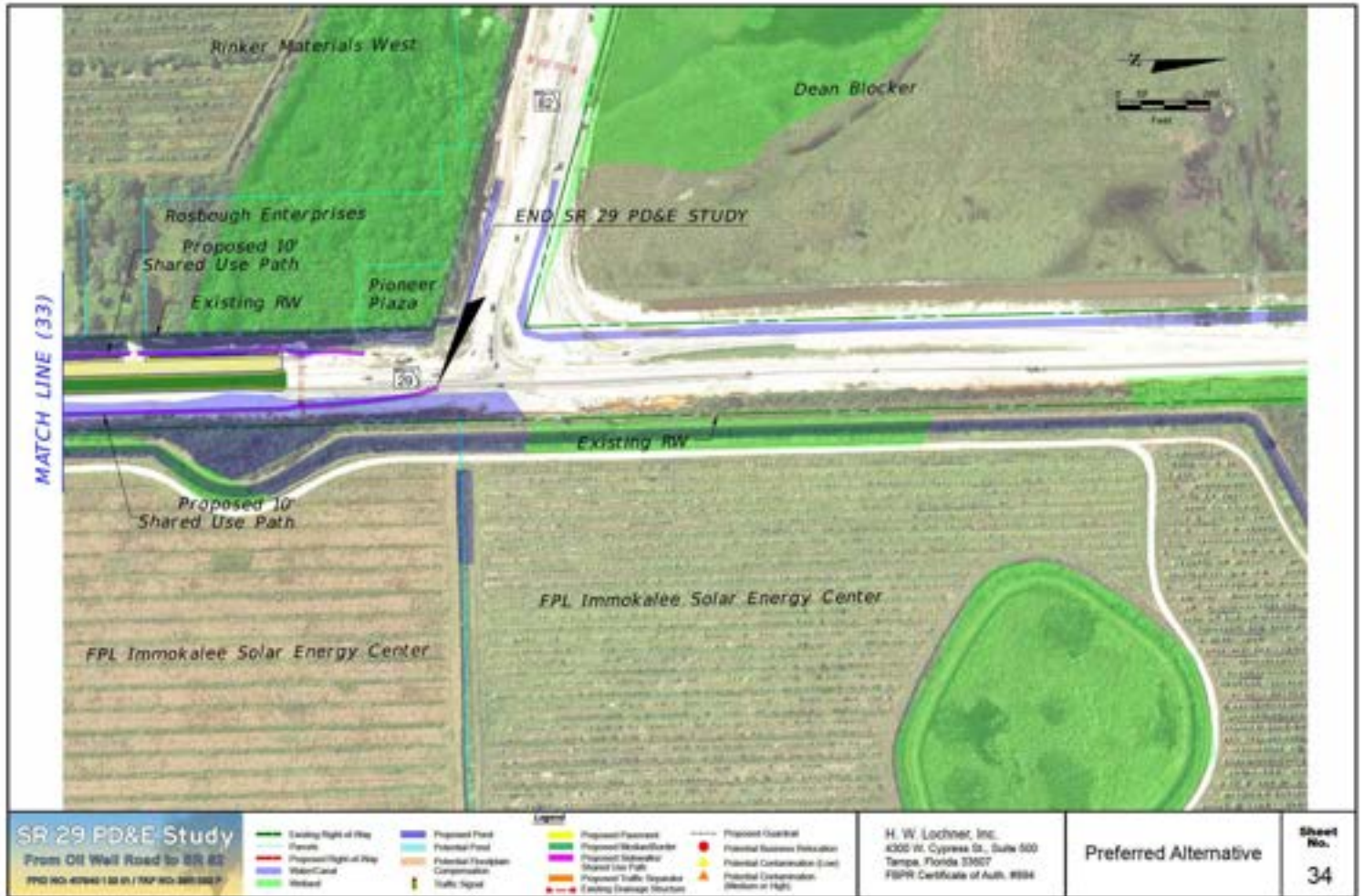
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 02 01 / PFD NO. 280-100-0

Legend			
Existing Right of Way	Proposed Pond	Proposed Pavement	Proposed Control
Easement	Potential Pond	Proposed Wetland Buffer	Potential Business Relocation
Proposed Right of Way	Potential Obstruction Compression	Proposed Wetland Shared Use Path	Potential Contamination (Land)
Water Canal	Traffic Signal	Proposed Traffic Separator	Potential Contamination (Water or Hgt)
Wetland		Existing Drainage Structure	

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33



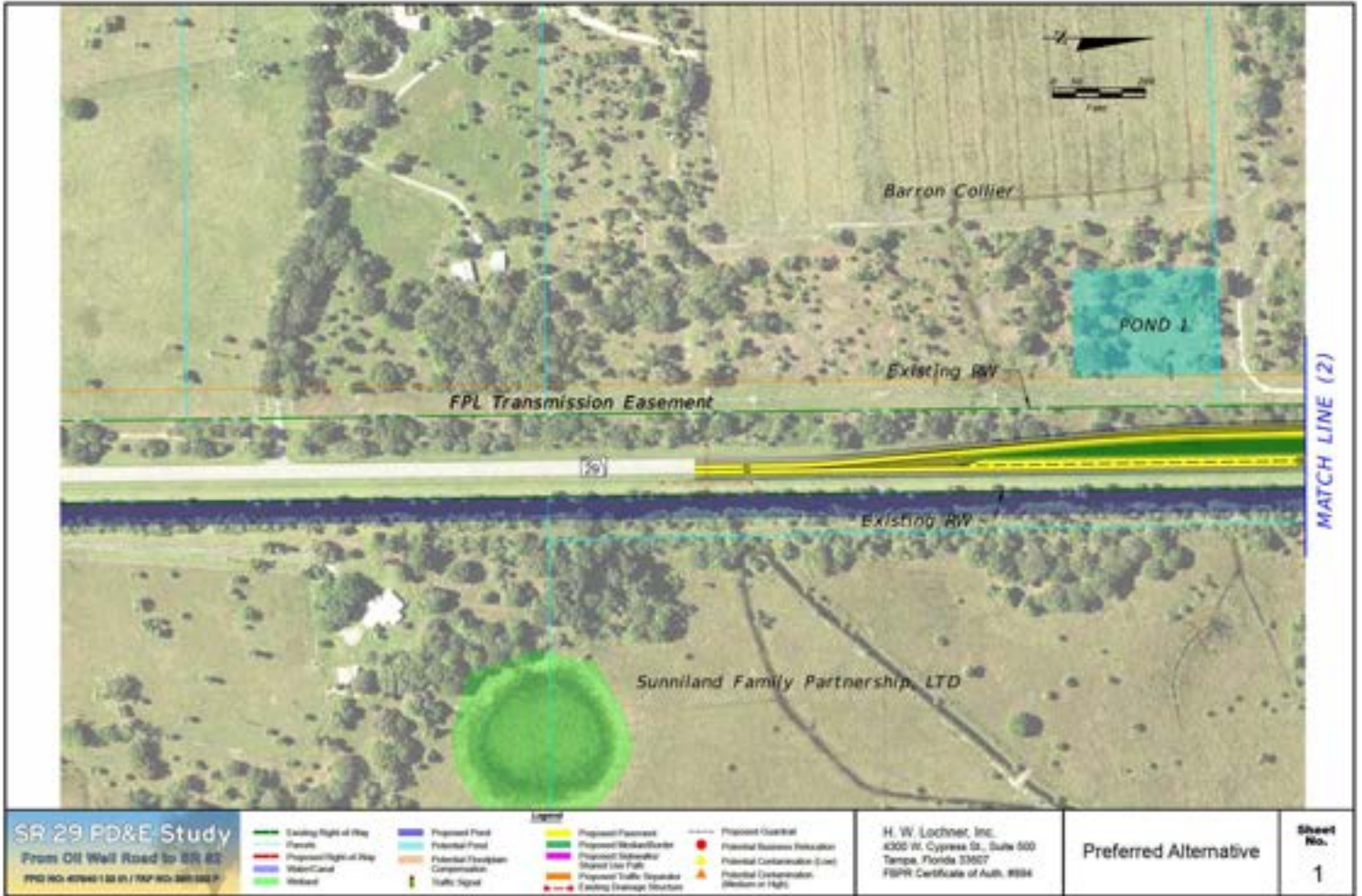
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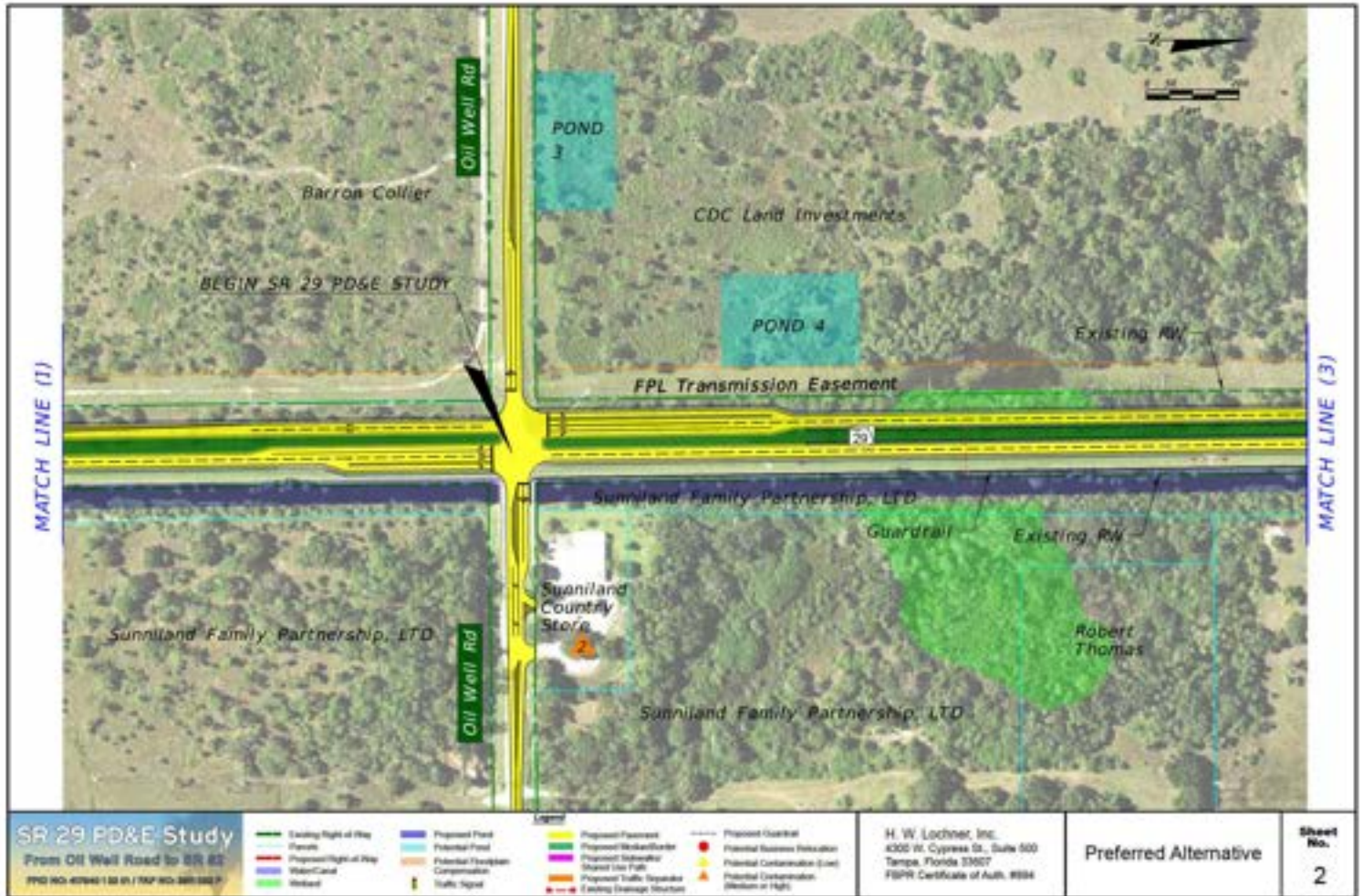
Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Shoulder
Easement	Potential Flood	Proposed Wetland Buffer	Potential Business Relocation
Proposed Right of Way	Potential Topography Compression	Proposed Subwater Shared Use Path	Potential Contamination (Low)
Water Canal	Traffic Signal	Proposed Traffic Separator	Potential Contamination (Medium or High)
Wetland		Existing Drainage Structure	

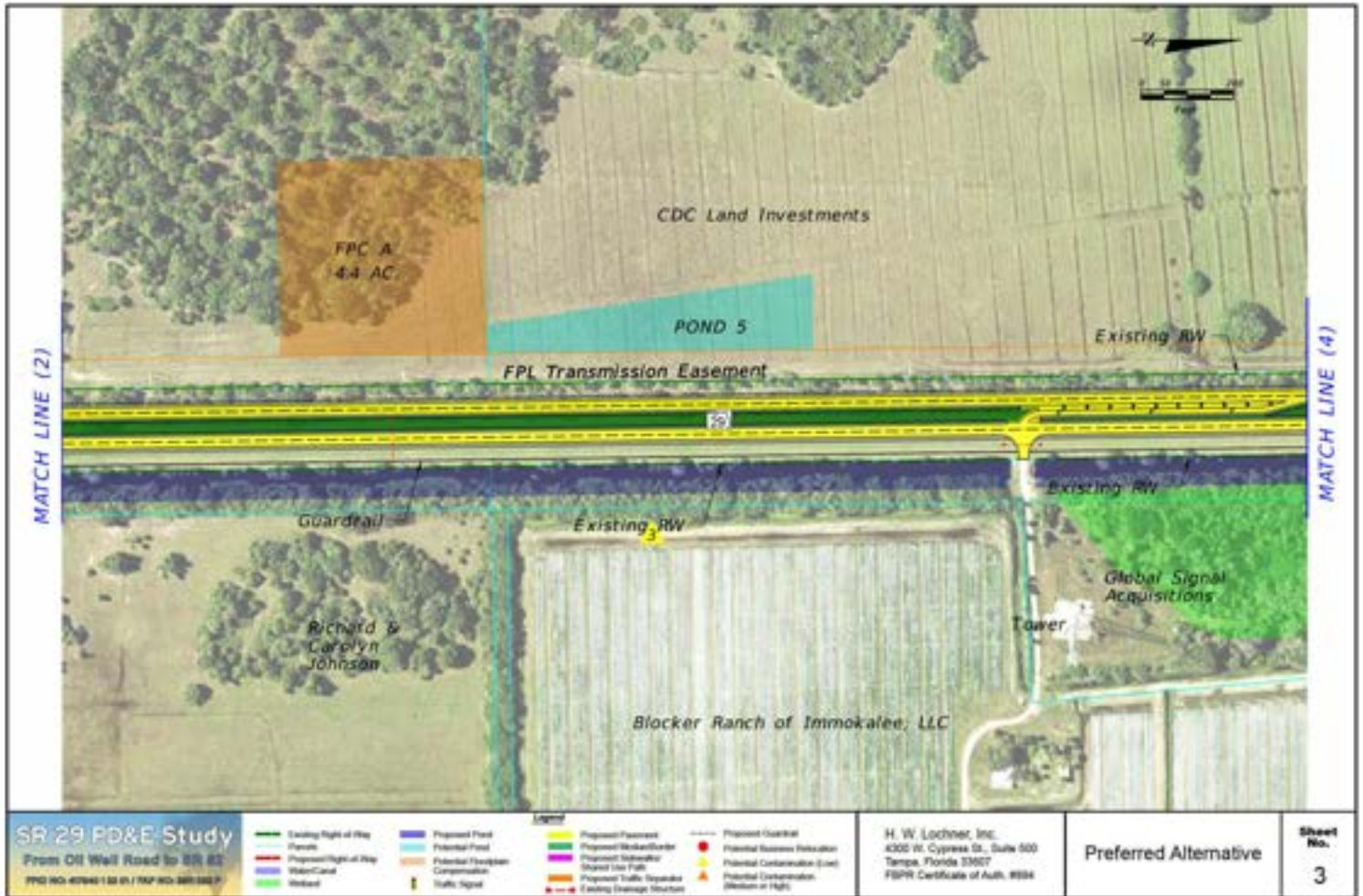
H. W. Lochner, Inc.
 4300 W. Cypress St., Suite 500
 Tampa, Florida 33607
 FSPR Certificate of Auth. #994

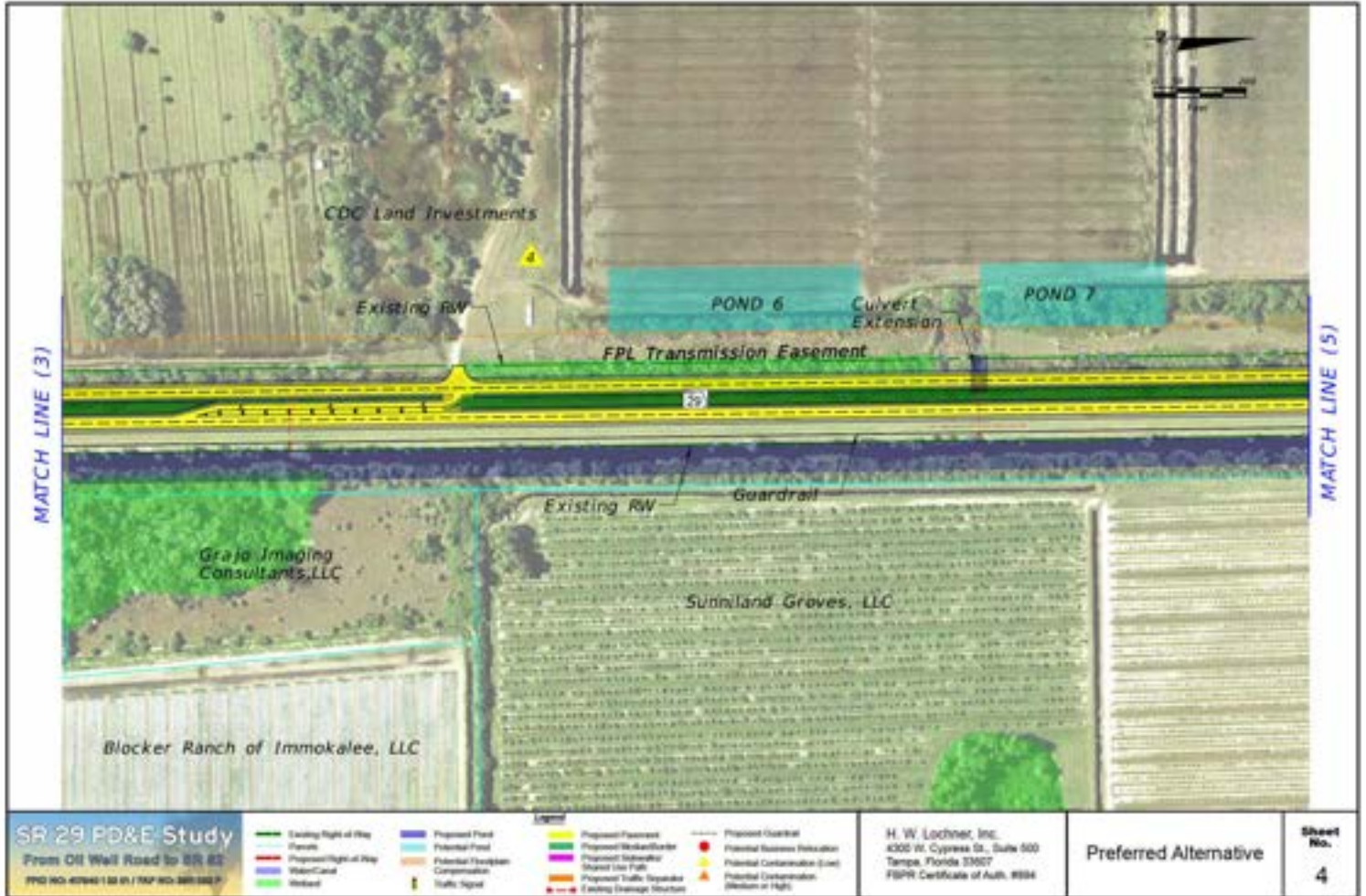
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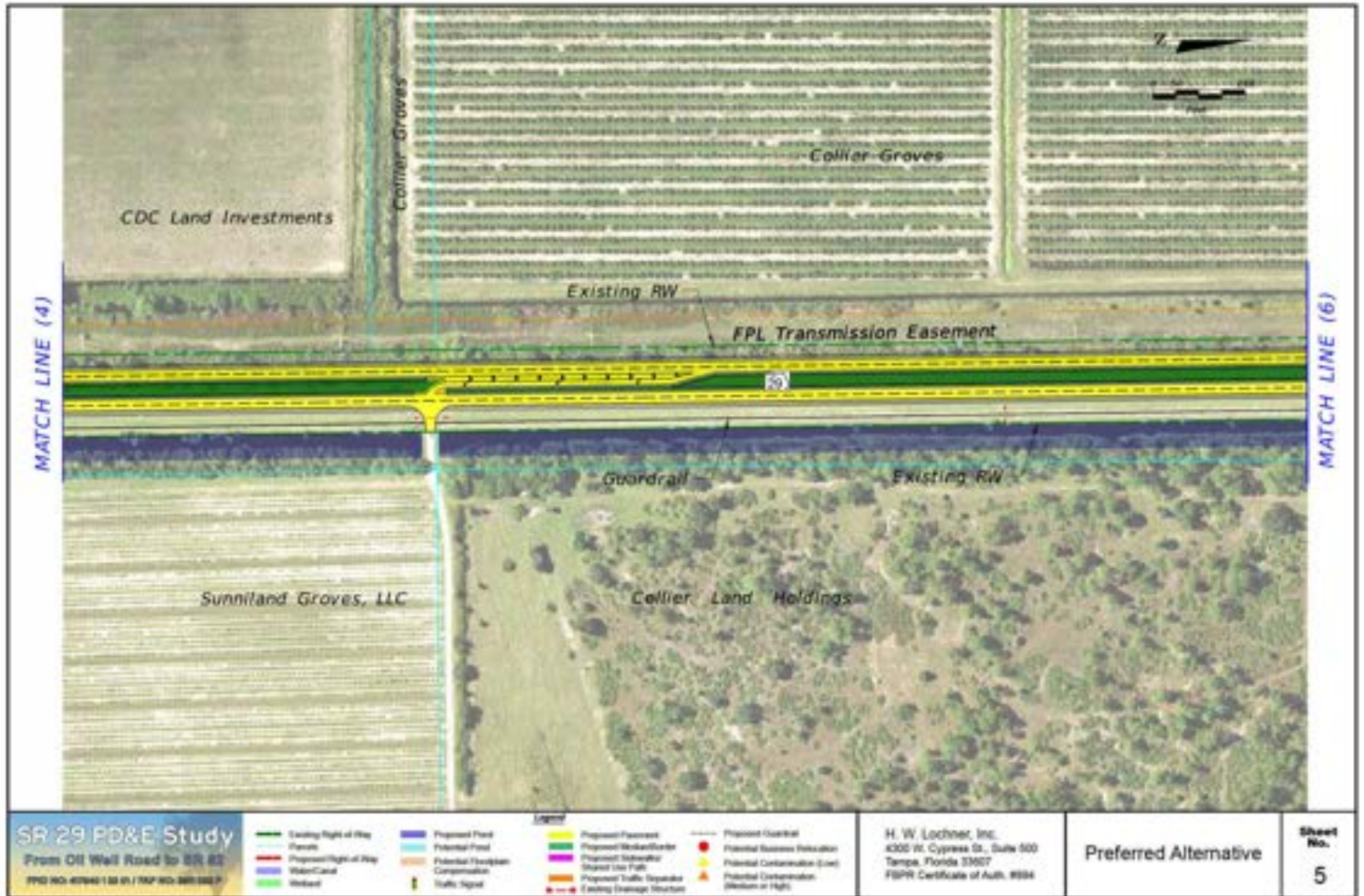
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 02 01 / PFD NO. 2691 02 01

- | | | | |
|-----------------------|-------------------------------|--|--|
| Existing Right of Way | Proposed Pond | Proposed Easement | Proposed Guardrail |
| Stream | Potential Pond | Proposed Median/Barrier | Potential Business Relocation |
| Proposed Right of Way | Potential Roadway Compression | Proposed Subparallel Shoulder (See Note) | Potential Contamination (Low) |
| Water Canal | Traffic Signal | Proposed Traffic Separator | Potential Contamination (Medium or High) |
| Wetland | | Existing Drainage Structure | |

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Preferred Alternative

Sheet No.
4



SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 289-100-0

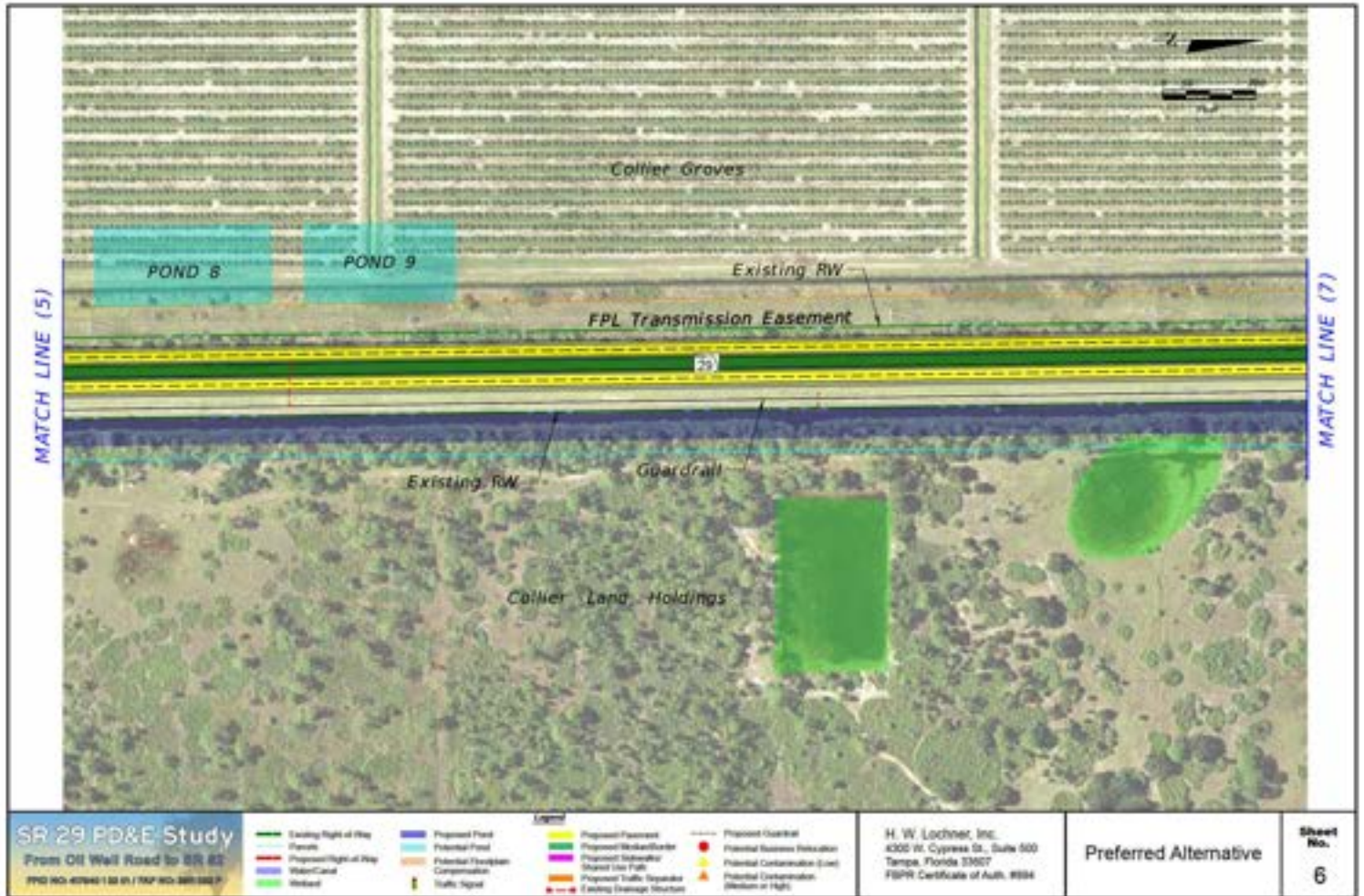
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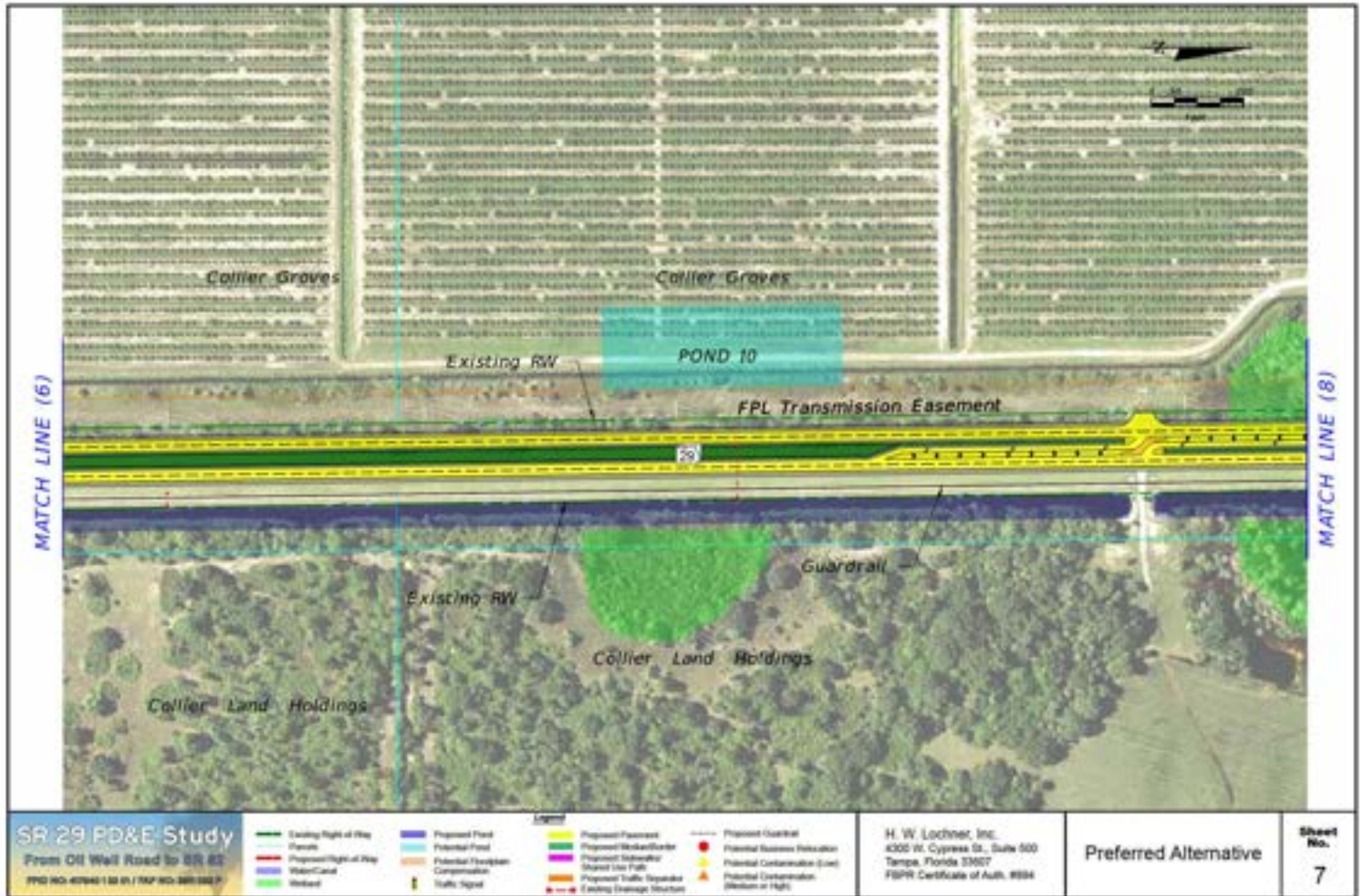
Existing Right of Way	Proposed Flood	Proposed Pavement	Proposed Guardrail
Easement	Potential Topsoil Compaction	Proposed Median/Center Street Use Right	Potential Business Relocation
Proposed Right of Way	Traffic Signal	Proposed Traffic Separator	Potential Contamination (Leak)
Water Canal		Existing Drainage Structure	Potential Contamination (Spill or Hgt)
Wetland			

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Preferred Alternative

Sheet No.
5





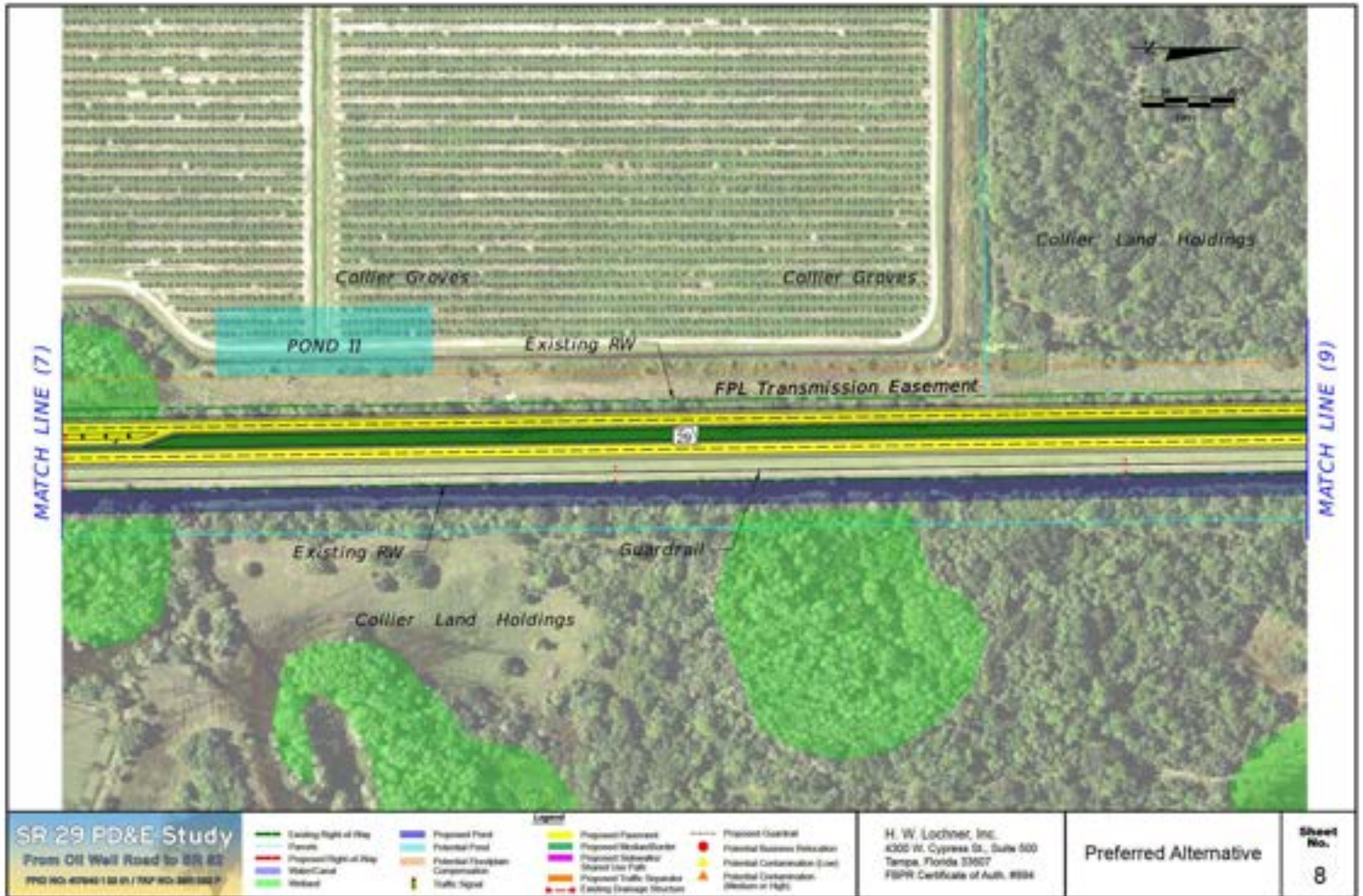
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47945-1 03 01 / PFD NO. 287-102 P

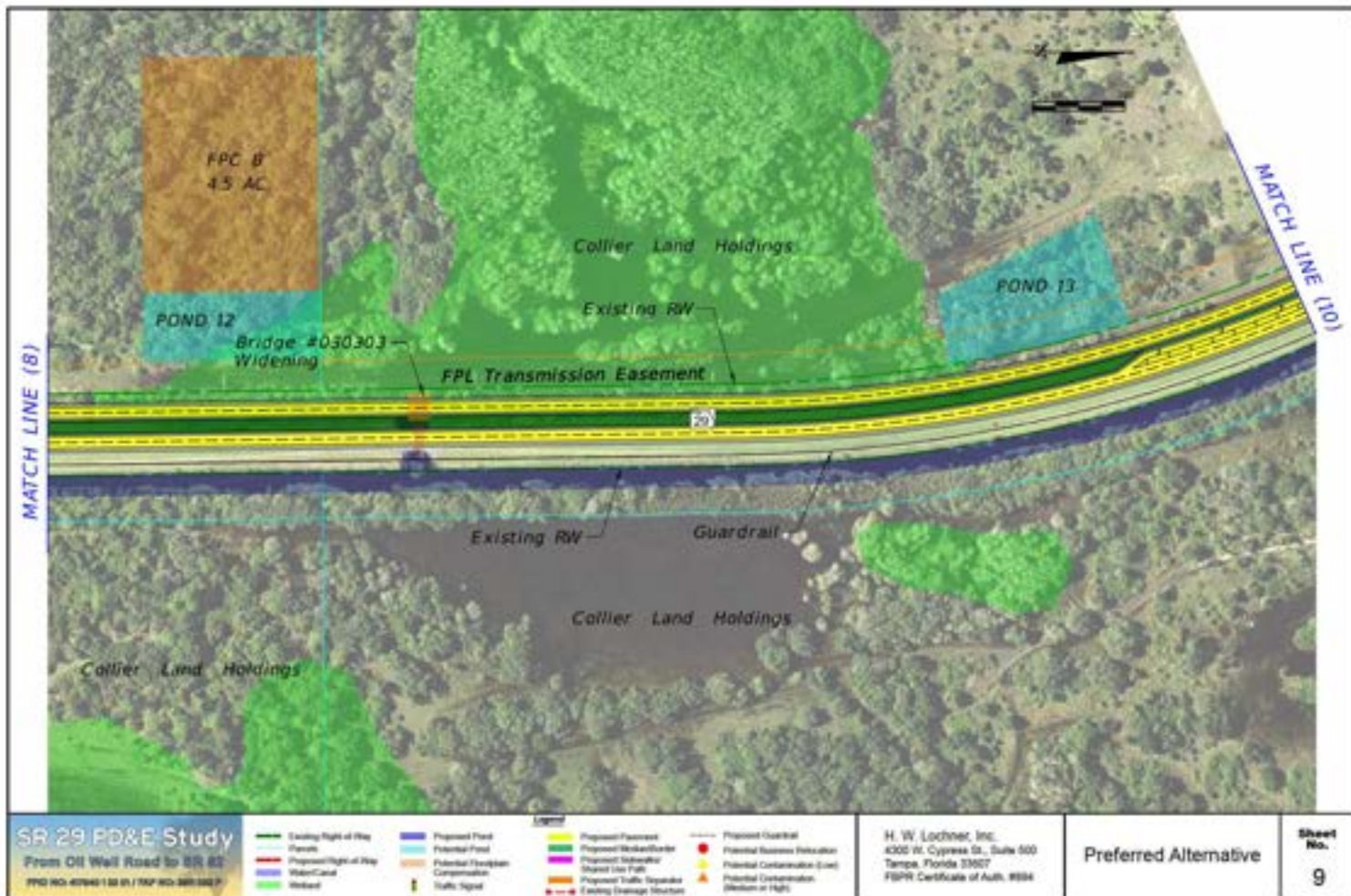
Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Guardrail
Proposed Right of Way	Potential Pond	Proposed Median/Center	Potential Business Relocation
Water Canal	Potential Topsoil Compaction	Proposed Subparallel Shoulder (See PFD)	Potential Contamination (Leak)
Wetland	Traffic Signal	Proposed Traffic Separator	Potential Contamination (Spill or Hgt)
		Existing Drainage Structure	

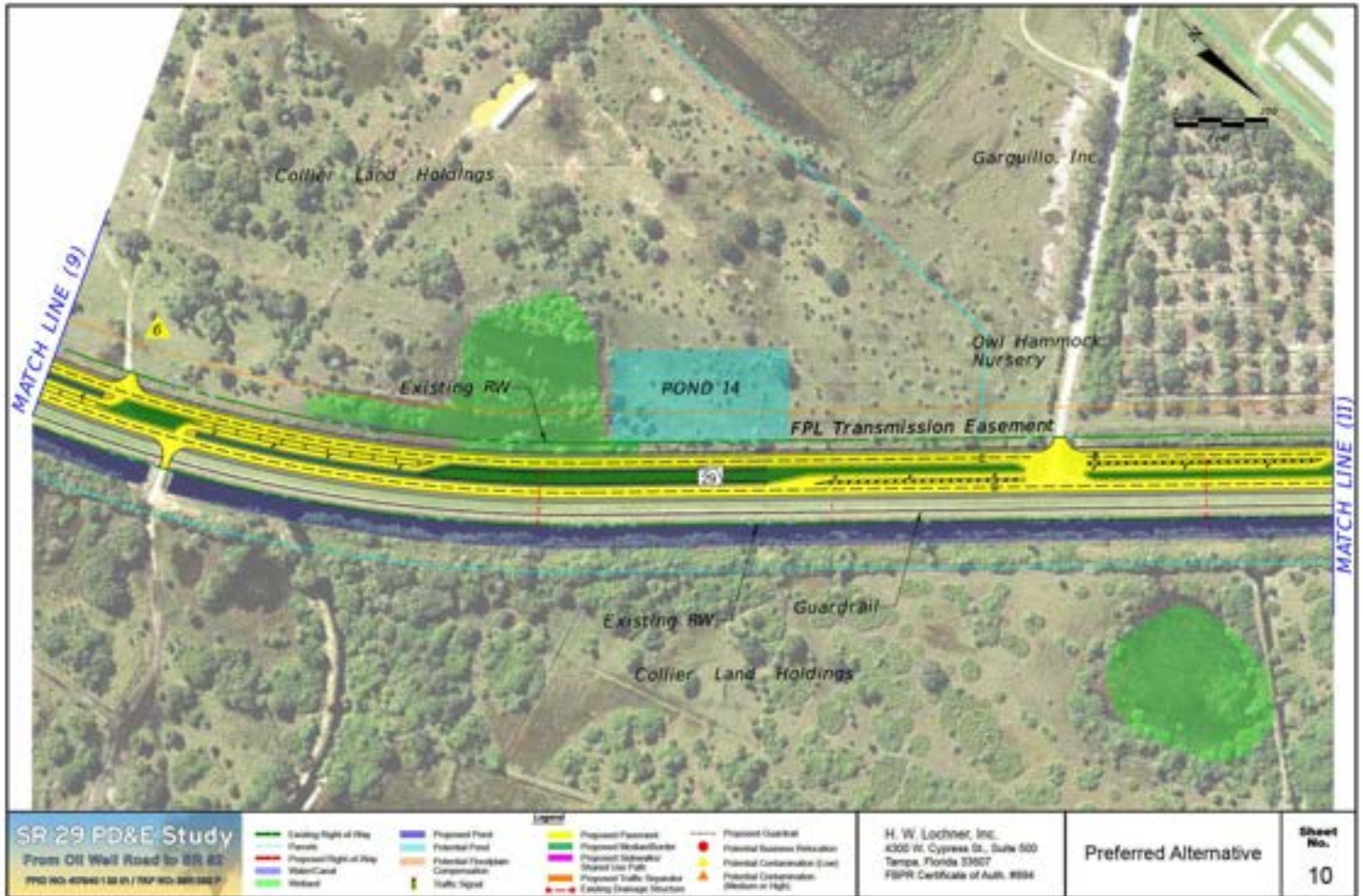
H. W. Lochner, Inc.
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 Tampa, Florida 33607
 FSRP Certificate of Auth. #994

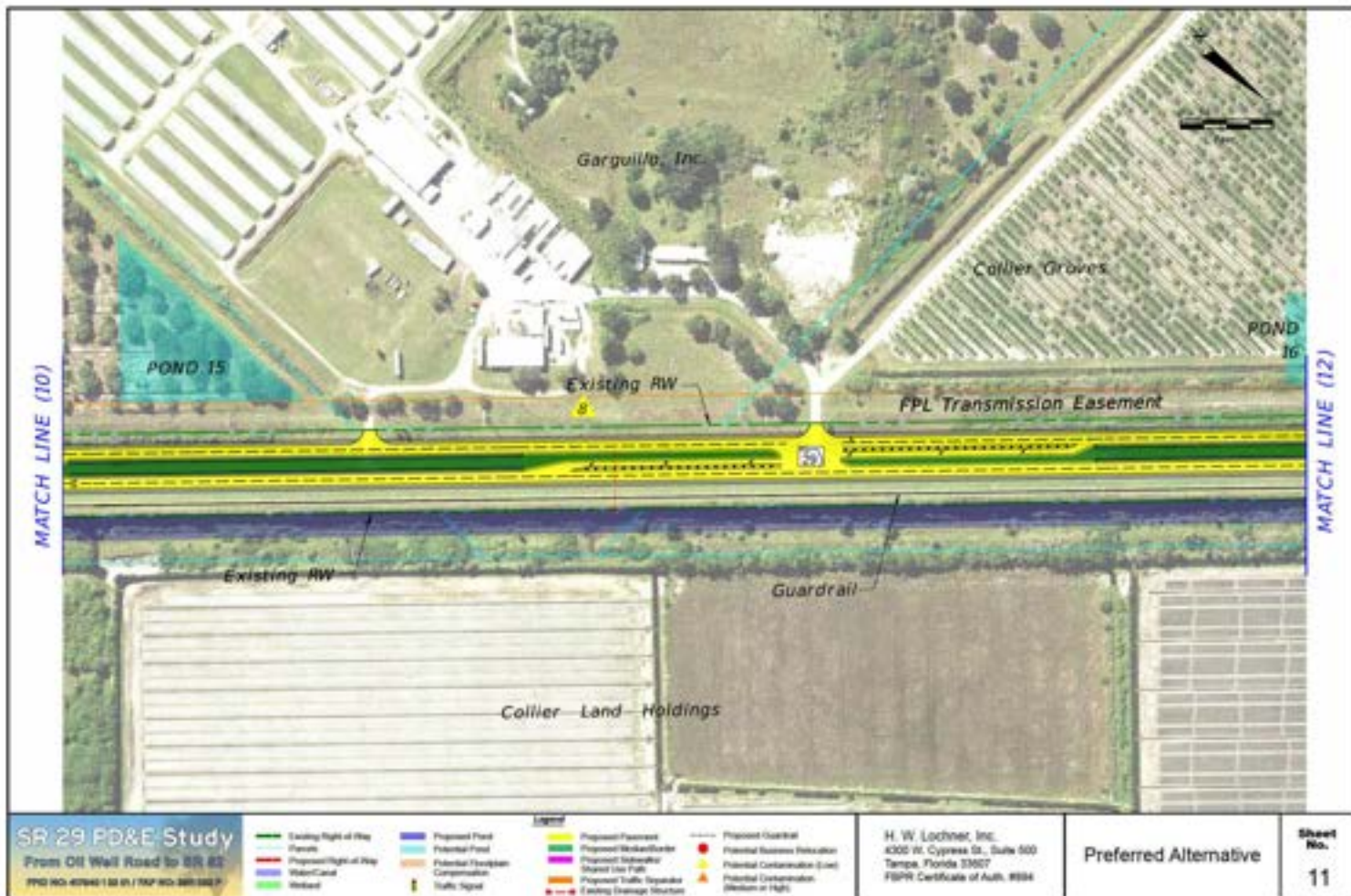
Preferred Alternative

Sheet No.
 7









SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 02 01 / 50' NO. 280-100-0

- | | | | |
|-----------------------|-------------------------------|-----------------------------|--|
| Existing Right of Way | Proposed Pond | Proposed Pavement | Proposed Guardrail |
| Driveway | Potential Pond | Proposed Median/Center | Potential Business Relocation |
| Proposed Right of Way | Potential Roadway Compression | Proposed Subroadway | Potential Concentration (Low) |
| Water Canal | Traffic Signal | Proposed Lane Markings | Potential Concentration (Medium or High) |
| Retard | | Proposed Traffic Separator | |
| | | Existing Drainage Structure | |

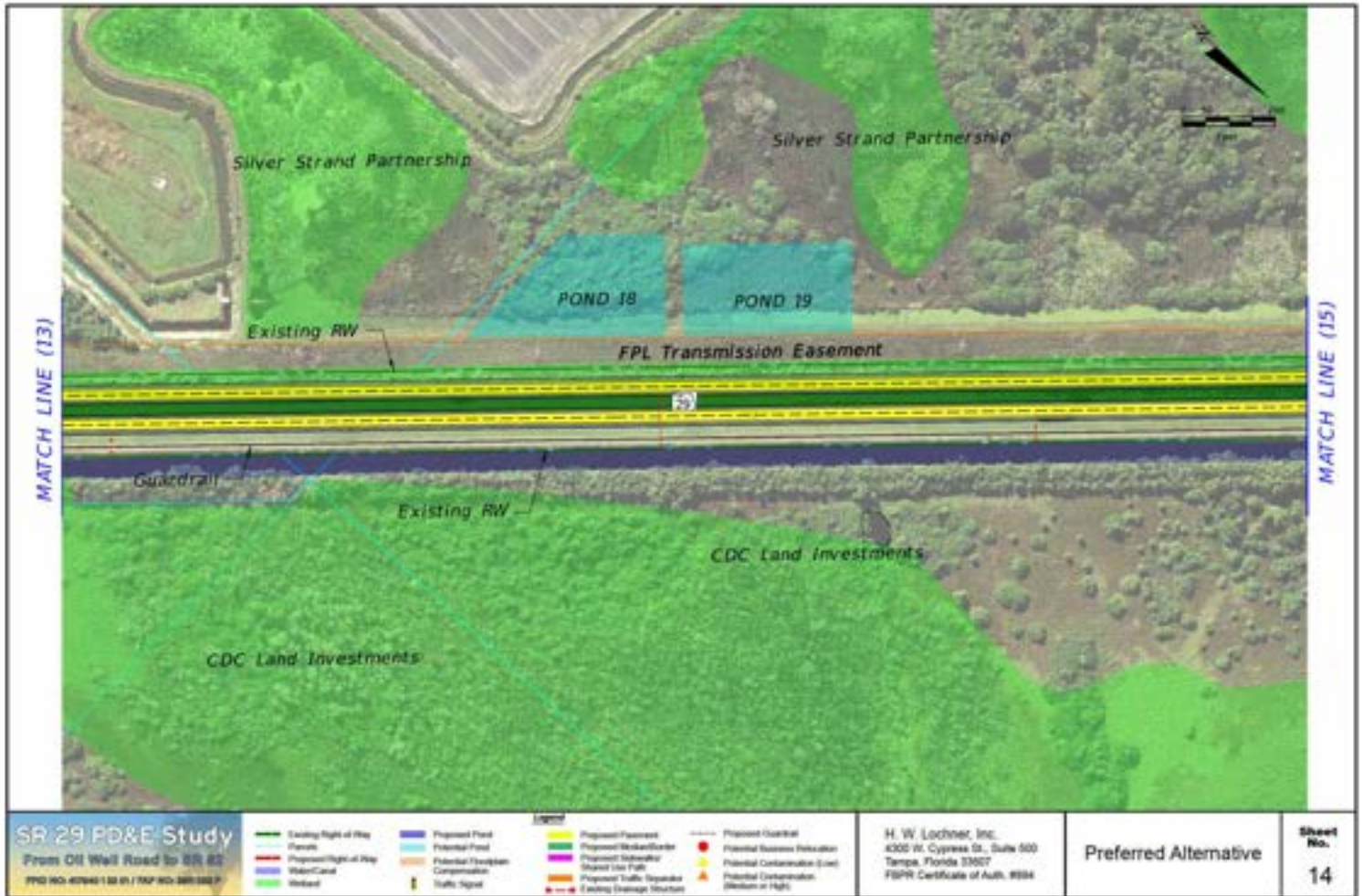
H. W. Lochner, Inc.
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 Tampa, Florida 33607
 FSR Certificate of Auth. #994

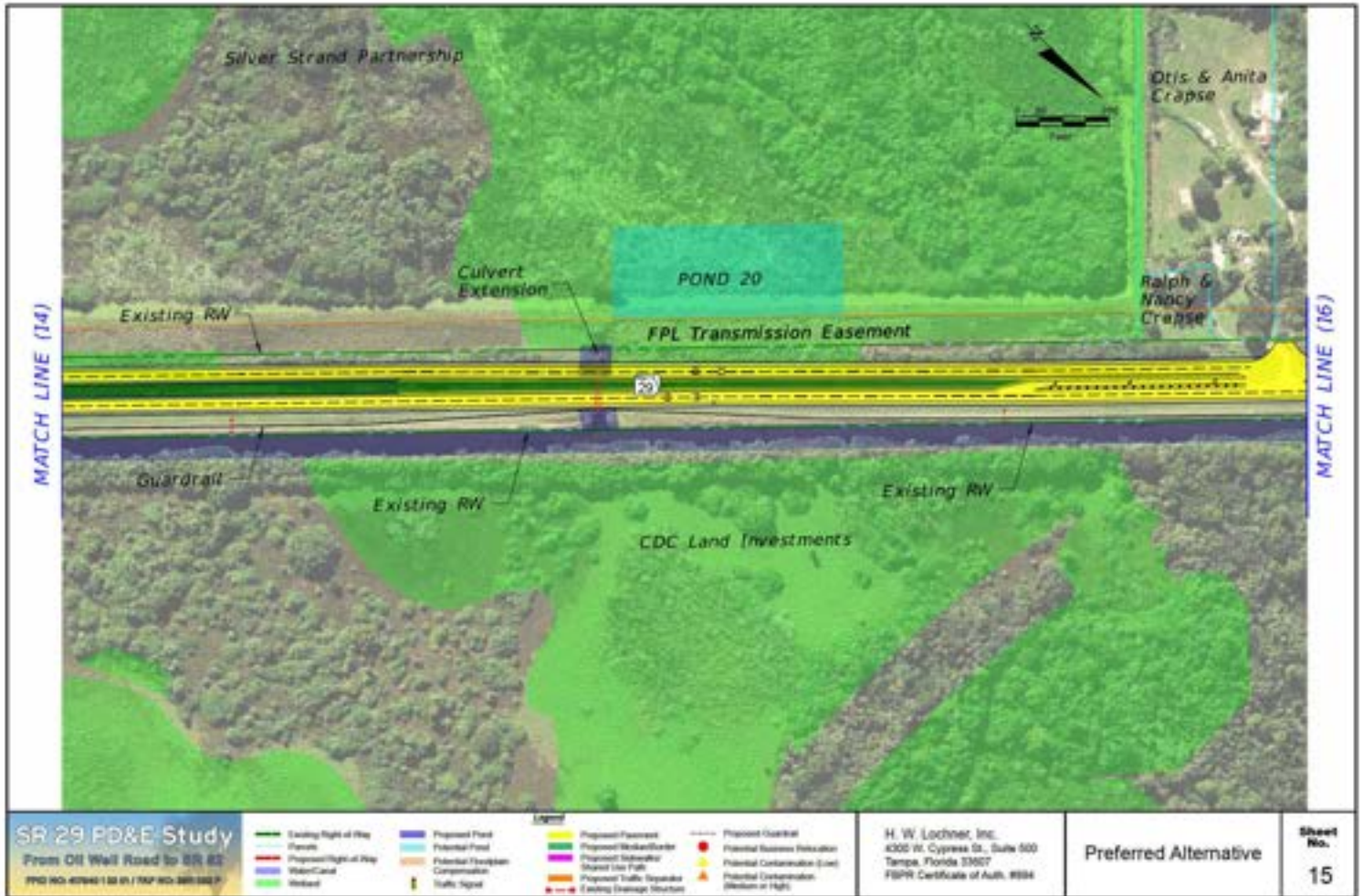
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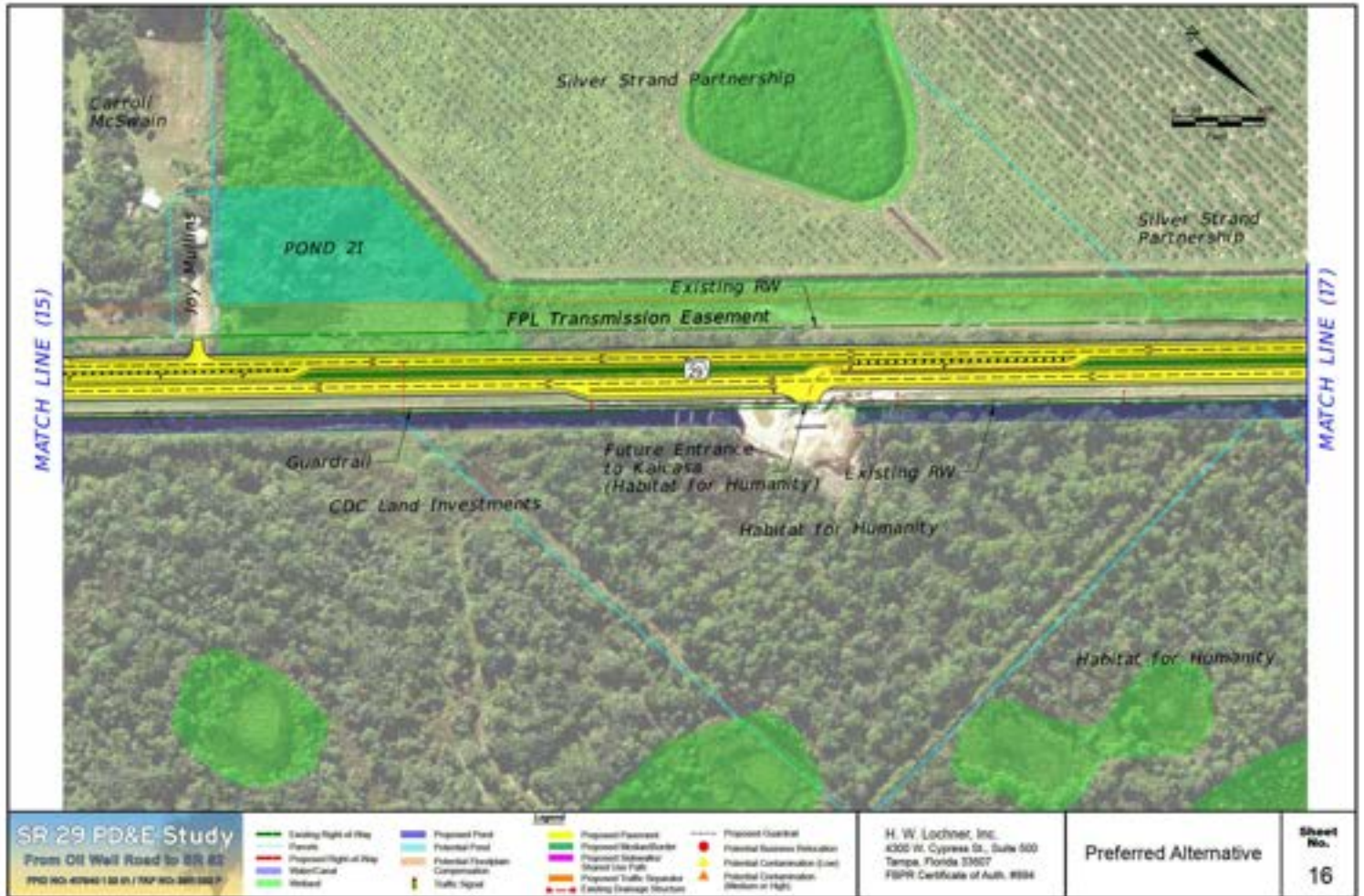
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SR 29 PD&E Study

From Oil Well Road to SR 82

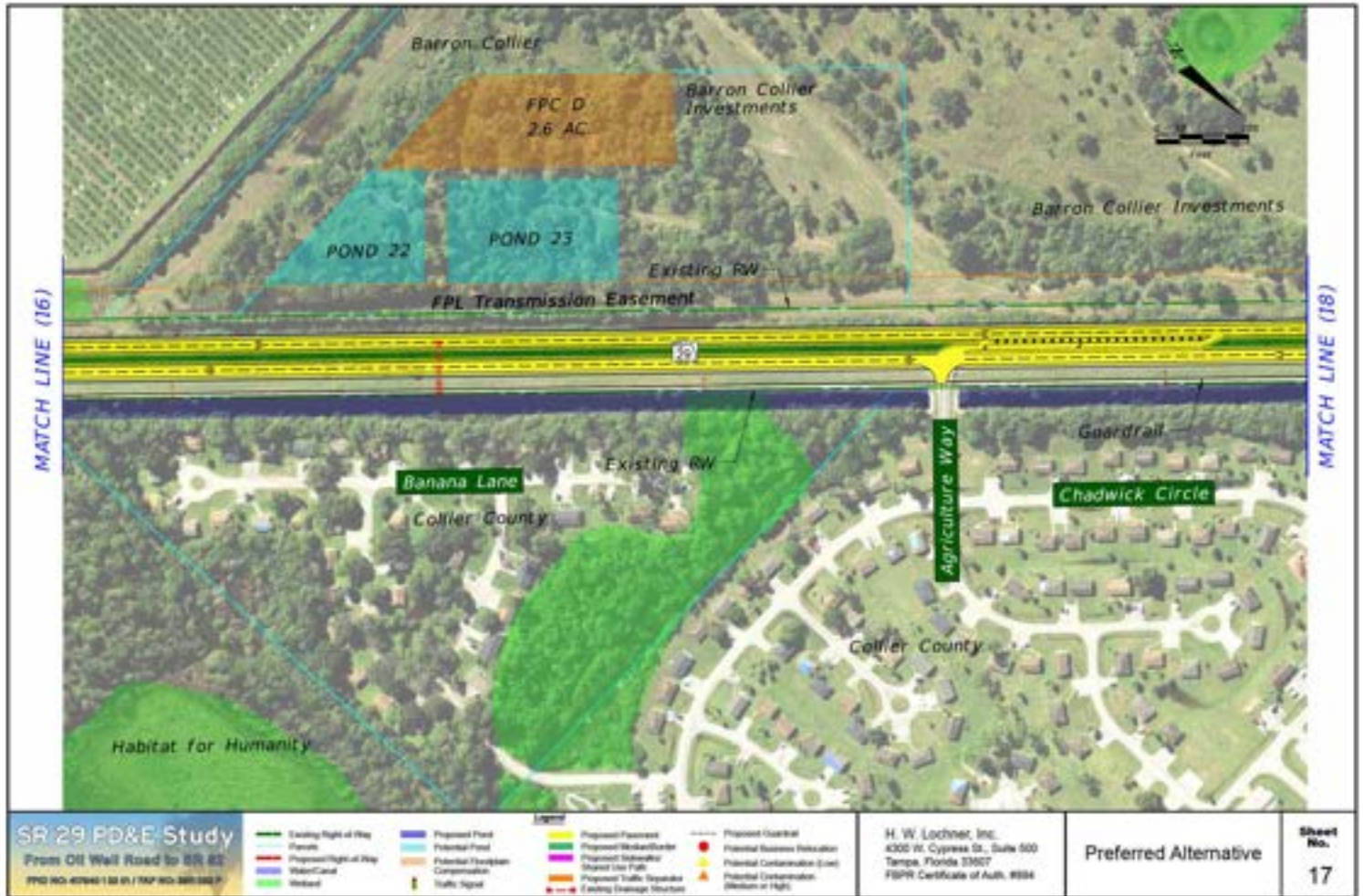
PHD NO. 47940-1 SS 01 / PHD NO. 289-100-1

- | | | | |
|-----------------------|-------------------------------|--|--|
| Existing Right of Way | Proposed Road | Proposed Pavement | Proposed Guardrail |
| Easement | Potential Pond | Proposed Median/Center | Potential Success Relocation |
| Proposed Right of Way | Potential Roadway Compression | Proposed Subparallel Shoulder (no traffic) | Potential Concentration (Low) |
| Water Canal | Traffic Signal | Proposed Traffic Separator | Potential Concentration (Medium or High) |
| Wetland | | Existing Drainage Structure | |

H. W. Lochner, Inc.
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 Tampa, Florida 33607
 FSPR Certificate of Auth. #994

Preferred Alternative

Sheet No.
16



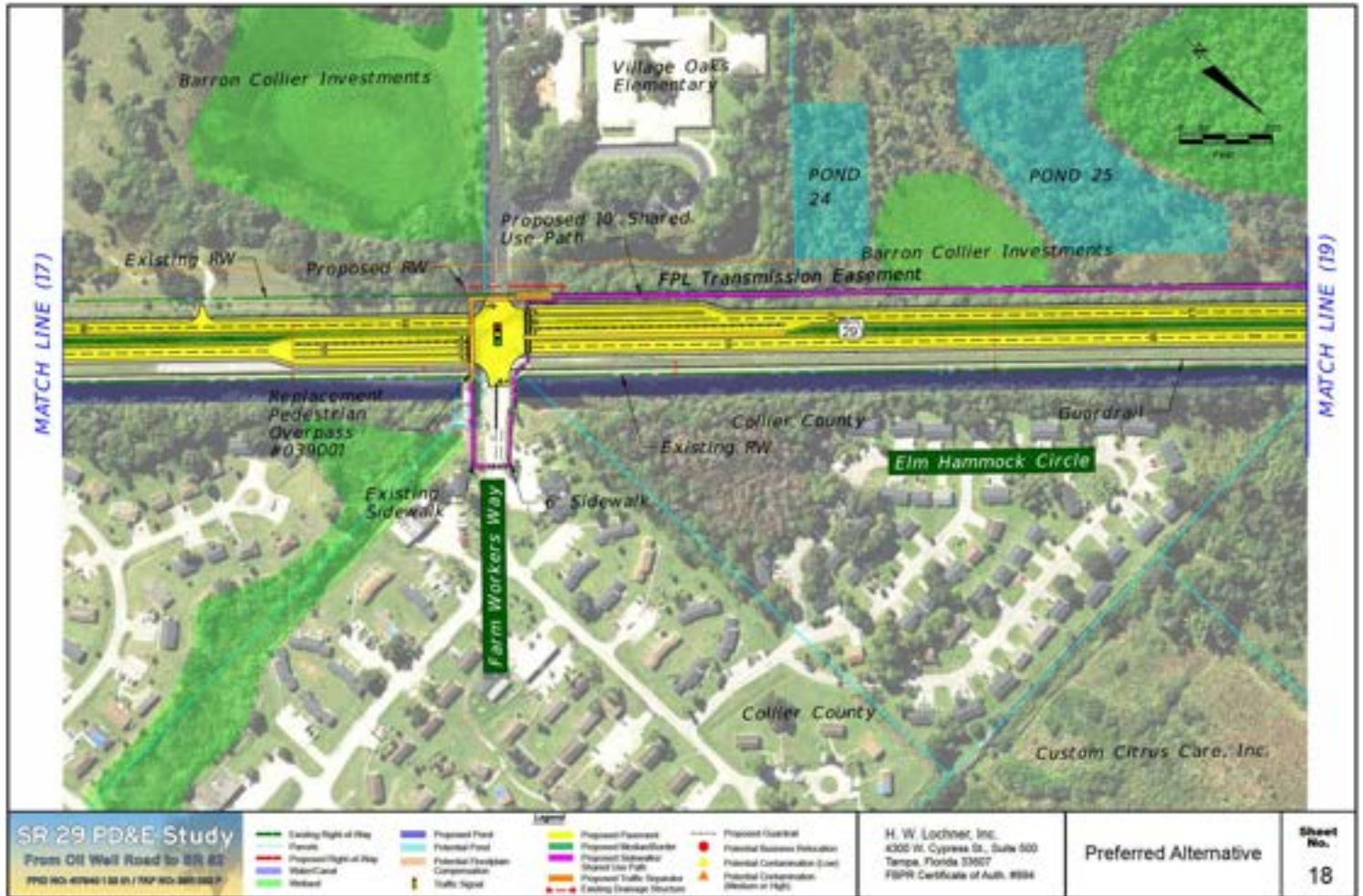
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 289-100-1

Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Guardrail
Proposed Right of Way	Potential Pond	Proposed Median/Center	Potential Business Relocation
Water/Canal	Potential Roadway Compression	Proposed Signalized Street (see PFD)	Potential Concentration (East)
Wetland	Traffic Signal	Proposed Traffic Separator	Potential Concentration (West or N/S)
		Existing Drainage Structure	

H. W. Lochner, Inc.
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 Tampa, Florida 33607
 FSPR Certificate of Auth. #994

Preferred Alternative

Sheet No.
 17



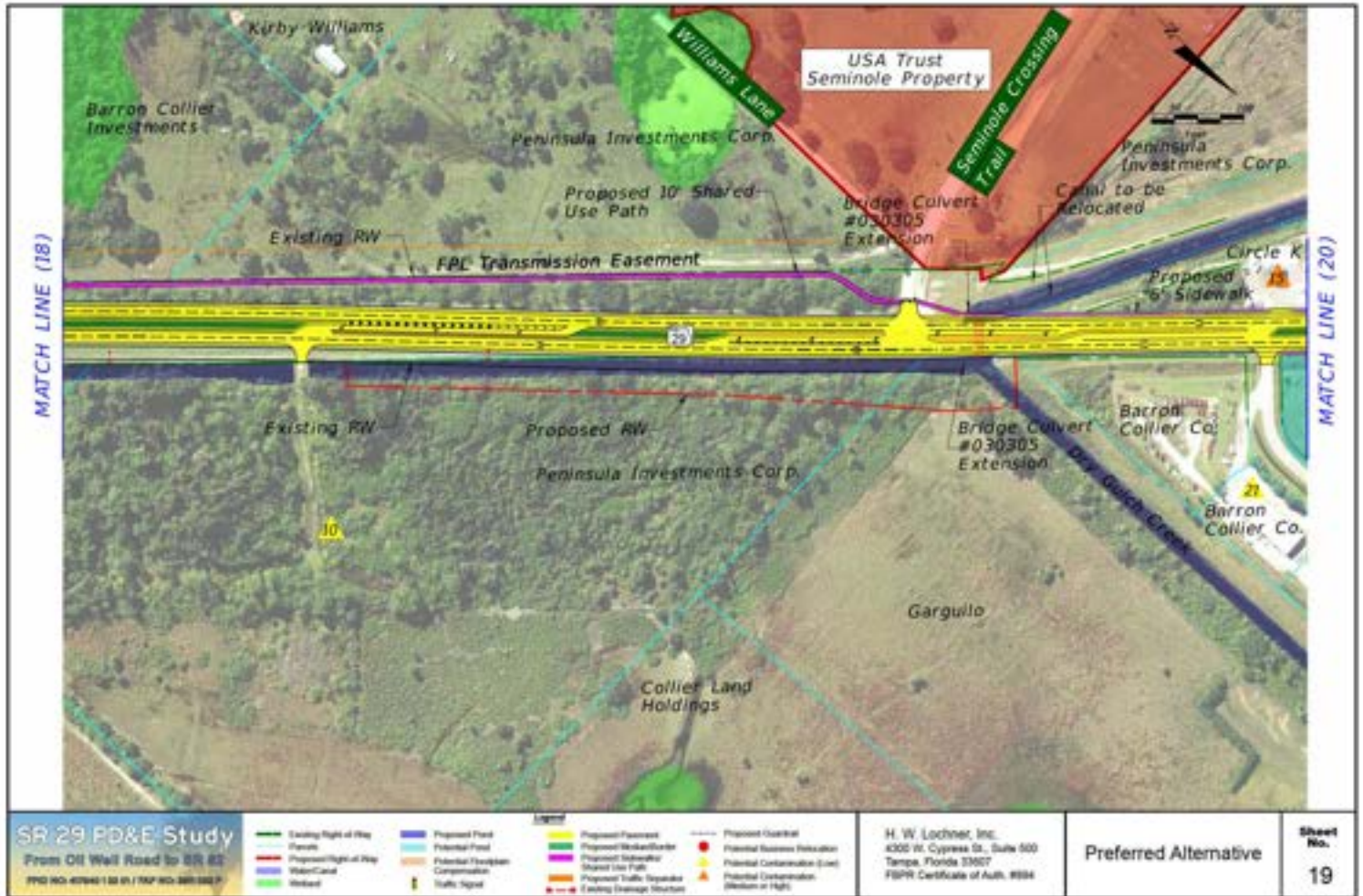
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 289-100-1

Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Guardrail
Driveway	Potential Pond	Proposed Median/Barrier	Potential Business Relocation
Proposed Right of Way	Potential Floodplain	Proposed Sidewalk	Potential Contamination (Low)
Water Canal	Potential Floodplain Compression	Proposed Shared Use Path	Potential Contamination (Medium or High)
Wetland	Traffic Signal	Proposed Traffic Separator	
		Existing Drainage Structure	

H. W. Lochner, Inc.
 4300 W. Cypress St., Suite 500
 Tampa, Florida 33607
 FSPR Certificate of Auth. #994

Preferred Alternative

Sheet No.
18



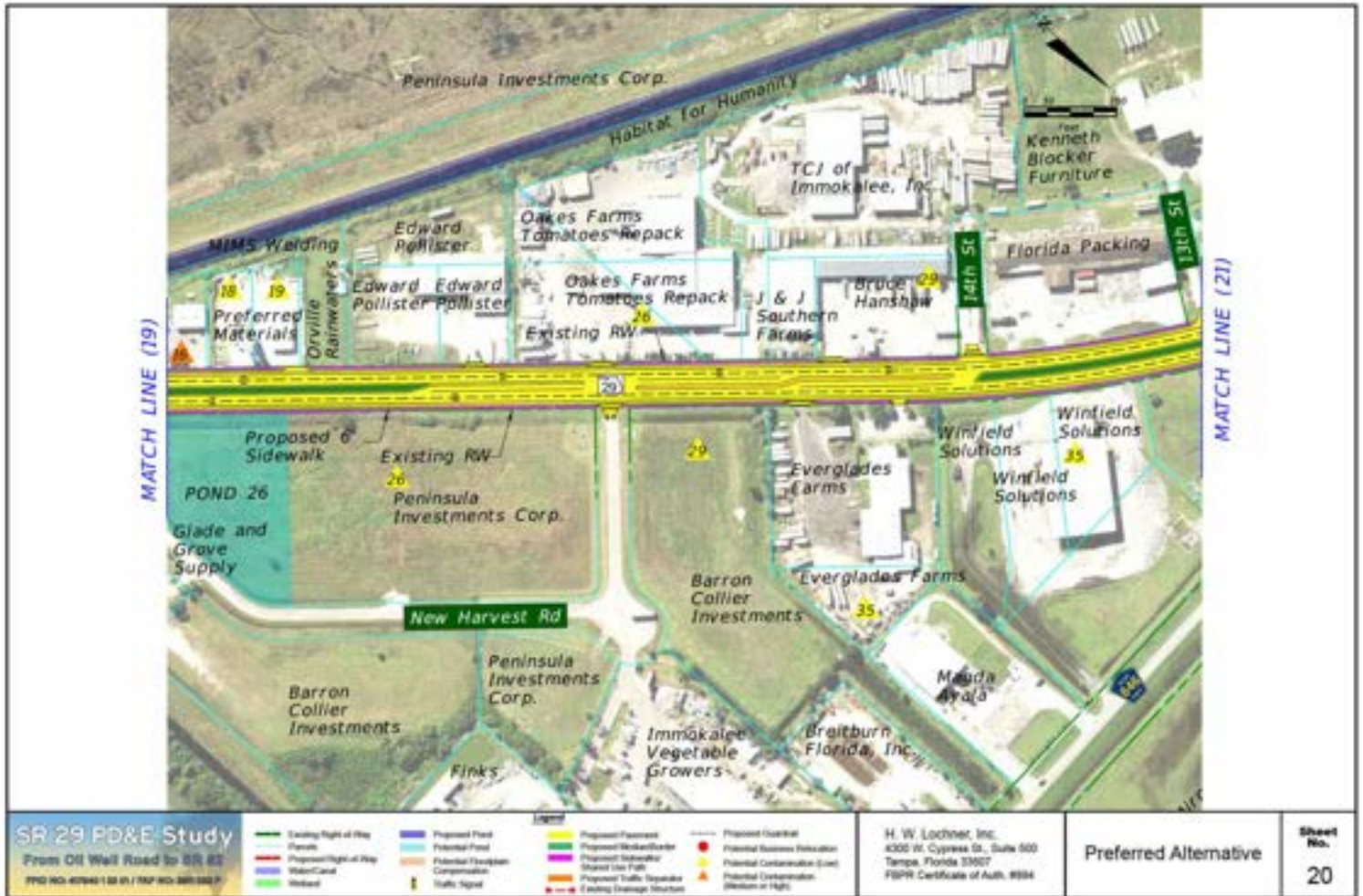
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 280-100 01

Legend			
Existing Right of Way	Proposed Fenceline	Proposed Pavement	Proposed Canal
Fences	Potential Pond	Proposed Wetland Buffer	Potential Business Relocation
Proposed Right of Way	Potential Roadway Compression	Proposed Subwater Shared Use Path	Potential Contamination (Low)
Water Canal	Traffic Signal	Proposed Traffic Separator	Potential Contamination (Medium or High)
Wetland		Existing Drainage Structure	

H. W. Lochner, Inc.
 4300 W. Cypress St., Suite 500
 Tampa, Florida 33607
 FSPR Certificate of Auth. #994

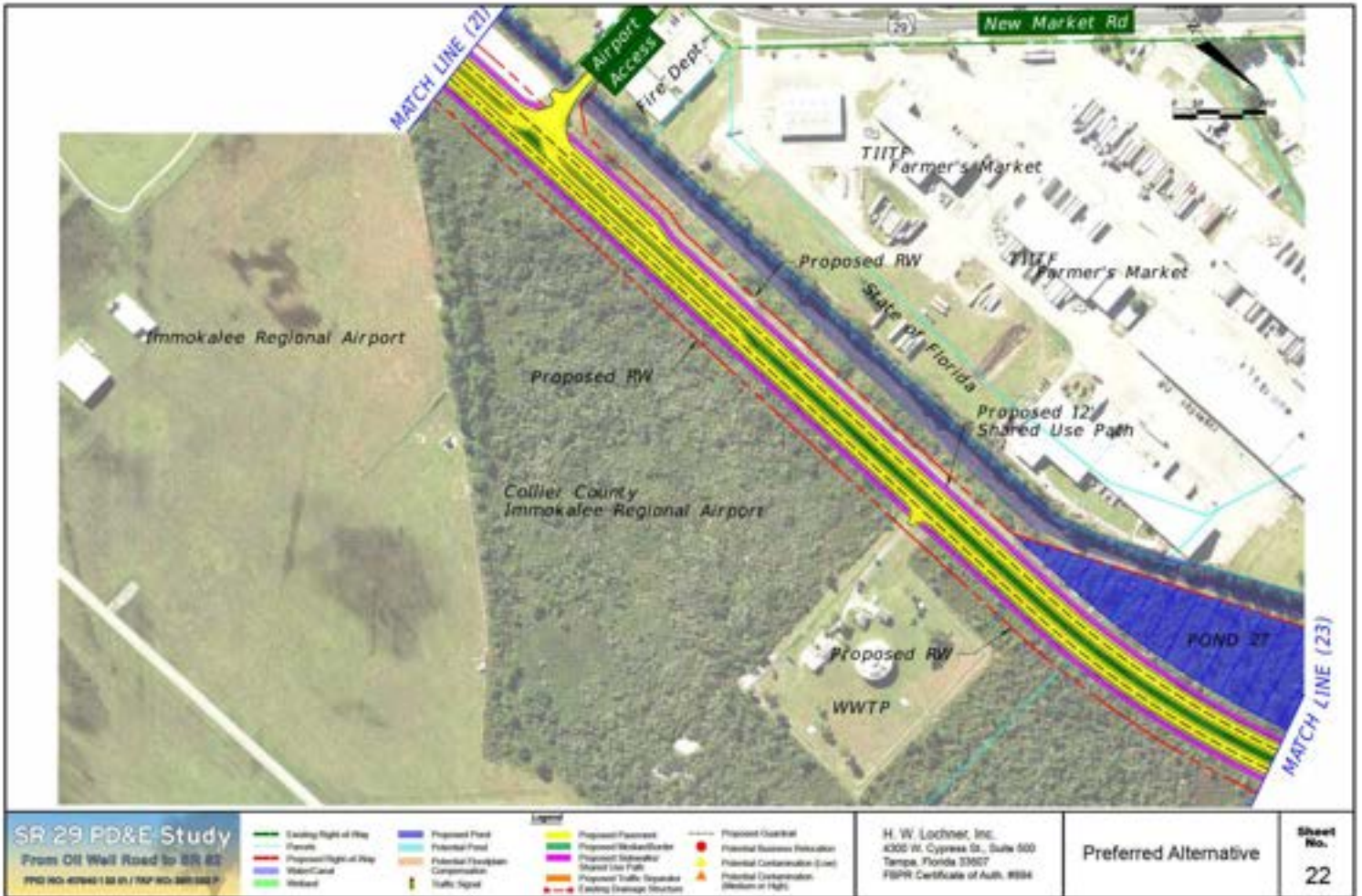
Preferred Alternative

Sheet No.
 19





<p>SR 29 PD&E Study From Old Wall Road to SR 82 PFD NO. 47941-1 03 01 / PFD NO. 2811 03 01</p>	<p>Legend</p> <ul style="list-style-type: none"> Existing Right of Way Proposed Proposed Right of Way Water/Canal Retained Proposed Front Potential Pond Potential Troubled Compression Traffic Signal 	<ul style="list-style-type: none"> Proposed Pavement Proposed Median/Center Proposed Submarket Proposed Low Traffic Proposed Traffic Separator Existing Drainage Structure 	<ul style="list-style-type: none"> Proposed Overhead Potential Business Interruption Potential Contamination (Land) Potential Contamination (Water or High) 	<p>H. W. Lochner, Inc. 4300 W. Cypress St., Suite 500 Tampa, Florida 33607 FSPR Certificate of Auth. #994</p>	<p>Preferred Alternative</p>	<p>Sheet No. 21</p>
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SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / P&E NO. 289-100-1

Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Shoulder
Easement	Potential Flood	Proposed Median/Barrier	Potential Business Interruption
Proposed Right of Way	Potential Topsoil/Soil Compaction	Proposed Subsurface Storm Line Path	Potential Contamination (Low)
Water/Canal	Traffic Signal	Proposed Traffic Separator	Potential Contamination (Medium or High)
Wetland		Existing Drainage Structure	

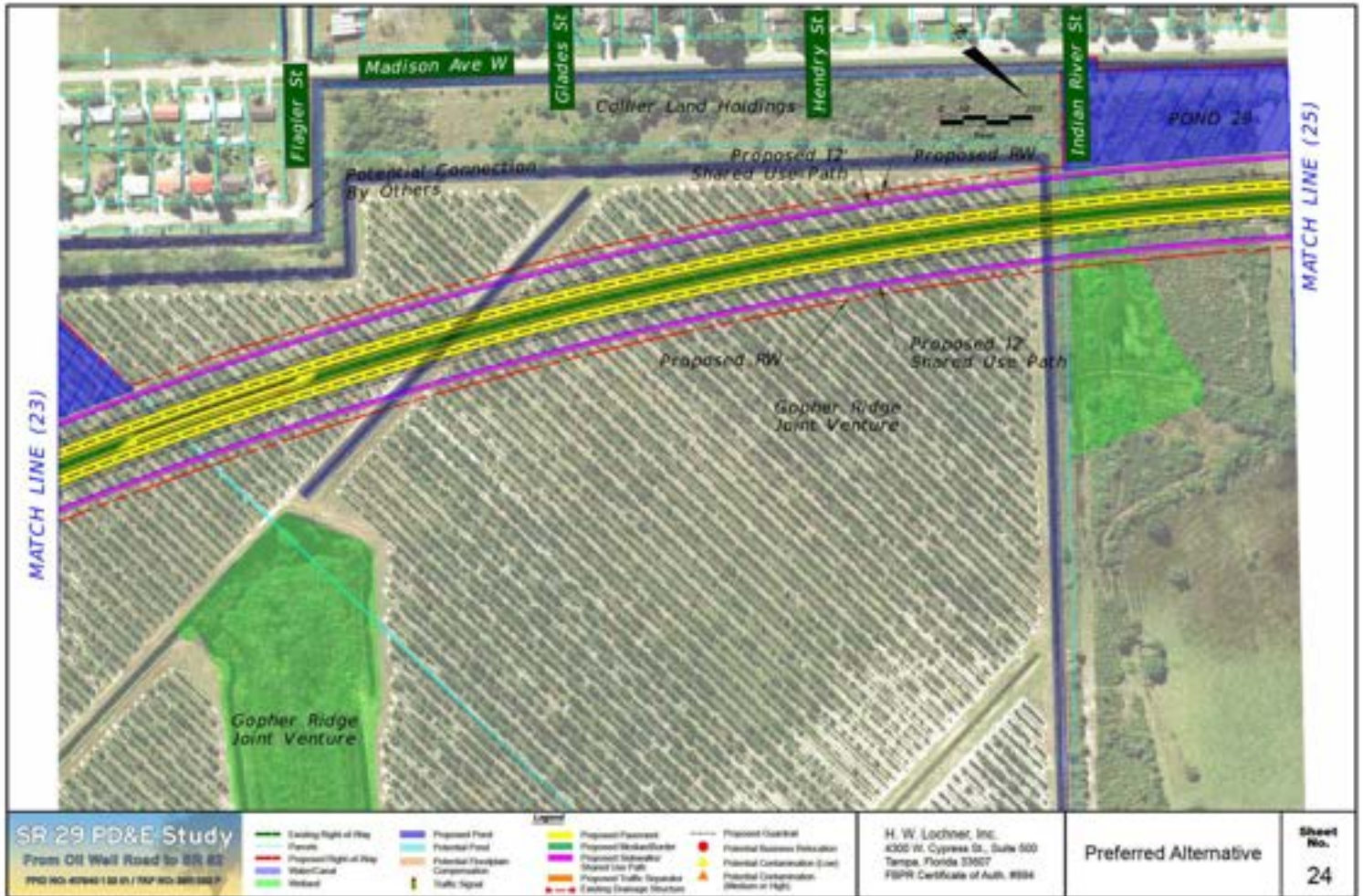
H. W. Lochner, Inc.
 4300 W. Cypress St., Suite 500
 Tampa, Florida 33607
 FSPR Certificate of Auth. #994

Preferred Alternative

Sheet No.
 22



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SR 29 PD&E Study
 From Old Wall Road to SR 82

PHD NO. 47940-1 03 01 / 507 NO. 280-100-0

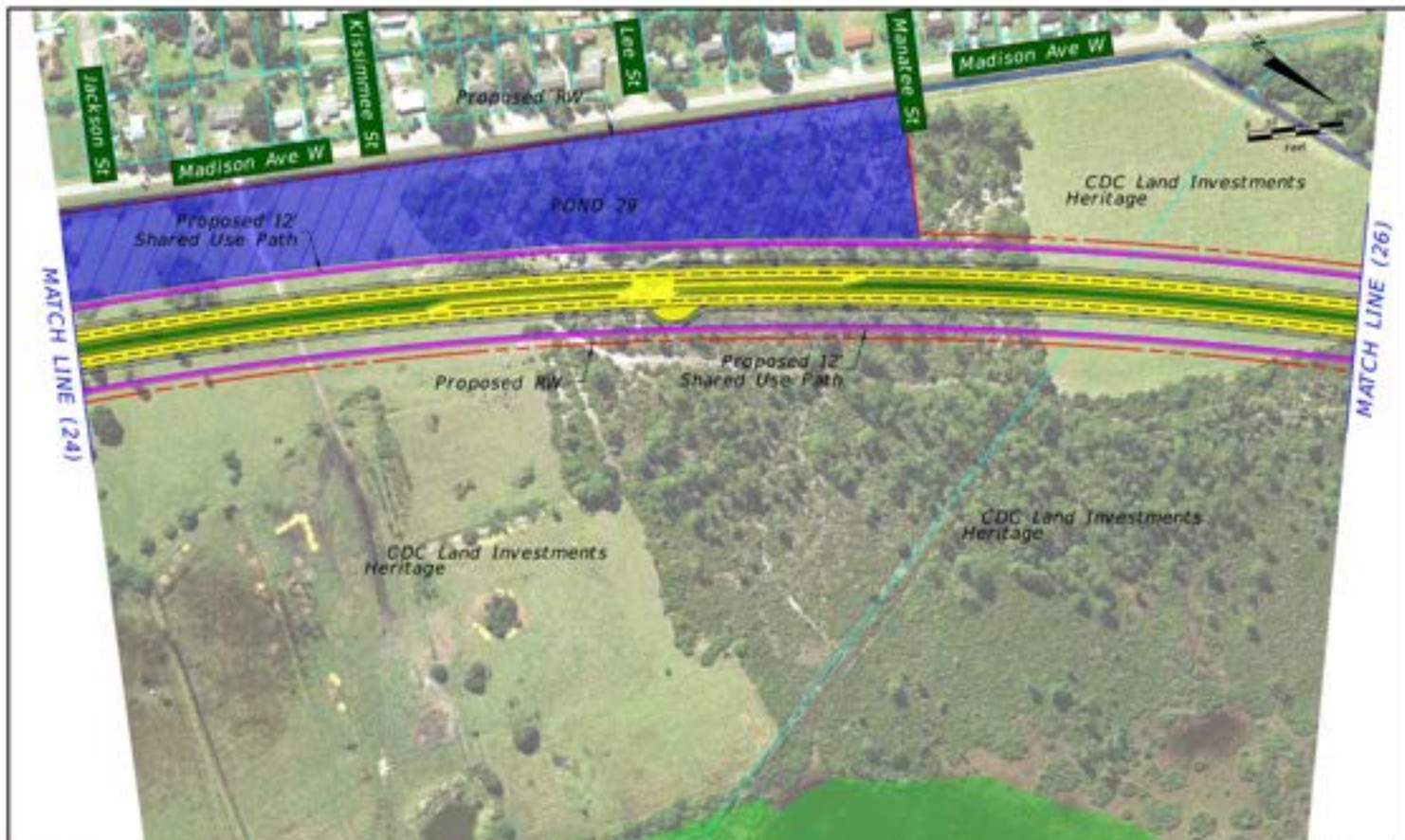
Legend

Existing Right of Way	Proposed Road	Proposed Pavement	Potential Barrier Retention
Easement	Potential Pond	Proposed Median/Center	Potential Concentration (East)
Proposed Right of Way	Potential Roadway Compression	Proposed Shoulder/Shoulder Line Path	Potential Concentration (West or N/S)
Water Canal	Traffic Signal	Proposed Traffic Separator	Existing Drainage Structure
Wetland		Existing Drainage Structure	

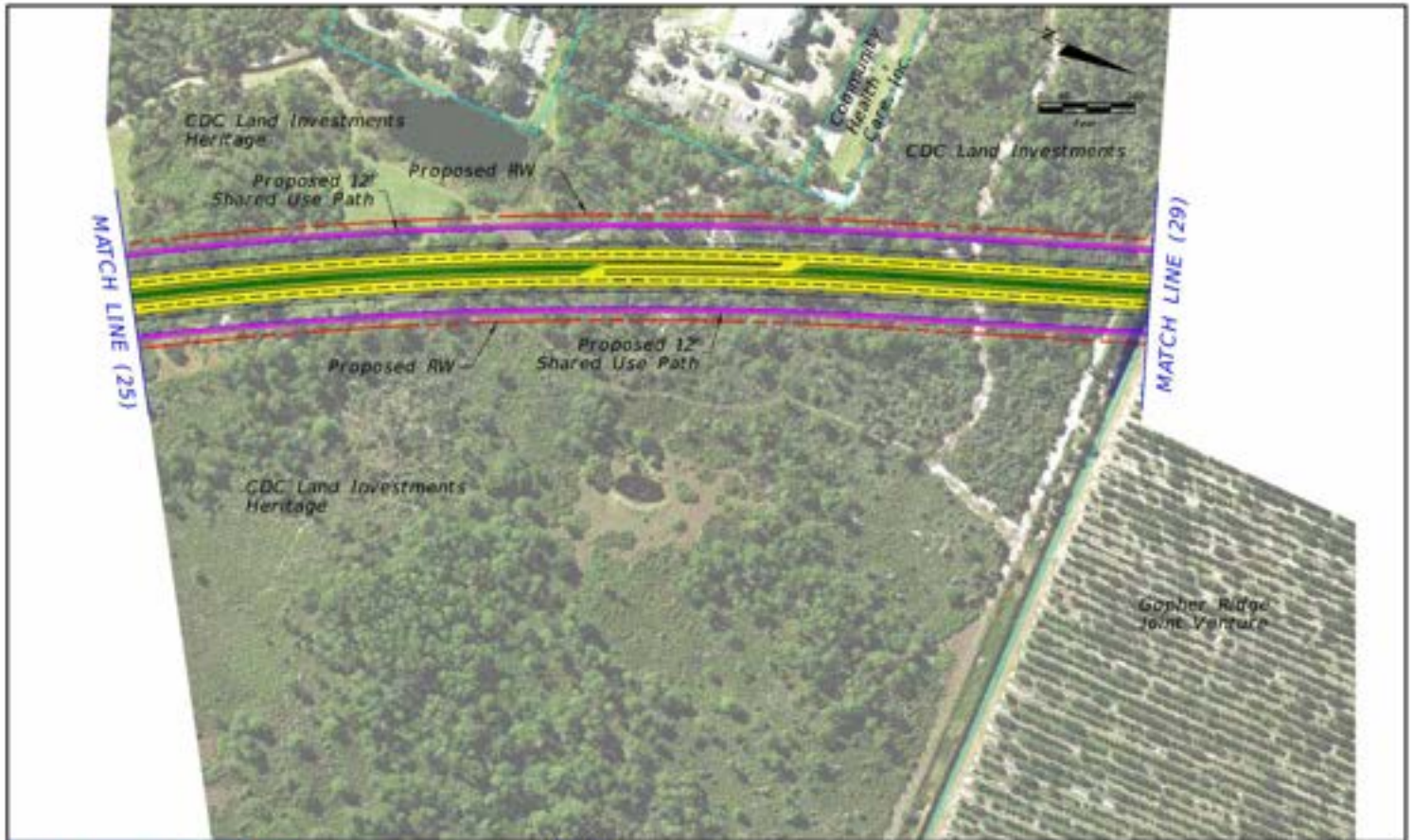
H. W. Lochner, Inc.
 4300 W. Cypress St., Suite 500
 Tampa, Florida 33607
 FSR Certificate of Auth. #994

Preferred Alternative

Sheet No.
 24



<p>SR 29 PD&E Study From Old Wall Road to SR 82 PFD NO. 47940-1 03 01 / PFD NO. 289-100-1</p>	<p>Legend</p> <ul style="list-style-type: none"> Existing Right of Way Proposed Right of Way Water Canal Retained Proposed Pond Potential Pond Potential Topsoil/Soil Compaction Traffic Signal 	<ul style="list-style-type: none"> Proposed Pavement Proposed Median/Center Proposed Subparallel Shared Use Path Proposed Traffic Separator Existing Drainage Structure 	<ul style="list-style-type: none"> Proposed Shoulder Potential Business Relocation Potential Contamination (Low) Potential Contamination (Medium or High) 	<p>H. W. Lochner, Inc. 4300 W. Cypress St., Suite 500 Tampa, Florida 33607 FSPR Certificate of Auth. #994</p>	<p>Preferred Alternative</p>	<p>Sheet No. 25</p>
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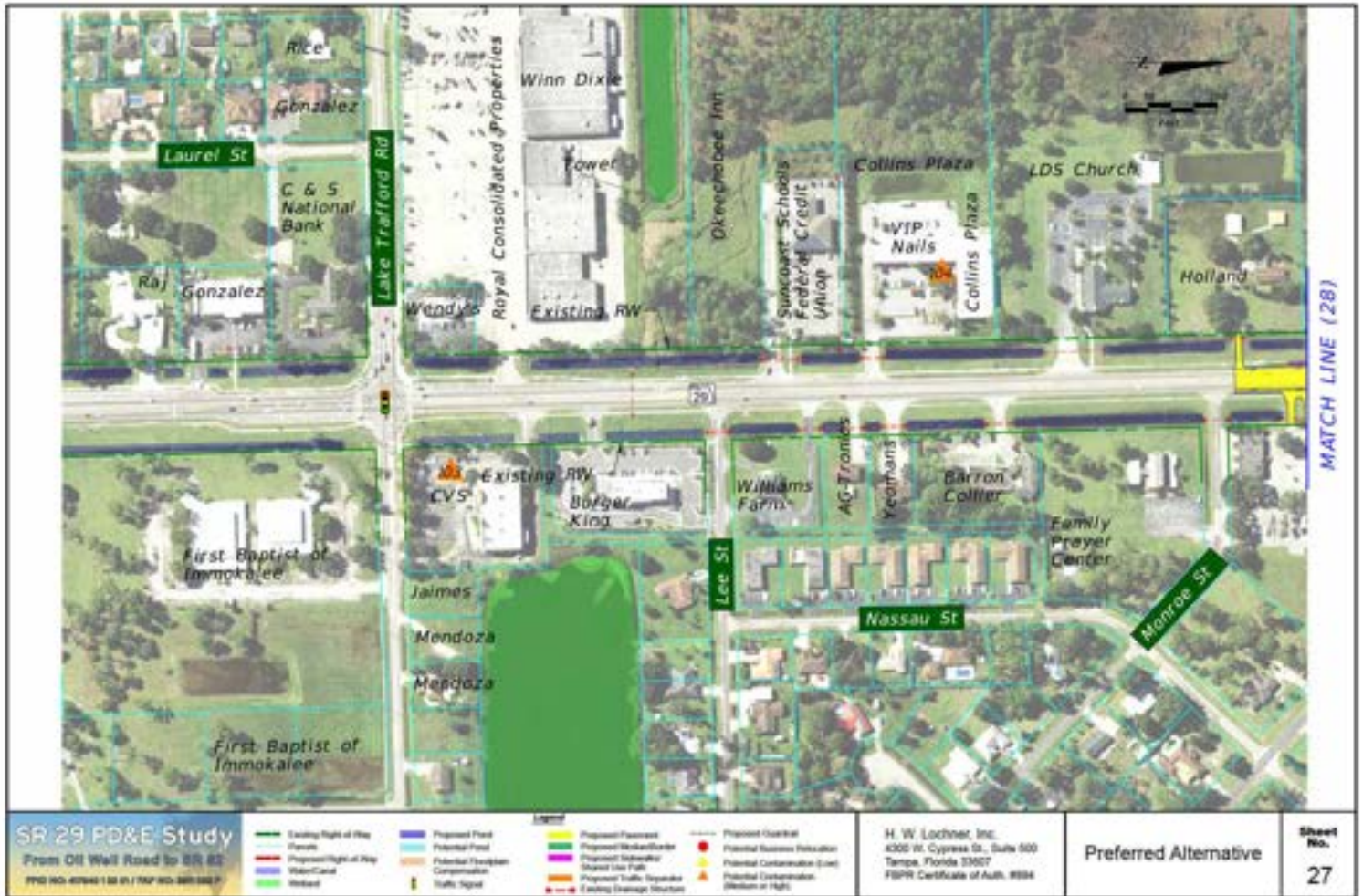
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 260-100-1

Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Shoulder
Easement	Potential Pond	Proposed Median/Center	Potential Business Relocation
Proposed Right of Way	Potential Roadway Compression	Proposed Subparallel Shared Use Path	Potential Concentration (East)
Water Canal	Traffic Signal	Proposed Traffic Separator	Potential Concentration (West of Right)
Wetland		Existing Drainage Structure	

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Sheet No.
 26



MATCH LINE (28)

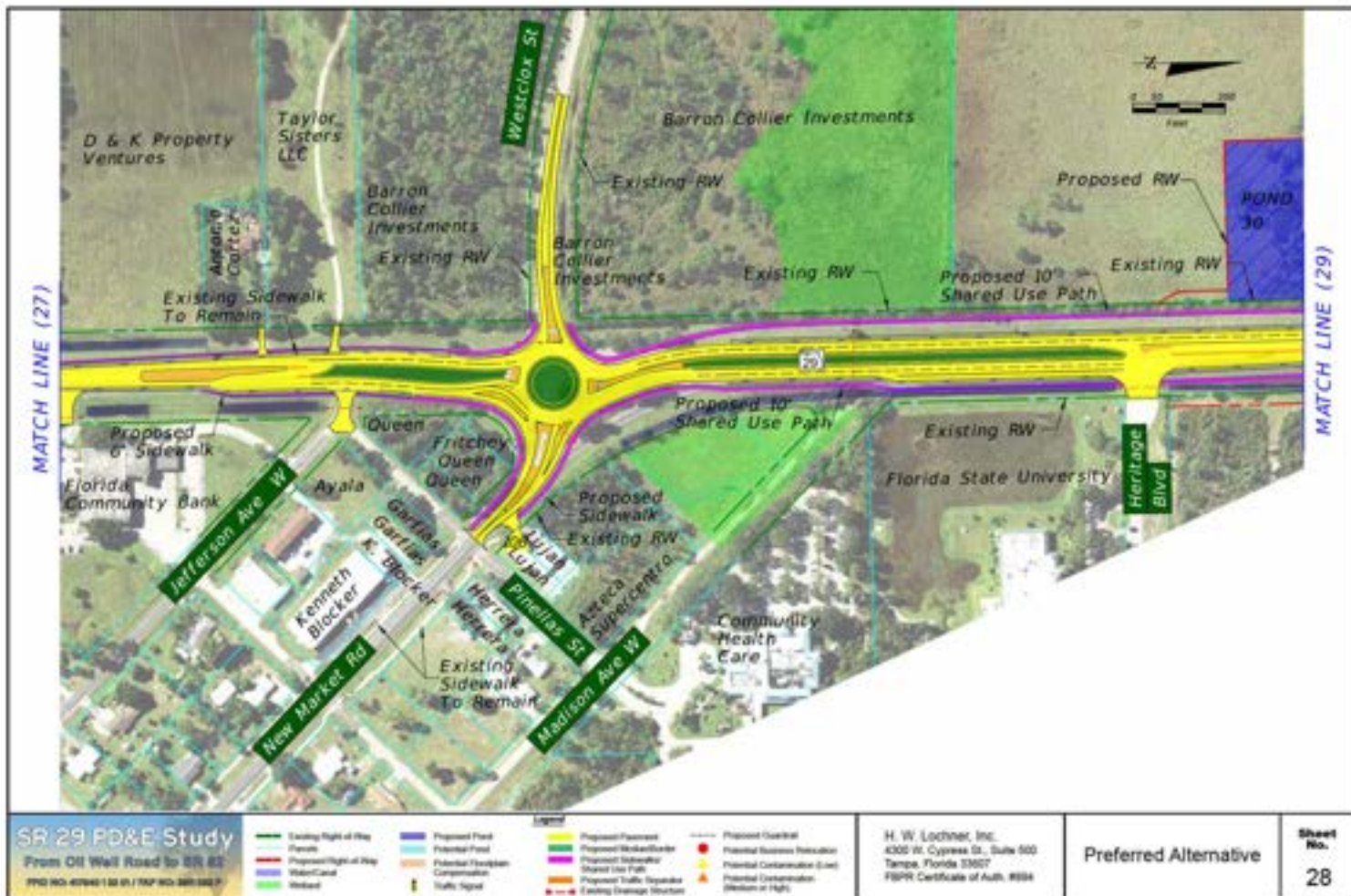
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PWD NO. 47940-1 03 01 / P&E NO. 260-100-0

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| <ul style="list-style-type: none"> — Existing Right of Way — Easement — Proposed Right of Way — Water/Canal — Wetland | <ul style="list-style-type: none"> — Proposed Pond — Potential Floodplain — Potential Floodplain Compression T Traffic Signal | <ul style="list-style-type: none"> — Proposed Pavement — Proposed Medical Center — Proposed Submarket Street Use Right — Proposed Traffic Separator — Existing Drainage Structure | <ul style="list-style-type: none"> — Proposed Control ● Potential Business Relocation ● Potential Contamination (Land) ● Potential Contamination (Water or Air) |
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Preferred Alternative

Sheet No.
27



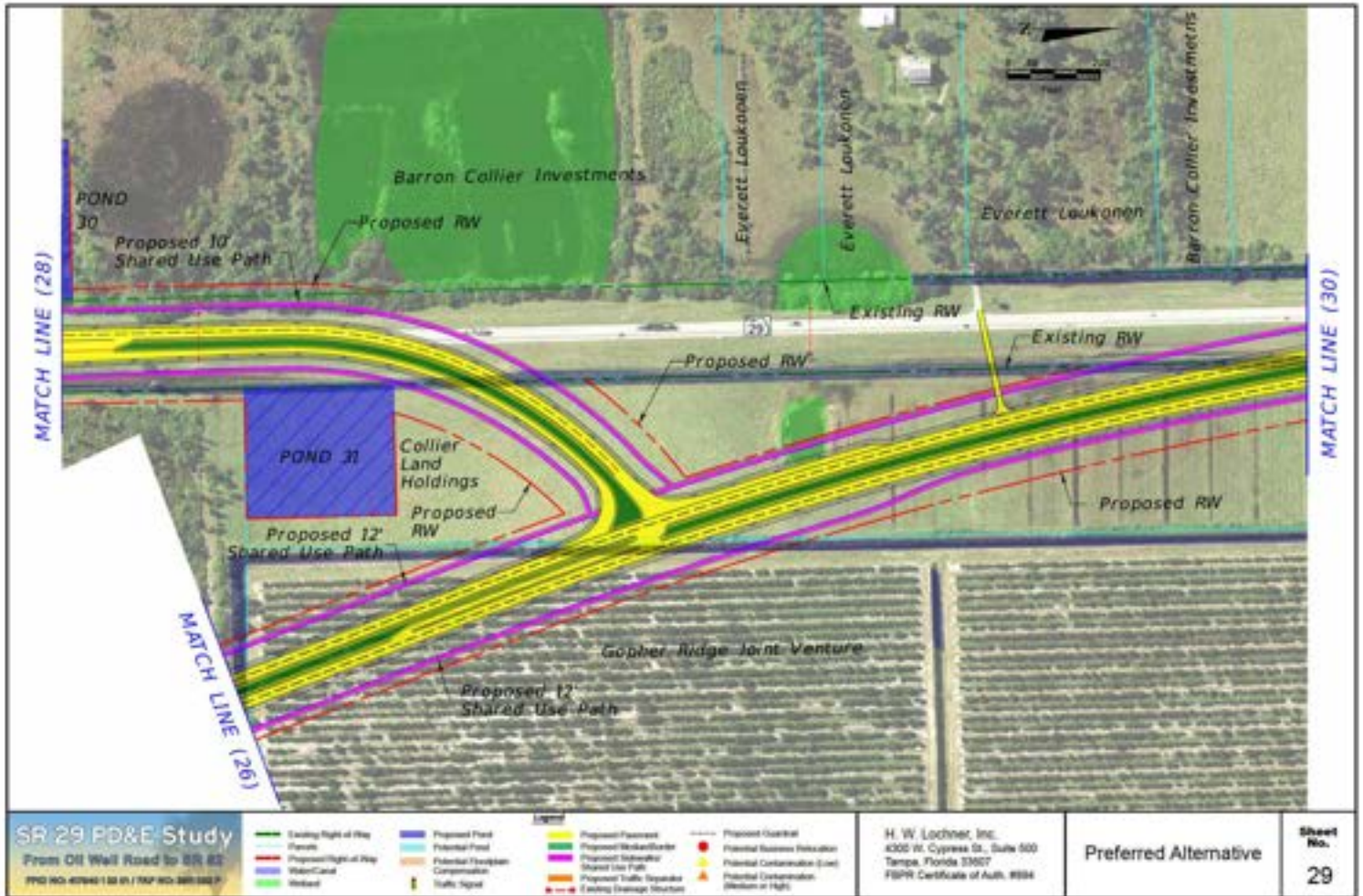
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD No. 47940-1 02 01 / PFD No. 280-100-0

Legend	
Existing Right of Way	Proposed Road
Easement	Potential Flood
Proposed Right of Way	Potential Topography Compression
Water Canal	Traffic Signal
Wetland	Proposed Pavement
	Proposed Median/Barrier
	Proposed Sidewalk
	Proposed Lane Paths
	Proposed Traffic Separator
	Existing Drainage Structure
	Proposed Overhead
	Potential Business Relocation
	Potential Contamination (Low)
	Potential Contamination (Medium or High)

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 Tampa, Florida 33607
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 28



SR 29 PD&E Study
 From Oil Well Road to SR 82

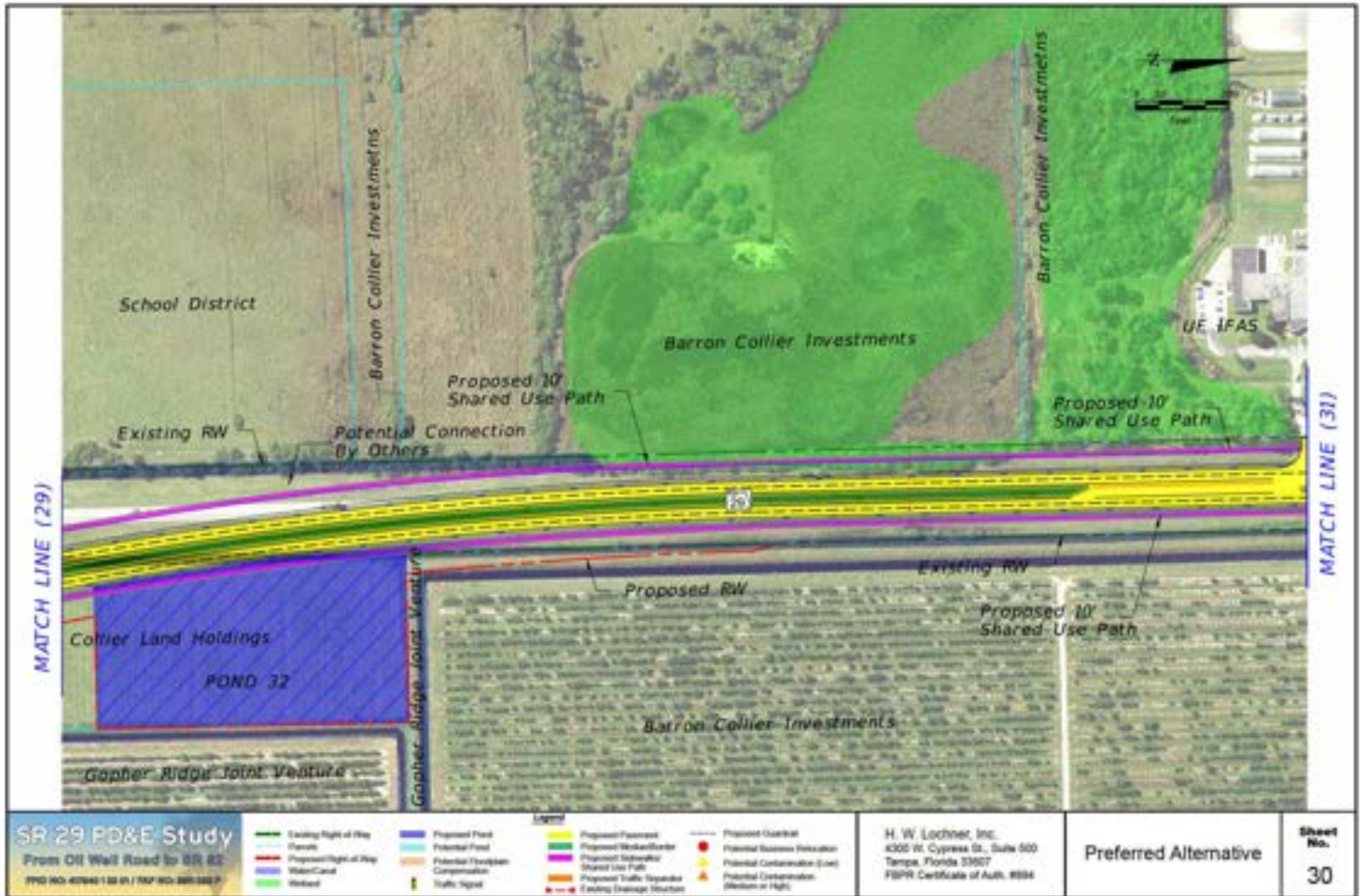
PHD NO. 47940-1 03 01 / 100' NO. 281 000 0'

Legend			
	Existing Right of Way		Proposed Road
	Easement		Potential Pond
	Proposed Right of Way		Potential Troubled Compression
	Water Canal		Proposed Pavement
	Wetland		Proposed Median/Barrier
	Traffic Signal		Proposed Subparallel Shared Use Path
	Existing Drainage Structure		Proposed Traffic Separator
			Proposed Overhead
			Potential Business Relocation
			Potential Contamination (Low)
			Potential Contamination (Medium or High)

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 Tampa, Florida 33607
 FSPR Certificate of Auth. #994

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Sheet No.
29



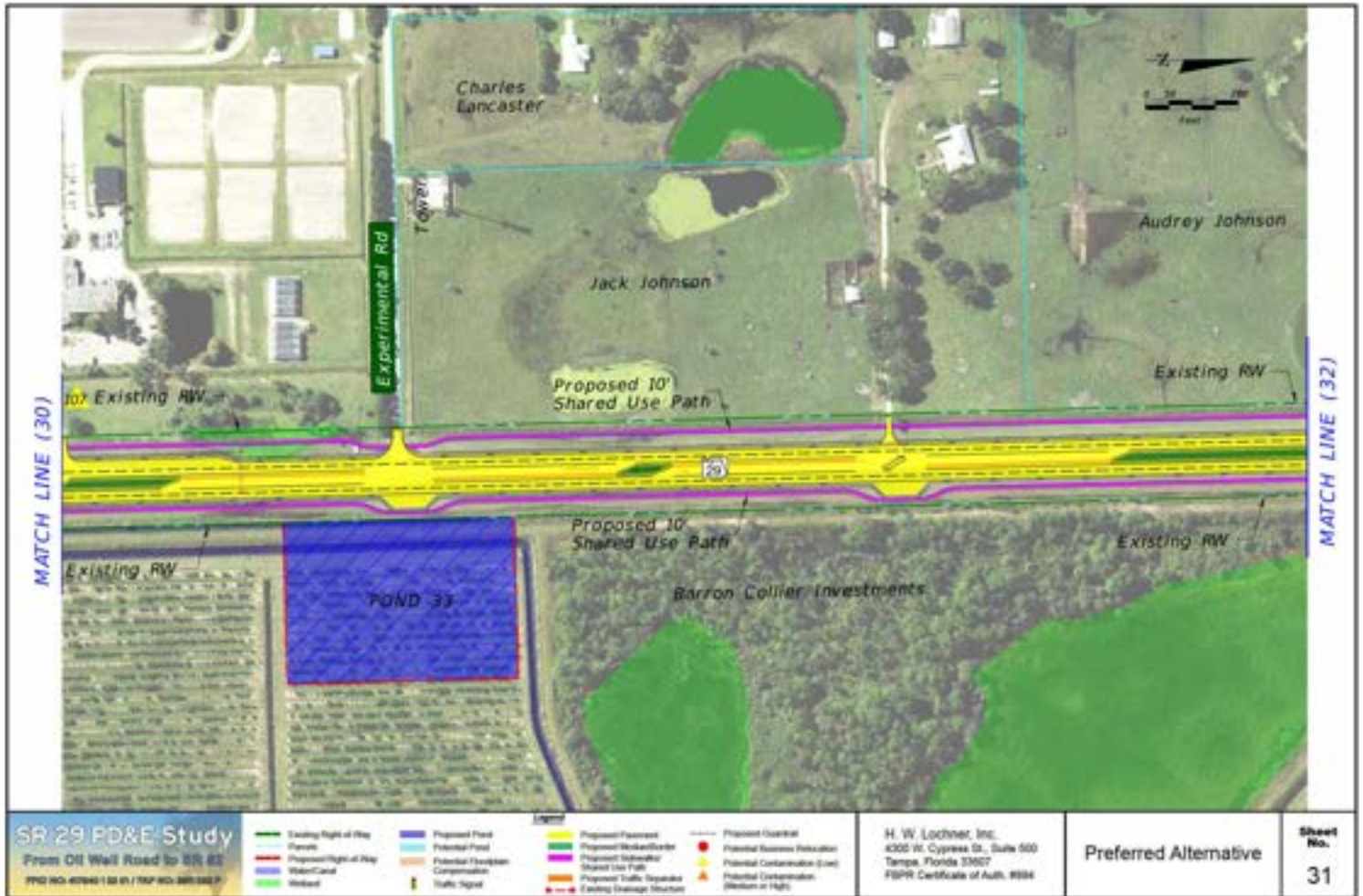
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 From Oil Well Road to SR 82
 PFD NO. 47940-1 SS 01 / PFD NO. 280-100-0

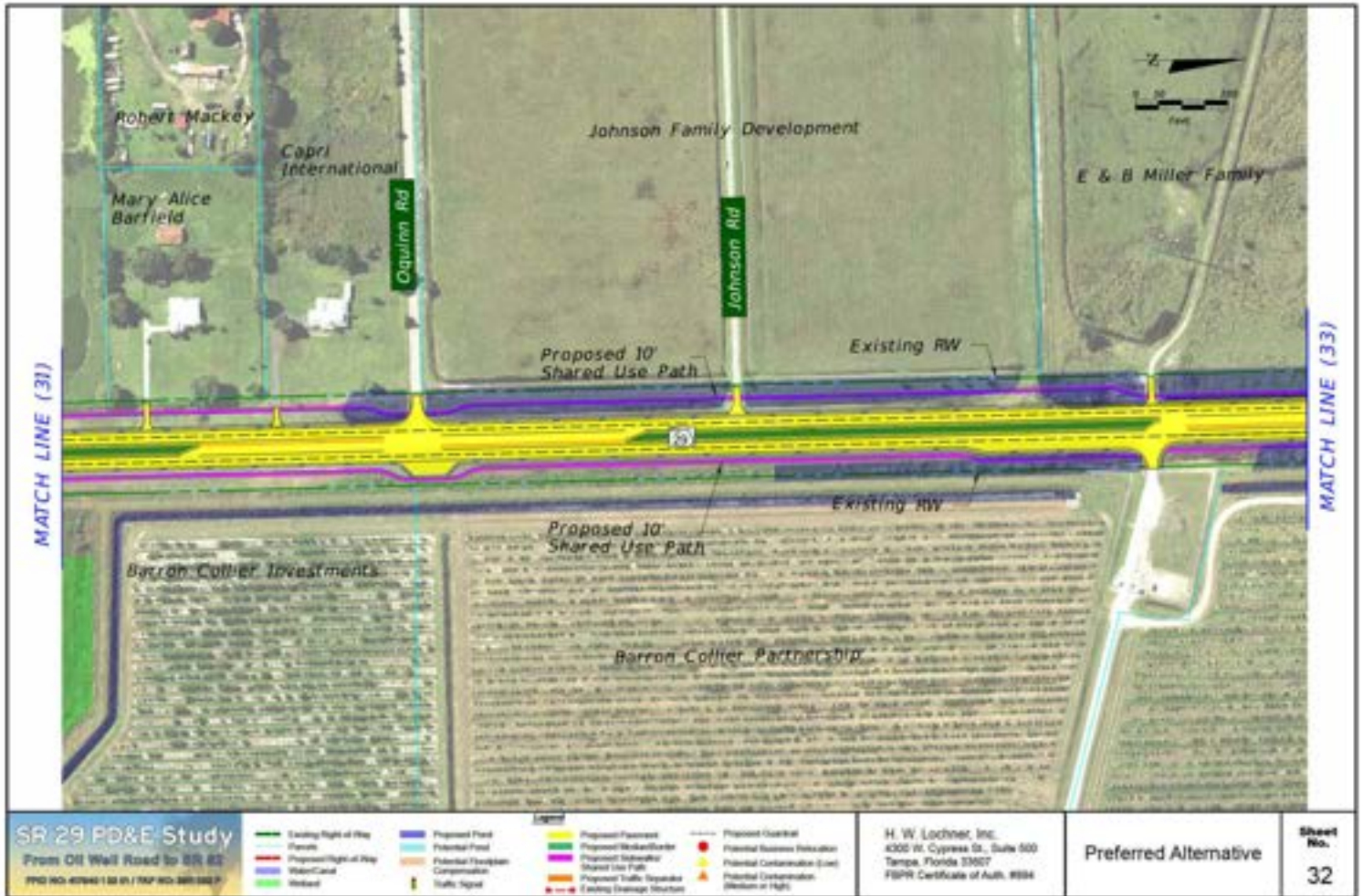
Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Overhead
Easement	Potential Pond	Proposed Median/Border	Potential Business Relocation
Proposed Right of Way	Potential Trench/Compression	Proposed Subparallel Shared Use Path	Potential Contamination (Low)
Water/Canal	Traffic Signal	Proposed Traffic Separator	Potential Contamination (Medium or High)
Wetland		Existing Drainage Structure	

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Preferred Alternative

Sheet No.
30



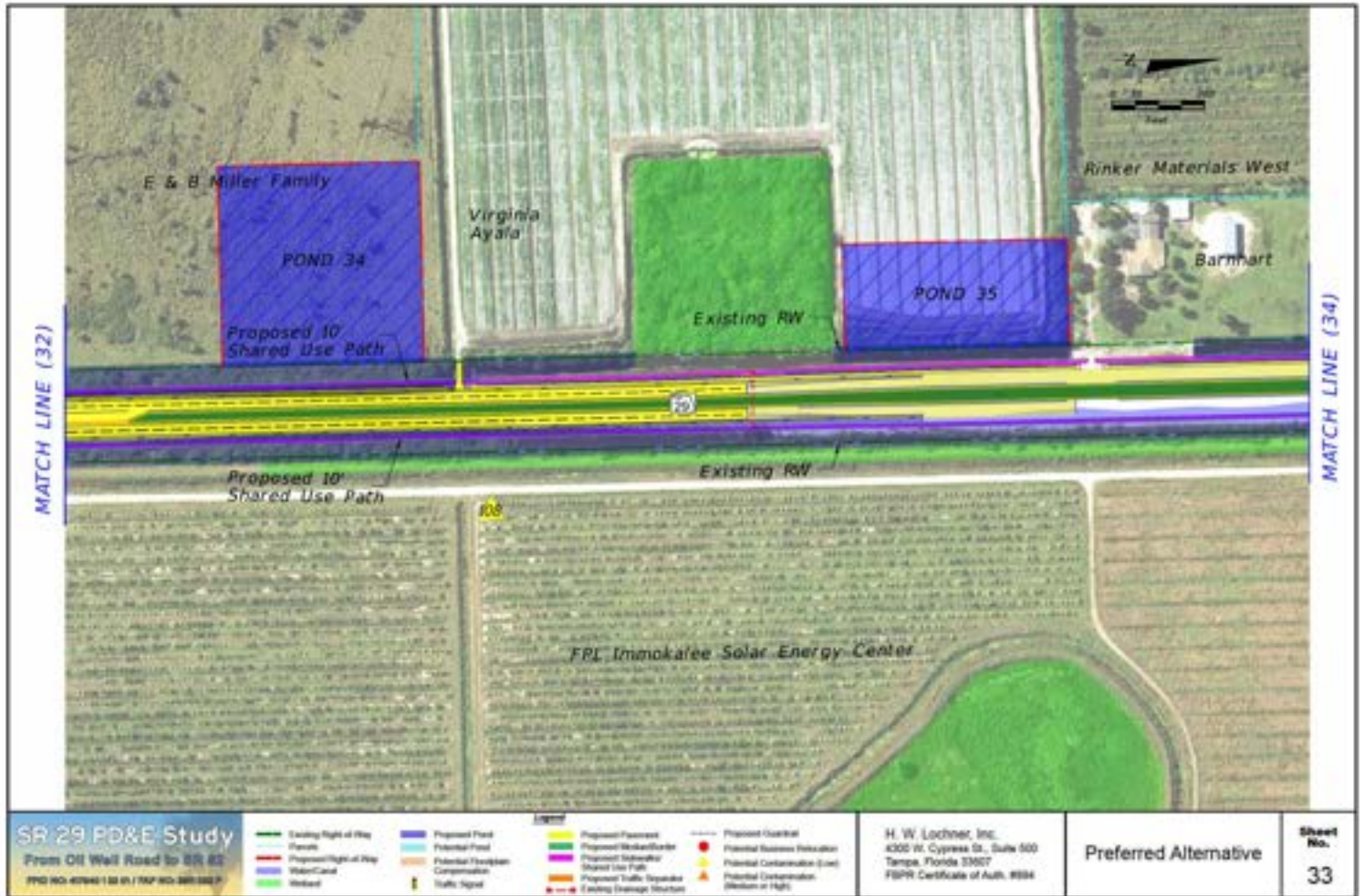


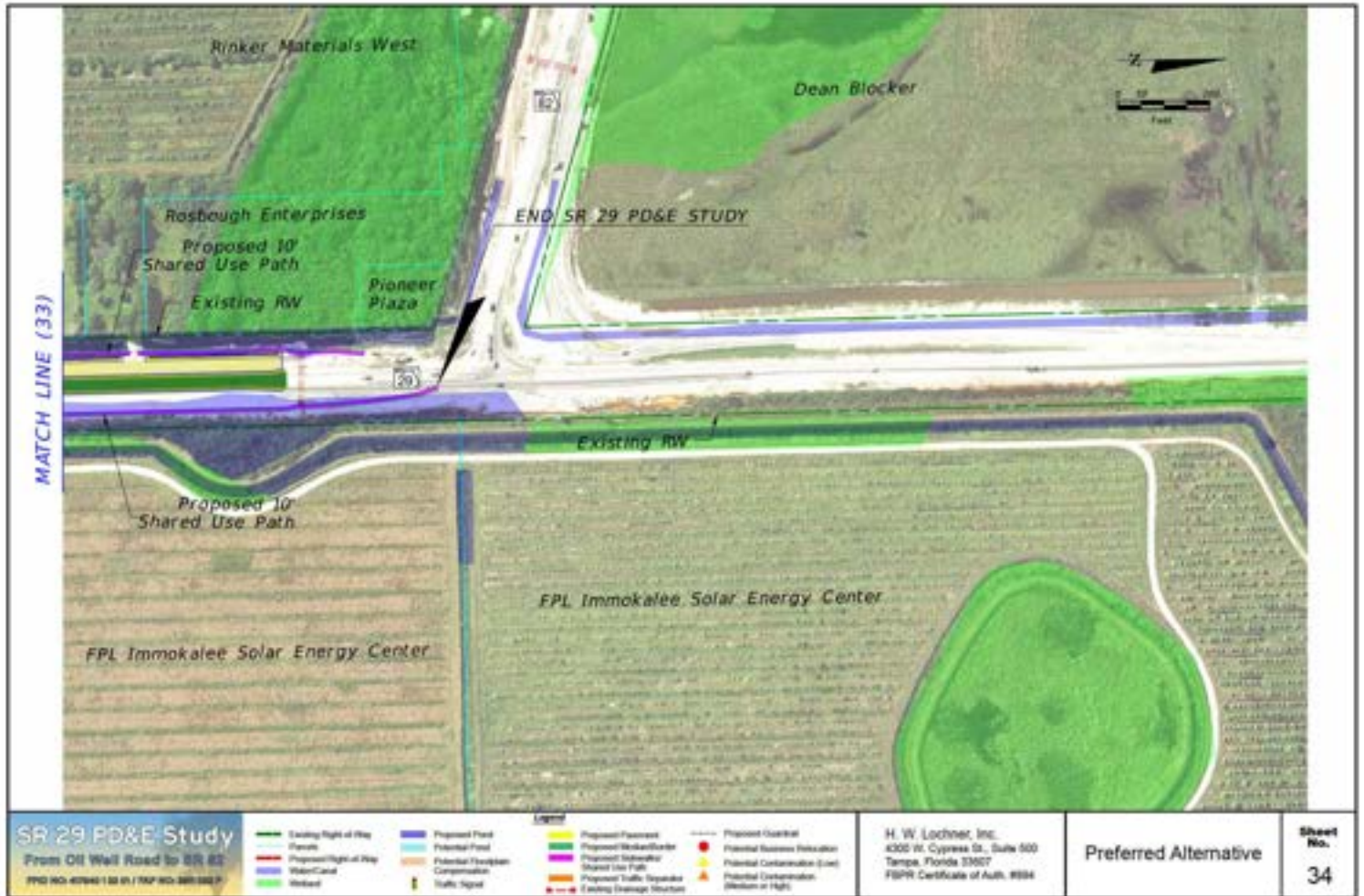
SR 29 PD&E Study
 From Old Wall Road to SR 82
 PFD NO. 47940-1 02 01 / PFD NO. 280-100-1

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Sheet No.
 32





SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 02 01 / PFD NO. 2891 02 01

Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Shoulder
Easement	Potential Flood	Proposed Wetland Buffer	Potential Business Relocation
Proposed Right of Way	Potential Topsoil Compaction	Proposed Subsurface Shared Use Path	Potential Contamination (Low)
Water Canal	Traffic Signal	Proposed Traffic Separator	Potential Contamination (Medium or High)
Wetland		Existing Drainage Structure	

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Sheet No.
34

Appendix H
Typical Section Package Refinements
– CR 846 to SR 82

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION PACKAGE

FINANCIAL PROJECT ID 417540-5-52-01
COLLIER COUNTY (03080)
STATE ROAD NO. 29

NEW CONSTRUCTION FROM CR 846 E TO N OF NEW MARKET ROAD N



FOOT DISTRICT DESIGN ENGINEER

Kevin Ingle
Professional Engineer

CONCURRING WITH:
TYPICAL SECTION ELEMENTS
TARGET SPEED
DESIGN & POSTED SPEED

FOOT DISTRICT TRAFFIC OPERATIONS ENGINEER

Mark Mathes
Date: 2024.02.27 10:17:56 - 05'00'

CONCURRING WITH:
TARGET SPEED
DESIGN & POSTED SPEED

PROJECT LOCATION URL:	https://www1.flhwy.com/FLDOT/
PROJECT LIMITS:	BEGIN WP 36.770 - END WP 40.254
EXCEPTIONS:	NONE
BRIDGE LIMITS:	NONE
RAILROAD CROSSING:	NONE

FOOT DISTRICT INTERMODAL SYSTEMS DEVELOPMENT MANAGER

Timothy H. Hines
DEPARTMENT OF TRANSPORTATION
Date: 2024.02.26.09:34:59 AM

CONCURRING WITH:
TYPICAL SECTION ELEMENTS
TARGET SPEED

FOOT DISTRICT STRUCTURES DESIGN ENGINEER

CONCURRING WITH:
TYPICAL SECTION ELEMENTS

TRNSA TRANSPORTATION ENGINEER

CONCURRING WITH:
TYPICAL SECTION ELEMENTS

NOT USED

LOCAL TRANSPORTATION ENGINEER

CONCURRING WITH:
TYPICAL SECTION ELEMENTS

NOT USED

CONCURRING WITH:

CONCURRING WITH:

APPROVED BY:



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:
Trevor J Hawkins 2024.02.20 17:21:29 -05'00'

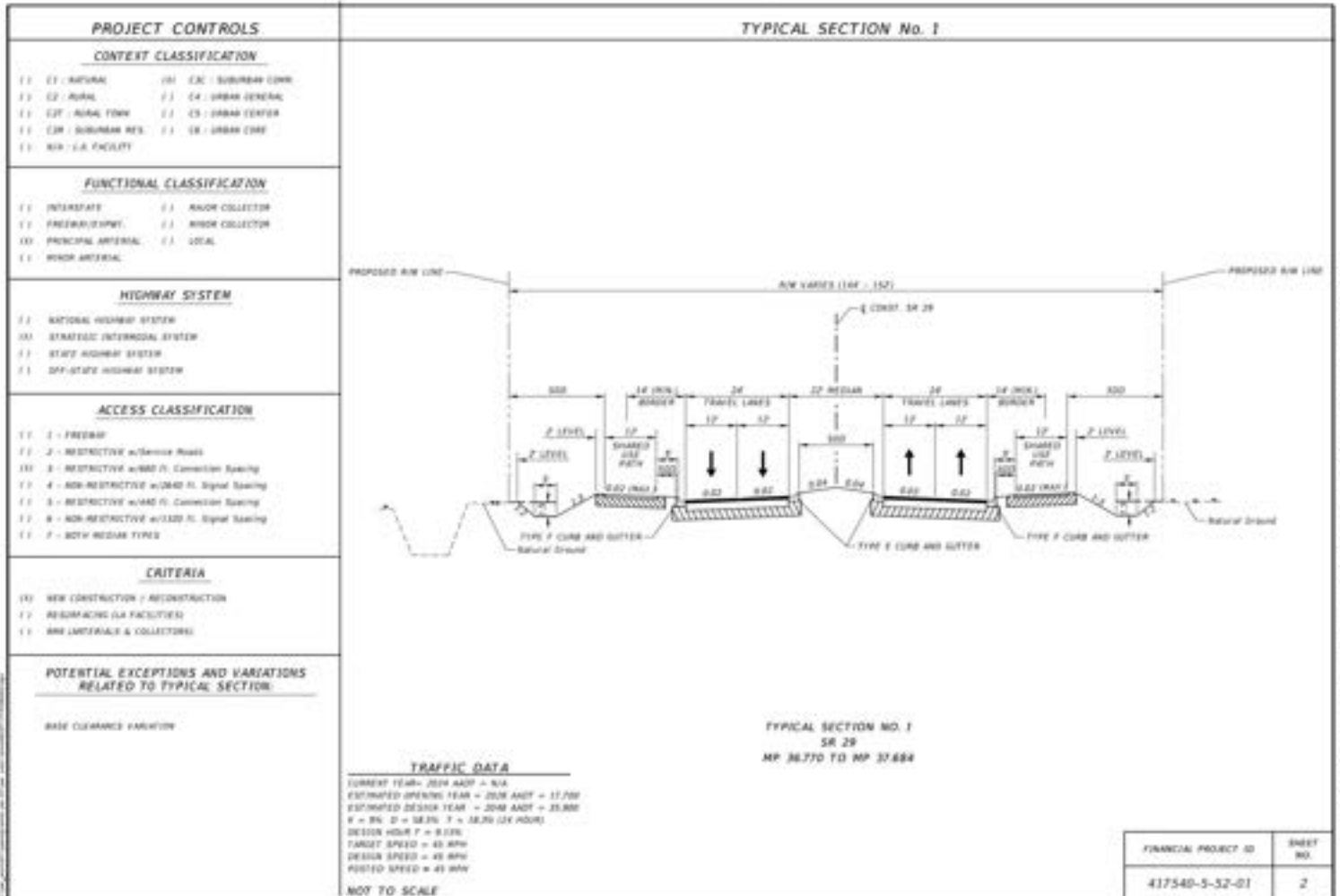
ON THE DATE ADJACENT TO THE SEAL
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

PAFEL GREENE AND ASSOCIATES, PLLC
11570 FULBURN DRIVE
TAMPA, FLORIDA 33617
TREVOR J. HAWKINS, P.E. NO. 73847

THE ABOVE SIGNED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS OR ACCORDANCE WITH RULE 61G01-22.004, F.A.C.

INDEX OF SHEETS

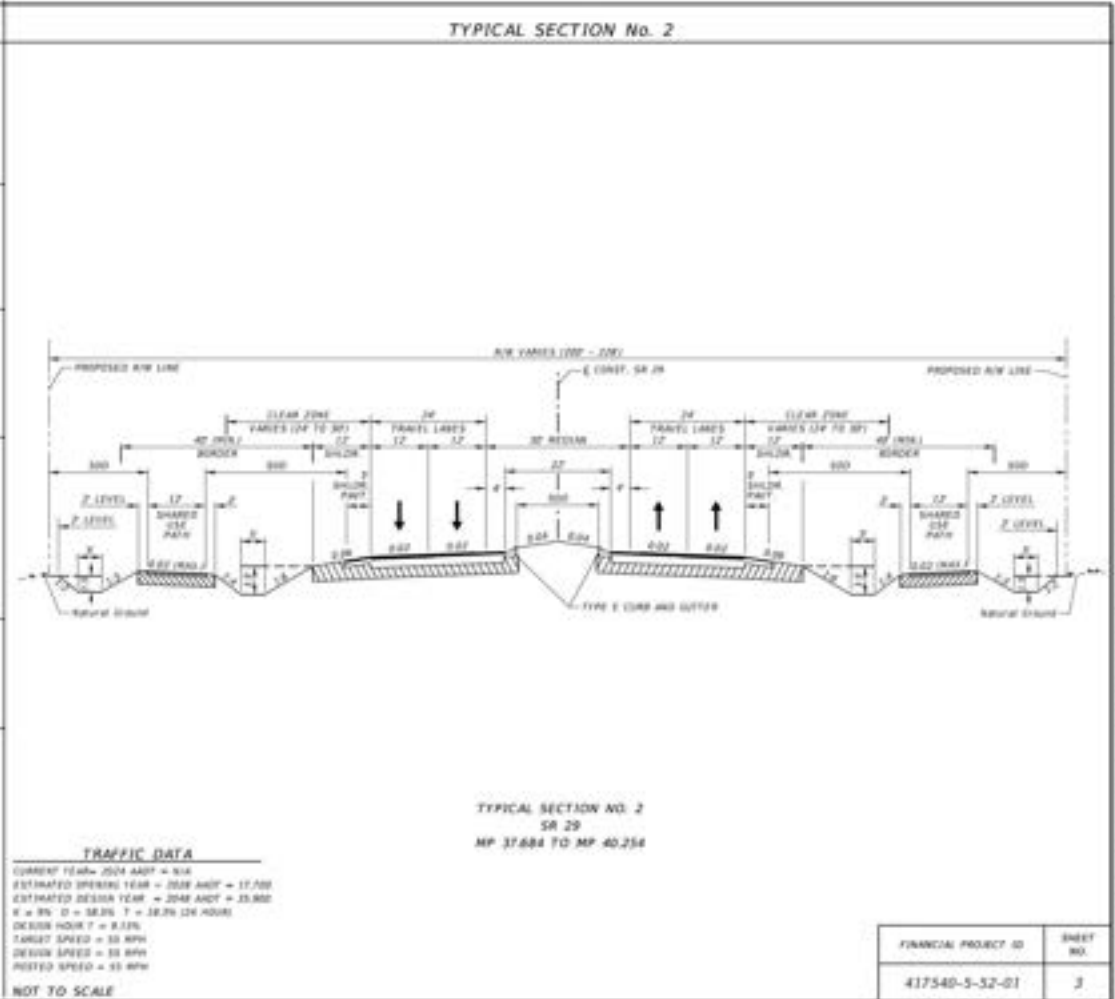
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2	PROPOSED SECTION
3	DESIGN SPEED
4	DESIGN & POSTED SPEED



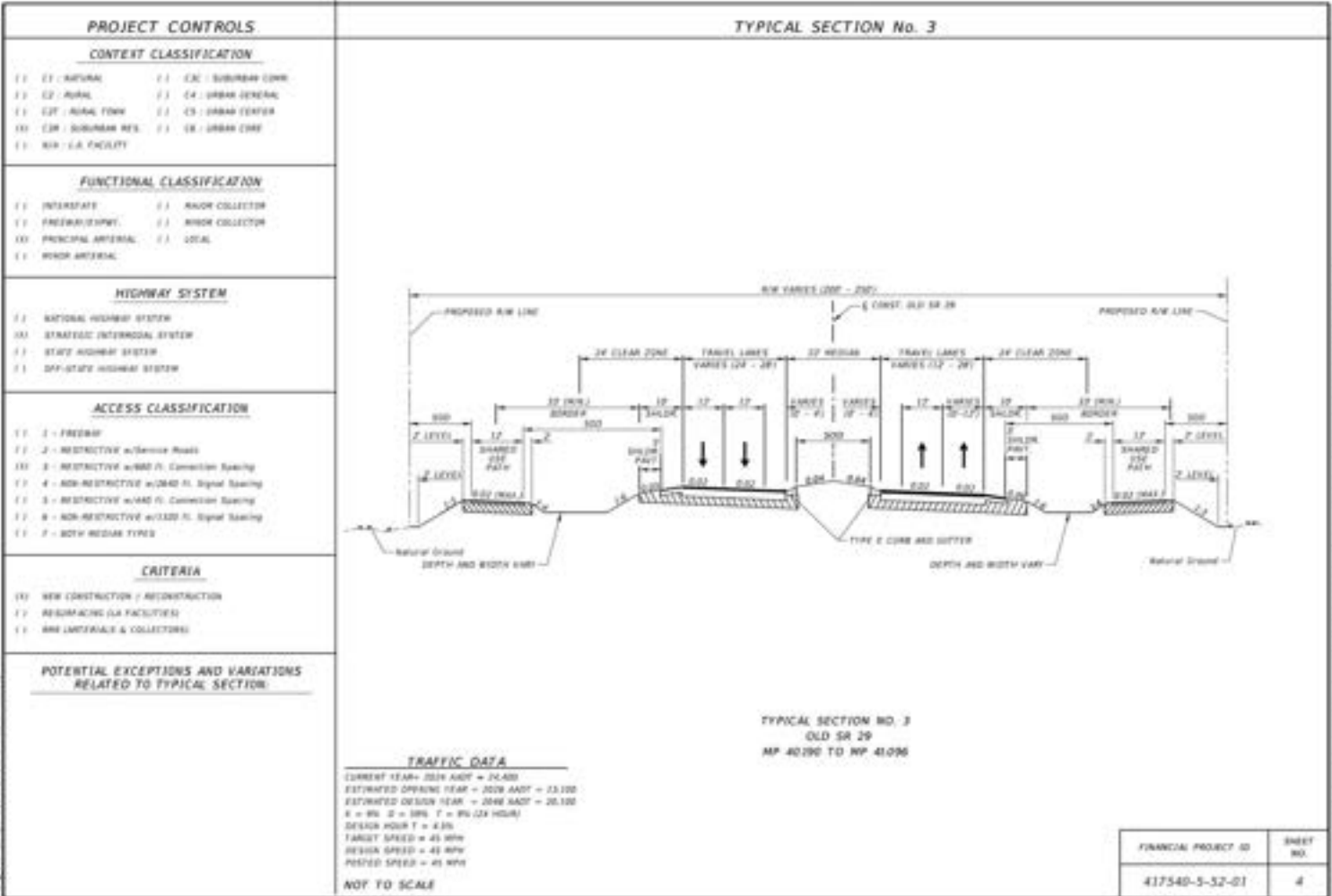
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE ELECTRONICALLY SIGNED AND SEALED UNDER RULE 67.004, F.A.C.

DATE PLOTTED: 08/08/2014 10:58:08 AM

PROJECT CONTROLS	
CONTEXT CLASSIFICATION	
<ul style="list-style-type: none"> 11 C1 - RURAL 11 C2 - RURAL TOWN 11 C3 - SUBURBAN RES. 11 C4 - SUBURBAN COMM. 11 C5 - URBAN CENTER 11 C6 - URBAN EDGE 11 C7 - U.A. FACILITY 	<ul style="list-style-type: none"> 11 C8 - SUBURBAN COMM. 11 C9 - URBAN CENTER 11 C10 - URBAN EDGE
FUNCTIONAL CLASSIFICATION	
<ul style="list-style-type: none"> 11 F1 - INTERSTATE 11 F2 - FREEWAY/EXPWY. 11 F3 - PRINCIPAL ARTERIAL 11 F4 - MAJOR ARTERIAL 	<ul style="list-style-type: none"> 11 F5 - MAJOR COLLECTOR 11 F6 - MINOR COLLECTOR 11 F7 - LOCAL
HIGHWAY SYSTEM	
<ul style="list-style-type: none"> 11 H1 - NATIONAL HIGHWAY SYSTEM 11 H2 - STRATEGIC NATIONAL SYSTEM 11 H3 - STATE HIGHWAY SYSTEM 11 H4 - OFF-STATE HIGHWAY SYSTEM 	
ACCESS CLASSIFICATION	
<ul style="list-style-type: none"> 11 A1 - FREEWAY 11 A2 - RESTRICTIVE w/Service Road 11 A3 - RESTRICTIVE w/NO P. Connection Spacing 11 A4 - NON-RESTRICTIVE w/SHAD P. Signal Spacing 11 A5 - RESTRICTIVE w/SHAD P. Connection Spacing 11 A6 - NON-RESTRICTIVE w/SHAD P. Signal Spacing 11 A7 - BOTH MEDIAN TYPES 	
CRITERIA	
<ul style="list-style-type: none"> 11 CR1 - NEW CONSTRUCTION / RECONSTRUCTION 11 CR2 - RECONSTRUCTING (LA FACILITIES) 11 CR3 - BMM (LIMITS/ALS & COLLECTORS) 	
POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:	



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE ELECTRONICALLY SIGNED AND SEALED UNDER RULE 67.001(2) A.P.C.



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE ELECTRONICALLY SIGNED AND SEALED UNDER RULE 601.02(3)(b), I.A.C.

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION PACKAGE

FINANCIAL PROJECT ID 417540-6-52-01
COLLIER COUNTY (03080)
STATE ROAD NO. 29
FROM SOUTH OF NEW MARKET ROAD TO SR 82



FOOT DISTRICT DESIGN ENGINEER

FOOT DISTRICT TRAFFIC OPERATIONS ENGINEER



Mark Mathes

Date: 2024.02.27
10:14:07 -05'00'

PROJECT LOCATION URL:	http://www1.dco.state.fl.us
PROJECT LIMITS:	BEGIN WP 39.532 - END WP 42.737
EXCEPTIONS:	NONE
BRIDGE LIMITS:	NONE
RAILROAD CROSSING:	NONE

CONCURRING WITH TYPICAL SECTION ELEMENTS TARGET SPEED DESIGN & POSTED SPEEDS

CONCURRING WITH TARGET SPEED DESIGN & POSTED SPEEDS

FOOT DISTRICT INFRASTRUCTURE SYSTEMS DEVELOPMENT MANAGER

FOOT DISTRICT STRUCTURES DESIGN ENGINEER



CONCURRING WITH TYPICAL CLASSIFICATION TARGET SPEEDS

CONCURRING WITH TYPICAL SECTION ELEMENTS

TRNSA TRANSPORTATION ENGINEER

LOCAL TRANSPORTATION ENGINEER

CONCURRING WITH TYPICAL SECTION ELEMENTS

CONCURRING WITH TYPICAL SECTION ELEMENTS

NOT USED

NOT USED

CONCURRING WITH

CONCURRING WITH

APPROVED BY:

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:

Kenneth R Muzyk Jr.
2024.02.26 10:06:
25-05'00"



ON THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONTROLLED UNLESS SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED IN ANY ELECTRONIC COPIES.

CALLER: DAVIS & ASSOCIATES, INC.
3300 EASTWIND DRIVE, SUITE 400
TAMPA, FLORIDA 33611-4014
KENNETH R. MUZYK, JR., P.E., NO. 44076

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

INDEX OF SHEETS

SHEET NO.	SHEET DESCRIPTION
1	COVER SHEET
2	TYPICAL SECTION NO. 1

SHEET NO.
1

2/28/2024 10:06:11 AM 44076

Appendix I
**Long Range Estimates – CR 846 to
SR 82 Refinements**

FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 417540-6-52-01

Letting Date: 02/2027

Description: SR 29 FROM N OF NEW MARKET RD TO SR 82

District: 01 County: 03 COLLIER Market Area: 10 Units: English
 Contract Class: 7 Lump Sum Project: N Design/Build: N Project Length: 3.040 MI

Project Manager: JMK-STP-CBS

Version 20 Project Grand Total

\$43,011,810.11

Description: PM MARKUPS FROM VERSION 19-12/4/23

Sequence: 1 NDS - New, Divided, Suburban (Urban In/Rural Out)

Net Length: 2.655 MI
 14,018 LF

Description: Suburban Section: SR 29 from Westclox Road to SR 82

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	100.00 / 100.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	2.655
Top of Structural Course For Begin Section	105.50
Top of Structural Course For End Section	105.50
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	64.36 AC	\$16,080.77	\$1,034,958.36

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-6	EMBANKMENT	259,600.00 CY	\$15.96	\$4,143,216.00

Earthwork Component Total \$5,178,174.36

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	28.00 / 28.00
Structural Spread Rate	330
Friction Course Spread Rate	80

Pay Items

Pay Item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	126,414.82 SY	\$6.74	\$852,035.89
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	14,392.22 TN	\$141.55	\$2,037,218.74
337-7-25	ASPH CONC FC,INC BIT,FC- 5,PG76-22	3,489.02 TN	\$184.60	\$644,073.09

X-Items

Pay Item	Description	Quantity Unit	Unit Price	Extended Amount
285-710	OPTIONAL BASE,BASE GROUP 10 Comment: 88,262.96 Roadway+8,826.30 (Turnouts/Crossovers)	98,598.15 SY	\$49.10	\$4,841,169.16
327-70-19	MILLING EXIST ASPH PAVT, 3/4" AVG DEPTH	7,498.24 SY	\$5.12	\$38,390.99
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	4,797.41 TN	\$171.54	\$822,947.71
339-1	MISCELLANEOUS ASPHALT PAVEMENT	365.22 TN	\$254.16	\$92,824.32
536-1-1	GUARDRAIL- ROADWAY, GEN TL- 3	3,460.00 LF	\$26.24	\$90,790.40
536-85-20	GUARDRAIL END TREAT- TRAILING ANCHORAGE	4.00 EA	\$1,766.63	\$7,066.52
536-85-24	GUARDRAIL END TREATMENT- PARA APP TERM	4.00 EA	\$3,542.79	\$14,171.16
546-72-3	GROUND-IN RUMBLE STRIPS, 8" SIN	10.62 GM	\$1,383.03	\$14,687.78

Turnouts/Crossovers Subcomponent

Description	Value
Asphalt Adjustment	10.00
Stabilization Code	Y
Base Code	N
Friction Course Code	Y

Pay Items

Pay Item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	12,641.48 SY	\$6.74	\$85,203.58
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,439.22 TN	\$141.55	\$203,721.59
337-7-25	ASPH CONC FC,INC BIT,FC- 5,PG76-22	348.90 TN	\$184.60	\$64,406.94

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

Pay Items

Pay Item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	1,075.00 EA	\$3.66	\$3,934.50
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	10.62 GM	\$1,106.96	\$11,755.92
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	5.31 GM	\$398.39	\$2,115.45

711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	10.62 GM	\$6,138.19	\$65,187.58
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	5.31 GM	\$1,533.39	\$8,142.30
Roadway Component Total				\$9,899,843.63

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

Pay Items

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
285-701	OPTIONAL BASE, BASE GROUP 01	16,604.02	SY	\$10.66	\$176,998.85
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,285.02	TN	\$141.55	\$181,894.58
337-7-25	ASPH CONC FC, INC BIT, FC- 5, PG76-22	623.04	TN	\$184.60	\$115,013.18
570-1-2	PERFORMANCE TURF, SOD	15,576.00	SY	\$3.01	\$46,883.76

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	49,488.00	SY	\$6.74	\$333,549.12
285-701	OPTIONAL BASE, BASE GROUP 01 Comment: for SUP	37,576.55	SY	\$10.66	\$400,566.02
334-1-12	SUPERPAVE ASPHALTIC CONC, TRAFFIC B Comment: for SUP	2,869.56	TN	\$163.77	\$469,947.84

Erosion Control

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	36,447.84	LF	\$1.08	\$39,363.67
104-11	FLOATING TURBIDITY BARRIER	663.75	LF	\$10.96	\$7,274.70
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	663.75	LF	\$5.29	\$3,511.24
104-15	SOIL TRACKING PREVENTION DEVICE	3.00	EA	\$2,101.64	\$6,304.92
104-18	INLET PROTECTION SYSTEM	44.00	EA	\$137.89	\$6,067.16
107-1	LITTER REMOVAL	47.60	AC	\$29.35	\$1,397.06
107-2	MOWING	47.60	AC	\$43.08	\$2,050.61

Shoulder Component Total **\$1,790,822.71**

MEDIAN COMPONENT

User Input Data

Description	Value
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Total Median Width	22.00
Performance Turf Width	17.50

X-Items

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	31,431.80	LF	\$37.33	\$1,173,349.09
570-1-2	PERFORMANCE TURF, SOD	30,559.00	SY	\$3.01	\$91,982.59
Median Component Total					\$1,265,331.68

DRAINAGE COMPONENT

Pay Items

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	2,224.00	LF	\$169.62	\$377,234.88
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	1,120.00	LF	\$227.08	\$254,329.60
430-536-100	STRAIGHT CONC ENDW 36", SINGLE, 0 ROUND	8.00	EA	\$6,082.91	\$48,663.28
430-542-100	STRAIGHT CONC ENDW 42", SINGLE, 0 ROUND	2.00	EA	\$11,199.69	\$22,399.38
430-548-100	STRAIGHT CONC ENDW 48", SINGLE, 0 ROUND	2.00	EA	\$11,440.40	\$22,880.80
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	10.00	EA	\$2,244.57	\$22,445.70
570-1-1	PERFORMANCE TURF	1,417.00	SY	\$2.19	\$3,103.23

X-Items

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
425-1-541	INLETS, DT BOT, TYPE D, <10'	48.00	EA	\$5,106.72	\$245,122.56
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	3,504.00	LF	\$132.08	\$462,808.32
430-175-130	PIPE CULV, OPT MATL, ROUND, 30"S/CD	1,504.00	LF	\$218.45	\$328,548.80
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	800.00	LF	\$227.53	\$182,024.00
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	560.00	LF	\$388.09	\$217,330.40
430-984-125	MITERED END SECT, OPTIONAL RD, 18" SD	12.00	EA	\$1,759.77	\$21,117.24
430-984-133	MITERED END SECT, OPTIONAL RD, 30" SD	2.00	EA	\$5,793.77	\$11,587.54
430-984-138	MITERED END SECT, OPTIONAL RD, 36" SD	6.00	EA	\$3,871.20	\$23,227.20
430-984-140	MITERED END SECT, OPTIONAL RD, 42" SD	2.00	EA	\$3,909.77	\$7,819.54
430-984-141	MITERED END SECT, OPTIONAL RD, 48" SD	2.00	EA	\$4,088.95	\$8,177.90
524-1-29	CONC DITCH PAVT, 4", REINFORCED	220.00	SY	\$138.86	\$30,549.20

Retention Basin 1

Description	Value
Size	2 AC
Multiplier	1
Depth	6.00

Description SMF 601A

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.00	AC	\$16,080.77	\$32,161.54
120-1	REGULAR EXCAVATION	19,360.00	CY	\$12.80	\$247,808.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$5,106.72	\$5,106.72
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$9,968.58	\$9,968.58
570-1-1	PERFORMANCE TURF	9,680.00	SY	\$2.19	\$21,199.20

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	64.00	LF	\$132.08	\$8,453.12
430-175-130	PIPE CULV, OPT MATL, ROUND, 30"S/CD	64.00	LF	\$218.45	\$13,980.80

Retention Basin 2

Description	Value
Size	2 AC
Multiplier	1
Depth	6.00
Description	SMF 602B-1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.00	AC	\$16,080.77	\$32,161.54
120-1	REGULAR EXCAVATION	19,360.00	CY	\$12.80	\$247,808.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$5,106.72	\$5,106.72
425-2-71	MANHOLES, J-7, <10'	1.00	EA	\$9,968.58	\$9,968.58
570-1-1	PERFORMANCE TURF	9,680.00	SY	\$2.19	\$21,199.20

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	64.00	LF	\$132.08	\$8,453.12
430-175-130	PIPE CULV, OPT MATL, ROUND, 30"S/CD	64.00	LF	\$218.45	\$13,980.80

Retention Basin 3

Description	Value
Size	1.5 AC
Multiplier	4
Depth	6.00
Description	SMF 603/604B

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	6.00	AC	\$16,080.77	\$96,484.62
120-1	REGULAR EXCAVATION	58,080.00	CY	\$12.80	\$743,424.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	4.00	EA	\$5,106.72	\$20,426.88
425-2-71	MANHOLES, J-7, <10'	4.00	EA	\$9,968.58	\$39,874.32
570-1-1	PERFORMANCE TURF	29,040.00	SY	\$2.19	\$63,597.60

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	64.00 LF	\$132.08	\$8,453.12
430-175-130	PIPE CULV, OPT MATL, ROUND, 30"S/CD	64.00 LF	\$218.45	\$13,980.80

Retention Basin 4

Description	Value
Size	2 AC
Multiplier	2
Depth	6.00
Description	SMF 605A

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	4.00 AC	\$16,080.77	\$64,323.08
120-1	REGULAR EXCAVATION	38,720.00 CY	\$12.80	\$495,616.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	2.00 EA	\$5,106.72	\$10,213.44
425-2-71	MANHOLES, J-7, <10'	2.00 EA	\$9,968.58	\$19,937.16
570-1-1	PERFORMANCE TURF	19,360.00 SY	\$2.19	\$42,398.40

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	64.00 LF	\$132.08	\$8,453.12
430-175-130	PIPE CULV, OPT MATL, ROUND, 30"S/CD	64.00 LF	\$218.45	\$13,980.80

Retention Basin 5

Description	Value
Size	1.5 AC
Multiplier	1
Depth	6.00
Description	SMF 606A

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	4.50 AC	\$16,080.77	\$72,363.46
120-1	REGULAR EXCAVATION	43,560.00 CY	\$12.80	\$557,568.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	3.00 EA	\$5,106.72	\$15,320.16
425-2-71	MANHOLES, J-7, <10'	3.00 EA	\$9,968.58	\$29,905.74
570-1-1	PERFORMANCE TURF	21,780.00 SY	\$2.19	\$47,698.20

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	64.00 LF	\$132.08	\$8,453.12
430-175-130	PIPE CULV, OPT MATL, ROUND, 30"S/CD	64.00 LF	\$218.45	\$13,980.80

Retention Basin 6

Description	Value
Size	1.5 AC
Multiplier	2
Depth	6.00
Description	SMF 607A

Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	3.00	AC	\$16,080.77	\$48,242.31
120-1	REGULAR EXCAVATION	29,040.00	CY	\$12.80	\$371,712.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	2.00	EA	\$5,106.72	\$10,213.44
425-2-71	MANHOLES, J-7, <10'	2.00	EA	\$9,968.58	\$19,937.16
570-1-1	PERFORMANCE TURF	14,520.00	SY	\$2.19	\$31,798.80

X-Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	64.00	LF	\$132.08	\$8,453.12
430-175-130	PIPE CULV, OPT MATL, ROUND, 30"S/CD	64.00	LF	\$218.45	\$13,980.80

Retention Basin 7

Description	Value
Size	5 AC
Multiplier	1
Depth	6.00
Description	SMF 602B-2

Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.00	AC	\$16,080.77	\$80,403.85
120-1	REGULAR EXCAVATION	48,400.00	CY	\$12.80	\$619,520.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$5,106.72	\$5,106.72
425-2-71	MANHOLES, J-7, <10'	2.00	EA	\$9,968.58	\$19,937.16
570-1-1	PERFORMANCE TURF	24,200.00	SY	\$2.19	\$52,998.00

X-Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	400.00	LF	\$132.08	\$52,832.00
430-175-130	PIPE CULV, OPT MATL, ROUND, 30"S/CD	400.00	LF	\$218.45	\$87,380.00

Drainage Component Total \$6,775,693.68

SIGNING COMPONENT

Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	64.00	AS	\$486.82	\$31,156.48
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	6.00	AS	\$1,583.60	\$9,501.60
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	6.00	AS	\$6,738.18	\$40,429.08
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	6.00	AS	\$8,103.84	\$48,623.04

Signing Component Total \$129,710.20

Sequence 1 Total \$25,039,576.26

Sequence: 2WUR - Widen/Resurface, Undivided, Rural

Net Length: 0.304 MI
1,605 LF

Description: Westclox Road and New Market Road Roundabout Reconstruction

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.304
Top of Structural Course For Begin Section	104.00
Top of Structural Course For End Section	104.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	3.68	AC	\$16,080.77	\$59,177.23

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	7,790.00	CY	\$19.19	\$149,490.10

Earthwork Component Total \$208,667.33

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	4
Existing Roadway Pavement Width L/R	0.00 / 0.00
Structural Spread Rate	165
Friction Course Spread Rate	165
Widened Outside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	165

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	20,360.00	SY	\$6.74	\$137,226.40
285-701	OPTIONAL BASE,BASE GROUP 01	3,960.00	SY	\$10.66	\$42,213.60
285-710	OPTIONAL BASE,BASE GROUP 10	11,165.00	SY	\$49.10	\$548,201.50
327-70-6	MILLING EXIST ASPH PAVT,1 1/2" AVG DEPTH	2,000.00	SY	\$8.18	\$16,360.00
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,759.75	TN	\$141.55	\$249,092.61
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	1,055.85	TN	\$190.97	\$201,635.67

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	3

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	205.00 EA	\$3.66	\$750.30
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.61 GM	\$1,106.96	\$675.25
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.91 GM	\$398.39	\$362.53
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.61 GM	\$6,138.19	\$3,744.30
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.91 GM	\$1,533.39	\$1,395.38
Roadway Component Total				\$1,201,657.54

SHOULDER COMPONENT**User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	0
Friction Course Spread Rate	0
Total Width (T) / 8" Overlap (O)	T
Rumble Strips $1/2$ No. of Sides	0

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	933.33 SY	\$6.74	\$6,290.64
	Comment: FOR SUP on south side of New Market Road			
285-701	OPTIONAL BASE,BASE GROUP 01	710.67 SY	\$10.66	\$7,575.74
	Comment: FOR SUP on south side of New Market Road			
334-1-12	SUPERPAVE ASPHALTIC CONC, TRAFFIC B	55.00 TN	\$163.77	\$9,007.35
	Comment: FOR SUP on south side of New Market Road			
520-1-7	CONCRETE CURB & GUTTER, TYPE E	2,000.00 LF	\$37.33	\$74,660.00
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,600.00 LF	\$31.69	\$50,704.00
520-2-4	CONCRETE CURB, TYPE D	287.00 LF	\$27.23	\$7,815.01
520-2-8	CONCRETE CURB, TYPE RA	355.00 LF	\$34.10	\$12,105.50

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	3,691.78 LF	\$1.08	\$3,987.12

104-11	FLOATING TURBIDITY BARRIER	30.40 LF	\$10.96	\$333.18
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	30.40 LF	\$5.29	\$160.82
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,101.64	\$2,101.64
104-18	INLET PROTECTION SYSTEM	1.00 EA	\$137.89	\$137.89
107-1	LITTER REMOVAL	2.80 AC	\$29.35	\$82.18
107-2	MOWING	1.38 AC	\$43.08	\$59.45
Shoulder Component Total				\$175,020.52

DRAINAGE COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	4.00 EA	\$2,244.57	\$8,978.28
570-1-1	PERFORMANCE TURF	122.82 SY	\$2.19	\$268.98
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	10.00 EA	\$7,393.69	\$73,936.90
425-1-361	INLETS, CURB, TYPE P-6, <10'	10.00 EA	\$6,372.65	\$63,726.50
425-2-71	MANHOLES, J-7, <10'	8.00 EA	\$9,968.58	\$79,748.64
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	1,504.00 LF	\$169.62	\$255,108.48
Drainage Component Total				\$481,767.78

SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00 AS	\$486.82	\$486.82
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	12.00 AS	\$1,583.60	\$19,003.20
700-1-50	SINGLE POST SIGN, RELOCATE	1.00 AS	\$278.99	\$278.99
700-1-60	SINGLE POST SIGN, REMOVE	7.00 AS	\$35.48	\$248.36
700-2-13	MULTI- POST SIGN, F&I GM, 21-30 SF	2.00 AS	\$4,917.47	\$9,834.94
700-2-60	MULTI- POST SIGN, REMOVE	1.00 AS	\$817.05	\$817.05
Signing Component Total				\$30,669.36

SIGNALIZATIONS COMPONENT

Signalization 1				
Description	Value			
Type	Miscellaneous			
Multiplier	1			
Description				
X-Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount

654-2-21	MID BL:RECT RAPID FLASH BE, F&I SOL,SING	16.00 AS	\$6,500.00	\$104,000.00
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Signalizations Component Total				\$104,000.00
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LIGHTING COMPONENT

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH Comment: LIGHTING AT ROUNDABOUT	900.00 LF	\$13.04	\$11,736.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE Comment: LIGHTING AT ROUNDABOUT	400.00 LF	\$29.16	\$11,664.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24" Comment: LIGHTING AT ROUNDABOUT	24.00 EA	\$945.87	\$22,700.88
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 Comment: LIGHTING AT ROUNDABOUT	5,200.00 LF	\$2.81	\$14,612.00
715-62-321	LIGHT POLE CMPLT,SPL,F&I, 40'MH,10'ARM L Comment: LIGHTING AT ROUNDABOUT	24.00 EA	\$17,753.40	\$426,081.60
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL Comment: LIGHTING AT ROUNDABOUT	24.00 EA	\$699.74	\$16,793.76
Lighting Component Total				\$503,588.24

Sequence 2 Total				\$2,705,370.77
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Sequence: 3 WUR - Widen/Resurface, Undivided, Rural

Net Length: 0.218 MI
1,150 LF

Description: SR 29 South of New Market Road

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	100.00 / 100.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.235
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.28	AC	\$16,080.77	\$84,906.47

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	2,555.56	CY	\$19.19	\$49,041.20

Earthwork Component Total \$133,947.67

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	4
Existing Roadway Pavement Width L/R	19.00 / 19.00
Structural Spread Rate	165
Friction Course Spread Rate	165
Widened Outside Pavement Width L/R	0.00 / 10.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	3,833.28	SY	\$6.74	\$25,836.31
285-710	OPTIONAL BASE,BASE GROUP 10	1,319.93	SY	\$49.10	\$64,808.56
327-70-4	MILLING EXIST ASPH PAVT, 3" AVG DEPTH	4,855.49	SY	\$5.37	\$26,073.98
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	400.58	TN	\$141.55	\$56,702.10
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	175.69	TN	\$141.55	\$24,868.92
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	400.58	TN	\$190.97	\$76,498.76

337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	105.42 TN	\$190.97	\$20,132.06
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Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	3

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	147.00	EA	\$3.66	\$538.02
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.44	GM	\$1,106.96	\$487.06
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.65	GM	\$398.39	\$258.95
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.44	GM	\$6,138.19	\$2,700.80
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.65	GM	\$1,533.39	\$996.70
Roadway Component Total					\$299,902.22

SHOULDER COMPONENT

User Input Data

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	1,277.76	SY	\$17.44	\$22,284.13

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-701	OPTIONAL BASE,BASE GROUP 01	1,362.88	SY	\$10.66	\$14,528.30
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	70.28	TN	\$141.55	\$9,948.13
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	51.11	TN	\$190.97	\$9,760.48
350-3-1	PLAIN CEMENT CONC PAVT, 6"	933.20	SY	\$155.23	\$144,860.64
520-1-7	CONCRETE CURB & GUTTER, TYPE E	1,150.00	LF	\$37.33	\$42,929.50
570-1-2	PERFORMANCE TURF, SOD	1,277.78	SY	\$3.01	\$3,846.12

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	2,644.96	LF	\$1.08	\$2,856.56
104-11	FLOATING TURBIDITY BARRIER	21.78	LF	\$10.96	\$238.71
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	21.78	LF	\$5.29	\$115.22
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,101.64	\$2,101.64
104-18	INLET PROTECTION SYSTEM	1.00	EA	\$137.89	\$137.89
107-1	LITTER REMOVAL	0.53	AC	\$29.35	\$15.56
107-2	MOWING	0.53	AC	\$43.08	\$22.83
Shoulder Component Total					\$253,645.71

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	4.00	EA	\$2,244.57	\$8,978.28
570-1-1	PERFORMANCE TURF	87.99	SY	\$2.19	\$192.70

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
425-1-541	INLETS, DT BOT, TYPE D, <10'	4.00	EA	\$5,106.72	\$20,426.88
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	200.00	LF	\$169.62	\$33,924.00

Drainage Component Total**\$63,521.86****SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$486.82	\$486.82
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	5.00	AS	\$1,583.60	\$7,918.00
700-1-50	SINGLE POST SIGN, RELOCATE	1.00	AS	\$278.99	\$278.99
700-1-60	SINGLE POST SIGN, REMOVE	5.00	AS	\$35.48	\$177.40
700-2-13	MULTI- POST SIGN, F&I GM, 21-30 SF	1.00	AS	\$4,917.47	\$4,917.47
700-2-60	MULTI- POST SIGN, REMOVE	1.00	AS	\$817.05	\$817.05

Signing Component Total**\$14,595.73****SIGNALIZATIONS COMPONENT****Signalization 1**

Description	Value
Type	4 Lane Strain Pole
Multiplier	1
Description	

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
632-7-6	SIGNAL CABLE, REMOVE- INTERSECTION	1.00	PI	\$914.88	\$914.88
639-1-620	ELECTRICAL POWER SRV,REM UND	1.00	AS	\$663.92	\$663.92
641-2-80	PREST CNC POLE, REMOVE COMPLETE	2.00	EA	\$5,535.30	\$11,070.60
670-5-600	TRAF CNTL ASSEM, REMOVE	1.00	AS	\$751.39	\$751.39
	Signalizations Component Total				\$13,400.79
<hr/>					
Sequence 3 Total					\$779,013.98
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Sequence: 4 MIS - Miscellaneous Construction

Net Length: 0.000 MI
0 LF

Description: MOT

ROADWAY COMPONENT

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
102-2-200	SPECIAL DETOUR- TEMPORARY PAVEMENT	20,000.00	SY	\$22.88	\$457,600.00
102-2-300	SPECIAL DETOUR- TEMPORARY EARTHWORK/BASE	33,400.00	CY	\$85.86	\$2,867,724.00
102-71-15	TEMPORARY BARRIER, F&I, ANCHORED	14,260.00	LF	\$29.46	\$420,099.60
	Roadway Component Total				\$3,745,423.60

Sequence 4 Total

\$3,745,423.60

FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 417540-6-52-01

Letting Date: 02/2027

Description: SR 29 FROM N OF NEW MARKET RD TO SR 82

District: 01 County: 03 COLLIER

Market Area: 10 Units: English

Contract Class: 7 Lump Sum Project: N

Design/Build: N Project Length: 3.040 MI

Project Manager: JMK-STP-CBS

Version 20 Project Grand Total

\$43,011,810.11

Description: PM MARKUPS FROM VERSION 19-12/4/23

Project Sequences Subtotal **\$32,269,384.61**

102-1 Maintenance of Traffic 15.00 % \$4,840,407.69

101-1 Mobilization 10.00 % \$3,710,979.23

Project Sequences Total **\$40,820,771.53**

Project Unknowns 5.00 % \$2,041,038.58

Design/Build 0.00 % \$0.00

Non-Bid Components:

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

Project Non-Bid Subtotal **\$150,000.00****Version 20 Project Grand Total****\$43,011,810.11**

Appendix J

**Intersection Control Evaluations – CR
846 to SR 82 Refinements**

Florida Department of Transportation
Intersection Control Evaluation (ICE) Form
Stage 1: Screening

To fulfill the requirements of Stage 1 (Screening) of FDOT's ICE procedures, complete the following form and append all supporting documentation. Completed forms are to be submitted to the District Traffic Operations Engineer (DTOE) and District Design Engineer (DDE) for the project's approval. **Selections must be made in the "Intersection Type" and "Project Funding Source" cells below for the appropriate Stage 1 and Stage 2 forms to fully populate.**

Project Name	SR 29/CR 846		FDOT Project #	417540-9-52-01	
Submitted By	A. Senyushkina	Agency/Company	AIM Engineering & Surveying	Date	12/18/2023
Email	asenyushkina@aimengr.com	FDOT District	District 1	County	Collier
Project Locality (City/Town/Village)	Immokalee				
Intersection Type	At-Grade Intersection	FDOT Context Classification	C3C - Suburban Commercial		
Project Funding Source	Federal	Project Type	Safety Improvement Project		
Project Purpose (What is the catalyst for this project and why is it being undertaken?)	This project consists of reconstructing the SR 29/CR 846 intersection to improve safety when entering/exiting the town of Immokalee. This project also incorporates the future SR 29 Bypass on the east side of Immokalee which will add a leg to this existing unsignalized intersection. This intersection is Collier County's #1 priority for implementing safety improvements. This intersection is also the southern terminus of the future SR 29 Bypass that has been identified as one of the Moving Florida Forward priority projects.				
Project Setting Description (Describe the area surrounding the intersection)	The surrounding land uses are primarily commercial and light industrial. The Collier County Immokalee Regional Airport and Immokalee Public Park are located in the NE quadrant of the intersection. A Sunoco gas station is located in the SE quadrant of the intersection. A produce processing & distribution facility (Florida Specialties) and a farm equipment dealership (Everglades Equipment Group) are on the west side of SR 29.				
Multimodal Context (Describe the pedestrian, bicycle, and transit activity in the area and the potential for activity based on surrounding land uses and development patterns)	Sidewalks are located on both sides of SR 29 near the existing intersection. A designated bike lane is on the east side of SR 29 south of CR 846. Three Collier Area Transit (CAT) routes operate along SR 29 and one bus stop is located on the east side of SR 29 at the CR 846 intersection. A significant portion of the Immokalee residents do not own a private vehicle.				

Major Street Information										
Route #:	SR 29	Route Name(s)	Main Street				Milepost	36.770		
Existing Control Type	Two-way Stop-Control		Existing AADT	10,850		Design Year AADT	23,000			
Design Vehicle	Florida Interstate Semitrailer (WB-62FL)		Control Vehicle	Florida Interstate Semitrailer (WB-62FL)						
Primary Functional Classification			Urban Principal Arterial - Other			Design Speed (mph)	45			
Secondary Functional Classification (if app.)						Target Speed (mph) [if app.]	45			
Approach #1	Direction	Northbound		Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:	One side of the approach		Left-Turn	2	Weekday AM Peak		Weekday PM Peak		
	Crosswalk on Approach?	Yes		Left-Through		Left	463	Left	524	
	On-Street Bike Facilities?	Yes		Through	2	Through	484	Through	693	
	Multi-Use Path?	No		Left-Through-Right		Right	192	Right	100	
	Scheduled Bus Service?	Yes		Through-Right		Daily Truck %		18.3%		
	Bus Stop on Approach?	Yes		Right-Turn	1					
Approach #2	Direction	Southbound		Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:	Neither side of the approach		Left-Turn	2	Weekday AM Peak		Weekday PM Peak		
	Crosswalk on Approach?	Yes		Left-Through		Left	290	Left	162	
	On-Street Bike Facilities?	No		Through	2	Through	661	Through	440	
	Multi-Use Path?	Yes		Left-Through-Right		Right	192	Right	210	
	Scheduled Bus Service?	No		Through-Right		Daily Truck %		18.3%		
	Bus Stop on Approach?	No		Right-Turn	1					

Minor Street Information										
Route #:	CR 846	Route Name(s)	CR 846				Milepost (if app.)	n/a		
Existing Control Type	Two-way Stop-Control		Existing AADT	3,000		Design Year AADT	19,000			
Design Vehicle	Florida Interstate Semitrailer (WB-62FL)		Control Vehicle	Florida Interstate Semitrailer (WB-62FL)						
Primary Functional Classification			Urban Major Collector			Design Speed (mph)	50(E)/35(W)			
Secondary Functional Classification (if app.)						Target Speed (mph) [if app.]				
Approach #1	Direction	Westbound		Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:	Neither side of the approach		Left-Turn	1					
	Crosswalk on Approach?	Yes		Left-Through		Weekday AM Peak		Weekday PM Peak		
	On-Street Bike Facilities?	No		Through	1	Left	115	Left	207	
	Multi-Use Path?	No		Left-Through-Right		Through	181	Through	416	
	Scheduled Bus Service?	No		Through-Right		Right	162	Right	290	
	Bus Stop on Approach?	No		Right-Turn	1	Daily Truck %		29.2%		
Approach #2	Direction	Eastbound		Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:	Both sides of the approach		Left-Turn	1					
	Crosswalk on Approach?	Yes		Left-Through		Weekday AM Peak		Weekday PM Peak		
	On-Street Bike Facilities?	No		Through	1	Left	180	Left	186	
	Multi-Use Path?	No		Left-Through-Right		Through	440	Through	182	
	Scheduled Bus Service?	Yes		Through-Right		Right	541	Right	481	
	Bus Stop on Approach?	No		Right-Turn	1	Daily Truck %		18.3%		
Approach #3	Direction			Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:			Left-Turn						
	Crosswalk on Approach?			Left-Through		Weekday AM Peak		Weekday PM Peak		
	On-Street Bike Facilities?			Through		Left		Left		
	Multi-Use Path?			Left-Through-Right		Through		Through		
	Scheduled Bus Service?			Through-Right		Right		Right		
	Bus Stop on Approach?			Right-Turn		Daily Truck %				

Crash History (Existing Intersections Only)
Append the most recent five-years of crash data for the intersection from the CAR System. If the crash data evidences any issues relating to safety performance, discuss briefly here:
Signal Four Analytics crash data for the period from January 1, 2017 through December 31, 2022 indicates the 0.2-mile portion of SR 29 between 13th Street and 11th Street (which includes the CR 846 intersection) experienced 15 crashes. These crashes resulted in one injury and no fatalities. The most prevalent crash types are sideswipe (six), rear-end (four) and off-road crashes (four). There was one bicycle crash and no pedestrian crashes. One crash occurred on wet pavement and two crashes occurred at nighttime.

Control Strategy Evaluation								
Provide a brief justification as to why each of the following control strategies should be advanced or not. Justification should consider potential environmental impacts.								
Control Strategy	CAP-X Outputs				SPICE Outputs		Strategy to be Advanced?	Justification
	V/C Ratio		Ped Accom.	Bike Accom.	Crash Prediction Rank	SSI Rank		
	Weekday AM Peak	Weekday PM Peak						
Two-Way Stop-Controlled							No	A traffic signal is warranted. Not applicable.
All-Way Stop-Controlled							No	A traffic signal is warranted. Not applicable.
Signalized Control	0.78	0.75	4.64	4.67	3	3	No	MUTCD signal warrants are met per FDA signal warrant analysis. Does not provide positive speed control.
Roundabout (1-lane)							No	The portion of SR 29 north of CR 846 is an existing four-lane roadway. The proposed SR 29 Bypass is also a four-lane roadway.
Roundabout (2-lane)	1.52	1.55	4.46	4.50	4	1	Yes	Provides positive speed control. Highest SSI scores. Safer for pedestrians. Eliminates the need for u-turn bulb-outs.
Median U-Turn	1.04 (MUT)/0.88 (PMUT)	1.02 (MUT)/0.92 (PMUT)	2.90	4.67	1	4	No	The MUT will not provide sufficient capacity. The PMUT will provide very circuitous access to/from the businesses on the west side of SR 29.
RCUT (Signalized)	0.87	0.80	2.82	4.23	5	2	No	Requires additional R/W on SR 29 (both north & south) for u-turn bulb-outs. Worst crash prediction ranking.
RCUT (Unsignalized)							No	A traffic signal is warranted. Not applicable.
Jughandle							No	Requires significant additional R/W.
Displaced Left-Turn	0.55	0.70	2.93	4.00	2	5	No	Requires significant additional R/W (including the Airport property). Provides circuitous access for vehs accessing the businesses via 12th/13th St.
Continuous Green Tee							No	Not a T-intersection. (Currently, 12th Street is on the west side of SR 29). In the future, the SR 29 Bypass will add another leg. N/A
Quadrant Roadway							No	Requires significant additional R/W. The proposed connection between the SR 29 Bypass and New Market Rd (via Airport Access Rd) will be similar.
Thru-Cut (Signalized)							No	Inconsistent with the intent of the proposed SR 29 Bypass. High north/south through movement volumes would be required to make u-turns.
Thru-Cut (Unsignalized)							No	A traffic signal is warranted. Not applicable.
Bowtie							No	Requires additional R/W on either SR 29 or the SR 29 Bypass for u-turn roundabouts.

Partial Displaced Left-Turn	0.59	0.62	2.79	3.33	n/a	n/a	No	Circuitous access for vehicles entering/exiting businesses on west side of SR 29. More difficult for bikes/peds to cross the intersection
--------------------------------	------	------	------	------	-----	-----	----	---

Resolution				
<i>To be filled out by FDOT District Traffic Operations Engineer and District Design Engineer</i>				
Project Determination		Identified Control Strategy Approved		
Comments	The roundabout would help facilitate the reduction in vehicle speeds on SR 29 from 45 mph (south of CR 846) to 35 mph (north of CR 846). This alternative has the highest SSI scores. The roundabout will also provide better (more direct) access to/from the existing commercial land uses in the vicinity of the intersection. This alternative will be safer for pedestrians.			
DTOE Name		Signature		Date
DDE Name		Signature		Date

Florida Department of Transportation Intersection Control Evaluation (ICE) Form Stage 1: Screening

To fulfill the requirements of Stage 1 (Screening) of FDOT's ICE procedures, complete the following form and append all supporting documentation. Completed forms can be submitted to the District Traffic Operations Engineer (DTOE) and District Design Engineer (DDE) for the project's approval. Selections must be made in the "Intersection Type" and "Project Funding Source" cells below for the appropriate Stage 1 and Stage 2 forms to fully populate.

Project Name	SR 29 PD&E		FDOT Project #	417540-6	
Submitted By	TNK	Agency/Company	PGA	Date	2/14/2022
Email	Tanya.King@patelgreene.com	FDOT District	District 1	County	Collier
Project Locality (City/Town/Village)	Immokalee				
Intersection Type	At-Grade Intersection	FDOT Context Classification	C3C - Suburban Commercial		
Project Funding Source	Federal	Project Type	Corridor Improvement Project		
Project Purpose (What is the catalyst for this project and why is it being undertaken?)	The SR 29 Bypass at Gopher Ridge Road/Alachua Street intersection is proposed to be a full median intersection with turn restrictions and stop control on the side streets (Gopher Ridge Road and Alachua Street). Because of the proposed design speed of 50 miles per hour and roadway design of SR 29 Bypass, a safer alternative was explored with ICE analysis than the PD&E recommended control.				
Project Setting Description (Describe the area surrounding the intersection)	SR 29 Bypass is a proposed new roadway from CR 846 to SR 29. The proposed alignment is a 4-lane divided arterial with a design speed of 50 mph from Gopher Ridge Road to SR 29. The surrounding area consists mostly of agricultural with some residential and industrial uses.				
Multimodal Context (Describe the pedestrian, bicycle, and transit activity in the area and the potential for activity based on surrounding land uses and development patterns)	The future SR 29 Bypass will consist of a 4-lane divided roadway with a 22-foot median and a shared 12-foot multi-use path on both sides. Agricultural uses make up the east side of SR 29 Bypass, while the west side consists of industrial and residential uses. No transit stops are planned at this time.				

Major Street Information									
Route #	29	Route Name(s)	SR 29 Bypass			Milepost			
Existing Control Type	Two-way Stop-Control		Existing AADT		Design Year AADT	21,865			
Design Vehicle	Florida Interstate Semitrailer (WB-62FL)		Control Vehicle	Florida Interstate Semitrailer (WB-62FL)					
Primary Functional Classification	Urban Principal Arterial - Other			Design Speed (mph)	50				
Secondary Functional Classification (if app.)				Target Speed (mph) [if app.]	50				
Approach #1	Direction	Northbound		Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes	
	Sidewalks along	Neither side of the approach		Left-Turn	1				
	Crosswalk on Approach?	No		Left-Through		Weekday AM Peak		Weekday PM Peak	
	On-Street Bike Facilities?	No		Through	1	Left	328	Left	252
	Multi-Use Path?	Yes		Left-Through-Right		Through	569	Through	689
	Scheduled Bus Service?	No		Through-Right	1	Right	197	Right	153
	Bus Stop on Approach?	No		Right-Turn		Daily Truck %		16.0%	
Approach #2	Direction	Southbound		Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes	
	Sidewalks along	Neither side of the approach		Left-Turn					
	Crosswalk on Approach?	No		Left-Through		Weekday AM Peak		Weekday PM Peak	
	On-Street Bike Facilities?	No		Through	2	Left		Left	
	Multi-Use Path?	Yes		Left-Through-Right		Through	478	Through	547
	Scheduled Bus Service?	No		Through-Right		Right	151	Right	82
	Bus Stop on Approach?	No		Right-Turn	1	Daily Truck %		16.0%	

Minor Street Information										
Route #:		Route Name(s)	Gopher Ridge Road/Alachua Street				Milepost (if app.)			
Existing Control Type	Two-way Stop-Control		Existing AADT		Design Year AADT		1,477			
Design Vehicle	Florida Interstate Semitrailer (WB-62FL)		Control Vehicle		Florida Interstate Semitrailer (WB-62FL)					
Primary Functional Classification			Urban Major Collector			Design Speed (mph)		30		
Secondary Functional Classification (if app.)						Target Speed (mph) [if app.]		30		
Approach #1	Direction	Eastbound		Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:	Neither side of the approach		Left-Turn						
	Crosswalk on Approach?	No		Left-Through		Weekday AM Peak		Weekday PM Peak		
	On-Street Bike Facilities?	No		Through		Left	80	Left	85	
	Multi-Use Path?	No		Left-Through-Right		1	Through	9	Through	5
	Scheduled Bus Service?	No		Through-Right			Right	4	Right	4
	Bus Stop on Approach?	No		Right-Turn			Daily Truck %		2.0%	
Approach #2	Direction	Westbound		Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:	Neither side of the approach		Left-Turn						
	Crosswalk on Approach?	No		Left-Through		Weekday AM Peak		Weekday PM Peak		
	On-Street Bike Facilities?	No		Through		Left	12	Left	9	
	Multi-Use Path?	No		Left-Through-Right		1	Through	32	Through	36
	Scheduled Bus Service?	No		Through-Right			Right	9	Right	9
	Bus Stop on Approach?	No		Right-Turn			Daily Truck %		2.0%	
Approach #3	Direction			Number of Lanes		Study Period #1 Traffic Volumes		Study Period #2 Traffic Volumes		
	Sidewalks along:			Left-Turn						
	Crosswalk on Approach?			Left-Through		Weekday AM Peak		Weekday PM Peak		
	On-Street Bike Facilities?			Through		Left		Left		
	Multi-Use Path?			Left-Through-Right			Through		Through	
	Scheduled Bus Service?			Through-Right			Right		Right	
	Bus Stop on Approach?			Right-Turn			Daily Truck %			

Crash History (Existing Intersections Only)
Append the most recent five-years of crash data for the intersection from the CAR System. If the crash data evidences any issues relating to safety performance, discuss briefly here:
This is a new connection. Therefore, no crash data is available.

Control Strategy Evaluation							
Provide a brief justification as to why each of the following control strategies should be advanced or not. Justification should consider potential environmental impacts.							
Control Strategy	CAP-X Outputs			SPICE Outputs		Strategy to Be Advanced?	Justification
	V/C Ratio		Multimodal Score	Crash Prediction Rank	SSI Rank		
	Weekday AM Peak	Weekday PM Peak					
Two-Way Stop-Controlled	3.23	2.64	5.6	3	3	No	Heavy delays for the side streets. V/C ratios are above 1.0 for both the AM and PM peak hours.
All-Way Stop-Controlled						No	Not applicable. Two-Way STOP control proposed in PD&E.
Signalized Control						No	Effective unsignalized options and no signal warrant is required.
Roundabout	0.48	0.48	8.3	1	1	Yes	Safest alternative eliminating conflict points. V/C less than 1. Accommodates all turn movements and heavy vehicles.
Median U-Turn						No	Effective unsignalized options and no signal warrant is required.
RCUT (Signalized)						No	Effective unsignalized options and no signal warrant is required.
RCUT (Unsignalized)	0.42	0.33	6.7	2	2	No	V/C ratios less than 1.0, restrict movements that will accommodate directional median intersections north and south. Heavy truck u-turn traffic.
Jughandle						No	Not context appropriate.
Displaced Left-Turn						No	Not context appropriate.
Continuous Green Tee						No	Not context appropriate.
Quadrant Roadway						No	Not context appropriate.
Thru-Cut						No	Not context appropriate.
Other 1 (Type)						No	
Other 2 (Type)						No	

Resolution				
<i>To be filed out by FDOT District Traffic Operations Engineer and District Design Engineer</i>				
Project Determination		Identified Control Strategy Approved		
Comments				
DTOE Name	Mark Mathes	Signature	DocuSigned by:  <small>3/21/2022 11:01 AM EDT</small>	Date 3/21/2022 11:01 AM EDT
DDE Name	Kevin Ingle	Signature	DocuSigned by:  <small>3/21/2022 11:05 AM EDT</small>	Date 3/21/2022 11:05 AM EDT

CERTIFICATION

AGENCY: Florida Department of Transportation District One
801 North Broadway Avenue
Bartow, Florida 33831-1249

I hereby certify that I am a registered professional engineer in the State of Florida and that I have supervised the preparation of, and approved the analysis, findings, opinions, conclusions and technical advice hereby reported for:

REPORT: SR 29/CR 846 Intersection Control Evaluation (ICE) - Stage 1+ Technical Memorandum

PROJECT: SR 29/CR 846 Intersection Improvements

LOCATION: SR 29/CR 846 Intersection
Collier County, Florida

ROADWAY ID: 03080000

MILEPOST No: 36.770

FPID No.: 417540-9-52-01

I acknowledge that the procedures and references used to develop the information contained in this memorandum are standard to the professional practice of transportation engineering as applied through professional judgement and experience.

Engineer in Responsible Charge: Anastasiya A. Senyushkina

Professional Registration No.: 82191

Date: 12/18/2023



MEMORANDUM



AIM Engineering & Surveying, Inc.

Tampa Office
201 E. Kennedy Boulevard, Suite 1800
Tampa, Florida 33602
813-627-4144
www.aimengr.com

Date: December 18, 2023

To: Jeffrey Jones, PE – FDOT District One
Sean Pugh, PE – FDOT District One

From: Anastasiya Senyushkina, PE – AIM Engineering & Surveying

Subject: SR 29/CR 846 Intersection (Collier County) – Stage 1+ Intersection Control Evaluation

INTRODUCTION/EXISTING CONDITIONS

This memorandum documents the Stage 1+ Intersection Control Evaluation (ICE) analysis that was conducted for the SR 29/CR 846 intersection in Collier County, Florida. The purpose of this study is to evaluate various intersection control alternatives and determine the intersection control strategy that should be implemented at the intersection. **Figure 1** illustrates the location of the intersection and **Table 1** summarizes the existing conditions.



Figure 1: Project Location Map

Table 1: Existing Conditions Summary

Feature	Description
Main Street	SR 29
Side Street	CR 846 E
Area Location	The intersection is located at the southeast end of Immokalee on SR 29
Surrounding Development	Industrial, Commercial, Airport
Land Uses at the Intersection	Northeast - Collier County Immokalee Regional Airport / Immokalee Public Park Southeast – Commercial (gas station) Southwest – Commercial (tractor dealership) Northwest - Light Industrial (produce processor/distributor)
Pedestrian Generators	Local businesses
Traffic Control	The intersection is a stop-controlled T-intersection (east leg)
Adjacent Signalized Intersections	To the north: Immokalee Road, 0.5 miles northwest To the south: Farm Worker Way, 1.3 miles southeast
SR 29	<u>Functional Classification</u> - Urban Principal Arterial <u>Connectivity</u> - CR 858 (Oil Well Road) to the south, CR 846 (Immokalee Road) to the west, New Market Road to the north <u>Cross Section</u> - Four-lane divided roadway, with raised landscaped median, curb/gutter, and a closed drainage system <u>Posted Speed Limit</u> - 35 mph <u>Northbound Approach</u> - One through lane and one shared through/ right-turn lane <u>Southbound Approach</u> - One left-turn lane and two through lanes (merging to one lane south of CR 846 E) <u>Horizontal Alignment</u> - Within a horizontal curve <u>Sidewalks</u> - Along both sides of the roadway <u>Utilities</u> - Overhead power lines on the south side of the roadway <u>Street Lighting</u> - Along both sides of the roadway
CR 846	<u>Functional Classification</u> - Urban Major Collector <u>Connectivity</u> - 12th Street - dead end, CR 846 E - CR 858 (County Line Road) to the east <u>Cross Section</u> - Two-lane undivided roadway, with right-turn bypass lane, curb and gutter at the intersection approach, and a closed drainage system <u>Posted Speed Limit</u> - 45 mph <u>Westbound Approach</u> - One shared left-turn/through lane and one right-turn bypass lane <u>Horizontal Alignment</u> - Within a horizontal curve <u>Sidewalks</u> - None <u>Utilities</u> - No overhead utilities <u>Street Lighting</u> - None
Other Distinct Features	Designated bicycle lane on the east side of SR 29 (south leg only) Very long median opening (approximately 200 feet)

An aerial photograph of the existing intersection and the surrounding area, along with individual photographs of the intersection approaches, are provided in **Appendix A**.

Signal Warrant Analysis

A signal warrant analysis was conducted by Faller, Davis and Associates, Inc. (FDA), to determine if a traffic signal is warranted at the intersection. This signal warrant analysis was conducted for the year 2025 and included the proposed SR 29 Bypass. The year 2025 traffic volumes were developed using traffic data from the July 2019 Preliminary Engineering Report and the January 2018 Design Traffic Technical Memorandum (DTTM) prepared in support of the SR 29 Project Development and Environment (PD&E) Study from Oil Well Road to SR 82. The installation of a traffic signal was recommended since Signal Warrants 1A, 1B, 2 and 3 were met. The signal warrant analysis was submitted to the Department under separate cover in January 2020. A copy of the Signal Warrant Analysis Report is provided in **Appendix B**.

Crash History

Crash data for the period from January 1, 2017 to December 31, 2022 was obtained from Signal Four Analytics. A copy of the crash data is provided in **Appendix C**. The 0.2-mile portion of SR 29 between 13th Street and 11th Street, which includes the CR 846 E intersection, experienced 15 crashes in this six-year period. These crashes resulted in one injury and no fatalities. The most prevalent crash types are sideswipe (six), rear-end (four), and off-road crashes (four). There was one bicycle crash and no pedestrian crashes. The roadway surface and lighting conditions are summarized in **Table 2**.

Table 2: Crash Conditions (January 2017 – December 2022)

Road Surface Condition	No. of Crashes
Dry	14
Wet	1
Total Crashes	15
Lighting Condition	
Daylight	12
Dark	2
Dawn	1
Total Crashes	15

Intersection Control Evaluation Analysis

A Stage 1 Intersection Control Evaluation (ICE) analysis was conducted in accordance with the *FDOT Manual on Intersection Control Evaluation* (ICE Manual). The 2045 a.m. and p.m. peak hour turning movement volumes documented in the January 2018 DTTM prepared by VHB for the SR 29 PD&E Study were used to conduct the analysis. These volumes are provided in **Appendix D** and also summarized in **Table 3**. The following alternatives were considered: conventional traffic signal, signalized restricted crossing u-turn (RCUT) intersection, median u-turn (MUT) intersection, partial MUT intersection, displaced left-turn intersection (DLT), partial DLT and a two-lane roundabout. Due to the proposed realignment of this intersection and the addition of a new leg (i.e., the proposed SR 29 Bypass), the historic crash data was not used in the SPICE analysis. The results of the 2045 CAP-X and SPICE analyses are summarized in **Table 4**. The CAP-X and SPICE analysis summary sheets are provided in **Appendix E**.

Table 3: Design Year (2045) Peak Hour Intersection Turning Movement Volumes

2045 AM Peak Hour												
	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Design Turning Movement Volume	180	440	541	115	181	162	290	661	192	463	484	192
Peak Hour Truck Percentage	19%	18%	17%	56%	14%	17%	16%	8%	16%	17%	8%	17%
2045 PM Peak Hour												
	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Design Turning Movement Volume	186	182	481	207	416	290	162	440	210	524	693	100
Peak Hour Truck Percentage	22%	13%	17%	0%	11%	41%	16%	8%	16%	0%	8%	0%

Table 4: Stage 1 ICE Analysis Summary - SR 29/CR 846 Intersection

Intersection Type	2045 V/C Ratios		Life-Cycle Crashes		SSI Scores	
	AM Peak Hour	PM Peak Hour	Total	Fatal & Injury	Opening Year	Design Year
Conventional Traffic Signal	0.78	0.75	135	51	92	80
Signalized RCUT	0.87	0.80	305	77	92	81
Median U-Turn	1.04	1.02	115	35	92	79
Partial Median U-Turn	0.88	0.92	n/a	n/a	n/a	n/a
Displaced Left-Turn	0.55	0.70	119	45	82	62
Partial Displaced Left-Turn	0.59	0.62	n/a	n/a	n/a	n/a
Roundabout (2 x 2)	1.52	1.55	287	53	96	92

Lowest number of crashes of all alternatives analyzed

n/a = No Safety Performance Function (SPF) available

With one exception, all of the signalized alternatives are projected to provide sufficient capacity during both peak hours. The median u-turn intersection is projected to have v/c ratios greater than 1.0 during both peak hours but is also projected to have the lowest amount of fatal and injury crashes. The signalized RCUT intersection is projected to have the highest number of fatal and injury crashes. Although the displaced left-turn intersection and partial displaced left-turn intersection are projected to have low v/c ratios during both peak hours, these two alternatives would result in circuitous access for vehicles entering and exiting Florida Specialties (a produce processing/distribution business) and Everglades Equipment Group (a farm equipment dealership). Both of these businesses are located on the west side of SR 29. The posted speed limit on SR 29 changes from 45 mph just south of CR 846 to 35 mph just north of CR 846. The lower speed limit is needed due to the relatively high volume of bicyclists and pedestrians within the downtown Immokalee area, as well as the high cross street density in this area. The signalized intersection alternatives would not provide positive speed control or help to facilitate the transition from 45 mph to 35 mph. In addition, the location of the Collier County Immokalee Regional Airport and the Immokalee Public Park, coupled with the alignment of the future SR 29 bypass, would require the construction of a skewed intersection for all of the signalized alternatives. This skewed orientation would increase the difficulty associated with some truck turning movements.

Although the CAP-X analysis results indicated the two-lane roundabout was projected to operate overcapacity, this software does not allow the analyst to evaluate the impact of providing exclusive right-turn bypass lanes. Based on these considerations, more detailed peak hour traffic analyses were conducted for the roundabout alternative using the SIDRA software. These additional analyses were conducted to determine the optimal lane configuration for the roundabout and the capacity associated with this configuration.

The SIDRA analyses were conducted for a five-legged roundabout due to the need to maintain the existing access to Florida Specialties and Everglades Equipment Group via 12th Street. The optimal

roundabout configuration is illustrated on the concept graphic provided in **Appendix F**. The results of the initial SIDRA analysis indicated the roundabout was projected to operate overcapacity during both the a.m. and p.m. peak hours. Therefore, additional analyses were conducted to determine the maximum future year peak hour volumes that could be accommodated by the roundabout. The results of the additional analyses indicated the roundabout alternative could accommodate approximately 75% of the 2045 a.m. and p.m. peak hour volumes. It should be noted that this conclusion was based solely on the use of the Highway Capacity Manual (HCM) roundabout capacity model. The projected peak hour roundabout operations are summarized in **Table 5** and the SIDRA analysis output summary sheets are provided in **Appendix G**.

Table 5: SR 29/SR 29 Bypass/CR 846 Roundabout Operations Summary (75% Volume Level)

AM Peak Hour							
Intersection Leg	Roadway	HCM Capacity Model			SIDRA Capacity Model		
		V/C Ratio ⁽¹⁾	Delay (sec/veh)	LOS	V/C Ratio ⁽¹⁾	Delay (sec/veh)	LOS
South	SR 29	0.85	37.6	E	0.75	25.1	D
East	CR 846	0.47	16.4	C	0.37	12.6	B
North	SR 29 Bypass	0.67	21.7	C	0.60	18.2	C
West	SR 29	0.98	59.7	F	0.65	19.1	C
Southwest	12th Street	0.26	113.0	F	0.09	35.8	E
Overall Intersection		0.98	37.3	E	0.75	19.9	C
PM Peak Hour							
Intersection Leg	Roadway	HCM Capacity Model			SIDRA Capacity Model		
		V/C Ratio ⁽¹⁾	Delay (sec/veh)	LOS	V/C Ratio ⁽¹⁾	Delay (sec/veh)	LOS
South	SR 29	0.70	18.2	C	0.61	13.3	B
East	CR 846	1.27	136.1	F	0.86	37.9	E
North	SR 29 Bypass	0.54	17.4	C	0.55	18.4	C
West	SR 29	0.55	17.6	C	0.39	12.5	B
Southwest	12th Street	0.11	44.1	E	0.07	25.4	D
Overall Intersection		1.27	45.6	E	0.86	20.0	C

⁽¹⁾ Maximum volume-to-capacity ratio for all lanes on the intersection leg

The SIDRA analyses were first conducted using the HCM roundabout capacity model. The results of these analyses indicate the roundabout is projected to operate at Level of Service E overall during both peak hours with average delays ranging between approximately 37 seconds/vehicle and 46 seconds/vehicle. The highest approach delays are estimated to occur on the southwest leg of the roundabout (i.e., 12th Street) during the a.m. peak hour and on the east leg (i.e., CR 846) during the p.m. peak hour. Given these delays, an additional set of roundabout analyses were conducted using the SIDRA standard capacity model based on guidance provided by the FDOT Central Office. The SIDRA capacity model utilizes more aggressive adjustments to driver gap acceptance as circulating volumes increase, resulting in higher roundabout capacities. These additional analyses were conducted to obtain a range of potential operational performance results. The use of the SIDRA capacity model indicates that the roundabout is projected to operate at Level of Service C overall during the peak hours with average delays of approximately 20 seconds/vehicle. Therefore, the true peak hour operations are expected to be better than those estimated with the HCM capacity model but worse than those estimated with the SIDRA standard capacity model.

Table 6 provides a comparison of the 2017 peak hour volumes that were documented in the January 2018 SR 29 DTTM and 75% of the 2045 peak hour volumes that were documented in this same report. At the 75% level, the future a.m. and p.m. peak hour volumes are approximately 203% and 139% higher than the 2017 a.m. and p.m. peak hour volumes, respectively. These future volumes represent a.m. and p.m. peak hour linear growth rates of approximately 7.3% per year and 5.0% per year, respectively. It

should be noted that there are minor differences between the volumes summarized in **Table 6** and the volumes used in the SIDRA analyses. These differences reflect the adjustments that were made to account for the existing peak hour volumes that were observed entering and exiting 12th Street. The approximate year when the capacity of the proposed roundabout might be exceeded was estimated using linear interpolation. This analysis indicates the roundabout capacity might be exceeded in the year 2035 if the projected growth in future traffic volumes actually occurs. Given the extremely high future year peak hour volumes that can be accommodated with the roundabout, it is quite possible that this intersection control strategy could provide acceptable traffic operations for an even longer period of time in the future. Based on a long term peak hour traffic volume growth rate of 3.0% per year, the capacity of the roundabout would not be exceeded until the year 2047.

Table 6: SR 29/SR 29 Bypass/CR 846 Intersection Peak Hour Volume Comparison

AM Peak Hour Volumes					PM Peak Hour Volumes				
Roadway	Movement	2045	75% of 2045	2017	Roadway	Movement	2045	75% of 2045	2017
SR 29	NB LT	460	345	236	SR 29	NB LT	521	391	514
	NB TH	484	363	n/a		NB TH	693	520	n/a
	NB RT	192	144	14		NB RT	100	75	22
CR 846	WB LT	115	86	23	CR 846	WB LT	207	155	18
	WB TH	181	136	70		WB TH	416	312	252
	WB RT	162	122	n/a		WB RT	290	218	n/a
SR 29 Bypass	SB LT	290	218	n/a	SR 29 Bypass	SB LT	162	122	n/a
	SB TH	661	496	n/a		SB TH	440	330	n/a
	SB RT	192	144	n/a		SB RT	210	158	n/a
SR 29	EB LT	180	135	n/a	SR 29	EB LT	186	140	n/a
	EB TH	440	330	212		EB TH	182	137	120
	EB RT	530	398	406		EB RT	479	359	291
Intersection	ALL	3,887	2,915	961	Intersection	ALL	3,886	2,915	1,217
Total Growth		304.47%	203.36%		Total Growth		219.31%	139.48%	
Annual Growth Rate		10.87%	7.26%		Annual Growth Rate		7.83%	4.98%	

Recommended Intersection Control Strategy

The implementation of a two-lane roundabout is expected to provide positive speed control in this critical location and help facilitate the reduction in vehicle speeds from a higher speed rural roadway to a lower speed urban roadway located in the center of downtown Immokalee. The importance of reducing the speed of vehicles entering the Town of Immokalee cannot be overstated due to the large percentage of pedestrians and bicyclists in this urban area. This roundabout is estimated to have the highest opening year and design year SSI scores, will provide efficient and safe access to and from the existing commercial/light industrial land uses on both sides of 12th Street and will eliminate the need for u-turn bulb-outs to be constructed on either SR 29 or the SR 29 Bypass. Lastly, this roundabout provides better accommodations for truck turning movements to and from the skewed intersection legs. The proposed roundabout is projected to have sufficient capacity to accommodate future year peak hour volumes through the year 2035 at a minimum. Based on the roundabout analysis results conducted using the SIDRA capacity model, the roundabout is projected to be able to accommodate more than 75% of the design year peak hour volumes. Consequently, the five-legged roundabout is the recommended intersection control strategy for this location. When District One is ready to program funding for the widening (i.e., four-laning) of SR 29 from I-75 to CR 846, the "existing" conditions at this intersection should be re-assessed and the design year traffic projections should be updated.

Appendix A – Existing Intersection Geometry



DATE	BY	A/E ENGINEERING & SURVEYING, INC. 201 S. KENNEDY BLVD., STE. 1801 TAMPA, FLORIDA 33602 TELEPHONE (888) 627-4144	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		EXISTING SR 29 / CR 846 INTERSECTION	SHEET NO. 02
			ROAD NO.	COUNTY		
			SR 29	COLLIER	407409120	

1/20/2018 10:45 AM

Northbound Approach View



Looking northwest into the intersection along SR 29

Southbound Approach View



Looking southeast into the intersection along SR 29

Westbound Approach View



Looking west into the intersection along CR 846 E

Appendix B – Traffic Signal Warrant Analysis

Signal Warrant Analysis

SR 29 at Future SR 29 Bypass/CR 846E

Collier County
Section 03080000
Milepost 36.770

State Road 29 from
S of Agriculture Way to CR 846E
Contract Number C-A418
Financial Project No. 417540-4-52-01

Prepared For:

Florida Department of Transportation
District 1



January 2020

The findings and recommendations provided in this document are provided for discussion purposes only. This document is not yet complete, and the process of acquiring relevant data is ongoing.

PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am a registered engineer in the State of Florida practicing with Faller, Davis & Associates, Inc., authorized to operate as an engineering business (Certificate of Authorization No. 5864), and that I have reviewed or approved the evaluation, findings, opinions, conclusions, or technical advice hereby reported for:

PROJECT: SR 29 from S. of Agriculture Way to CR 846E

FPID NO: 417540-4-52-01

REPORT: Signal Warrant Analysis for SR 29 at Future SR 29 Bypass/CR 846E

The attached Signal Warrant Analysis contains depictions of existing field conditions, proposed future lane configurations, traffic volumes, collision data, operational observations, safety analysis, signal warrant analysis, and recommendations for improvements for the above referenced project. I acknowledge that the procedures and references used to develop the conclusions contained in this document are standard to the professional practice of civil engineering as applied through professional judgment and experience.



*THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY*



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Table of Contents

EXECUTIVE SUMMARY	1
1 INTRODUCTION.....	2
2 PROPOSED CONDITIONS	3
2.1 Traffic Volumes	5
2.2 Intersection Delay	6
2.3 Collision Data.....	6
3 QUALITATIVE ASSESSMENT	7
4 SIGNAL WARRANT ANALYSIS.....	7
5 RECOMMENDATIONS.....	17

LIST OF FIGURES

Figure 1 Existing Project Location Map.....	2
Figure 2 Proposed Intersection Layout.....	4
Figure 3 Warrant 1	9
Figure 4 Warrant 2	10
Figure 5 Warrant 3	11
Figure 6 Warrant 4A.....	12
Figure 7 Warrant 4B.....	13
Figure 8 Warrants 5 & 6.....	14
Figure 9 Warrants 7 & 8.....	15
Figure 10 Warrant 9.....	16

LIST OF TABLES

Table 1 Summary of Proposed Conditions.....	3
Table 2 Summary of 24-Hour Machine Approach Counts.....	5
Table 3 Turning Movement Count Summary	6
Table 4 Summary of Signal Warrant Analysis	8

APPENDICES

Appendix A	Technical Memorandum – Justification of Assumptions for Future Intersection
Appendix B	Traffic Data

EXECUTIVE SUMMARY

Faller, Davis & Associates, Inc. (FDA) conducted a signal warrant study at the intersection of SR 29 at the Future SR 29 Bypass/CR 846E in Immokalee, Collier County, Florida. The purpose of the study is to determine if a traffic signal is in the best interest of the traveling public. Based on the results of the analysis and engineering judgment, the following recommendation was developed:

A traffic signal is recommended for installation at the proposed intersection of SR 29 at Future SR 29 Bypass/CR 846E, since Signal Warrants 1A, 1B, 2 and 3 are met.

1 INTRODUCTION

The Florida Department of Transportation has retained FDA to perform a signal warrant analysis at the intersection of SR 29 at Future SR 29 Bypass/CR 846E in Immokalee, Collier County, Florida. The analysis methods used in conducting this study are consistent with those set forth in the current editions of the FHWA Manual on Uniform Traffic Control Devices (MUTCD), the FDOT Manual on Uniform Traffic Studies (MUTS), the FDOT Traffic Engineering Manual (TEM), and FDOT District 1 guidelines and procedures. Please note that this signal warrant analysis is based on the proposed configuration of the intersection that is presented in the SR 29 PD&E documents. The existing project location map shown below is provided for intersection reference location purposes only.

Figure 1 Existing Project Location Map



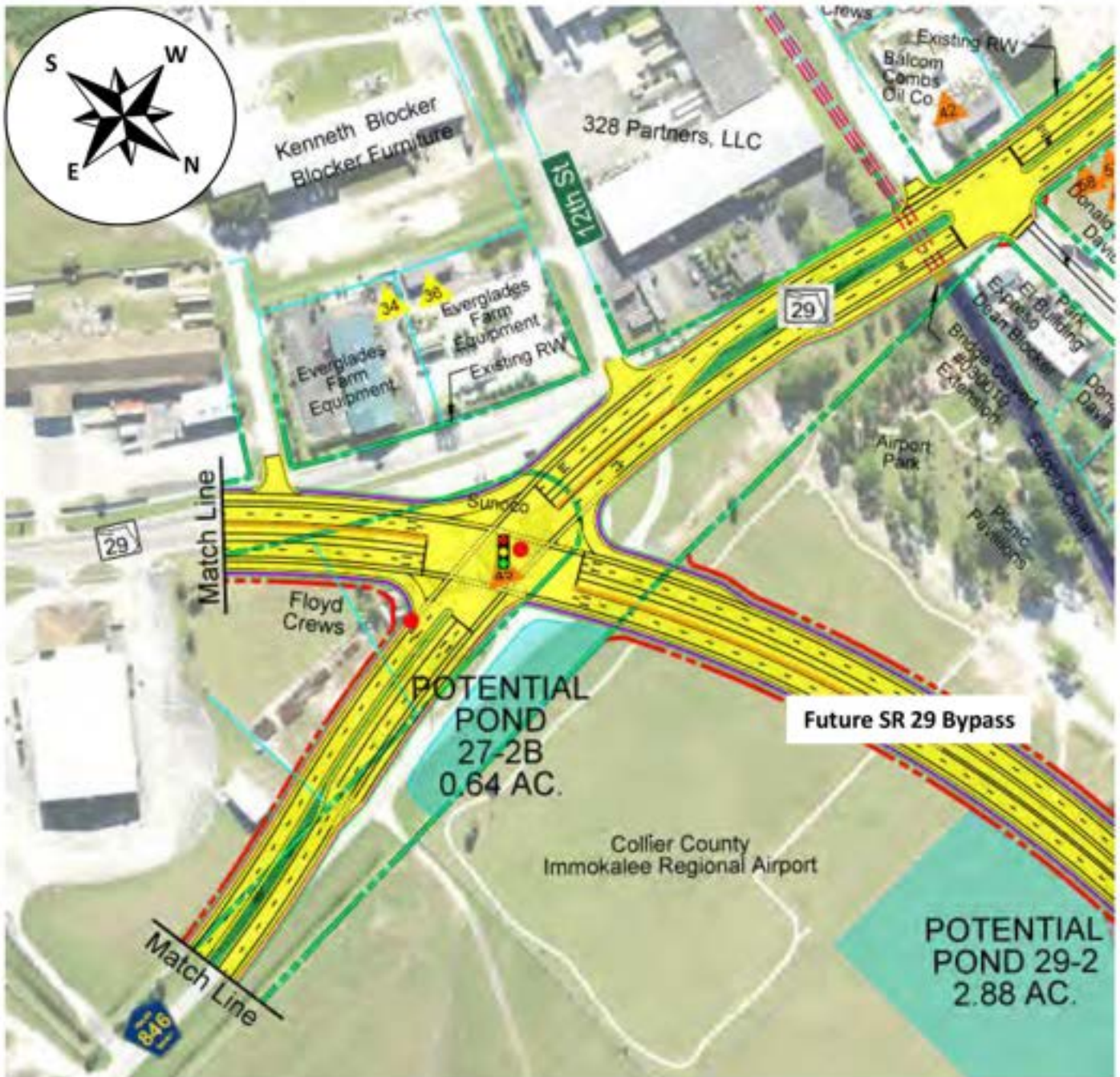
2 PROPOSED CONDITIONS

Significant features at the proposed intersection of SR 29 at Future SR 29 Bypass/CR 846E are summarized below.

Table 1 Summary of Proposed Conditions

Feature	Description
Main Street	SR 29 NB/Future SR 29 Bypass
Side Streets	SR 29 SB/CR 846E
Area Location	The intersection is located at the southeast end of Immokalee.
Surrounding Development	Commercial, agricultural and residential land uses
Land Uses at Intersection	Northeast-Undeveloped/Airport land Northwest-Florida Specialties Shipping and Receiving (Industrial) Southwest-Everglades Equipment Group Southeast-Winfield United (Industrial)
Pedestrian Generators	Local businesses, Airport Park and residences
Traffic Control	Since this is a future intersection, intersection control has not yet been determined. However, the current SR 29 and CR 846E intersection is stop controlled
Adjacent Signalized Intersections	To the north: N 1 st St, 0.5 miles north To the south: Farm Worker Way, 1.4 miles to the south To the east and west: None and none are proposed
SR 29	<u>Function</u> -Urban principal arterial - other <u>Connectivity</u> -SR 93 to the south and SR 82 to the north <u>Proposed Cross Section</u> - Four-lane divided roadway with a closed drainage system <u>Proposed Posted Speed Limit</u> -45 mph <u>Proposed Northbound Approach</u> - Two left turn lanes, two through lanes and one right turn lane <u>Proposed Eastbound Approach</u> - Two left turn lanes, two through lanes and one right turn lane <u>Proposed Alignment</u> -Located on a horizontal curve, and then straight and level <u>Sidewalks</u> -Along the both sides of the roadway north of the intersection, and along the west side of the roadway south of the intersection <u>Utilities</u> -Overhead along the west side of the roadway <u>Street Lighting</u> -Both sides of the SR 29 mainline.
Future SR 29 Bypass	<u>Function</u> - Urban principal arterial <u>Connectivity</u> -SR 29 to the northeast <u>Proposed Cross Section</u> - Four-lane divided roadway with a closed drainage system <u>Proposed Posted Speed Limit</u> -45 mph <u>Southbound Approach</u> - Two left turn lanes, two through lanes and one right turn lane <u>Proposed Alignment</u> -Straight and level <u>Proposed Sidewalks</u> -Along both sides of the roadway <u>Proposed Utilities</u> -Unknown <u>Proposed Street Lighting</u> -None
CR 846E	<u>Function</u> -Collector <u>Connectivity</u> -County Line Road to the east <u>Cross Section</u> -Two-lane undivided roadway with an open drainage system <u>Posted Speed Limit</u> -45 mph <u>Westbound Approach</u> – One left turn lane, two through lanes and one right turn lane <u>Alignment</u> -Straight and level <u>Sidewalks</u> -None <u>Utilities</u> -Overhead along the south side of the roadway <u>Street Lighting</u> -None

Figure 2 Proposed Intersection Layout



2.1 Traffic Volumes

Twenty-four-hour machine approach counts were collected on April 12, 2017 on each of the SR 29 approaches to the intersection and are presented in the SR 29 Design Traffic Technical Memorandum, dated January 2018. The memorandum was prepared in support of the SR 29 PD&E between Oil Well Road and SR 82. According to these counts, approximately 4,500 northbound and 4,600 southbound vehicles approached the intersection on the day of the count. Traffic counts were not obtained on CR 846E. The eight-hour turning movement count periods selected include the hours 6:00 to 8:00 AM, 11:00 to 12:00 PM, and 1:00 to 6:00 PM.

Table 2 Summary of 24-Hour Machine Approach Counts

HOUR ENDING AT	NB	SB	N/S TOTAL	EB	WB	E/W TOTAL
1:00	47	41	88	0	0	0
2:00	30	20	50	0	0	0
3:00	17	22	39	0	0	0
4:00	14	29	43	0	0	0
5:00	40	53	93	0	0	0
6:00	97	139	236	0	0	0
7:00	162	280	442	0	0	0
8:00	257	409	666	0	0	0
9:00	207	329	536	0	0	0
10:00	187	262	449	0	0	0
11:00	202	237	439	0	0	0
12:00	227	229	456	0	0	0
13:00	281	288	569	0	0	0
14:00	264	273	537	0	0	0
15:00	285	287	572	0	0	0
16:00	366	256	622	0	0	0
17:00	416	274	690	0	0	0
18:00	407	271	678	0	0	0
19:00	329	237	566	0	0	0
20:00	250	205	455	0	0	0
21:00	188	182	370	0	0	0
22:00	140	151	291	0	0	0
23:00	106	118	224	0	0	0
0:00	68	61	129	0	0	0
TOTAL	4,587	4,653	9,240	0	0	0

The 8-hour turning movement counts were derived from the Year 2025 Central Alternative #2 Turning Movement Volumes from the SR 29 from Oil Well Road to SR 82 PD&E Study. The AM and PM peak hours

provided were used to calculate the remaining highest 6 hours of turning movement counts. Hourly distributions of traffic volumes were provided in the SR 29 Design Traffic Technical Memorandum, dated January 2018. All data used from the SR 29 PD&E Study is provided in Appendix A. The peak traffic volume at the intersection occurs from 4:00 to 5:00 PM with a total of 2140 vehicles per hour (vph) approaching the intersection. The following table summarizes the combined passenger and heavy vehicle turning movement volumes:

Table 3 Turning Movement Count Summary

TIME BEGIN - END	SR 29			SR 29 BYPASS			SR 29			CR 846		
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
7:00 - 8:00	227	288	55	146	419	115	118	236	320	50	91	74
8:00 - 9:00	183	232	44	117	337	93	95	190	257	40	73	60
12:00 - 13:00	194	246	47	125	358	98	101	177	241	43	68	56
14:00 - 15:00	259	353	44	62	238	98	99	74	188	45	196	121
15:00 - 16:00	282	384	48	68	259	107	108	80	204	49	213	132
16:00 - 17:00	312	425	53	75	287	118	119	89	226	54	236	146
17:00 - 18:00	307	418	52	74	282	116	117	88	222	53	232	144
18:00 - 19:00	256	349	43	62	235	97	98	73	185	44	194	120
TOTAL	2,019	2,694	387	729	2,416	841	854	1,007	1,844	378	1,303	852

No projected pedestrian or bicycle volumes were included in the SR 29 PD&E Study nor the SR 29 Traffic Technical Memorandum.

2.2 Intersection Delay

Since the future configuration of the intersection is very different from the existing configuration, a delay study was not performed as the data would not represent any future condition for which the signal warrant is based upon.

2.3 Collision Data

Since the future configuration of the intersection is very different from the existing configuration, collision data was not collected for the existing intersection as the data would not represent any future condition for which the signal warrant is based upon.

3 QUALITATIVE ASSESSMENT

Since the future configuration of the intersection is very different from the existing configuration, a qualitative assessment of the existing intersection was not completed. All proposed traffic volumes are presented here in the report and in Appendix A.

4 SIGNAL WARRANT ANALYSIS

The traffic volumes and geometric conditions at the intersection were compared with the warrants for the installation of traffic signals contained in the current versions of the Manual on Uniform Traffic Control Devices (MUTCD) and Manual on Uniform Traffic Studies (MUTS).

For the purposes of the signal warrant analysis, SR 29 NB/Future SR 29 Bypass is considered the major street and SR 29 SB/CR 846E the minor street. Based on the proposed posted speed limit of 45 mph on SR 29, the 70 percent volume criterion was applied to the analysis.

Since the State Farmer's Market is a major generator and is located in close proximity to the intersection, Warrant 3 – Peak Hour, is considered applicable. SR 29 and the Future SR 29 Bypass are direct routes to the market. However, since a delay study could not be performed at the future intersection, a delay of 0 vehicle-hours was entered into the spreadsheet. Warrant 3 meets based on volumes, not delay, since delay is not available at the future intersection.

The following table summarizes the results of the warrant analysis.

Table 4 Summary of Signal Warrant Analysis

Warrant		Applicable	Satisfied	Comments
1A	Minimum Vehicular Volume	Yes	Yes	This warrant is satisfied.
1B	Interruption of Continuous Traffic	Yes	Yes	This warrant is satisfied.
1A + 1B	80% Combination of A + B	No	N/A	This warrant is not applicable, since there is no minor street excessive delay or conflict.
2	Four-Hour Vehicular Volume	Yes	Yes	This warrant is satisfied.
3	Peak Hour	Yes	Yes	This warrant is satisfied.
4A	Pedestrian Four-Hour Volume	No	N/A	This warrant is not applicable since future pedestrian volumes are unknown.
4B	Pedestrian Peak Hour	No	N/A	This warrant is not applicable since future pedestrian volumes are unknown.
5	School Crossing	No	N/A	This warrant is not applicable, since no school crossing exists at the intersection.
6	Coordinated Signal System	No	N/A	This warrant is not applicable, since a traffic signal at this intersection will not provide progressive operation.
7	Crash Experience	No	N/A	This warrant is not applicable since this is a future intersection configuration and there is not a crash history for this intersection.
8	Roadway Network	No	N/A	This warrant is not applicable, since installing a traffic control signal at this intersection will not encourage the concentration and organization of traffic flow on a roadway network.
9	Intersection Near a Grade Crossing	No	N/A	This warrant is not applicable, since no railroad crossing is located in the vicinity of the intersection.

A traffic signal is recommended to be installed at the intersection since Warrants 1A, 1B, 2 and 3 are all satisfied.

The signal warrants are included on the following pages.

City: <u>Immokalee</u> County: <u>Collier</u>	Engineer: <u>PTC</u> Date: <u>January 21, 2020</u>
Major Street: <u>SR 29 NB/Future SR 29 Bypass</u> Minor Street: <u>SR 29 SB/CR 846E</u>	Lanes: <u>2</u> Critical Approach Speed: <u>45</u> Lanes: <u>2</u>

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (40 mph)? Yes No

2. Is the intersection in a built-up area of isolated community of <10,000 population? Yes No

If Question 1 or 2 above is answered "Yes", then use "70%" volume level 70% 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME Applicable: Yes No

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied. Satisfied: Yes No

Warrant 1 is also satisfied if both Condition A and Condition B are "80%" satisfied.

Condition A - Minimum Vehicular Volume					Condition A Satisfied: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
(Volumes in veh/hr)	Minimum Requirements (80% Shown in Parenthesis)				Eight Highest Hours							
	1		2 or more		700	800	1200	1400	1500	1600	1700	1800
Approach Lanes												
Volume Level	100%	70%	100%	70%								
Both Approaches on Major Street	500 (400)	350 (350)*	600 (480)	420 (420)*	1,250	1,006	1,068	1,054	1,147	1,270	1,250	1,042
Highest Approach on Minor Street	150 (120)	105 (105)*	200 (160)	140 (140)*	674	542	519	362	394	436	429	358

Record 8 highest hours and the corresponding volumes in boxes provided. Condition is 100% satisfied if the minimum volumes are met for eight hours. Condition is (80%) satisfied if parenthetical volumes are met for eight hours.

Condition B - Interruption of Continuous Traffic					Condition B Satisfied: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
<i>Condition B is intended for application where the traffic volume is so heavy that traffic on the minor street suffers excessive delay or conflict.</i>					Excessive Delay/Conflict: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
(Volumes in veh/hr)	Minimum Requirements (80% Shown in Parenthesis)				Eight Highest Hours							
	1		2 or more		700	800	1200	1400	1500	1600	1700	1800
Approach Lanes												
Volume Level	100%	70%	100%	70%								
Both Approaches on Major Street	750 (600)	525 (525)*	900 (720)	630 (630)*	1,250	1,006	1,068	1,054	1,147	1,270	1,250	1,042
Highest Approach on Minor Street	75 (60)	53 (53)*	100 (80)	70 (70)*	674	542	519	362	394	436	429	358

Record 8 highest hours and the corresponding volumes in boxes provided. Condition is 100% satisfied if the minimum volumes are met for eight hours. Condition is 80% satisfied if parenthetical volumes are met for eight hours.

Adequate Trial of Alternative Measures has Failed to Solve the Traffic Problems: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Applicable: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Condition A: 80% Volume Satisfied: <input type="checkbox"/> Yes <input type="checkbox"/> No Condition B: 80% Volume Satisfied: <input type="checkbox"/> Yes <input type="checkbox"/> No Combination of Conditions A and B Satisfied: <input type="checkbox"/> Yes <input type="checkbox"/> No

The combination of Conditions A and B is intended for application at locations where Condition A is not satisfied and Condition B is not satisfied and should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

*** Florida Department of Transportation District One does not apply an 80% reduction to the 70% criteria**

Source: Revised from NCHRP Report 457

Figure 3 Warrant 1

City: <u>Immokalee</u> County: <u>Collier</u>	Engineer: <u>PTC</u> Date: <u>January 21, 2020</u>
Major Street: <u>SR 29 NB/Future SR 29 Bypass</u> Minor Street: <u>SR 29 SB/CR 846E</u>	Lanes: <u>2</u> Critical Approach Speed: <u>45</u> Lanes: <u>2</u>

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (40 mph)? Yes No

2. Is the intersection in a built-up area of isolated community of <10,000 population? Yes No

If Question 1 or 2 above is answered "Yes", then use "70%" volume level 70% 100%

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME Applicable: Yes No

If any four points lie above the appropriate line, then the warrant is satisfied. Satisfied: Yes No

Plot four volume combinations on the applicable figure below:

Warranting Volumes			Met	
Hour	Major Street	Minor Street	100%	70%
700	1,250	674	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
800	1,006	542	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1200	1,068	519	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1400	1,054	362	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1500	1,147	394	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1600	1,270	436	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1700	1,250	429	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1800	1,042	358	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

FIGURE 4C-1: Criteria for "100%" Volume Level

FIGURE 4C-2: Criteria for "70%" Volume Level
 (Community Less than 10,000 population or above 70 km/hr (40 mph) on Major Street)

*Note: 75 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 60 vph applies as the lower threshold volume threshold for a minor street approach with one lane.

*Note: 80 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 60 vph applies as the lower threshold volume threshold for a minor street approach with one lane.

Source: Revised from NCHRP Report 457

Figure 4 Warrant 2

City: <u>Immokalee</u> County: <u>Collier</u>	Engineer: <u>PTC</u> Date: <u>January 21, 2020</u>
Major Street: <u>SR 29 NB/Future SR 29 Bypass</u> Minor Street: <u>SR 29 SB/CR 846E</u>	Lanes: <u>2</u> Critical Approach Speed: <u>45</u> Lanes: <u>2</u>

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (40 mph)? Yes No

2. Is the intersection in a built-up area of isolated community of <10,000 population? Yes No

If Question 1 or 2 above is answered "Yes", then use "70%" volume level 70% 100%

WARRANT 3 - PEAK HOUR Applicable: Yes No

If all three criteria are fulfilled or any of the plotted points lie above the appropriate line, then the warrant is satisfied. Satisfied: Yes No

Unusual condition justifying use of warrant:

State Farmers Market Generator

Record hour when criteria are fulfilled and the corresponding delay or volume in boxes provided.

Warranting Volumes			100%	70%
700	1,250	674	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
800	1,006	542	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1200	1,068	519	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1400	1,054	362	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1500	1,147	394	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1600	1,270	436	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1700	1,250	429	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1800	1,042	358	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

1. Delay on Minor Approach (vehicle-hours)		
Approach Lanes	1	2
Delay Criteria*	4.0	5.0
Delay*	0.0	
Fulfilled?:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

2. Volume on Minor Approach (vehicles per hour)		
Approach Lanes	1	2
Volume Criteria*	100	150
Volume*	674	
Fulfilled?:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

3. Total Entering Volume (vehicles per hour)		
No. of Approaches	3	4
Volume Criteria*	650	800
Volume*	2,140	
Fulfilled?:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Plot volume combination on the applicable figure below:

FIGURE 4C-3: Criteria for "100%" Volume Level

*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume threshold for a minor street approach with one lane.

FIGURE 4C-4: Criteria for "70%" Volume Level
 (Community Less than 10,000 population or above 70 km/hr (40 mph) on Major Street)

*Note: 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 75 vph applies as the lower threshold volume threshold for a minor street approach with one lane.

Source: Revised from NCHRP Report 457

Figure 5 Warrant 3

City: <u>Immokalee</u>	Engineer: <u>PTC</u>
County: <u>Collier</u>	Date: <u>January 21, 2020</u>
Major Street: <u>SR 29 NB/Future SR 29 Bypass</u>	Lanes: <u>2</u> Critical Approach Speed: <u>45</u>
Minor Street: <u>SR 29 SB/CR 846E</u>	Lanes: <u>2</u>

WARRANT 5 - SCHOOL CROSSING Applicable: Yes No
Record hours where criteria are fulfilled and the corresponding volume or gap frequency in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled. Satisfied: Yes No

Criteria				Fulfilled?	
				Yes	No
1. There are a minimum of 20 students crossing the major street during the highest crossing hour.	Students:	Hour:			
2. There are fewer adequate gaps in the major street traffic stream during the period when the children are using the crossing than the number of minutes in the same period.	Minutes:	Gaps:			
3. The nearest traffic signal along the major street is located more than 90 m (300 ft) away, or the nearest signal is within 90 m (300 ft) but the proposed traffic signal will not restrict the progressive movement of traffic.					

WARRANT 6 - COORDINATED SIGNAL SYSTEM Applicable: Yes No
Indicate if the criteria are fulfilled in the boxes provided. The warrant is satisfied if either criterion is fulfilled. This warrant should not be applied when the resulting signal spacing would be less than 300 m (1,000 ft). Satisfied: Yes No

Criteria		Fulfilled?	
		Yes	No
1. On a one-way street or a street that has traffic predominately in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.			
2. On a two-way street, adjacent signals do not provide the necessary degree of platooning, and the proposed and adjacent signals will collectively provide a progressive operation.			

Source: Revised from NCHRP Report 457

Figure 8 Warrants 5 & 6

City: <u>Immokalee</u>	Engineer: <u>PTC</u>
County: <u>Collier</u>	Date: <u>January 21, 2020</u>
Major Street: <u>SR 29 NB/Future SR 29 Bypass</u>	Lanes: <u>2</u> Critical Approach Speed: <u>45</u>
Minor Street: <u>SR 29 SB/CR 846E</u>	Lanes: <u>2</u>

WARRANT 7 - CRASH EXPERIENCE Applicable: Yes No
Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled. Satisfied: Yes No

Criteria	Met?		Fulfilled?		
	Yes	No	Yes	No	
1. One of the warrants to the right is met.	Warrant 1, Condition A (80% satisfied) Warrant 1, Condition B (80% satisfied) Warrant 4, Pedestrian Four-Hour Volume (80% Satisfied) Warrant 4, Pedestrian Peak Hour (80% Satisfied)				
2. Adequate trial of other remedial measure has failed to reduce crash frequency.	Measure tried: <u>Intersection Control Beacon</u>				
3. Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-mo. period.	Number of crashes per 12 months:				

WARRANT 8 - ROADWAY NETWORK Applicable: Yes No
Record hours where criteria are fulfilled, and the corresponding volume or other information in the boxes provided. The warrant is satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the characteristics listed. Satisfied: Yes No

Criteria	Met?		Fulfilled?														
	Yes	No	Yes	No													
1. Both of the criteria to the right are met.	a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour. Entering Volume: <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>1</td><td>2</td><td>3</td></tr> <tr><td> </td><td> </td><td> </td></tr> </table> b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3. Warrant Satisfied?: <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>1</td><td>2</td><td>3</td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>			1	2	3				1	2	3					
1	2	3															
1	2	3															
2. Total entering volume at least 1,000 veh/hr for each of any 5 hrs of a non-normal business day (Sat. or Sun.)			← Hour														
			← Volume														

Characteristics of Major Routes	Met?		Fulfilled?	
	Yes	No	Yes	No
1. Part of the street or highway system that serves as the principal roadway network for through traffic flow.	Major Street: <input type="checkbox"/>			
	Minor Street: <input type="checkbox"/>			
2. Rural or suburban highway outside of, entering, or traversing a city.	Major Street: <input type="checkbox"/>			
	Minor Street: <input type="checkbox"/>			
3. Appears as a major route on an official plan.	Major Street: <input type="checkbox"/>			
	Minor Street: <input type="checkbox"/>			

Source: Revised from NCHRP Report 457

Figure 9 Warrants 7 & 8

5 RECOMMENDATIONS

Based on the results of the signal warrant analysis and engineering judgment, a traffic signal is recommended for installation at the proposed intersection of SR 29 at Future SR 29 Bypass/CR 846E, since Signal Warrants 1A, 1B, 2 and 3 are met.

Appendix A

**Technical Memorandum –
Justification of Assumptions for Future Intersection**

January 2020

Technical Memorandum

To: District One Traffic Operations

From: Patricia T. Christie, P.E.
Faller, Davis and Associates, Inc.

Re: FPID 417540-4-52-01 – SR 29 from S of Agriculture Way to CR 846E
Signal Warrant Analysis – Intersection of SR 29 at Future SR 29 Bypass/CR 846E
Justification of Assumptions for Future Intersection

Purpose:

The purpose of this technical memo is to present justification for the assumptions made for the Signal Warrant Analysis for the future proposed intersection of SR 29 at Future SR 29 Bypass/CR 846E.

Turning Movement Counts (TMC's):

The 8-hour TMC's for the signal warrant analysis were developed using traffic data from the Final Preliminary Engineering Report (PER), dated July 2019, which is a part of the SR 29 PD&E Study from Oil Well Road to SR 82 in Collier County, Florida. Additional traffic data information was obtained from the Final SR 29 Design Traffic Technical Memorandum (DTTM) dated 1/12/18 as a part of the same PD&E Study.

Step 1: The peak turning movement volumes for AM and PM were obtained from Figure 15 – Year 2025 (opening year) Central Alternative #2 Turning Movement Volumes provided in the DTTM.

Step 2: The turning movement volumes for the highest 8 hours were developed starting with the peak turning movement volumes from Step 1 and then applying the Hourly Distribution of Traffic Volumes data found in the Appendix of the DTTM for SR 29 – southeast of CR 846E (Location Code 4).

Step 3: The AM peak turning movement volume was used to determine hourly TMCs for 700-800, 800-900 and 1200 – 1300. PM peak turning movement volume was used to determine hourly TMCs for 1400 – 1500, 1500-1600, 1600-1700 and 1700-1800.

Delay Studies:

A delay study was not performed at the existing intersection of SR 29 and CR 846E. The existing configuration of the intersection is a T-intersection, while the proposed configuration is a four-leg intersection with a future added SB leg. It was determined that any delay at this intersection would not represent delay at the proposed intersection.

Crash History:

Crash history was not obtained for the existing intersection of SR 29 and CR 846E. Any crashes recorded at this intersection would not be representative of the types of crashes at the proposed intersection and do not add any value to the signal warrant study.

Pedestrian and Bicyclists:

Pedestrian and bicyclist volumes were not developed during the PD&E study; therefore, they were not included in the signal warrant analysis.

Approach Photographs:

Approach photographs were not provided in the signal warrant analysis since the existing configuration of the intersection was not used for analysis.

Appendix B

Traffic Data

TRAFFIC COUNT DATA

VHB PROJECT NO: 62558.21
 LOCATION CODE: 4
 COUNT LOCATION: STATE ROAD 29 - South-east of COUNTY ROAD 846 Airport Road
 EQUIPMENT ID: P84

TYPE OF COUNT: 72 Hour Classification Count

TIME OF COUNT:
 Start Date: 4/11/2017 Start Time: Midnight
 End Date: 4/13/2017 End Time: Midnight

VOLUMES:

		Peak Hour Time:	4:30 PM
Average Daily:	9,239	Average Peak Hour:	706
Daily Truck Avg:	1,893	Max Hour Truck Avg:	235
		Peak Hour Truck Avg:	147

TRAVEL CHARACTERISTICS:

K MEASURED	D MEASURED
K= 7.6%	D= 61.3%
T Max Hour 33.3%	T daily 20.5%
T med (max) 23.8%	T med Daily 13.0%
T heavy (max) 9.4%	T heavy Daily 7.5%
T Peak Hour 20.8%	
T med Peak Hour 14.6%	Axle Factor 0.95
T heavy Peak Hour 6.2%	

HOURLY DISTRIBUTIONS OF TRAFFIC VOLUMES

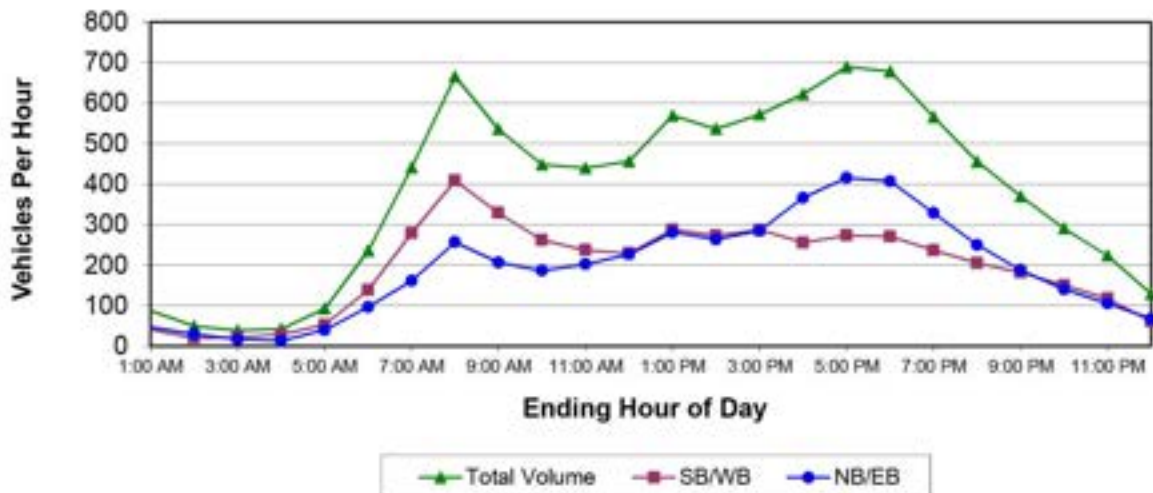
VHB PROJECT NO: 62558.21

LOCATION CODE: 4

COUNT LOCATION: STATE ROAD 29 - South-east of COUNTY ROAD 846 Airport Road

EQUIPMENT ID: P84

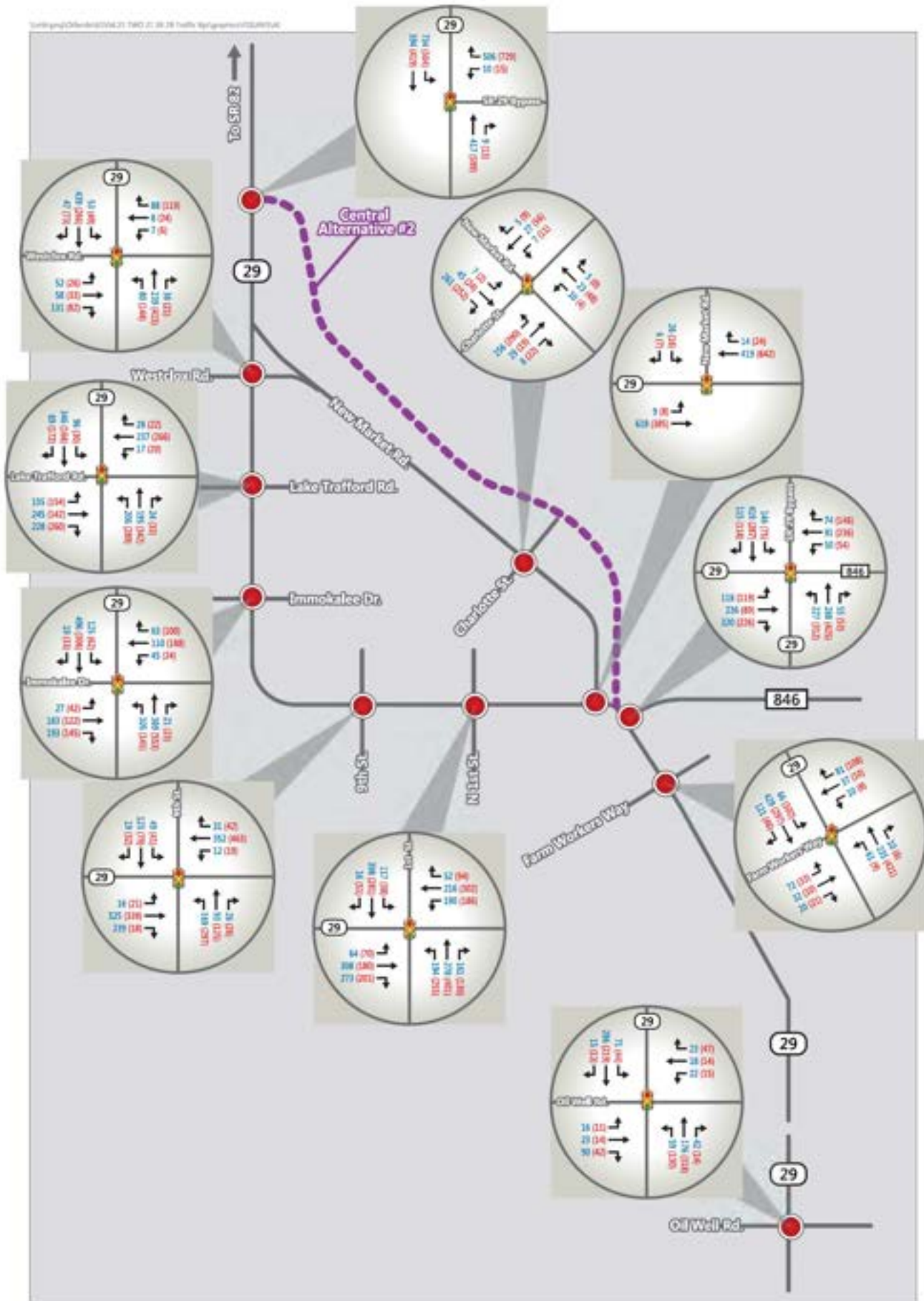
HOURLY VOLUME DIRECTION (NB OR EB)	HOURLY VOLUME DIRECTION (SB OR WB)	TOTAL VOLUME BOTH DIRECTIONS	DISTRIBUTION PERCENT DIRECTION (NB OR EB)	DISTRIBUTION PERCENT DIRECTION (SB OR WB)	TOTAL PERCENT BOTH DIRECTIONS	
1:00 AM	47	41	88	1.02%	0.87%	0.95%
2:00 AM	30	20	50	0.65%	0.43%	0.54%
3:00 AM	17	22	39	0.37%	0.47%	0.42%
4:00 AM	14	29	43	0.30%	0.62%	0.46%
5:00 AM	40	53	93	0.87%	1.13%	1.00%
6:00 AM	97	139	236	2.11%	2.98%	2.55%
7:00 AM	162	280	441	3.52%	6.01%	4.78%
8:00 AM	257	409	666	5.60%	8.78%	7.21%
9:00 AM	207	329	536	4.51%	7.07%	5.80%
10:00 AM	187	262	449	4.07%	5.63%	4.86%
11:00 AM	202	237	440	4.41%	5.10%	4.76%
12:00 PM	227	229	456	4.95%	4.93%	4.94%
1:00 PM	281	288	569	6.13%	6.20%	6.16%
2:00 PM	264	273	537	5.75%	5.87%	5.81%
3:00 PM	285	287	572	6.21%	6.18%	6.19%
4:00 PM	366	256	622	7.99%	5.50%	6.74%
5:00 PM	416	274	689	9.06%	5.88%	7.46%
6:00 PM	407	271	678	8.88%	5.83%	7.34%
7:00 PM	329	237	566	7.17%	5.09%	6.12%
8:00 PM	250	205	456	5.46%	4.41%	4.93%
9:00 PM	188	182	370	4.11%	3.91%	4.01%
10:00 PM	140	151	291	3.06%	3.24%	3.15%
11:00 PM	106	118	224	2.30%	2.54%	2.42%
12:00 AM	68	61	129	1.48%	1.32%	1.40%
TOTALS	4,586	4,652	9,239	100.0%	100.0%	100.0%



ANNUAL VEHICLE CLASSIFICATION REPORT

VHB PROJECT NO: 62558.21
 LOCATION CODE: 4
 COUNT LOCATION: STATE ROAD 29 - South-east of COUNTY ROAD 846 Airport Road
 EQUIPMENT ID: P84

Vehicle Classification	Vehicle Type	Average Daily Statistics	
		Volume	Percentage
Class 1	Motorcycles	103	1.11%
Class 2	Cars	5,538	59.94%
Class 3	Pick-Ups & Vans	1,705	18.45%
Class 4	Buses	319	3.45%
Class 5	2 Axle, Single Unit Trucks	885	9.58%
Class 6	3 Axle, Single Unit Trucks	112	1.21%
Class 7	4 Axle, Single Unit Trucks	28	0.30%
Class 8	2 Axle Trctr with 1 or 2 Axle Trlr, 3 Axle Trctr with 1 Axle	88	0.95%
Class 9	3 Axle Tractor with 2 Axle Trailer	421	4.56%
Class 10	3 Axle Tractor with 3 Axle Trailer	23	0.25%
Class 11	5 Axle Multi Trailer	2	0.02%
Class 12	6 Axle Multi Trailer	13	0.14%
Class 13	7 or more Axles	3	0.03%
Class 14	Not Used	0	0.00%
Class 15	Other	0	0.00%
TOTALS		9,240	100.00%



N.T.S.
 Traffic Movement
 AM (PM) Traffic Volumes

Figure 15
 Year 2025 Central Alternative #2
 Turning Movement Volumes

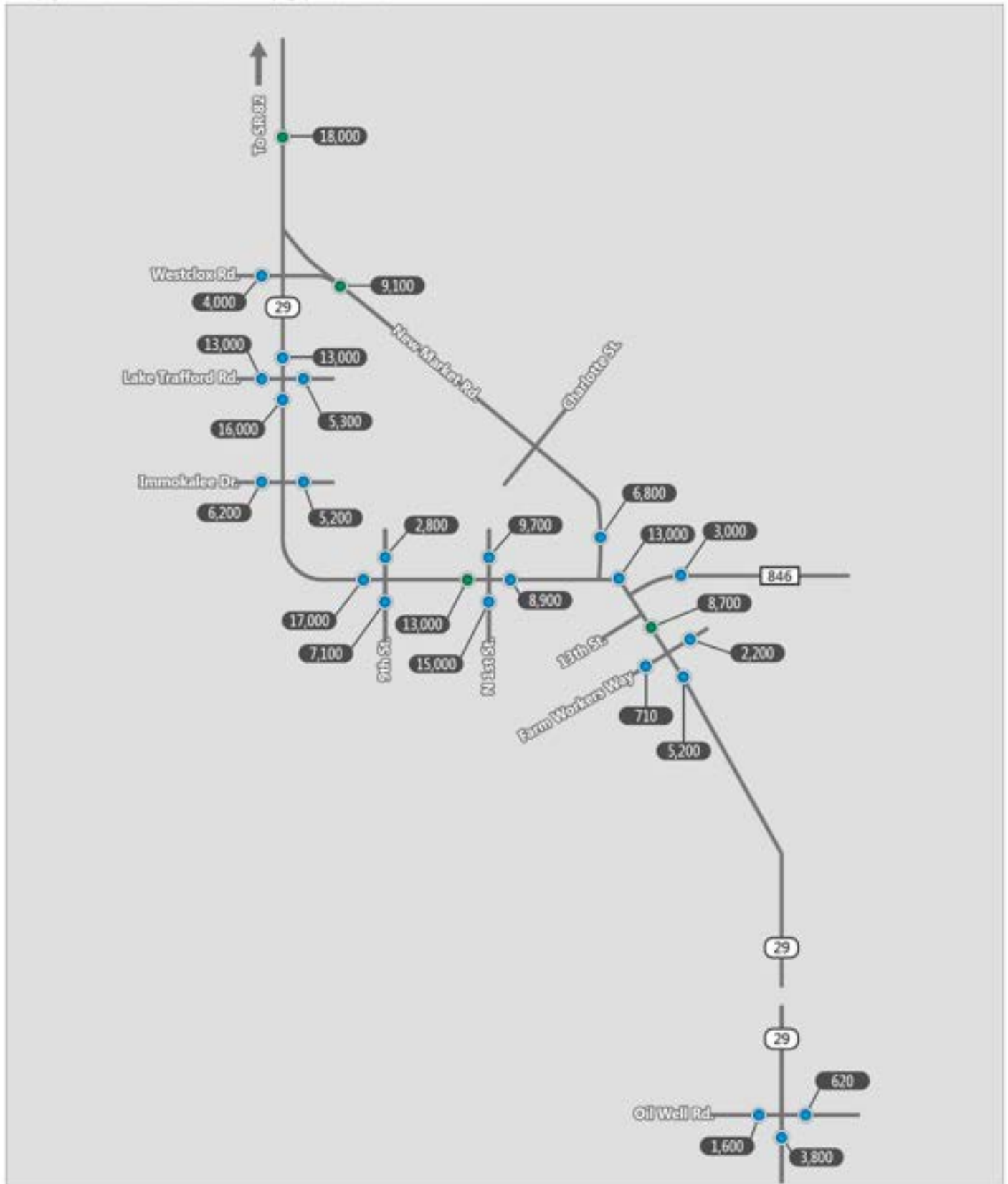
Appendix C – Historic Crash Data

REPORT_NUME	CRASH_YEAR	CRASH_DATE_AND_TI	TOTAL_NUMBER_OF_VEHIC	TOTAL_NUMBER_OF_PERS	COUNTY_#	RURAL_OR_UI
24296558	2021	4/3/2021 19:15	1	3	Collier	Rural
88653971	2019	5/2/2019 10:15	2	2	Collier	Urban
24301360	2021	10/4/2021 6:38	1	2	Collier	Urban
86851922	2017	6/19/2017 6:15	2	3	Collier	Rural
89865961	2020	4/6/2020 10:37	3	3	Collier	Urban
89864839	2020	2/20/2020 14:45	2	2	Collier	Rural
25101459	2022	8/28/2022 16:45	2	2	Collier	Urban
24294805	2021	2/4/2021 16:11	2	2	Collier	Urban
24298109	2021	5/30/2021 1:25	1	1	Collier	Rural
87463583	2018	7/5/2018 13:45	1	2	Collier	Urban
25097482	2022	4/4/2022 12:00	2	4	Collier	Urban
88648833	2018	11/19/2018 15:34	1	1	Collier	Urban
24301758	2021	10/17/2021 12:12	2	4	Collier	Urban
24296090	2021	3/18/2021 10:18	2	2	Collier	Rural
24302071	2021	10/27/2021 15:10	2	2	Collier	Urban

ON_STREET_ROAD	LATITUDE	LONGITUDE	FEET_FROM_I	DIRECTION_FF	FROM_INTER	TYPE_OF_SHOUL	LIGHT_CONDITI	WEATHER_CON
UNNAMED RD	26.4184049	-81.40859	304	North	CR-846	Paved	Daylight	Clear
E MAIN ST	26.4173552	-81.407727			13TH ST	Paved	Daylight	Cloudy
CR-846	26.4180275	-81.40881	0		E MAIN ST	Unpaved	Dark - Not Light	Clear
E MAIN ST	26.4176968	-81.408436	152	East	CR-846		Dawn	Clear
E MAIN ST	26.4173799	-81.407765	17	West	13TH ST	Paved	Daylight	Clear
E MAIN ST	26.4180504	-81.409284	56	West	12TH ST	Paved	Daylight	Clear
E MAIN ST	26.4177684	-81.40866	74	East	CR-846	Curb	Daylight	Rain
UNNAMED RD	26.4182147	-81.409151	110	North	E MAIN ST	Paved	Daylight	Clear
E MAIN ST	26.4177569	-81.4083	184	East	CR-846	Paved	Dark - Lighted	Clear
E MAIN ST	26.4175676	-81.40792	326	East	CR-846	Paved	Daylight	Clear
E MAIN ST	26.4182056	-81.409901	237	East	11TH ST	Curb	Daylight	Clear
E MAIN ST	26.4177021	-81.408186	226	East	12TH ST	Curb	Daylight	Clear
E MAIN ST	26.4176213	-81.408279	205	West	13TH ST	Paved	Daylight	Cloudy
E MAIN ST	26.4181557	-81.409592	163	West	12TH ST	Curb	Daylight	Clear
E MAIN ST	26.4174035	-81.407847	43	West	13TH ST	Unpaved	Daylight	Clear

ROAD_SURFACE	TYPE_OF_IMPACT	FIRST_HARMFUL_EV	LOCATION	S4_CRASH_TYP1	S4_CRASH_TYP2	S4_CRASH_SE	S4_DAY_O	S4_INJURY	S4_FATALI
Dry		Other Fixed Object	Median	Off Road	Off Road	No Injury	NIGHT	0	0
Dry	Sideswipe, Same Di	Motor Vehicle in Tra	On Roadway	Same Direction	Sideswipe	No Injury	DAY	0	0
Dry		Pedalcycle	On Roadway	Bicycle	Bicycle	Injury	NIGHT	1	0
Dry	Front to Rear	Motor Vehicle in Tra	On Roadway	Same Direction	Sideswipe	No Injury	NIGHT	0	0
Dry	Rear to Side	Motor Vehicle in Tra	On Roadway	Rear End	Rear End	No Injury	DAY	0	0
Dry	Front to Rear	Motor Vehicle in Tra	On Roadway	Rear End	Rear End	No Injury	DAY	0	0
Wet	Sideswipe, Same Di	Motor Vehicle in Tra	On Roadway	Same Direction	Sideswipe	No Injury	DAY	0	0
Dry	Front to Rear	Motor Vehicle in Tra	On Roadway	Rear End	Rear End	No Injury	DAY	0	0
Dry		Tree (standing)	On Roadway	Off Road	Off Road	No Injury	NIGHT	0	0
Dry		Other Fixed Object	On Roadway	Off Road	Off Road	No Injury	DAY	0	0
Dry	Sideswipe, Same Di	Motor Vehicle in Tra	On Roadway	Same Direction	Sideswipe	No Injury	DAY	0	0
Dry		Utility Pole/Light Sug	On Roadway	Off Road	Off Road	No Injury	DAY	0	0
Dry	Sideswipe, Same Di	Motor Vehicle in Tra	On Roadway	Same Direction	Sideswipe	No Injury	DAY	0	0
Dry	Front to Rear	Motor Vehicle in Tra	On Roadway	Rear End	Rear End	No Injury	DAY	0	0
Dry	Sideswipe, Same Di	Motor Vehicle in Tra	On Roadway	Same Direction	Sideswipe	No Injury	DAY	0	0

Appendix D – Future Traffic Volumes






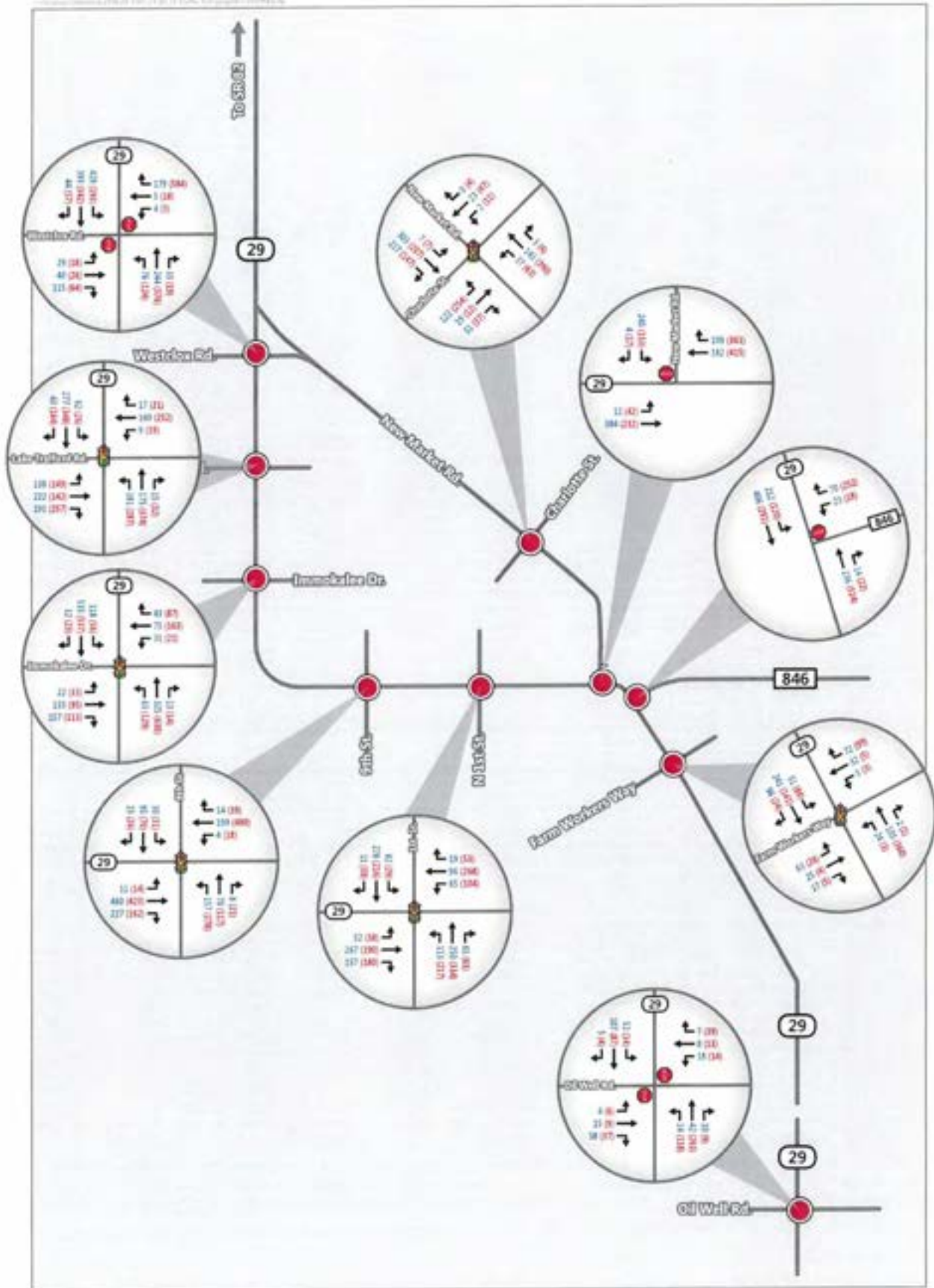
-  Year 2017 Average Annual Daily Traffic (AADT)
-  24-Hour Volume Count
-  72-Hour Classification Count

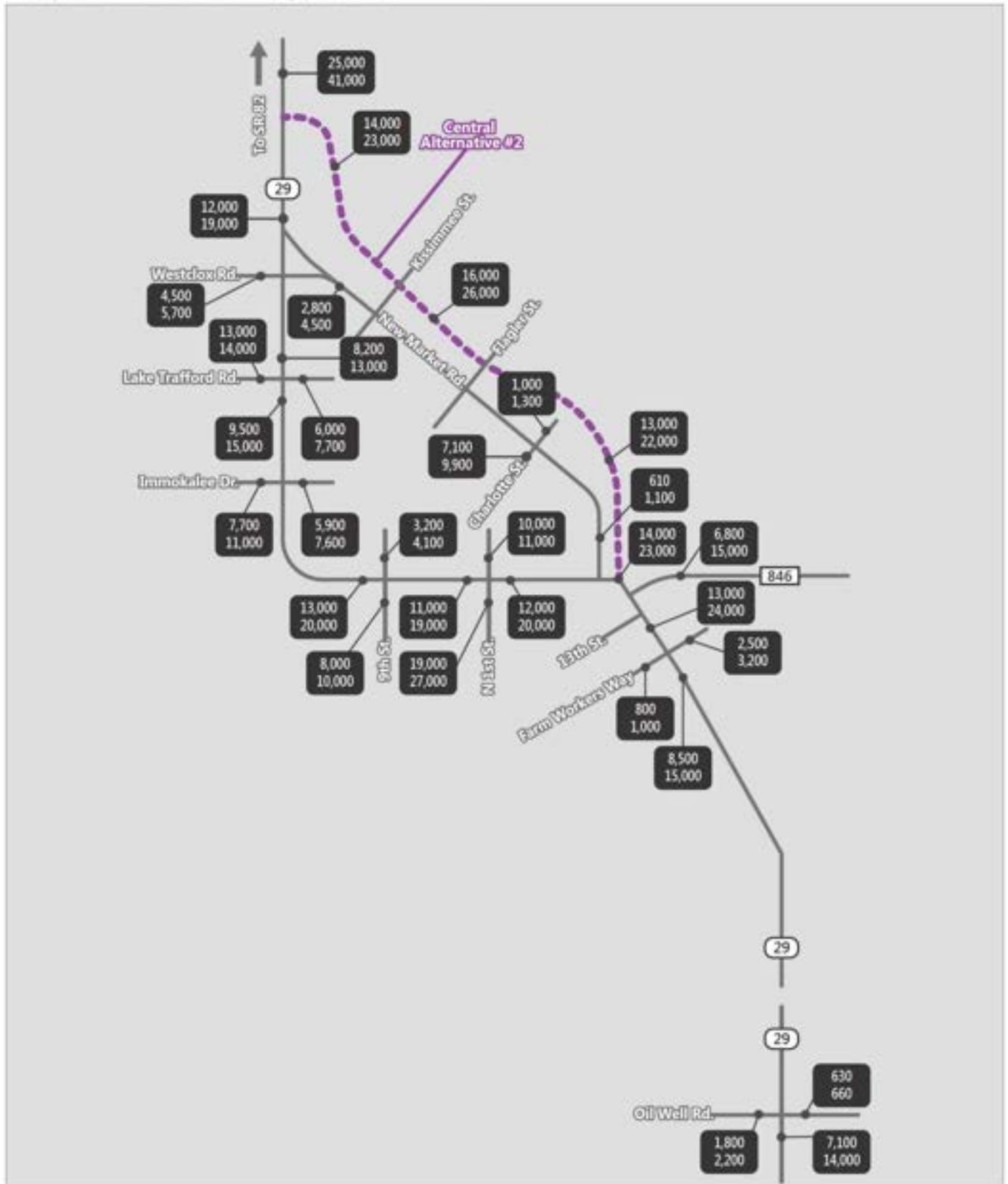


Figure 6
Existing Year 2017 AADT Volumes



N.T.S.

FDOT **Figure 7**
 Existing Year 2017
 Turning Movement Volumes



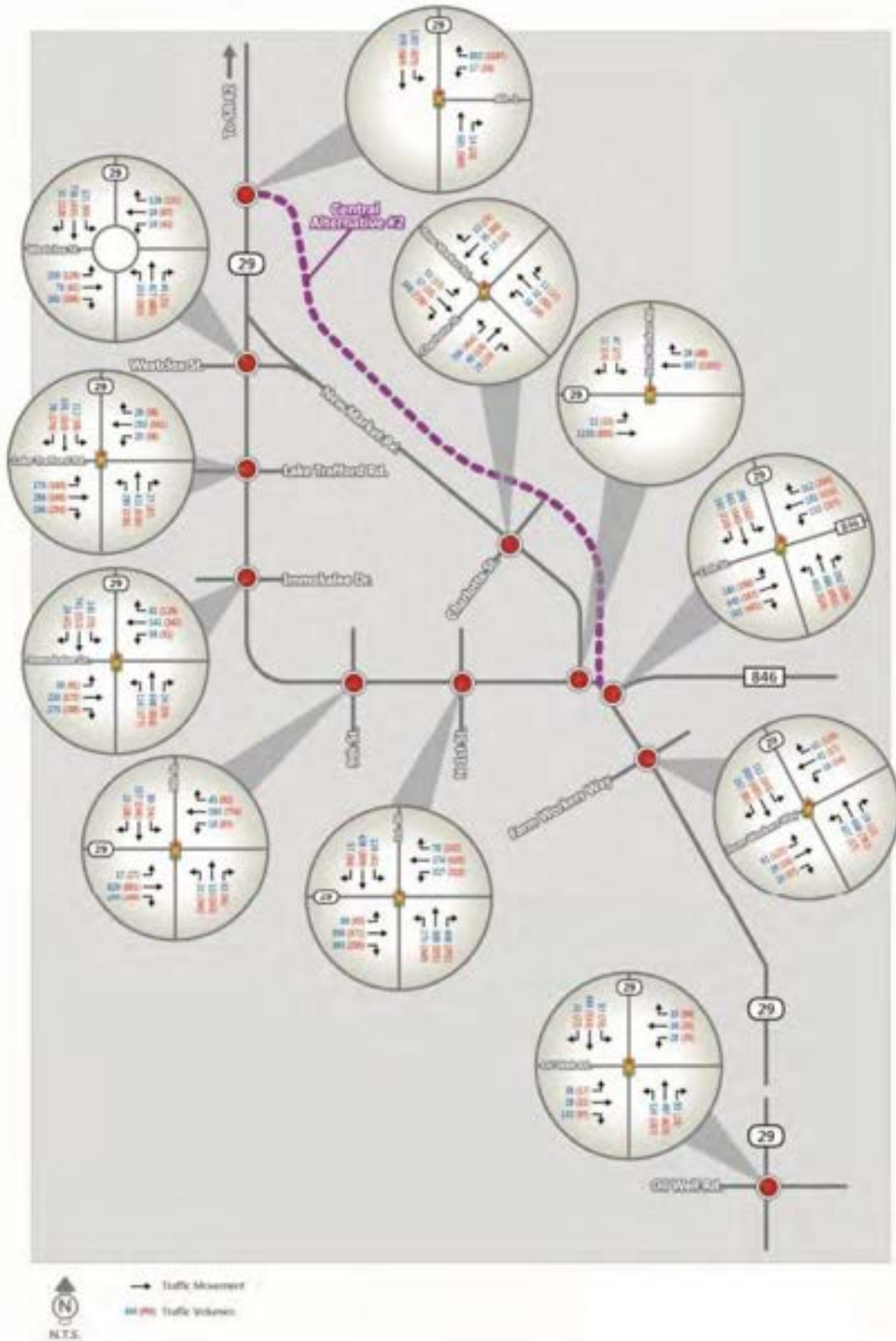


 YR 2025 Year 2045 Alternative 2
 YR 2045 Average Annual Daily Traffic (AADT)
 N.T.S.



Figure 11
Future Year AADTs – Central Alternative #2

Figure 6.10
Design Year (2045) AM and PM Peak Hour TMC's



AIM Engineering and Surveying, Inc.
 3802 Corporex Park Drive, Suite 225
 Tampa, Florida 33619
 Phone: (813) 627-4144

CALCULATION SHEET

Project Description: SR 29 From Agriculture Way to CR 846 E
 Financial Project ID: 417540-4-32-01
 Section No.: 03080
 Federal Aid No.: N/A
 County: COLLIER

SUBJECT:

Heavy vehicles percent calculations per direction for 2045 AM and PM Peak Hours.
 SR 29 and CR 846 E intersection.

CALCULATIONS:

2045 AM Peak Hour:

$$EB = \frac{(180 \times 19\%) + (440 \times 18\%) + (541 \times 17\%)}{(180 + 440 + 541)} = 17.7\%$$

$$WB = \frac{(115 \times 56\%) + (181 \times 14\%) + (162 \times 17\%)}{(115 + 181 + 162)} = 25.6\%$$

$$SB = \frac{(290 \times 16\%) + (661 \times 8\%) + (192 \times 16\%)}{(290 + 661 + 192)} = 11.4\%$$

$$NB = \frac{(463 \times 17\%) + (484 \times 8\%) + (192 \times 17\%)}{(463 + 484 + 192)} = 13.2\%$$

2045 PM Peak Hour:

$$EB = \frac{(186 \times 22\%) + (182 \times 13\%) + (481 \times 17\%)}{(186 + 182 + 481)} = 17.2\%$$

$$WB = \frac{(207 \times 0\%) + (416 \times 11\%) + (290 \times 41\%)}{(207 + 416 + 290)} = 18.0\%$$

$$SB = \frac{(162 \times 16\%) + (440 \times 8\%) + (210 \times 16\%)}{(162 + 440 + 210)} = 11.7\%$$

$$NB = \frac{(524 \times 0\%) + (693 \times 8\%) + (100 \times 0\%)}{(524 + 693 + 100)} = 4.2\%$$

REVISION	PREPARER	DATE	CHECKER	DATE
Original	A.Senyushkina	1/10/2020	GSR	1/23/2020

Appendix E – CAP-X and SPICE Summary Sheets

**Florida Department of Transportation
Safety Performance for Intersection Control Evaluation Tool**

Results

Summary of crash prediction results for each alternative

Project Information

Project Name:	SR 250/ SR 540 Intersection Signal Alternatives	Intersection Type:	At-Grade Intersection
Location:	SR 250/ SR 540	Opening Year:	2025
Agency:	FDOT District One	Design Year:	2045
Project Reference:	PRD No. 43,7540-9-12-01	Crash Type:	On Urban and Suburban Arterial
City:	Collier County	Number of Lanes:	4-lane
State:	Florida	Control Type:	2-way Intersecting, 2-way
Date:	11/15/2023	# of Major Street Lanes (Both Directions):	1 or fewer
Analyst:	AM Engineering & Consulting, Inc.	Major Street Approach Speed:	Less than 35 mph

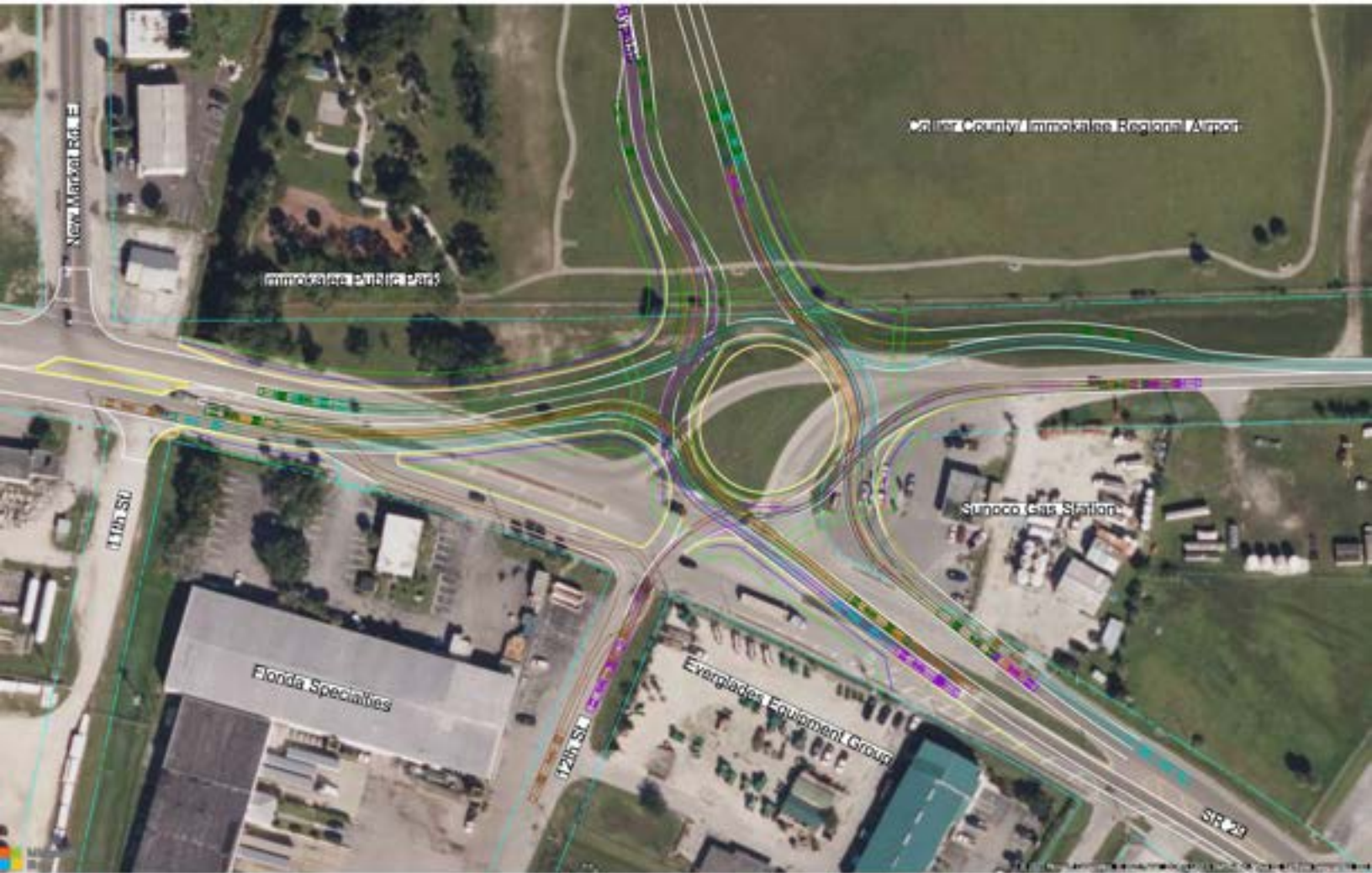
Crash Prediction Summary

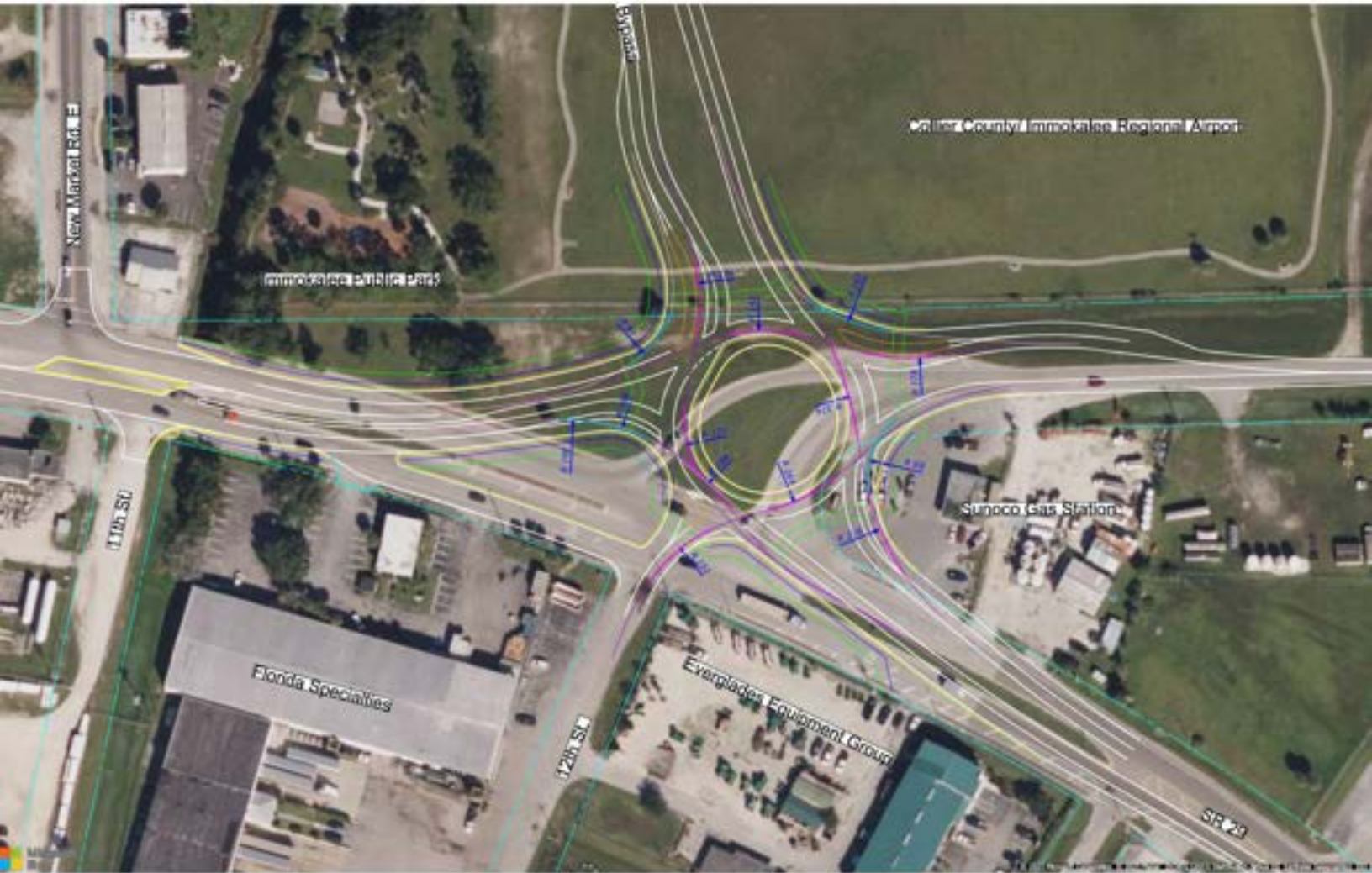
Control Strategy	Crash Type	Opening Year	Design Year	Total Project Life Cycle	Crash Prediction Rank	AADT Within SPY Prediction Range?	Source of Prediction	SPY Score		
								Opening Year	Design Year	Rank
Traffic Signal	Total	4.80	6.68	115.75	3	Yes	Calibrated SPY	92	80	3
	Fatal & Injury	1.64	2.21	43.09						
2 Lane Roundabout	Total	9.24	14.01	286.62	4	Yes	Uncalibrated SPY	96	92	1
	Fatal & Injury	1.03	1.64	33.29						
Displaced Left Turn (DLT)	Total	3.79	7.84	159.00	2	N/A	CMF	82	62	5
	Fatal & Injury	1.48	3.04	61.61						
Median U-Turn (MUT)	Total	1.60	7.36	134.96	1	N/A	CMF	92	79	4
	Fatal & Injury	1.15	7.26	95.48						
Signalized RCT	Total	8.63	21.03	395.12	5	No	Uncalibrated SPY	92	81	2
	Fatal & Injury	1.07	5.43	76.57						

Appendix F – Preliminary Roundabout Geometric Concept



DATE	SYMBOLS		A/E/C ENGINEERING & SURVEYING, INC. 201 E. KENNEDY BLVD., STE. 1802 TAMPA, FLORIDA 33602 TELEPHONE (888) 627-4144	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		SR 29 / SR 29 BYPASS / CR 846 ROUNDABOUT	SHEET NO. 02
	PAVEMENT SHARED USE PATH / SIDEWALK TRAFFIC SEPARATION	TRUCK APRON SIDE EXISTING R/W		PROPOSED R/W	ROUTE NO.		
				SR 29	COLLIER	4074091202	





SR 29

Fastest Path Calculations

North Approach Bypass			Multi-lane	Calculated MPH	Tangent Length
Radius	Radius	e	MPH		
1	174.0	0.02	25	-	53
2	121.0	-0.02	20		
3		-	-	36	135
4	85.0	-0.02	18		
5	91.0	0.02	20		

West Approach SR 29			Multi-lane	Calculated MPH	Tangent Length
Radius	Radius	e	MPH		
1	166.0	0.02	25	-	
2	256.0	0.02	29		
3		-	-	38	92
4	78.0	-0.02	17		
5	91.0	0.02	20		

South Approach SR 29			Multi-lane	Calculated MPH	Tangent Length
Radius	Radius	e	MPH		
1	216.0	0.02	27	-	
2	324.0	-0.02	29		
3		-	-	40	120
4	78.0	-0.02	17		
5	190.0	0.02	26		

East Approach CR 846			Single-lane	Calculated MPH	Tangent Length
Radius	Radius	e	MPH		
1	178.0	0.02	25	-	
2	142.0	-0.02	21		
3		-	-	36	127
4	85.0	-0.02	18		
5	69.0	0.02	18		

South Approach 12th Ave			Single-lane	Calculated MPH	Tangent Length
Radius	Radius	e	MPH		
1	151.0	0.02	24	-	
2	164.0	-0.02	23		
3		-	-	37	130
4	78.0	-0.02	17		
5	74.0	0.02	18		

Fastest path speeds must adhere to the following:

- R1 and R5 entry speeds are not to exceed 25 mph for single-lane entries and 30 mph for multi-lane entries.
- R2 and R4 circulating speeds should be no more than 15 mph less than the entry speed.
- R3 exit speeds requires engineering judgement to balance the competing objectives of accommodating the design vehicle and providing a safe environment for pedestrians using the crosswalk.

Appendix G – SIDRA Analysis Summary Sheets

LANE SUMMARY

Site: 101 [SR 29/SR 29 Bypass/CR 846 Intersection (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

75% of 2045 AM Peak Hour

Site Category: Proposed Design 3 (SB RT Bypass Lane)

Roundabout

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap	Deg Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h	HV] %	[Total veh/h	HV] %						[Veh	Dist] ft				
South: SR 29															
Lane 1 ^d	478	9.1	478	9.1	563	0.849	100	36.0	LOS E	8.5	228.6	Full	1600	0.0	0.0
Lane 2	422	16.4	422	16.4	496	0.849	100	39.5	LOS E	7.5	210.9	Short	800	0.0	NA
Approach	900	12.5	900	12.5		0.849		37.6	LOS E	8.5	228.6				
East: CR 846															
Lane 1 ^d	235	6.9	235	6.9	499	0.471	100	15.7	LOS C	1.9	51.0	Full	1600	0.0	0.0
Lane 2	128	20.0	128	20.0	355	0.362	100	17.5	LOS C	1.0	30.4	Short	500	0.0	NA
Approach	363	11.5	363	11.5		0.471		16.4	LOS C	1.9	51.0				
North: SR 29 Bypass															
Lane 1	381	20.0	381	20.0	566	0.674	100	21.6	LOS C	4.5	131.5	Full	1600	0.0	0.0
Lane 2 ^d	386	19.2	386	19.2	572	0.674	100	30.3	LOS D	4.6	132.2	Full	1600	0.0	0.0
Lane 3	152	10.0	152	10.0	1522	0.100	100	0.0	LOS A	0.0	0.0	Short	300	0.0	NA
Approach	919	18.0	919	18.0		0.674		21.7	LOS C	4.6	132.2				
West: SR 29															
Lane 1 ^d	489	6.5	489	6.5	499	0.980	100	62.9	LOS F	13.7	360.3	Full	1600	0.0	0.0
Lane 2	419	5.0	419	5.0	468	0.896	100	57.4	LOS F	8.7	226.0	Full	1600	0.0	0.0
Lane 3	12	100.0	12	100.0	695	0.017	100	5.3	LOS A	0.0	1.6	Short	200	0.0	NA
Approach	920	7.0	920	7.0		0.980		59.7	LOS F	13.7	360.3				
SouthWest: 12th Street															
Lane 1 ^d	11	80.0	11	80.0	43	0.256	100	113.0	LOS F	0.1	5.5	Full	1600	0.0	0.0
Approach	11	80.0	11	80.0		0.256		113.0	LOS F	0.1	5.5				
All Vehicles	3113	12.6	3113	12.6		0.980		37.3	LOS E	13.7	360.3				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: SR 29

Mov.	L3	L2	T1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From S							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	SW	W	N	E				v/c	%	%	No.
Lane 1	3	363	112	-	478	9.1	563	0.849	100	NA	NA
Lane 2	-	-	270	152	422	16.4	496	0.849	100	0.0	1
Approach	3	363	382	152	900	12.5		0.849			

East: CR 846

Mov.	L2	L1	T1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From E							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	S	SW	W	N				v/c	%	%	No.
Lane 1	91	1	143	-	235	6.9	499	0.471	100	NA	NA
Lane 2	-	-	-	128	128	20.0	355	0.362	100	0.0	1
Approach	91	1	143	128	363	11.5		0.471			

North: SR 29 Bypass

Mov.	L2	T1	R1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From N							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	E	S	SW	W				v/c	%	%	No.
Lane 1	229	152	-	-	381	20.0	566	0.674	100	NA	NA
Lane 2	-	370	16	-	386	19.2	572	0.674	100	NA	NA
Lane 3	-	-	-	152	152	10.0	1522	0.100	100	0.0	2
Approach	229	522	16	152	919	18.0		0.674			

West: SR 29

Mov.	L2	T1	R2	R3	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From W							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	N	E	S	SW				v/c	%	%	No.
Lane 1	142	347	-	-	489	6.5	499	0.980	100	NA	NA
Lane 2	-	-	419	-	419	5.0	468	0.896	100	NA	NA
Lane 3	-	-	-	12	12	100.0	695	0.017	100	0.0	2
Approach	142	347	419	12	920	7.0		0.980			

SouthWest: 12th Street

Mov.	L3	L1	R1	R3	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From SW							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	W	N	E	S				v/c	%	%	No.
Lane 1	6	1	1	3	11	80.0	43	0.256	100	NA	NA
Approach	6	1	1	3	11	80.0		0.256			

Total %HV Deg Satn (v/c)

All Vehicles 3113 12.6 0.980

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Oppng in Lane	Flow Rate %veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Capacity Flow Rate veh/h	Capacity veh/h	Deg Satn v/c	Min Delay sec	Merge Delay sec
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South Exit: SR 29

Merge Type: Priority

Exit Short Lane 2 500 0.0 243 282 3.37 2.25 792 1341 0.591 2.7 9.3

Merge Lane 1 - 100.0 Merge Lane is not Opposed 243 1800 0.135 0.0 0.0

Variable Demand Analysis				
	Initial Queued Demand	Residual Queued Demand	Time for Residual Demand to Clear	Duration of Oversatn
	veh	veh	sec	sec
South: SR 29				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: CR 846				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: SR 29 Bypass				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
West: SR 29				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
SouthWest: 12th Street				
Lane 1	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 101 [SR 29/SR 29 Bypass/CR 846 Intersection (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

75% of 2045 AM Peak Hour

Site Category: Proposed Design 3 (SB RT Bypass Lane)

Roundabout

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap	Deg Satn	Lane Util	Aver Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h	HV %	[Total veh/h	HV %						[Veh	Dist] ft				
South: SR 29															
Lane 1	423	7.7	423	7.7	562	0.753	100	26.3	LOS D	9.4	249.7	Full	1600	0.0	0.0
Lane 2 ^d	477	16.8	477	16.8	632	0.753	100	24.0	LOS C	9.9	281.1	Short	800	0.0	NA
Approach	900	12.5	900	12.5		0.753		25.1	LOS D	9.9	281.1				
East: CR 846															
Lane 1 ^d	235	6.9	235	6.9	634	0.370	100	10.8	LOS B	2.0	53.8	Full	1600	0.0	0.0
Lane 2	128	20.0	128	20.0	377	0.341	100	16.0	LOS C	1.5	43.7	Short	500	0.0	NA
Approach	363	11.5	363	11.5		0.370		12.6	LOS B	2.0	53.8				
North: SR 29 Bypass															
Lane 1	335	20.0	335	20.0	557	0.602	100	18.4	LOS C	5.6	161.7	Full	1600	0.0	0.0
Lane 2 ^d	432	19.3	432	19.3	717	0.602	100	24.4	LOS C	6.2	177.6	Full	1600	0.0	0.0
Lane 3	152	10.0	152	10.0	1522	0.100	100	0.0	LOS A	0.0	0.0	Short	300	0.0	NA
Approach	919	18.0	919	18.0		0.602		18.2	LOS C	6.2	177.6				
West: SR 29															
Lane 1 ^d	489	6.5	489	6.5	876	0.559	100	11.9	LOS B	4.5	118.4	Full	1600	0.0	0.0
Lane 2	419	5.0	419	5.0	647	0.648	100	27.9	LOS D	5.3	137.9	Full	1600	0.0	0.0
Lane 3	12	100.0	12	100.0	825	0.014	100	4.5	LOS A	0.1	2.6	Short	200	0.0	NA
Approach	920	7.0	920	7.0		0.648		19.1	LOS C	5.3	137.9				
SouthWest: 12th Street															
Lane 1 ^d	11	80.0	11	80.0	122	0.091	100	35.8	LOS E	0.3	12.2	Full	1600	0.0	0.0
Approach	11	80.0	11	80.0		0.091		35.8	LOS E	0.3	12.2				
All Vehicles	3113	12.6	3113	12.6		0.753		19.9	LOS C	9.9	281.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: HCM Delay Formula (Stopline Delay; Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)											
South: SR 29											
Mov.	L3	L2	T1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From S							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	SW	W	N	E				v/c	%	%	No.
Lane 1	3	363	57	-	423	7.7	562	0.753	100	NA	NA
Lane 2	-	-	325	152	477	16.8	632	0.753	100	0.0	1
Approach	3	363	382	152	900	12.5		0.753			
East: CR 846											
Mov.	L2	L1	T1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From E							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	S	SW	W	N				v/c	%	%	No.
Lane 1	91	1	143	-	235	6.9	634	0.370	100	NA	NA
Lane 2	-	-	-	128	128	20.0	377	0.341	100	0.0	1
Approach	91	1	143	128	363	11.5		0.370			
North: SR 29 Bypass											
Mov.	L2	T1	R1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From N							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	E	S	SW	W				v/c	%	%	No.
Lane 1	229	106	-	-	335	20.0	557	0.602	100	NA	NA
Lane 2	-	416	16	-	432	19.3	717	0.602	100	NA	NA
Lane 3	-	-	-	152	152	10.0	1522	0.100	100	0.0	2
Approach	229	522	16	152	919	18.0		0.602			
West: SR 29											
Mov.	L2	T1	R2	R3	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From W							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	N	E	S	SW				v/c	%	%	No.
Lane 1	142	347	-	-	489	6.5	876	0.559	100	NA	NA
Lane 2	-	-	419	-	419	5.0	647	0.648	100	NA	NA
Lane 3	-	-	-	12	12	100.0	825	0.014	100	0.0	2
Approach	142	347	419	12	920	7.0		0.648			
SouthWest: 12th Street											
Mov.	L3	L1	R1	R3	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From SW							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	W	N	E	S				v/c	%	%	No.
Lane 1	6	1	1	3	11	80.0	122	0.091	100	NA	NA
Approach	6	1	1	3	11	80.0		0.091			
Total %HV Deg Satn (v/c)											
All Vehicles	3113	12.6						0.753			

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis												
	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane	Opposing Flow Rate % veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Capacity Flow Rate veh/h	Lane Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: SR 29												
Merge Type: Priority												
Exit Short Lane	2	500	0.0	197	227	3.38	2.26	638	1367	0.614	2.6	9.6

Merge Lane 1 - 100.0 Merge Lane is not Opposed 197 1800 0.109 0.0 0.0

Variable Demand Analysis				
	Initial Queued Demand	Residual Queued Demand	Time for Residual Demand to Clear	Duration of Oversatn
	veh	veh	sec	sec
South: SR 29				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: CR 846				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: SR 29 Bypass				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
West: SR 29				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
SouthWest: 12th Street				
Lane 1	0.0	0.0	0.0	0.0

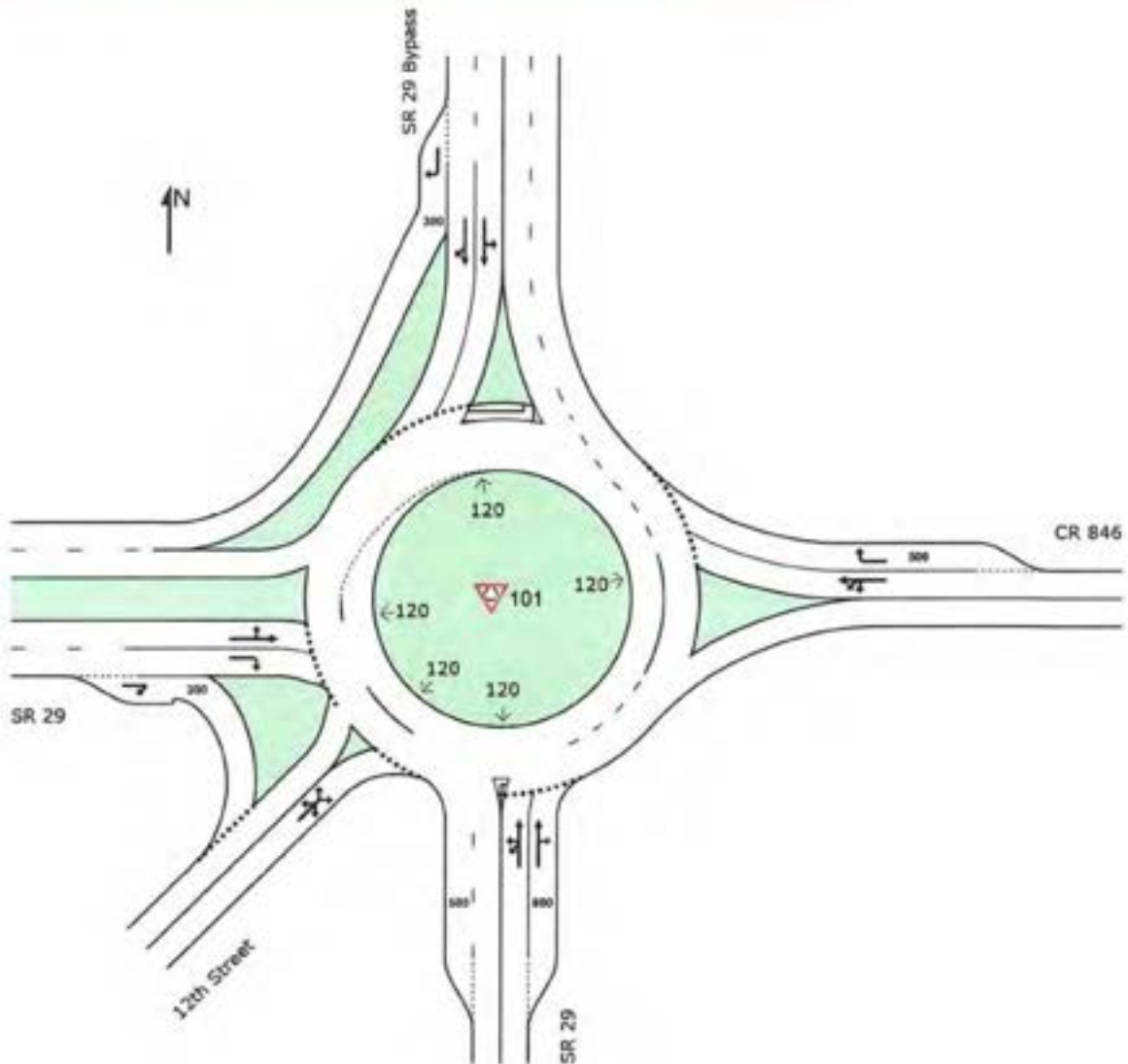
SITE LAYOUT

▼ Site: 101 [SR 29/SR 29 Bypass/CR 846 Intersection (Site Folder: General)]

75% of 2045 PM Peak Hour

Site Category: Proposed Design 3 (SB RT Bypass Lane)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 101 [SR 29/SR 29 Bypass/CR 846 Intersection (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

75% of 2045 PM Peak Hour

Site Category: Proposed Design 3 (SB RT Bypass Lane)

Roundabout

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap	Deg Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]				
South: SR 29															
Lane 1 ^d	552	9.3	552	9.3	794	0.695	100	17.4	LOS C	7.3	196.0	Full	1600	0.0	0.0
Lane 2	489	18.4	489	18.4	703	0.695	100	19.1	LOS C	6.5	186.9	Short	800	0.0	NA
Approach	1041	13.6	1041	13.6		0.695		18.2	LOS C	7.3	196.0				
East: CR 846															
Lane 1 ^d	493	6.6	493	6.6	388	1.269	100	167.3	LOS F	38.4	1010.9	Full	1600	0.0	0.0
Lane 2	229	20.0	229	20.0	261	0.881	100	69.0	LOS F	4.4	127.6	Short	500	0.0	NA
Approach	722	10.9	722	10.9		1.269		136.1	LOS F	38.4	1010.9				
North: SR 29 Bypass															
Lane 1	238	20.0	238	20.0	440	0.542	100	20.0	LOS C	2.3	65.4	Full	1600	0.0	0.0
Lane 2 ^d	239	19.9	239	19.9	440	0.542	100	27.0	LOS D	2.3	65.5	Full	1600	0.0	0.0
Lane 3	166	10.0	166	10.0	1522	0.109	100	0.0	LOS A	0.0	0.0	Short	300	0.0	NA
Approach	643	17.4	643	17.4		0.542		17.4	LOS C	2.3	65.5				
West: SR 29															
Lane 1	292	7.5	292	7.5	608	0.479	100	13.5	LOS B	2.4	64.6	Full	1600	0.0	0.0
Lane 2 ^d	378	5.0	378	5.0	693	0.545	100	20.9	LOS C	3.3	84.7	Full	1600	0.0	0.0
Lane 3	2	100.0	2	100.0	711	0.003	100	5.1	LOS A	0.0	0.3	Short	200	0.0	NA
Approach	672	6.4	672	6.4		0.545		17.6	LOS C	3.3	84.7				
SouthWest: 12th Street															
Lane 1 ^d	11	80.0	11	80.0	98	0.114	100	44.1	LOS E	0.1	3.5	Full	1600	0.0	0.0
Approach	11	80.0	11	80.0		0.114		44.1	LOS E	0.1	3.5				
All Vehicles	3089	12.4	3089	12.4		1.269		45.6	LOS E	38.4	1010.9				

Site Level of Service (LOS) Method: Delay & w/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and w/c ratio (degree of saturation) per lane.

LOS F will result if w/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (w/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay; Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Sieglösch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

^d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: SR 29

Mov.	L3	L2	T1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From S							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	SW	W	N	E				v/c	%	%	No.
Lane 1	3	412	138	-	552	9.3	794	0.695	100	NA	NA
Lane 2	-	-	410	79	489	18.4	703	0.695	100	0.0	1
Approach	3	412	547	79	1041	13.8		0.695			

East: CR 846

Mov.	L2	L1	T1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From E							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	S	SW	W	N				v/c	%	%	No.
Lane 1	163	1	328	-	493	6.6	388	1.269	100	NA	NA
Lane 2	-	-	-	229	229	20.0	261	0.881	100	0.0	1
Approach	163	1	328	229	722	10.9		1.269			

North: SR 29 Bypass

Mov.	L2	T1	R1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From N							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	E	S	SW	W				v/c	%	%	No.
Lane 1	128	110	-	-	238	20.0	440	0.542	100	NA	NA
Lane 2	-	238	1	-	239	19.9	440	0.542	100	NA	NA
Lane 3	-	-	-	166	166	10.0	1522	0.109	100	0.0	2
Approach	128	347	1	166	643	17.4		0.542			

West: SR 29

Mov.	L2	T1	R2	R3	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From W							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	N	E	S	SW				v/c	%	%	No.
Lane 1	147	144	-	-	292	7.5	608	0.479	100	NA	NA
Lane 2	-	-	378	-	378	5.0	693	0.545	100	NA	NA
Lane 3	-	-	-	2	2	100.0	711	0.003	100	0.0	2
Approach	147	144	378	2	672	6.4		0.545			

SouthWest: 12th Street

Mov.	L3	L1	R1	R3	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From SW							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	W	N	E	S				v/c	%	%	No.
Lane 1	6	1	1	3	11	80.0	98	0.114	100	NA	NA
Approach	6	1	1	3	11	80.0		0.114			

Total %HV Deg. Satn (v/c)

All Vehicles 3089 12.4 1.269

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis

Exit Lane Number	Short Lane Length ft	Percent Oppng in Lane	Flow Rate % veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Capacity veh/h	Capacity veh/h	Deg. Satn v/c	Mn. Delay sec	Merge Delay sec
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South Exit: SR 29

Merge Type: Priority

Exit Short Lane 2 500 0.0 238 273 3.34 2.23 619 1365 0.453 2.6 7.0

Merge Lane 1 - 100.0 Merge Lane is not Opposed 238 1800 0.132 0.0 0.0

Variable Demand Analysis				
	Initial Queued Demand	Residual Queued Demand	Time for Residual Demand to Clear	Duration of Oversatn
	veh	veh	sec	sec
South: SR 29				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: CR 846				
Lane 1	0.0	26.1	242.3	NA
Lane 2	0.0	0.0	0.0	0.0
North: SR 29 Bypass				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
West: SR 29				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
SouthWest: 12th Street				
Lane 1	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 101 [SR 29/SR 29 Bypass/CR 846 Intersection (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

75% of 2045 PM Peak Hour

Site Category: Proposed Design 3 (SB RT Bypass Lane)

Roundabout

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap veh/h	Deg Satn v/c	Lane Util %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh Dist]		Lane Config	Lane Length ft	Cap Adj. %	Prob Block. %
	[Total veh/h	HV %	[Total veh/h	HV %						[Veh	Dist ft				
South: SR 29															
Lane 1	510	8.4	510	8.4	838	0.608	100	13.5	LOS B	6.6	176.6	Full	1600	0.0	0.0
Lane 2 ^F	531	18.5	531	18.5	873	0.608	100	13.1	LOS B	6.6	190.1	Short	800	0.0	NA
Approach	1041	13.6	1041	13.6		0.608		13.3	LOS B	6.6	190.1				
East: CR 846															
Lane 1 ^U	493	6.6	493	6.6	575	0.857	100	36.3	LOS E	9.7	256.1	Full	1600	0.0	0.0
Lane 2	229	20.0	229	20.0	310	0.740	100	41.4	LOS E	4.6	134.6	Short	500	0.0	NA
Approach	722	10.9	722	10.9		0.857		37.9	LOS E	9.7	256.1				
North: SR 29 Bypass															
Lane 1	200	20.0	200	20.0	363	0.552	100	23.8	LOS C	4.2	120.4	Full	1600	0.0	0.0
Lane 2 ^D	277	19.9	277	19.9	502	0.552	100	25.6	LOS D	4.8	139.9	Full	1600	0.0	0.0
Lane 3	166	10.0	166	10.0	1522	0.109	100	0.0	LOS A	0.0	0.0	Short	300	0.0	NA
Approach	643	17.4	643	17.4		0.552		18.4	LOS C	4.8	139.9				
West: SR 29															
Lane 1	292	7.5	292	7.5	757	0.385	100	9.6	LOS A	2.1	56.7	Full	1600	0.0	0.0
Lane 2 ^F	378	5.0	378	5.0	1042	0.363	100	14.8	LOS B	2.1	55.1	Full	1600	0.0	0.0
Lane 3	2	100.0	2	100.0	842	0.002	100	4.3	LOS A	0.0	0.5	Short	200	0.0	NA
Approach	672	6.4	672	6.4		0.385		12.5	LOS B	2.1	56.7				
SouthWest: 12th Street															
Lane 1 ^F	11	80.0	11	80.0	169	0.066	100	25.4	LOS D	0.2	8.6	Full	1600	0.0	0.0
Approach	11	80.0	11	80.0		0.066		25.4	LOS D	0.2	8.6				
All Vehicles	3089	12.4	3089	12.4		0.857		20.0	LOS C	9.7	256.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: HCM Delay Formula (Stopline Delay; Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)											
South: SR 29											
Mov.	L3	L2	T1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From S							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	SW	W	N	E				v/c	%	%	No.
Lane 1	3	412	95	-	510	8.4	838	0.608	100	NA	NA
Lane 2	-	-	452	79	531	18.5	873	0.608	100	0.0	1
Approach	3	412	547	79	1041	13.6		0.608			
East: CR 846											
Mov.	L2	L1	T1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From E							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	S	SW	W	N				v/c	%	%	No.
Lane 1	163	1	328	-	493	6.6	575	0.857	100	NA	NA
Lane 2	-	-	-	229	229	20.0	310	0.740	100	0.0	1
Approach	163	1	328	229	722	10.9		0.857			
North: SR 29 Bypass											
Mov.	L2	T1	R1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From N							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	E	S	SW	W				v/c	%	%	No.
Lane 1	128	72	-	-	200	20.0	363	0.552	100	NA	NA
Lane 2	-	276	1	-	277	19.9	502	0.552	100	NA	NA
Lane 3	-	-	-	166	166	10.0	1522	0.109	100	0.0	2
Approach	128	347	1	166	643	17.4		0.552			
West: SR 29											
Mov.	L2	T1	R2	R3	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From W							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	N	E	S	SW				v/c	%	%	No.
Lane 1	147	144	-	-	292	7.5	757	0.385	100	NA	NA
Lane 2	-	-	378	-	378	5.0	1042	0.363	100	NA	NA
Lane 3	-	-	-	2	2	100.0	842	0.002	100	0.0	2
Approach	147	144	378	2	672	6.4		0.385			
SouthWest: 12th Street											
Mov.	L3	L1	R1	R3	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From SW							veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	W	N	E	S				v/c	%	%	No.
Lane 1	6	1	1	3	11	80.0	169	0.066	100	NA	NA
Approach	6	1	1	3	11	80.0		0.066			
Total %HV Deg.Satn (v/c)											
All Vehicles	3089	12.4						0.857			

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis												
	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane	Opposing Flow Rate % veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: SR 29												
Merge Type: Priority												
Exit Short Lane	2	500	0.0	235	265	3.35	2.24	657	1342	0.490	2.7	7.6

Merge Lane 1 - 100.0 Merge Lane is not Opposed 235 1800 0.130 0.0 0.0

Variable Demand Analysis				
	Initial Queued Demand	Residual Queued Demand	Time for Residual Demand to Clear	Duration of Oversatn
	veh	veh	sec	sec
South: SR 29				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: CR 846				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: SR 29 Bypass				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
West: SR 29				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
SouthWest: 12th Street				
Lane 1	0.0	0.0	0.0	0.0

Appendix K
**Additional Agency
Correspondence**

FW: [EXTERNAL] FPID 417540-1 SR 29 from SR 82 to Oil Well Rd - USFWS RAI Response

James, Jeffrey W <Jeffrey.James@dot.state.fl.us>

Tue 2/6/2024 4:22 PM

To: Warren, Kimberly <Kimberly.Warren@dot.state.fl.us>

FYI

Jeffrey W. James

Environmental Manager

Florida Department of Transportation, District 1

801 North Broadway Avenue

P.O. Box 1249

Bartow, FL 33831-1249

(863) 519-2625

Jeffrey.James@dot.state.fl.us



From: Marshall, Jennifer <Jennifer.Marshall@dot.state.fl.us>

Sent: Tuesday, February 6, 2024 5:57 AM

To: Horne, Abra <Abra.Horne@dot.state.fl.us>; James, Jeffrey W <Jeffrey.James@dot.state.fl.us>; Vilce, Jimmy <Jimmy.Vilce@dot.state.fl.us>; Turner, Jonathan <Jonathan.Turner@dot.state.fl.us>; Setchell, Brent <Brent.Setchell@dot.state.fl.us>; Mills, Nicole <Nicole.Mills@dot.state.fl.us>

Cc: Cornwell, Katasha <Katasha.Cornwell@dot.state.fl.us>; Clark, Thu-Huong <Thu-Huong.Clark@dot.state.fl.us>; Kuhn-Hendricks, Katlin <Katlin.Kuhn-Hendricks@dot.state.fl.us>; Bradley, Catherine <Catherine.Bradley@dot.state.fl.us>; Campbell, Neil <Neil.Campbell@dot.state.fl.us>

Subject: RE: [EXTERNAL] FPID 417540-1 SR 29 from SR 82 to Oil Well Rd - USFWS RAI Response

Hello District 1 Team,

I met with Bob Carey at USFWS on Friday to discuss the request below. We have gotten some clarifications and are confirming details with the Service before we follow up with you all on next steps. Thu will be scheduling a meeting with the District soon to discuss. We would like to include the appropriate district staff and Kim Warren in the meeting.

Thank you and please let me know if you have any immediate questions,
Jennifer

Jennifer Marshall, PE | FDOT Office of Environmental Management | (850) 414-4316 direct | (863) 640-2337 cell | Jennifer.marshall@dot.state.fl.us

From: Marshall, Jennifer

Sent: Tuesday, January 23, 2024 3:30 PM

To: Kuhn-Hendricks, Katlin <Katlin.Kuhn-Hendricks@dot.state.fl.us>
Cc: Cornwell, Katasha <Katasha.Cornwell@dot.state.fl.us>; Clark, Thu-Huong <Thu-Huong.Clark@dot.state.fl.us>; Turner, Jonathan <Jonathan.Turner@dot.state.fl.us>; Horne, Abra <Abra.Horne@dot.state.fl.us>; James, Jeffrey W <Jeffrey.James@dot.state.fl.us>; Setchell, Brent <Brent.Setchell@dot.state.fl.us>; Mills, Nicole <Nicole.Mills@dot.state.fl.us>
Subject: RE: [EXTERNAL] FPID 417540-1 SR 29 from SR 82 to Oil Well Rd - USFWS RAI Response

Hell Team,

OEM leadership will be responding to this response. Please standby for an update.

Jennifer

Jennifer Marshall, PE | FDOT Office of Environmental Management | (850) 414-4316 direct | (863) 640-2337 cell | Jennifer.marshall@dot.state.fl.us

From: Wrublik, John <john_wrublik@fws.gov>
Sent: Tuesday, January 23, 2024 3:00 PM
To: Kuhn-Hendricks, Katlin <Katlin.Kuhn-Hendricks@dot.state.fl.us>
Cc: Carey, Robert L <robert_carey@fws.gov>; Cantrell, Mark A <mark_a_cantrell@fws.gov>; Marshall, Jennifer <Jennifer.Marshall@dot.state.fl.us>; Cornwell, Katasha <Katasha.Cornwell@dot.state.fl.us>; Clark, Thu-Huong <Thu-Huong.Clark@dot.state.fl.us>; Turner, Jonathan <Jonathan.Turner@dot.state.fl.us>; Horne, Abra <Abra.Horne@dot.state.fl.us>; James, Jeffrey W <Jeffrey.James@dot.state.fl.us>; Setchell, Brent <Brent.Setchell@dot.state.fl.us>
Subject: Re: [EXTERNAL] FPID 417540-1 SR 29 from SR 82 to Oil Well Rd - USFWS RAI Response

EXTERNAL SENDER: Use caution with links and attachments.

Katlin,

Thank you for your email. I recently finished the biological opinion for FDOT's State Road 82 from the Hendry County Line to Gator Slough Lane project, and I can now turn my attention to this project. According to your email, the FDOT is proposing to change the project, and it now only includes State Road 29 from State Road 82 to just south of County Road 846 and the proposed bypass roadway east of Immokalee. Moreover, the FDOT intends to request consultation of widening of State Road 29 from south of County Road 846 to Oil Well Road as a separate project sometime in the future. It is my understanding that the Service was notified about this change in a meeting with FDOT on November 6, 2023. Unfortunately, I was on leave on that date and was not able to attend that meeting. Please be aware that since the project has changed significantly, and is now essentially a new project from the project originally proposed, the Service will now need a new letter or email from the FDOT requesting formal consultation and providing the FDOT's determinations for the effects of the revised project on Federally listed species pursuant to Section 7 of the Endangered Species Act. You will also need to provide us with a new biological assessment (Natural Resources Evaluation) document for the revised project. I will need these documents before I can continue with my review of the revised project and determine if the Service has enough information to initiate formal consultation and complete the biological opinion for the revised project. The good news is that the listed species survey results for the original project are still applicable to the revised project. However, be aware that when making your listed species determinations, that the active Audubon's crested caracara nest and call of the Florida bonneted bat documented in the surveys for original project, no longer occur in the footprint of the revised project. Therefore, the Service finds that these species are

not likely to be adversely affected by the revised project. The Service continues to find that the revised project will result in adverse effects to and take of the endangered Florida panther and the threatened Florida scrub-jay. I also envision that the FDOT can use much of the information provided in your attached email to update the biological assessment (Natural Resource Evaluation) for the revised project now proposed.

With respect to additional information needed for the revised project, I will still need the FDOT to provide me with a cumulative effects assessment for the action area of the revised project (please see attached email to Thu Clark of the FDOT dated June 15, 2022 for more information). Please note I never received the assessment for the project as originally proposed.

If you have any questions or need further clarification regarding this email, please let me know.

Sincerely,

John M. Wrublik
U.S. Fish and Wildlife Service
777 37th Street, Suite D-101
Vero Beach, Florida 32960
Office: (772) 226-8130
email: John.Wrublik@fws.gov

NOTE: This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.

From: Kuhn-Hendricks, Katlin <Katlin.Kuhn-Hendricks@dot.state.fl.us>
Sent: Tuesday, December 19, 2023 10:00 AM
To: Wrublik, John <john_wrublik@fws.gov>
Cc: Carey, Robert L <robert_carey@fws.gov>; Cantrell, Mark A <mark_a_cantrell@fws.gov>; Marshall, Jennifer <Jennifer.Marshall@dot.state.fl.us>; Cornwell, Katasha <Katasha.Cornwell@dot.state.fl.us>; Clark, Thu-Huong <Thu-Huong.Clark@dot.state.fl.us>; Turner, Jonathan <Jonathan.Turner@dot.state.fl.us>; Horne, Abra <Abra.Horne@dot.state.fl.us>; James, Jeffrey W <Jeffrey.James@dot.state.fl.us>; Setchell, Brent <Brent.Setchell@dot.state.fl.us>
Subject: [EXTERNAL] FPID 417540-1 SR 29 from SR 82 to Oil Well Rd - USFWS RAI Response

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Good morning,

The FDOT is providing the attached documents in response to the USFWS RAI for the above-mentioned project. Please let me know if you have any questions.

Thank you,

Katlin Kuhn-Hendricks

Project Delivery Coordinator

Office of Environmental Management

Florida Department of Transportation

605 Suwannee Street, MS-37

Tallahassee, FL 32399

Office: (850) 414-5226

Email: Katlin.Kuhn-Hendricks@dot.state.fl.us

Wildlife Crossing Evaluation

SR 29

**from Oil Well Road to Sunniland Nursery Road
(Owl Hammock)
Collier County**

**Financial Project ID (FPID) No. 417540-8-52-01
Florida Department of Transportation
District One**



The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated May 26, 2022, and executed by FHWA and FDOT.

JUNE 2022

TABLE OF CONTENTS

1.0	Introduction and Project Description	1-1
2.0	Existing Conditions	2-1
2.1	Roadway	2-1
2.2	Structures	2-1
2.3	Drainage.....	2-3
2.4	Utilities	2-3
3.0	Existing Environmental Conditions	3-1
3.1	Land Use / Land Cover.....	3-1
3.2	Eastern Collier County Multiple Species Habitat Conservation Plan	3-3
3.3	Wildlife Movement.....	3-6
3.4	Wildlife Mortality	3-9
4.0	Crossing Alternatives	4-1
4.1	Alternative 1	4-3
4.2	Alternative 2	4-7
4.3	Alternative 3	4-10
4.4	Alternative 4	4-13
4.5	Alternative 5	4-16
5.0	Cost Estimates and Recommendations	5-1
5.1	Alternative 1	5-1
5.2	Alternative 2	5-1
5.3	Alternative 3	5-1
5.4	Alternative 4	5-2
5.5	Alternative 5	5-2
5.6	Preferred Alternative	5-2

6.0 References 6-1

LIST OF TABLES

Table	Title	Page
Table 3-1:	ITP Applicants	3-4
Table 3-2:	Panther Telemetry in Owl Hammock.....	3-6

LIST OF FIGURES AND PHOTOS

Figure	Title	Page
Photo 1:	Barron Canal.....	1-1
Figure 1-1:	Project Location Map	1-2
Photo 2:	Gator Slough	2-1
Figure 2-1:	Driveway Location Map.....	2-2
Photo 4:	Electric Utility Corridor	2-3
Figure 3-1:	Land Use / Land Cover Map.....	3-2
Figure 3-2:	HCP Land Designations	3-5
Figure 3-3:	Panther and Black Bear Telemetry	3-7
Figure 3-4:	Panther FP131 Telemetry	3-8
Figure 3-5:	Panther Hot Spots and Wildlife Mortality.....	3-10
Figure 4-1:	Wildlife Crossing Alternatives	4-2
Figure 4-2:	Alternative 1 Typical.....	4-3
Figure 4-3:	Alternative 1.....	4-5
Figure 4-4:	Alternative 2.....	4-8
Figure 4-5:	Alternative 2 Typical.....	4-9
Figure 4-6:	Gator Slough Cross Section	4-10
Figure 4-7:	Alternative 3.....	4-11
Figure 4-8:	Alternative 3 Typical.....	4-12
Figure 4-9:	Alternative 4.....	4-14
Figure 4-10:	Alternative 4 Typical.....	4-15
Figure 4-11:	Alternative 5 Typical Section	4-17
Figure 4-12:	Alternative 5.....	4-18

APPENDICES

Attachment 1	Alternative Plan Sheets
Attachment 2	Detailed Preliminary Cost Estimate

1.0 Introduction and Project Description

The Florida Department of Transportation (FDOT) is conducting an evaluation for opportunities to enhance the passage of wildlife across SR 29 near Owl Hammock in Collier County. A 2.05-mile segment of SR 29 was identified to study locations and design concepts for enhanced wildlife passage. Five alternative locations were evaluated to provide passage across SR 29. The project is located in Collier County, Florida. The project location map, **Figure 1-1**, shows the evaluation area.

The evaluation segment is approximately 3.5 miles north of the intersection of SR 29 and Oil Well Road. Within this evaluation segment, the Barron Canal (Photo 1) is adjacent to SR 29 on the east side of the roadway. Existing wildlife crossings and conservation lands are shown on **Figure 1-1**.



Photo 1: Barron Canal

This segment was chosen for evaluation, as the Owl Hammock area is mapped as two Hot Spot areas by the Southwest Florida Roads Panther Hot Spots Mapping Report (PRIT Transportation Subteam, 2020). Hot Spots are assigned to road segments in which multiple panther-vehicle collisions have occurred in clusters. Within this evaluation segment, nine fatal panther-vehicle collisions have occurred.



Figure 1-1: Project Location Map

SR 29 from Oil Well Road to Sunniland Nursery Way
FPID #: 417540-8-52-01

2.0 Existing Conditions

2.1 Roadway

The eastern right-of-way is roughly at the top of the western bank of the Barron Canal, just beyond the SR 29 guardrail. The posted speed limit is 60 mph. Guardrail is present along the east side for the Barron Canal for the entire length of the evaluation segment.

Within the evaluation segment, there are five existing driveways providing direct access to SR 29. These driveways are shown on **Figure 2-1**.

2.2 Structures

The evaluation segment includes one bridge over Gator Slough (Bridge No. 030303). Bridge No. 030303 is a two-span concrete slab structure constructed in 1999.

☉ 165°S (T) ● 26°21'21"N, 81°21'20"W ±16725ft



Photo 2: Gator Slough



Figure 2-1: Driveway Location Map

SR 29 from Oil Well Road to Sunniland Nursery Way
FPID #: 417540-8-52-01

2.3 Drainage

Existing flow patterns are west to east beneath SR 29 and into the Barron Canal which parallels the east side of SR 29. Stormwater runoff is conveyed into the Barron Canal via three 24-inch cross drains and the bridge over Gator Slough.

The 2012 FEMA floodplain mapping for this area shows published FEMA flood elevations varying between approximately 21.5 ft-NAVD88 and 22.5 ft-NAVD88. The existing ground on the west side of SR 29 where the alignment shift will occur varies between approximately 18 ft-NAVD88 and 21 ft-NAVD88. Based on the size of the floodplain it is anticipated that modeling would be a successful approach to demonstrating no adverse floodplain impacts. As such, floodplain compensation is not considered a cost driver.

2.4 Utilities

There are no major underground utilities. Buried CentruyLink communications lines are present on the east side of SR 29 between the edge of pavement and the guardrail. Overhead utilities owned by Lee County Electric Co-Op are present to the west of SR 29 and outside FDOT right-of-way.



Photo 3: Electric Utility Corridor

3.0 Existing Environmental Conditions

This section presents a description of existing conditions within the evaluation segment, including wetlands, land use and wildlife movements.

3.1 Land Use / Land Cover

The Barron Canal is a significant surface water adjacent to the roadway. The Barron River Canal was originally constructed in the 1920's as a borrow canal to provide fill for construction of the railroad grade between Immokalee and Everglades City.

Figure 3-1 shows the existing land use/land cover map, within the evaluation segment, as mapped by the South Florida Water Management District (SFWMD) Land Use Cover, and Forms Classification System (2016). The forested wetland system associated with Gator Slough on the west side of SR 29 is the most significant wetland system within evaluation segment. Panthers use such large areas, they traverse, hunt, and shelter in many various habitat types, but they prefer mature upland forests such as hardwood hammocks and pinelands, where they hunt for their preferred prey, white-tailed deer and feral hogs.

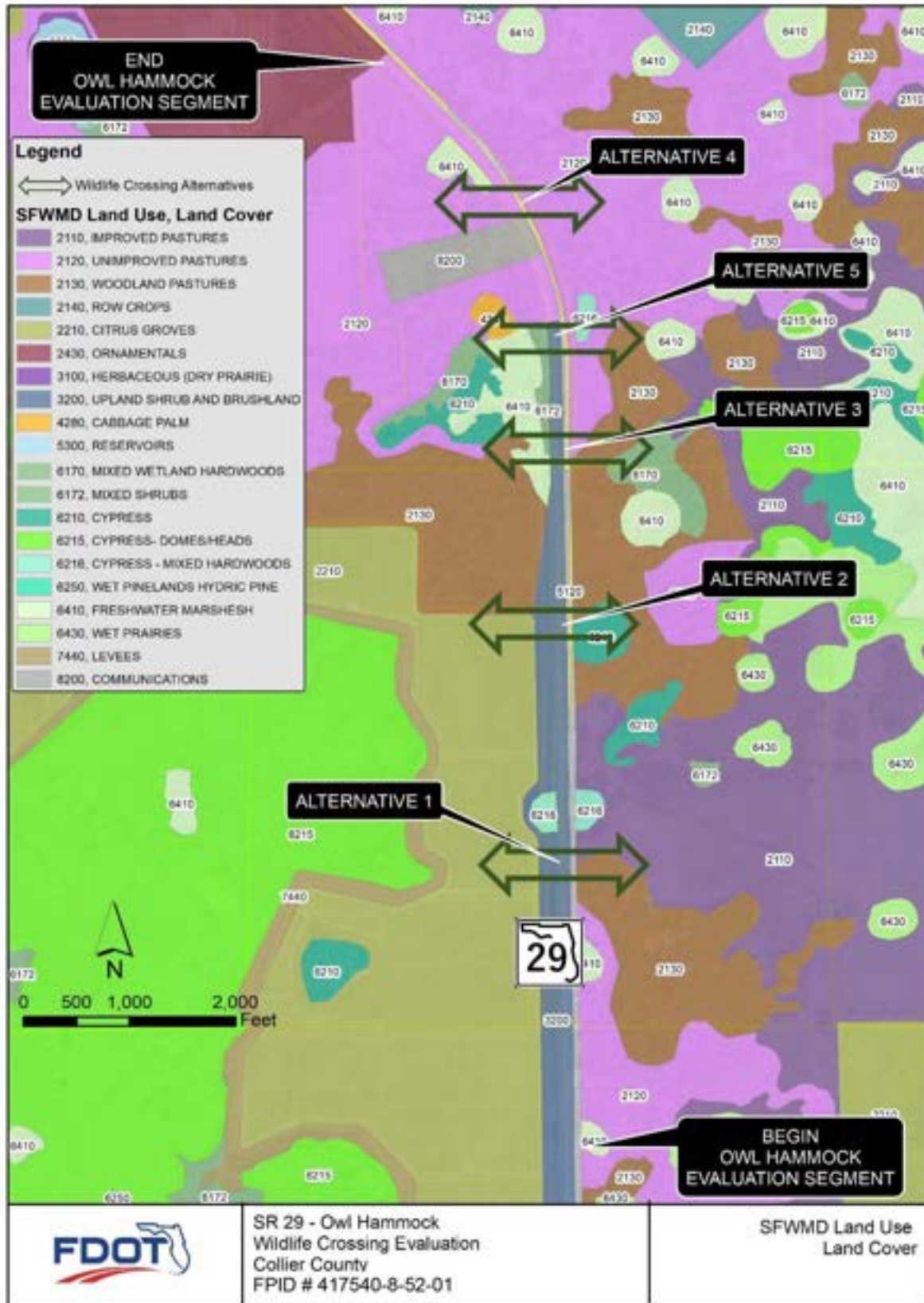


Figure 3-1: Land Use / Land Cover Map

3.2 Eastern Collier County Multiple Species Habitat Conservation Plan

The evaluation segment is within lands included in the Eastern Collier County Multiple Species Habitat Conservation Plan (ECMSHCP). The ECMSHCP proposes compact commercial/residential development and mining on up to 45,000 acres within the area covered by the plan. Conservation elements of the ECMSHCP include maintaining 107,000 acres; a management plan for preserved lands; a mitigation and monitoring plan for measuring success of the ECMSHCP; and contributions to a funding mechanism for conservation activities. If issued, the Incidental Take Permits (ITPs) would cover take incidental to development activities within the ECMSHCP area. The ITPs would also include take incidental to land management activities designed to maintain or improve habitat functions; maintain agriculture operations; maintain drainage infrastructure; control exotic vegetation; and control pests and diseases. Finally, the ITPs would consider long-term effects covering the 50-year life of the permit to include more intense use within the ECMSHCP area and other results of the covered activities. The U.S. Fish and Wildlife Service published a draft environmental impact statement (EIS) for the ECMSHP on October 19, 2018, in the Federal Register (<https://www.regulations.gov/docket/FWS-R4-ES-2018-0079>).

The draft EIS identifies 11 applicants as members of Eastern Collier Property Owners, LLC. These applicants are listed in **Table 3-1**. As the draft EIS was published in 2018, ownership in some parcels within the evaluation segment have changed ownership. As shown in **Figure 2-1**, Collier Land Holdings LTD owns land on the eastern side of SR 29 within the evaluation segment. The Florida Department of State, Division of Corporations, lists Collier Land Holdings LTD as a subsidiary of Collier Enterprises, Inc, which is a member of the Eastern Collier Property Owners, LLC.

Table 3-1: ITP Applicants

Applicants	Incidental Take Permit Application No.
Alico Land Development, Inc	TE05647D-0
Barron Collier Investment, Ltd	TE04440D-0
Collier Enterprises Management, Inc	TE04443D-0
Consolidated Citrus Limited Partnership	TE04471D-0
English Brothers Partnership	TE04152D-0
Half Circle L Ranch, LLP	TE05238D-0
Heller Bros. Packing Corp	TE05668D-0
JB Ranch I, LLC	TE04473D-0
Owl Hammock Immokalee, LLC	TE06114D-0
Pacific Land, Ltd	TE05665D-0
Sunniland Family Limited Partnership	TE04472D-0

As shown in Figure 3-2 from the draft EIS, the ECMSHCP (HCP) proposes "Preserve" lands on both sides of SR 29, in the vicinity of Owl Hammock.

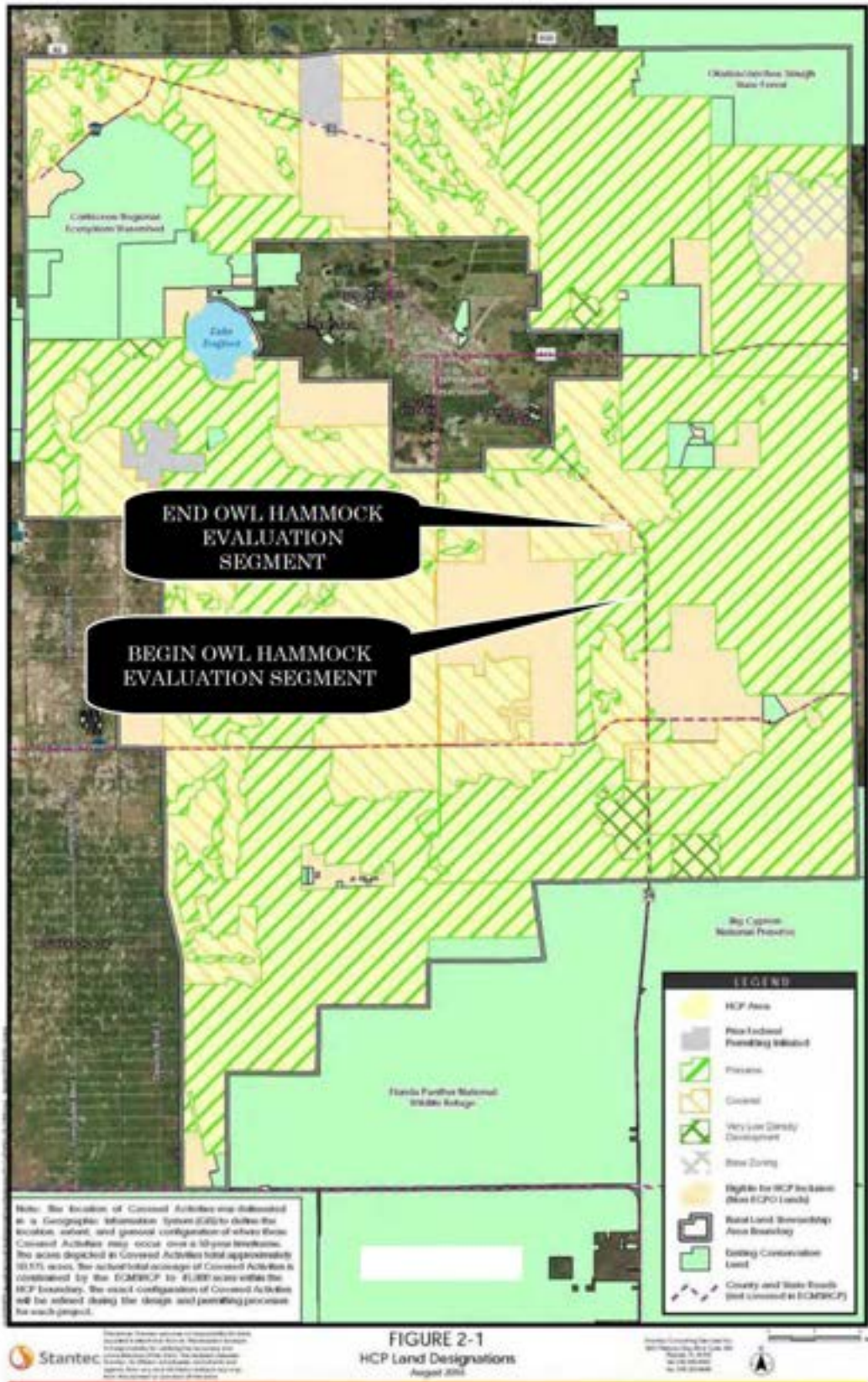


Figure 3-2: HCP Land Designations

3.3 Wildlife Movement

Wildlife cameras were placed at driveways 1 and 3, which cross the Barron Canal. Wildlife cameras were placed on July 15, 2021, and were collected on September 18, 2021. Neither of these cameras collected photographs of wildlife using these driveways during this limited survey period.

A review of available wildlife usage within the evaluation segment was conducted. This dataset includes Florida panther (*Puma concolor coryi*) and Florida black bear (*Ursus americanus floridanus*) radio-telemetry data collected between February 1981-June 2020. **Figure 3-3** shows the telemetry data collected in the vicinity of Owl Hammock.

Table 3-2 shows the collared panthers which utilized the area surrounding Owl Hammock and approximate dates they were in the area.

Table 3-2: Panther Telemetry in Owl Hammock

Panther Number	Approximate date of activity
FP011	1999
FP020	1987
FP031	1993-1994
FP046	1993
FP048	2006
FP052	1993-1994
FP058	1996
FP059	2000-2001
FP065	2002
FP097	2001
FP131	2004-2006
FP135	2006
FP143	2007
FP154	2007
FP185	2011



Figure 3-3: Panther and Black Bear Telemetry

Of particular note was the movement of FP131. Between March 31, 2004, and June 17, 2005, FP131 telemetry data was collected 16 times within two miles of Owl Hammock. When evaluating the timestamps for this telemetry data, FP131 crossed SR 29 at least six times. **Figure 3-4** shows the telemetry data for FP131 near Owl Hammock.

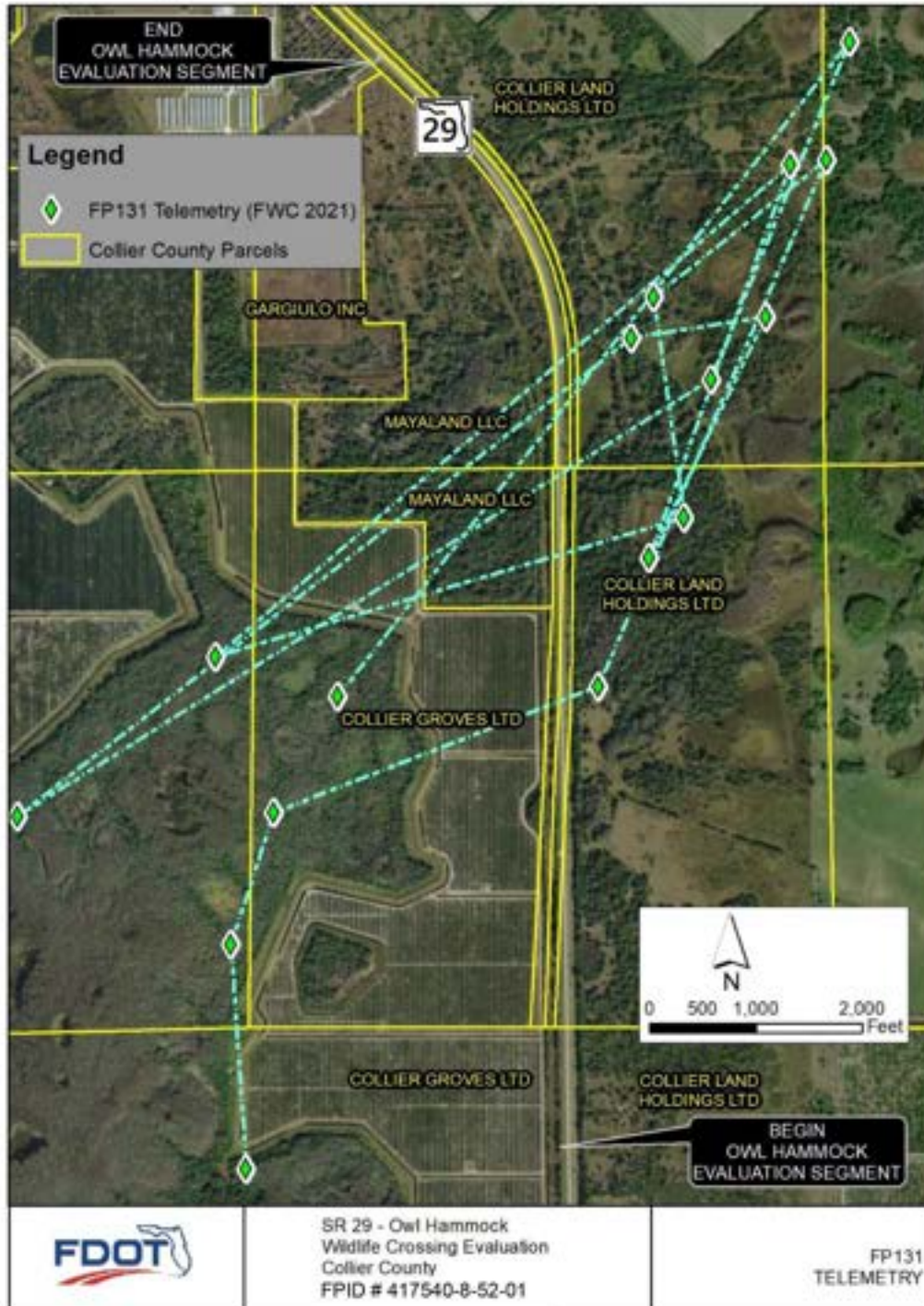


Figure 3-4: Panther FP131 Telemetry

3.4 Wildlife Mortality

Reviewing FWC wildlife mortality data shows that there have been nine Florida panther vehicle collisions in the vicinity of Owl Hammock between 2004 and 2019. There have been four Florida black bear vehicle collisions in the vicinity of Owl Hammock. Near Owl Hammock the horizontal curve of SR 29 is likely a contributing factor to the number of wildlife vehicle collisions. This horizontal curve limits driver visibility. This evaluation segment is in alignment with two Panther Collision Hot Spots. The Hot Spots and wildlife collision data is shown on **Figure 3-5**.

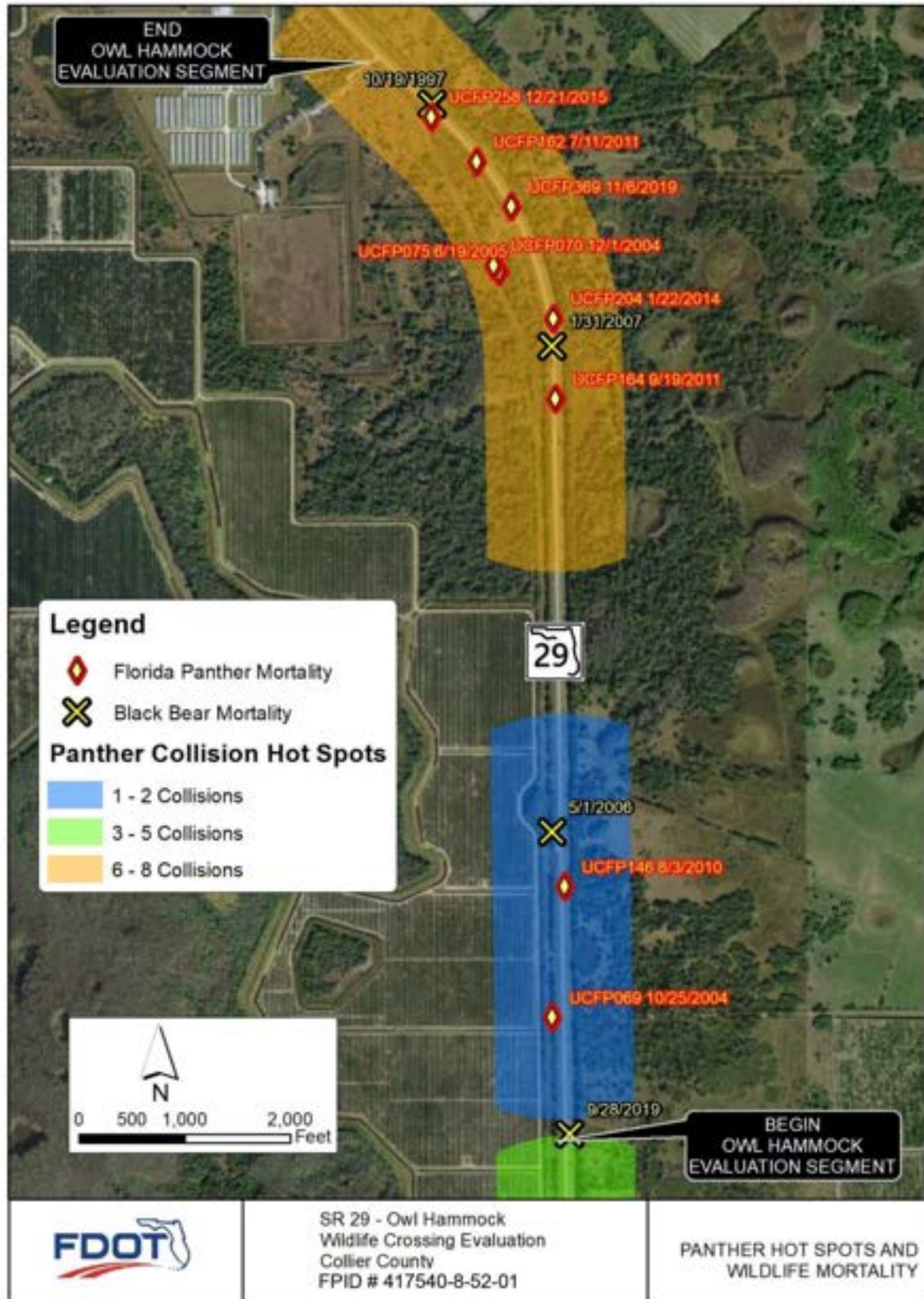


Figure 3-5: Panther Hot Spots and Wildlife Mortality

SR 29 from Oil Well Road to Sunniland Nursery Way
FPID #: 417540-8-52-01

4.0 Crossing Alternatives

The following sections discuss the feasible wildlife crossings developed in Owl Hammock. Alignments for each option were set with consideration of the existing right-of-way and constructability. The alignments allow for the maintenance of traffic on the existing lanes and minimize the need for extensive traffic control measures and temporary diversions. Horizontal alignment shifts for all options are based on reverse curves with normal crown cross slope for a 65 mph design speed.

The interim construction of any of these wildlife crossing do not preclude the construction of the ultimate four-lane SR 29 typical section, however, minor modifications may be required at the wildlife crossings to accommodate the ultimate typical section. Plan sheets showing details of each of the alternatives evaluated are included in **Attachment A**.

Cross section views of each culvert option show a 72" pipe, which allows flexibility with slope of the culvert to match existing ground. A 10' x 6' box can also be utilized with minor modifications to the cross section and vertical alignment. For this evaluation, the culverts were all placed in uplands with an invert elevation located at least one-half foot above seasonal high water elevation.

All alternatives include wildlife fencing for the entire 2.05-mile length. FDOT wildlife crossing guidelines recommend providing adequate fencing to guide wildlife for a sufficient distance to the wildlife crossing feature. Type B fence, 10 feet in height with three-strand barbed wire, in the Standard Plans Index 550-002 is recommended. **Figure 4-1** shows the alternatives evaluated for Owl Hammock, including the limits of wildlife fencing.

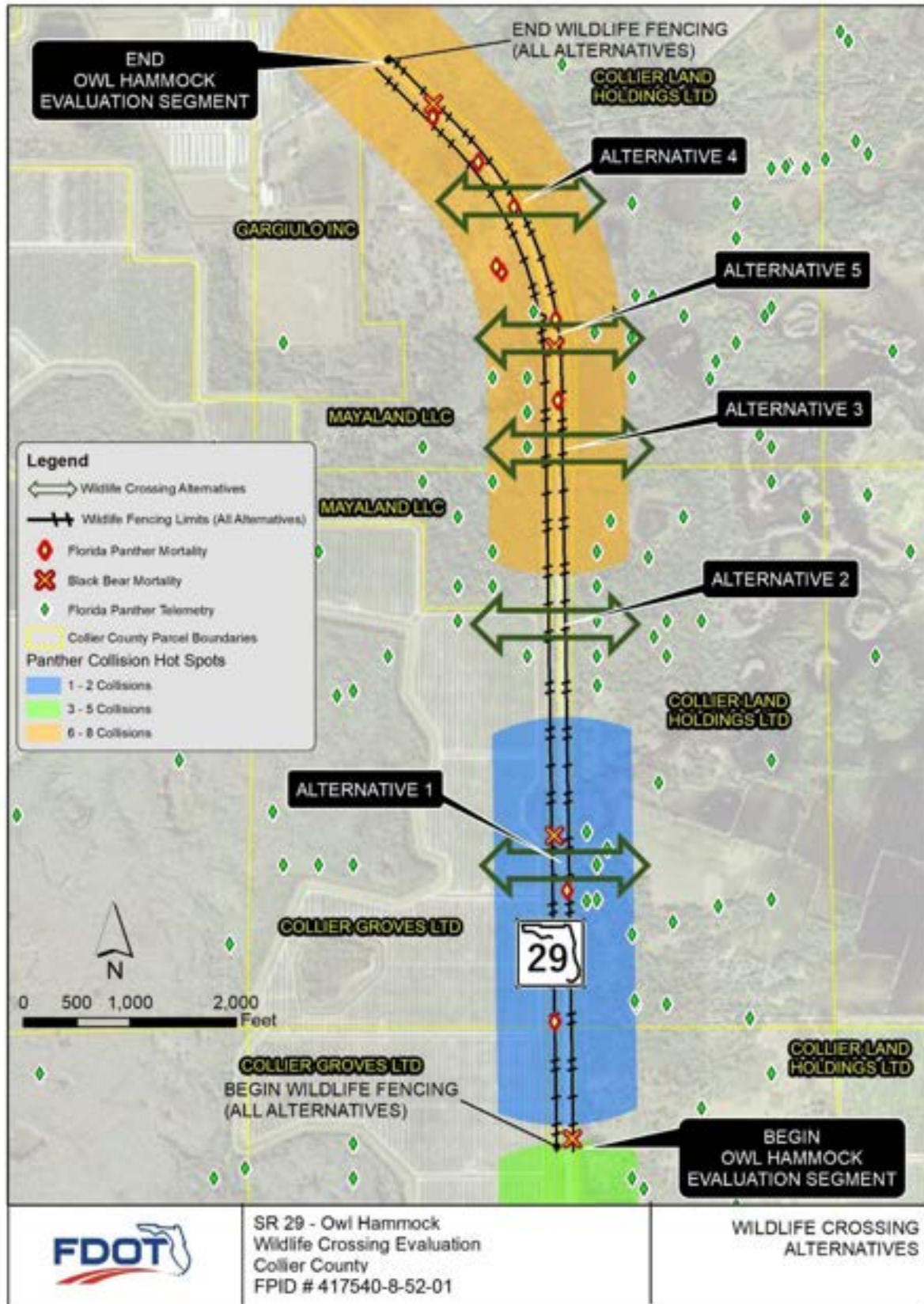


Figure 4-1: Wildlife Crossing Alternatives

4.1 Alternative 1

Alternative 1 is the southernmost alternative evaluated for this segment. Alternative 1 is located within a blue Panther Collision Hot Spot representing two independent panther vehicle collisions. Alternative 1 utilizes a 10-foot x 6-foot box culvert or a 72" pipe placed on western side of SR 29. To accommodate a vertical clearance of 6 feet, the existing SR 29 roadway profile would have to be raised approximately 8 feet at this location (**Figure 4-2**). The vertical alignment is based on maintaining a minimum two feet of cover from the top of the culvert to the bottom of the proposed pavement base.

The cross section at this location includes a shifted two-lane section, with two 12-foot lanes, 8-foot paved shoulders with shoulder gutter and guardrail. These lanes can be utilized as the southbound lanes in the ultimate four-lane condition. MSE wall will be required on the southbound outside shoulders in the ultimate four-lane section. Shoulder gutter and guardrail is utilized to ensure the new alignment ties down within the existing right of way (R/W). Temporary barrier will be required along the west side of the existing SR 29 lanes during construction, and minimal temporary overbuild may be required on the existing northbound shoulder.

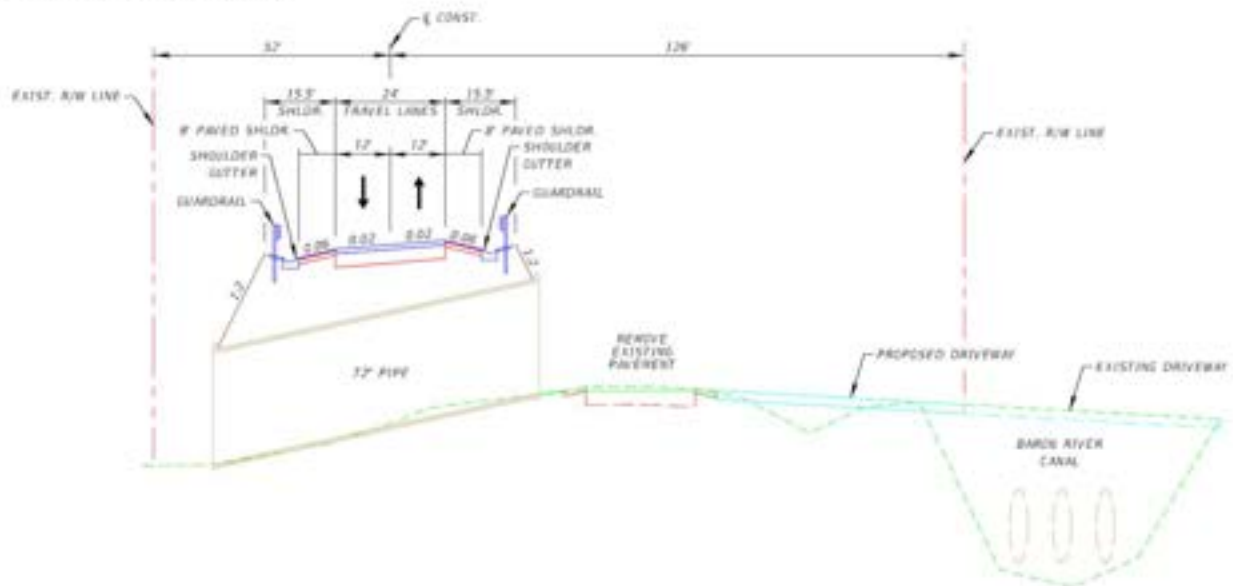


Figure 4-2: Alternative 1 Typical

Alternative 1 would require the extension of a driveway to provide access to land owned by Collier Holdings Ltd. Maintenance of the existing Collier Holdings driveway will require construction of a long frontage drive adjacent to the SR 29 mainline. The connection of this driveway frontage at each end of the new alignment will be challenging for entering and exiting vehicles due to the limited right-of-way available. This driveway connection constrains this alternative. As shown in **Figure 4-3**, wildlife can utilize the existing driveway connection for Collier Holdings Ltd. over the Barron River Canal, eliminating the need for a new bridge, however wildlife gates would be required to channelize wildlife to the proposed box/pipe. An unpaved driveway on the west side of SR 29 that provides access to the powerline easement would also require relocation to the south.

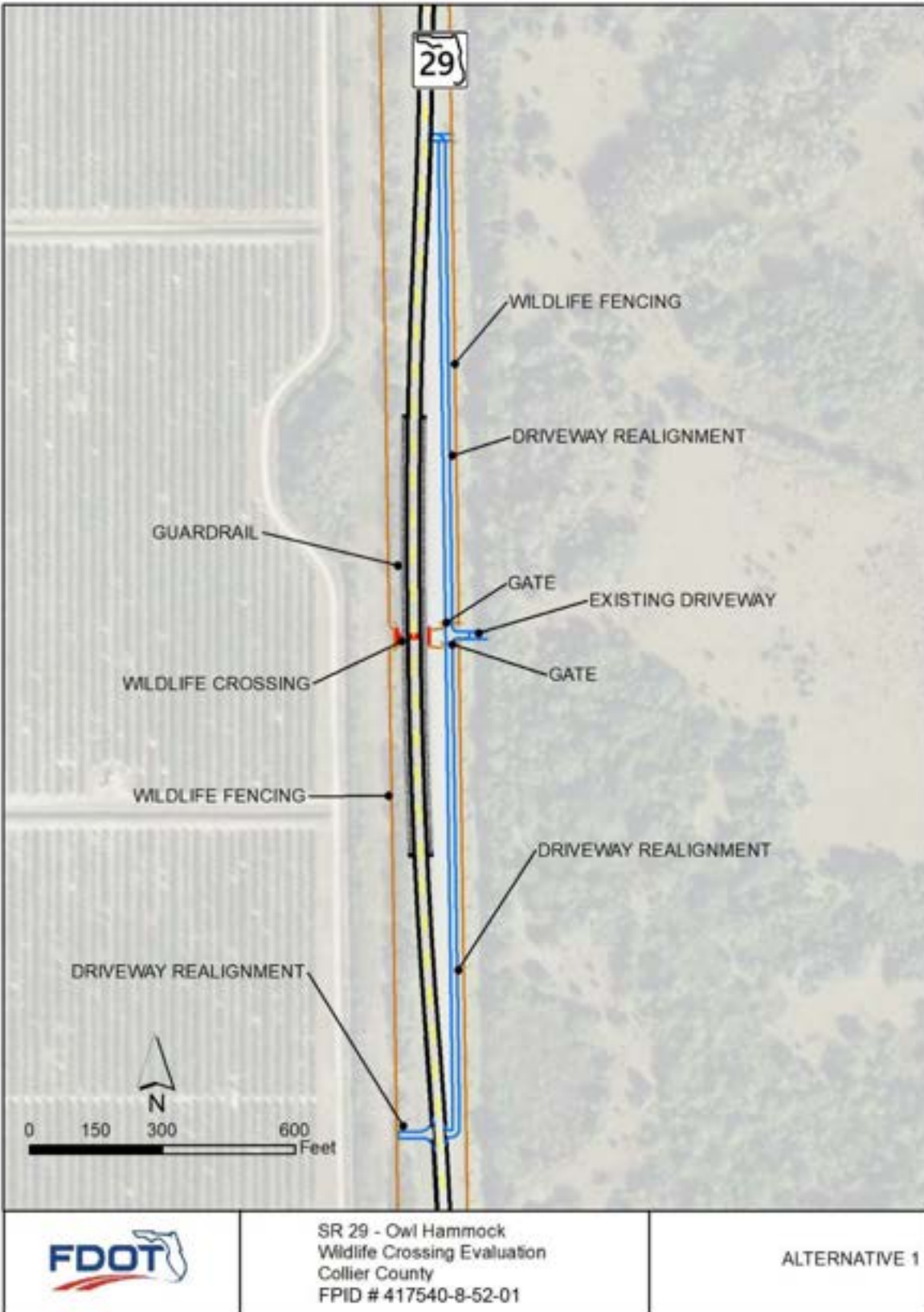


Figure 4-3: Alternative 1

This alternative is not anticipated to affect wetlands or surface waters. As this alternative does not affect wetlands, no 404 permit from FDEP is anticipated to be required.

It is anticipated that Option 1 would require stormwater treatment and attenuation due to the additional impervious area associated with driveway construction. However, since the Barron River Canal parallels every option, treatment could be provided at any location along this section of SR 29 for any combination of existing and/or proposed pavement required to provide treatment for an area equal to the additional impervious. Using 1.57 acres of additional impervious and a presumptive treatment depth of 2.5 inches as required by the SFWMD a total treatment volume of approximately 0.33 acre-feet or 14,400 cubic feet of treatment volume is required. Note that 1.57 acres is the maximum delta between the pre and post impervious area for all alternatives. Further, this delta could be reduced and additional storage volume gained through the removal of existing driveways that were previously culverted or bisected the existing ditch Owl Hammock is within WBID 3278W which is impaired for iron and nutrient removal calculations should not be required, but the SFWMD may request these calculations during the permitting phase.

The area between the Barron River Canal and SR 29 is the most logical location for a linear extended detention system. Linear extended detention is allowed by SFWMD and does not rely on percolation into the soil, but rather includes an outfall control structure with a bleed-down weir that can discharge or recover the treatment volume in as little as 24 hours. This provides the advantage of minimizing any impact to the roadway base.

Assuming an available width of approximately 30 feet between the edge of travel and the guardrail adjacent to the Barron River Canal as well as a flat width of 15 feet and a storage depth of 0.75 feet, a swale approximately 1300 feet long would be required to provide the necessary treatment volume. With respect to attenuation, 0.30 acre-feet of volumetric storage is the maximum volume required to provide the necessary attenuation for any given option. If the required attenuation volume is allowed to exist coincidentally with the treatment volume, then attenuation could be provided in the same swale that provides the treatment volume. As the Barron Canal is the common outfall for all alternatives and because the water management district will allow treatment of existing pavement in lieu of

new pavement to satisfy the regulatory requirements, this treatment approach could be applied at all alternative locations.

Alternative 1 is not anticipated to affect wetlands or surface waters.

4.2 Alternative 2

Alternative 2 is located approximately 2,300 feet north of Alternative 1. Alternative 2 is not located within a Panther Collision Hot Spot. Reviewing panther telemetry data, Alternative 2 is located within an area of likely panther activity. As this crossing is within a tangent section of SR 29, vehicle operators may be able to observe panthers to avoid collisions.

The crossing at Alternative 2 includes a new alignment west of the existing pavement. The horizontal location is based on the ensuring that the embankment approaching and departing the wildlife culvert can be constructed within the existing right-of-way (**Figure 4-4**). The resulting typical section consists of two 12-foot lanes with eight-foot shoulder pavement, shoulder gutter, and guardrail. The shoulder gutter and guardrail allow the new alignment to be constructed while maintaining traffic on the existing pavement. Similar to Alternative 1, the existing SR 29 roadway profile would have to be raised approximately 8 feet at this location (**Figure 4-5**). The vertical alignment is based on maintaining a minimum two feet of cover from the top of the culvert to the bottom of the proposed pavement base. Temporary barrier will be required along the west side of the existing SR 29 lanes, and minimal temporary overbuild may be required on the existing northbound shoulder.



Figure 4-4: Alternative 2

Alternative 2 would require an additional wildlife bridge for wildlife to cross the Barron Canal (Figure 4-5). Alternative 2 evaluates the use of 30" prestressed concrete piles to clear the width of the canal. The piles would be placed side-by-side horizontally to create a 5 ft. walking surface to cross the canal. The use of concrete end blocks would be employed at the ends of the piles with slope protection to prevent any future bank erosion at the structure location. As shown in Figure 4-5, placement of this wildlife bridge across the Barron Canal will require additional right-of-way. In the vicinity of Owl Hammock, The Barron Collier Canal is located within privately-owned lands, but Collier County routinely conducts maintenance of the canal. The existing pavement will be removed and the area on the east side of the new culvert will be graded to meet the wildlife bridge.

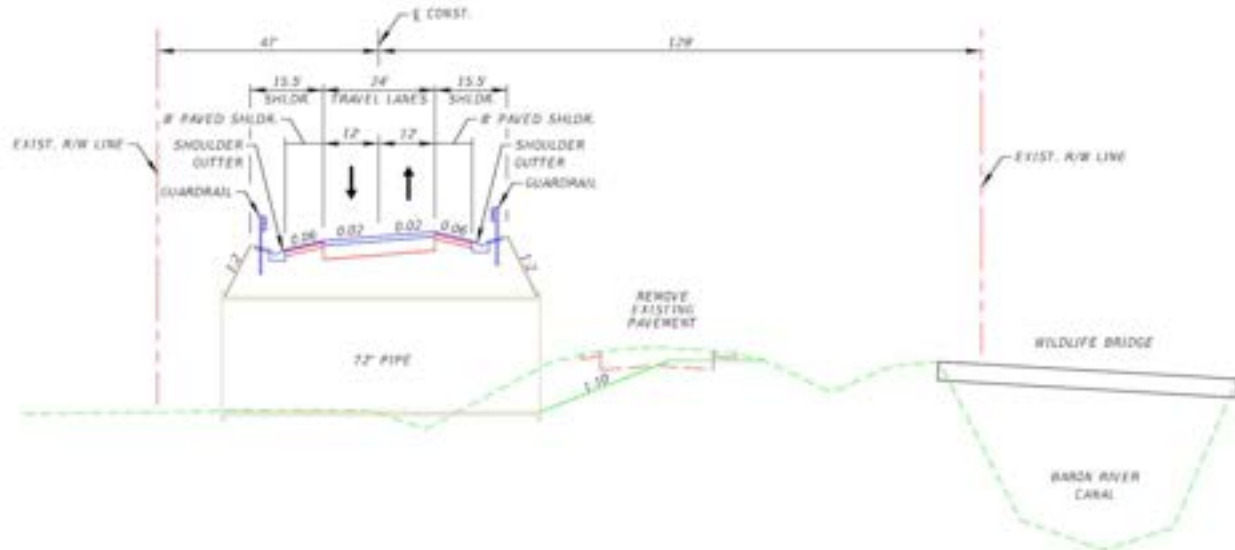


Figure 4-5: Alternative 2 Typical

Stormwater treatment and attenuation is not anticipated to be required for Alternative 2. This alternative includes improvements over the Barron Canal. Statute 62-330.439 provides criteria for issuance of a General Permit from the SFWMD for Construction or Maintenance of Culverted Driveway or Roadway Crossings, and Bridges of Artificial Waterways. As this alternative includes a bridge over the Barron Canal, this project will likely qualify for General Permit 62-331.217 from the FDEP.

As Alternative 2 includes a wildlife crossing over the Barron Canal, minor impacts to surface waters are anticipated. Alternative 2 is not anticipated to affect wetlands.

4.3 Alternative 3

Alternative 3 includes the replacement of Bridge No. 030303 over Gator Slough. As shown in Photo 2, during the wet season, Bridge No. 030303 does not have adequate vertical clearance to accommodate wildlife shelves. The existing SR 29 over Canal 303 bridge (Bridge No. 030303) will need to be replaced with a reinforced flat slab bridge. The new bridge geometry accommodates a ten-foot-wide shelf on the south side of the canal above the seasonal high water (SHW) elevation acting as the pathway for wildlife (Figure 4-6).

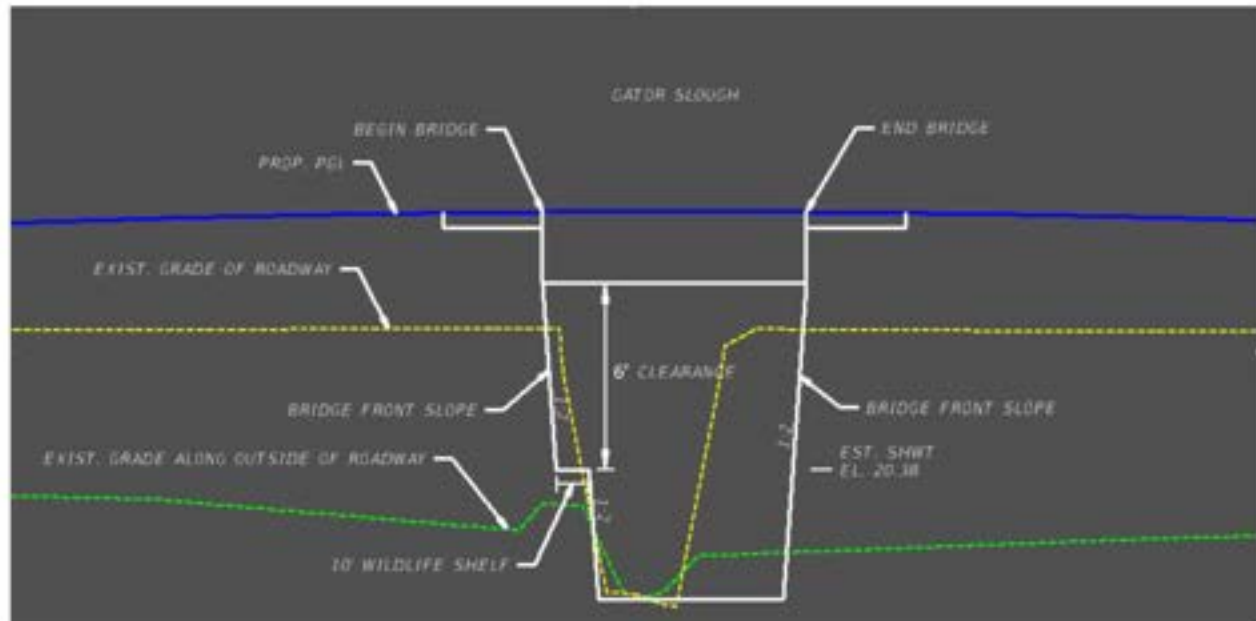


Figure 4-6: Gator Slough Cross Section

The Gator Slough bridge replacement concept alignment is located west of the existing alignment and bridge, with the horizontal offset to the new bridge set by the required embankment to meet the elevated bridge structure. The roadway typical section consists of two 12-foot lanes with eight-foot shoulder pavement, shoulder gutter, and guardrail leading to the bridge. The shoulder gutter and guardrail allow the new alignment to be constructed while maintaining traffic on the existing pavement (Figure 4-7). The bridge typical section consists of two 12-foot lanes with 10-foot shoulders. Temporary barrier will be required for construction, and minimal temporary overbuild will be required on the existing northbound shoulder.

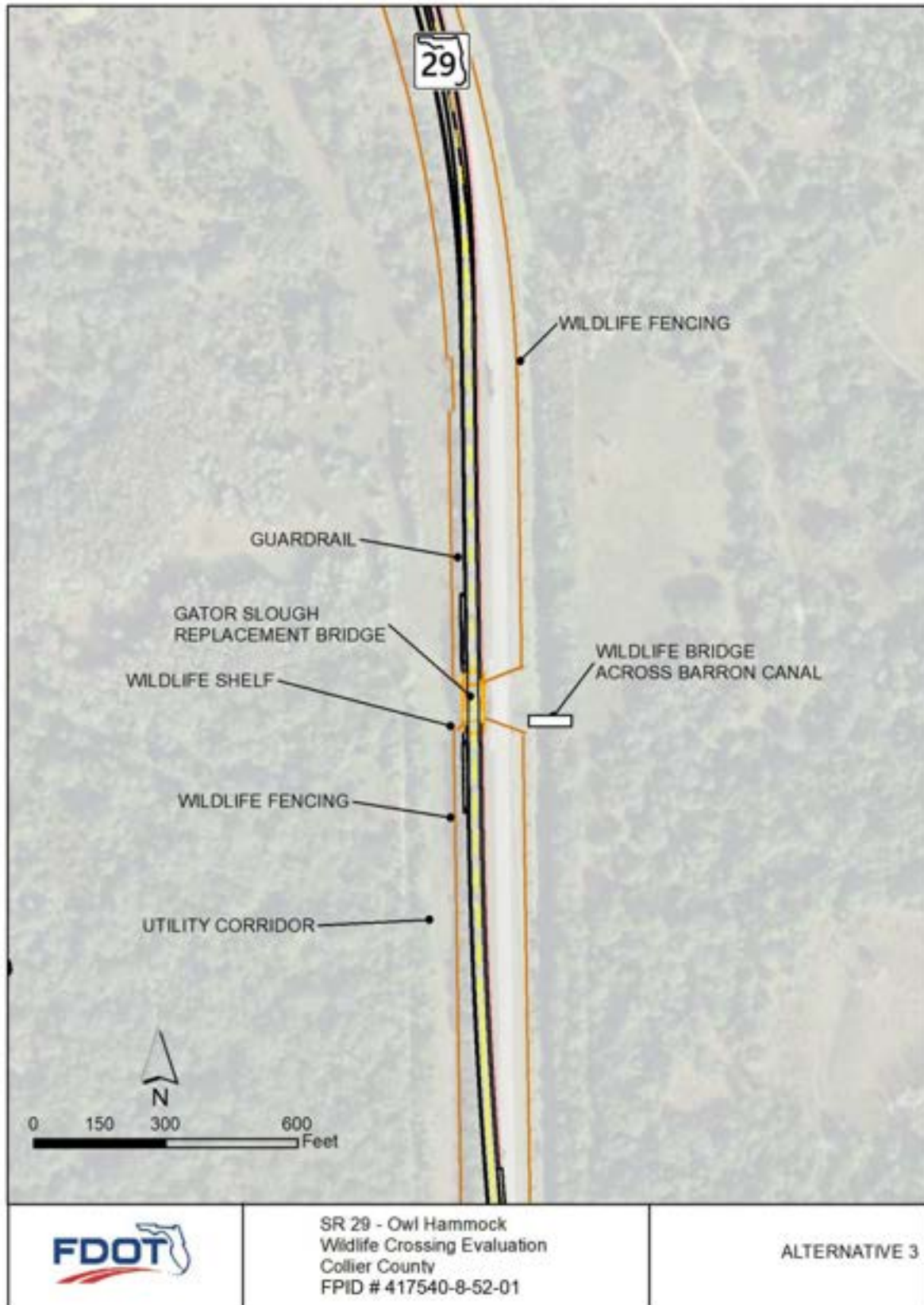


Figure 4-7: Alternative 3

The Alternative 3 vertical alignment is based on maintaining six feet minimum clearance from the proposed wildlife shelf (set at the approximate high-water elevation – estimated elevation 20.38) to the low member of the bridge (Figure 4-8). This results in a new bridge approximately three feet higher than the existing bridge. A wildlife concrete canal bridge over the Barron River Canal is also required.

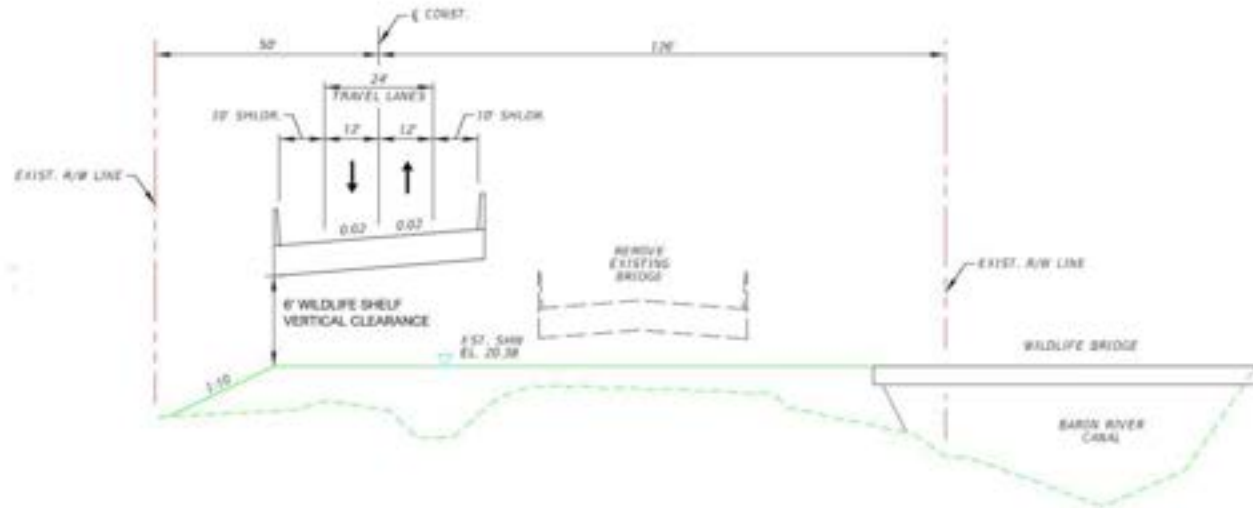


Figure 4-8: Alternative 3 Typical

Similar to Alternative 2, Alternative 3 would require an additional bridge for wildlife to cross the Barron Canal. Alternative 2 evaluates the use of 30" prestressed concrete piles to clear the width of the canal. The piles would be placed side-by-side horizontally to create a 5 ft. walking surface to cross the canal. The use of concrete end blocks would be employed at the ends of the piles with slope protection to prevent any future bank erosion at the structure location. As this alternative is located within the floodplain of Gator Slough, it is anticipated that high water during wet season will significantly limit wildlife usage at this crossing.

It is anticipated that this alternative will require an individual ERP from the SFWMD. As this alternative includes a bridge over the Barron Canal, this alternative will likely qualify for General Permit 62-331.217 from the FDEP. Temporary and permanent wetland impacts are anticipated for Alternative 3. Wetland mitigation is likely to be required for this alternative to mitigate for unavoidable wetland impacts.

4.4 Alternative 4

Alternative 4 is the northernmost alternative evaluated for this segment. Alternative 4 is located within an orange Panther Collision Hot Spot, representing five Florida panther vehicle collisions. Alternative 4 is located within the horizontal curve south of Sunniland Nursery Road at the existing Collier Holdings driveway. The cross section at this location includes a shifted two-lane section, with two 12-foot lanes 8-foot paved shoulders with shoulder gutter and guardrail (**Figure 4-9**). These lanes can be utilized as the northbound lanes in the ultimate four-lane condition. MSE wall will be required on the northbound outside shoulder in the ultimate four-lane section.



Figure 4-9: Alternative 4

Alternative 4 utilizes a 10-foot x 6-foot box culvert placed on western side of SR 29. To accommodate a vertical clearance of 6 feet, the existing SR 29 roadway profile would have to be raised approximately 8 feet at this location (Figure 4-10). Shoulder gutter and guardrail is utilized to ensure the new alignment ties down within the existing R/W. The existing travel lanes would then be shifted to the west.

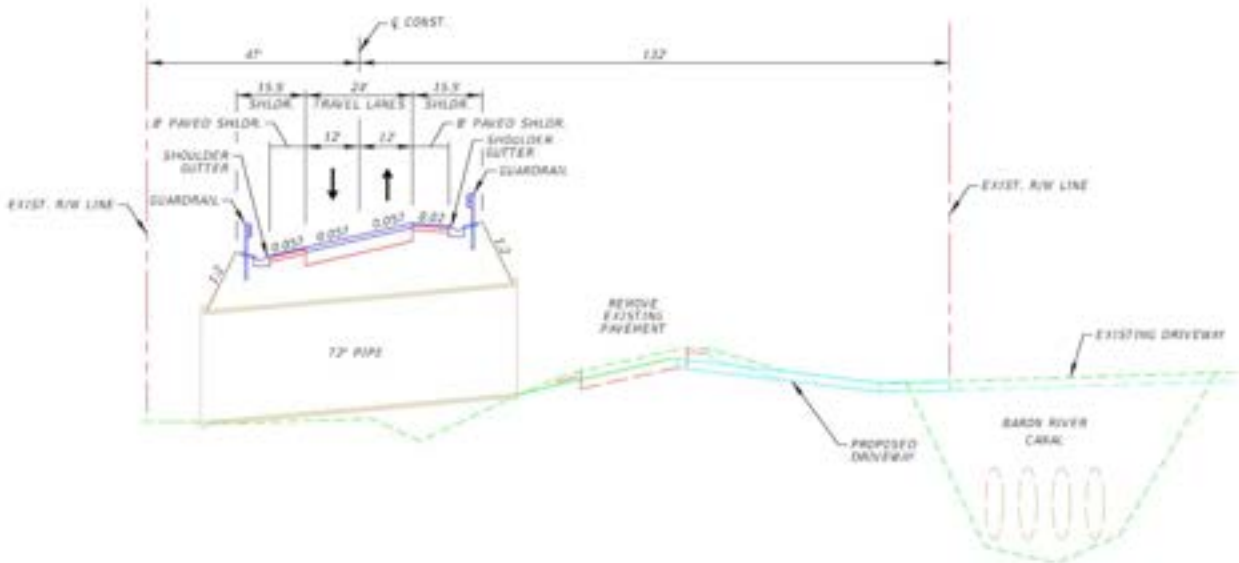


Figure 4-10: Alternative 4 Typical

Like Alternative 1, maintenance of the existing Collier Holdings driveway will require construction of a long frontage drive adjacent to the SR 29 mainline. The connection of this driveway frontage at each end of the new alignment will be challenging for entering and existing vehicles due to the limited right-of-way available and sight distance limitations around the curve and elevated alignment. This driveway connection constrains this alternative. Wildlife can utilize the existing driveway connection for Collier Holdings Ltd. over the Barron River Canal, eliminating the need for a new bridge, however wildlife gates would be required to channelize wildlife to the proposed box/pipe. The Mayaland LLC driveway on the west side of SR 29 will be adjusted to tie to the new alignment vertically.

This alternative is not anticipated to affect wetlands or surface waters. As this alternative does not affect wetlands, no 404 permit from FDEP is anticipated to be required.

It is anticipated that Alternative 4 would require stormwater treatment and attenuation due to the additional impervious area associated with driveway construction. However,

since the Barron River Canal parallels every option, treatment could be provided at any location along this section of SR 29 for any combination of existing and/or proposed pavement required to provide treatment for an area equal to the additional impervious. Using 1.57 acres of additional impervious and a presumptive treatment depth of 2.5 inches as required by the SFWMD a total treatment volume of approximately 0.33 acre-feet or 14,400 cubic feet of treatment volume is required. Note that 1.57 acres is the maximum delta between the pre and post impervious area for all alternatives. Owl Hammock is within WBID 3278W which is impaired for iron and nutrient removal calculations should not be required, but the SFWMD may request these calculations during the permitting phase.

4.5 Alternative 5

Alternatives 1 through 4 provide a crossing on a new adjacent alignment, allowing for the maintenance of traffic on the existing lanes during construction and minimizing the need for extensive traffic control measures and temporary diversions. This is a conservative estimate for the purpose of alternatives analysis, with the horizontal and vertical geometrics dictating where the crossing can be placed. All options could be constructed on the existing alignment, which would allow some additional flexibility of location options since locations would only be dictated by less restrictive temporary traffic control alignments, not permanent design criteria. As Alternative 4 is located within one-quarter mile of five fatal panther vehicle collisions, this location would be a primary location for placement of a wildlife crossing, based on wildlife connectivity. Due to the existing horizontal curve of SR 29 and driveway connections required within this curve, Alternative 4 is not considered the preferred option based on roadway safety considerations.

Alternative 5 was added to provide an additional viable alternative within the orange Panther Hot Spot. Alternative 5 is similar to Alternative 2, utilizing a similar typical section (**Figure 4-11**) with two 12-foot lanes with eight-foot shoulder pavement, shoulder gutter, and guardrail and a new bridge over the Barron River Canal. However, in order to place this option north of the existing bridge at Gator Slough and south of the existing horizontal curve, it is necessary to place the new crossing approximately on the existing alignment. As shown in **Figure 4-12**, the location of Alternative 5, 1200 feet north of Gator

Slough, is based on the vertical alignment to meet the approximate eight-foot elevation change required.

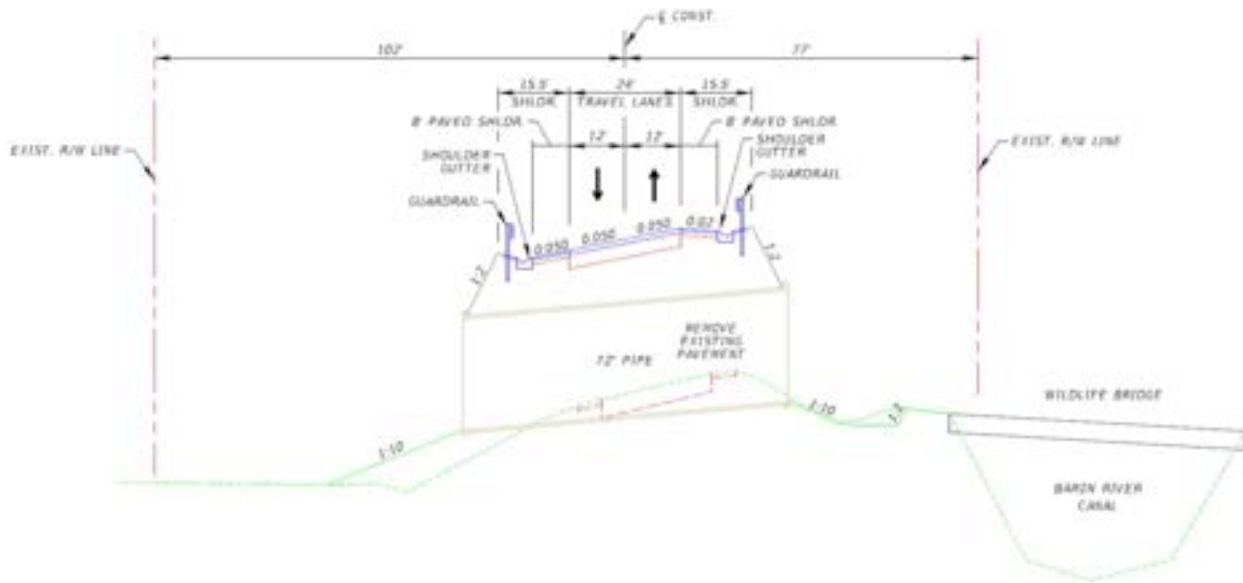


Figure 4-11: Alternative 5 Typical Section

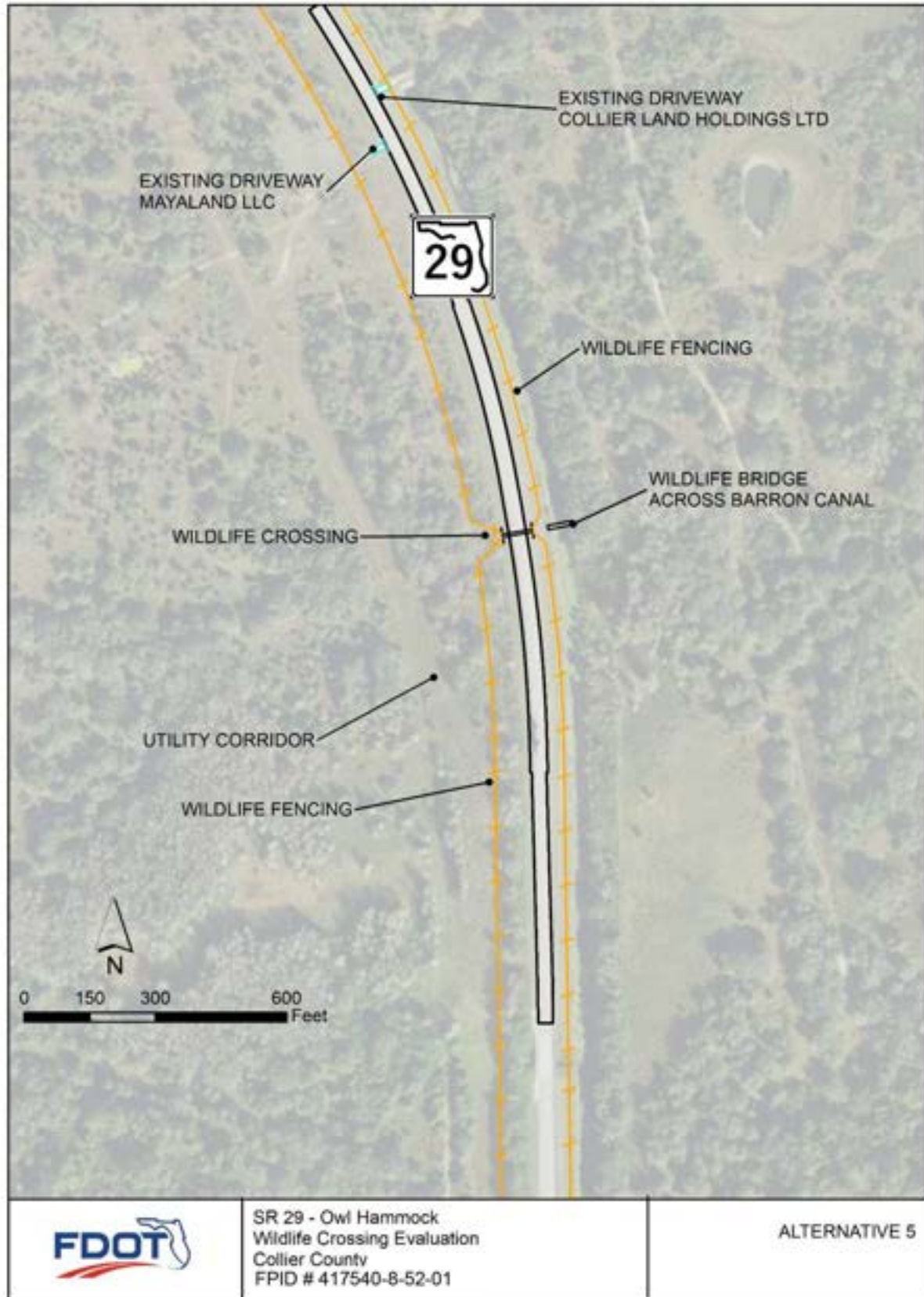


Figure 4-12: Alternative 5

5.0 Cost Estimates and Recommendations

Preliminary cost estimates for each alternative were based on FDOT statewide average unit costs. There has been no value engineering completed in evaluating these alternatives, so that each estimate can be reasonably compared to other alternatives. Alternatives 1, 2, and 4 could be constructed on the existing alignment, maintaining traffic during construction on temporary alignments to reduce costs.

Due to wildlife utilization, wildlife fencing is proposed for the entire Owl Hammock wildlife crossing evaluation segment. As shown on **Figure 4-1**, All alternatives include the same length of fencing, but the number of gates required vary by alternative. Each alternative utilizing a box culvert also includes an estimate for utilizing a 72" pipe culvert. A detailed cost estimate for each alternative is included as **Attachment 2**.

5.1 Alternative 1

Alternative 1 includes a box culvert or pipe and a driveway extension. The preliminary cost estimate for the box culvert is \$3,647,700.49. The preliminary cost estimate for the pipe culvert is \$3,553,103.84. Due to undesirable driveway extensions, this alternative is not recommended for further evaluation.

5.2 Alternative 2

Alternative 2 includes a box culvert or pipe and a wildlife bridge over the Barron Canal. Alternative 2 does not require any driveway modification. The preliminary cost estimate for the box culvert is \$3,262,746.64. The preliminary cost estimate for the pipe culvert is \$3,171,994.67. Although Alternative 2 is not located within a Panther Hot Spot, the addition of 2.05 miles of wildlife fencing is anticipated to channelize wildlife to this crossing. Alternative 2 would provide a viable pathway for wildlife to traverse the SR 29 corridor at Owl Hammock.

5.3 Alternative 3

Alternative 3 includes the replacement of the bridge over Gator Slough and an additional wildlife bridge over the Barron Canal. The preliminary cost estimate for Alternative 3 is

\$6,725,882.64. Due to the highest preliminary cost and reduced wildlife usage due to high seasonal high water, this alternative is not recommended for further evaluation.

5.4 Alternative 4

Alternative 4 includes a box culvert or pipe and a driveway extension. The preliminary cost estimate for the box culvert is \$3,405,007.12. The preliminary cost estimate for the pipe culvert is \$ \$3,311,479.11. As this alternative is located within a horizontal curve and requires significant driveway modifications, this alternative is not recommended for further evaluation.

5.5 Alternative 5

Alternative 5, a modified Alternative 2, can be located within the orange Panther Hot Spot (**Figure 4-1**) if placed on the existing alignment. Placing Alternative 5 approximately 1,200 feet north of Gator Slough aligns more closely with recent panther and black bear vehicle collisions. Due to the proximity to the Gator Slough bridge, a crossing at this location would need to be placed on the existing alignment. The geometric requirements for shifting the alignment temporarily to the west while constructing on the existing alignment are not as strict as a permanent shift, allowing the crossing to be located at the south end of the existing horizontal curve, without the need to relocate, or adjust existing driveway connections. Placing the crossing on the existing alignment requires the use of temporary pavement during construction. The preliminary cost estimate for the box culvert is \$3,277,118.34. The preliminary cost estimate for the pipe culvert is \$ \$3,186,366.37.

5.6 Preferred Alternative

As outlined above, Alternatives 1, 3, and 4 are not recommended for further evaluation. The preliminary cost estimates of Alternative 2 (\$3,262,746.64) and Alternative 5 (\$3,277,118.34) are within 0.4% of each other. Due proximity of Alternative 5 being located closer to documented wildlife usage, Alternative 5 is the preferred alternative.

6.0 References

FDOT. (2021). FDOT Wildlife Bridge Crossings. ArcGIS Online. Retrieved from <https://services1.arcgis.com/O1JpcwDW8sjYuddV/arcgis/rest/services/WildlifeBridgeCrossings2/FeatureServer>

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Florida Fish and Wildlife Conservation Commission. (2021). Black Bear Telemetry. Tallahassee, FL.

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Stantec Consulting Services, Inc. (2018). Eastern Collier Multiple Species Habitat Conservation Plan. <https://www.regulations.gov/docket/FWS-R4-ES-2018-0079>

Attachment 1

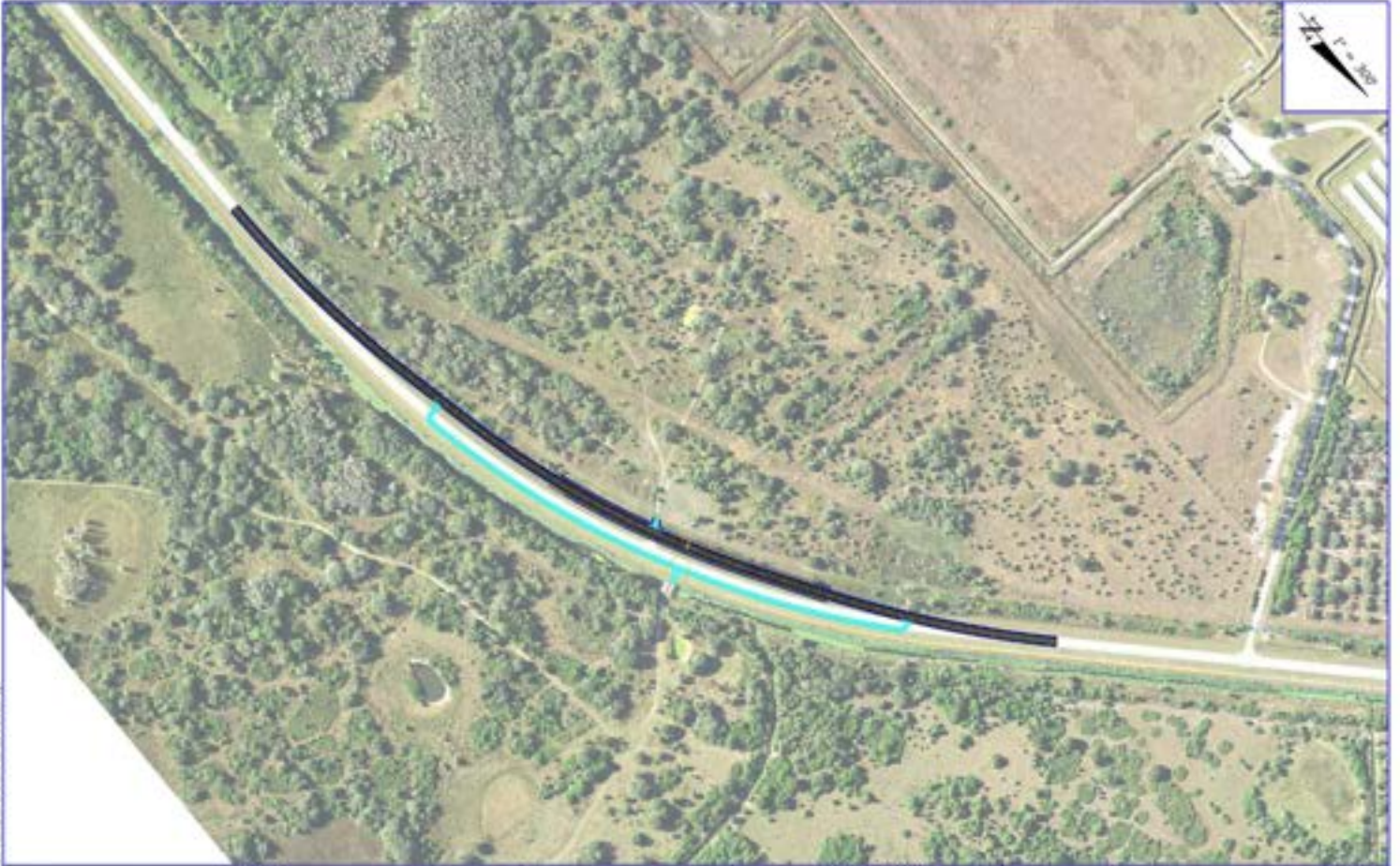
Roadway Plan Sheets



1" = 300'

DATE PLOTTED: 08/20/2018 10:58:10 AM

REVISIONS		STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PLAN SHEET - ALT 3	SHEET NO. 2
DATE	DESCRIPTION	ROUTE NO.	COUNTY	TRAVEL PRIOR. #		
		SR 28	COLLIER	47540-6-52-01		



10/12/2010 10:00 AM
 10/12/2010 10:00 AM
 10/12/2010 10:00 AM

Project				STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PLAN SHEET - ALT 4	SHEET NO. 4
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD NO.	COUNTY	PROJECT NO.		
				SR 29	COLLIER	47540-6-12-R		



DATE PLOTTED: 08/08/2017 10:58:10 AM

DATE		DESCRIPTION		STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			<i>PLAN SHEET - ALT 5</i>	SHEET NO.	
				ROUTE NO.	COUNTY	TRUCKING PROJECT ID			
				SR 28	COLLIER	47340-6-52-01		5	

Attachment 2

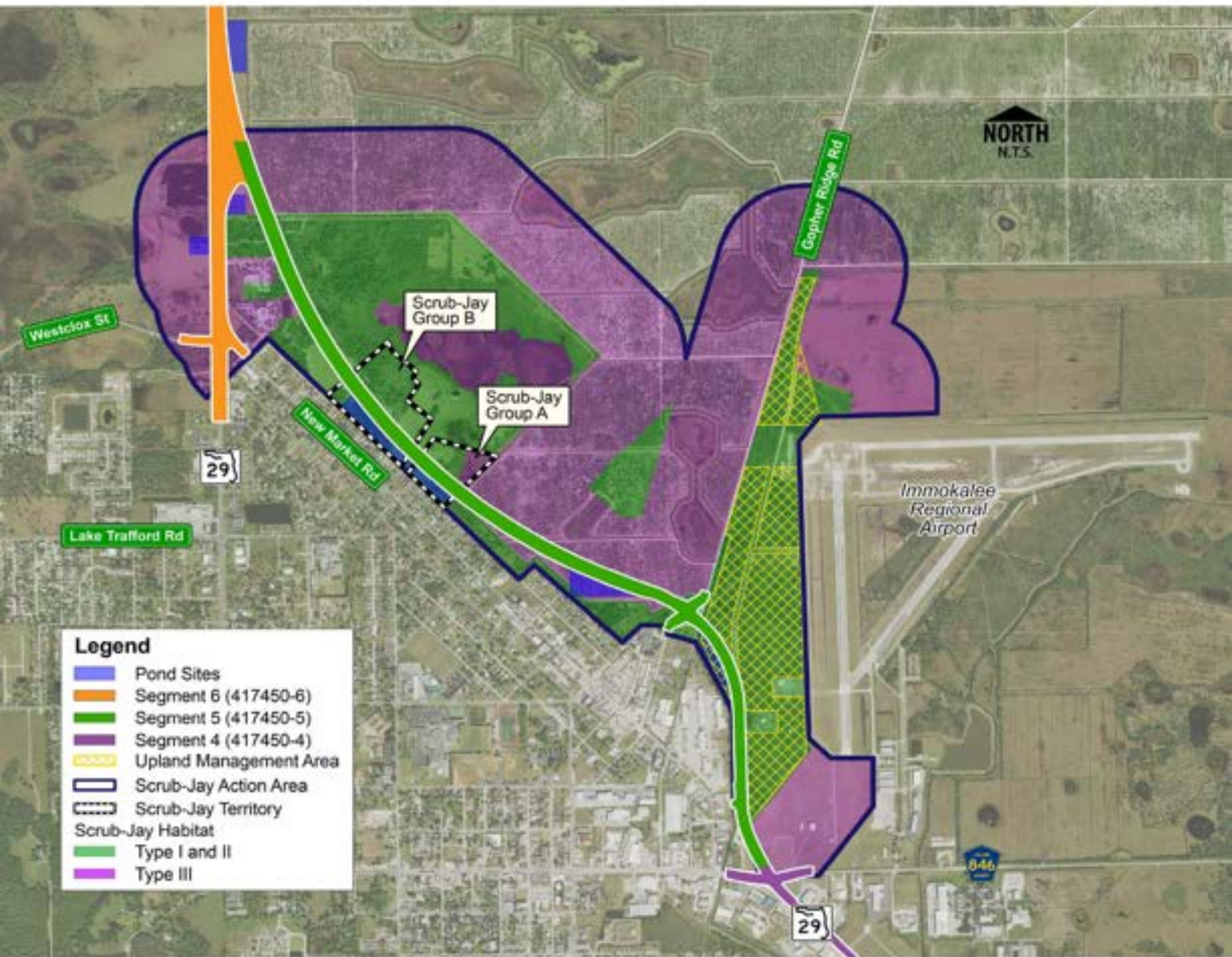
Detailed Preliminary Cost Estimates

SR 29 WILDLIFE CORRIDOR - OWL HAMMOCK					
Cost Options	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Structures/Bridge*					
Bridge			\$ 1,367,585.00		
Wildlife Bridge		\$ 34,250.00	\$ 34,250.00		\$ 34,250.00
MSE Wall			\$ 508,200.00		
Concrete Barrier			\$ 663,000.00		
Removal of Existing Bridge			\$ 192,000.00		
Construction over water (3%)		\$ 6,862.00	\$ 82,951.00		\$ 6,862.00
Structures Subtotal	\$ -	\$ 41,112.00	\$ 2,847,986.00	\$ -	\$ 41,112.00
Roadway					
Clearing and Grubbing (AC x \$20,865)	\$ 268,696.75	\$ 214,736.22	\$ 268,033.34	\$ 243,405.84	\$ 183,612.00
Embankment (Cubic Yards x \$7.59)	\$ 294,933.49	\$ 160,554.41	\$ 297,127.42	\$ 195,123.38	\$ 159,384.94
Stabilization (Square Yards x \$4.24)	\$ 91,518.49	\$ 76,154.59	\$ 79,417.11	\$ 81,123.92	\$ 56,064.99
Base Course (Square Yards x \$14.78)	\$ 204,666.71	\$ 210,597.92	\$ 246,839.14	\$ 186,410.29	\$ 146,055.96
Asphalt (Tons x \$107.17)	\$ 244,866.82	\$ 251,963.03	\$ 295,322.65	\$ 223,024.52	\$ 174,743.90
Guardrail (Linear Ft x \$16.82)	\$ 33,555.90	\$ 35,322.00	\$ 5,298.30	\$ 30,915.16	\$ 36,768.52
Shoulder Gutter (Linear Ft x \$30.00)	\$ 59,850.00	\$ 63,000.00	\$ 10,770.00	\$ 59,280.00	\$ 65,580.00
Inlets (Each x \$4000.00)	\$ 28,000.00	\$ 28,000.00	\$ 8,000.00	\$ 28,000.00	\$ 32,000.00
*72" Pipe Culvert (Linear Ft x \$1000.00)	\$ 74,000.00	\$ 69,000.00	\$ -	\$ 71,000.00	\$ 69,000.00
Endwall (Cubic Yard x \$1716.57)	\$ 49,780.53	\$ 49,780.53	\$ -	\$ 49,780.53	\$ 49,780.53
Reinforcing Steel (Pounds x \$0.22)	\$ 549.56	\$ 549.56	\$ -	\$ 549.56	\$ 549.56
Driveway Base Course (Square Yards x \$9.21)	\$ 37,777.60	\$ -	\$ -	\$ 30,169.91	\$ 1,324.19
Driveway Asphalt (Tons x \$110.00)	\$ 37,223.86	\$ -	\$ -	\$ 29,727.68	\$ 1,304.78
Gravity Wall (Cubic Yards x \$687.48)	\$ 79,747.68	\$ -	\$ 79,747.68	\$ 79,747.68	\$ -
Wildlife Fencing Cost (Linear Ft x \$60.00)**	\$ 1,267,200.00	\$ 1,267,200.00	\$ 1,267,200.00	\$ 1,267,200.00	\$ 1,267,200.00
Wildlife Gate Cost (Each x \$4000.00)	\$ 12,000.00	\$ -	\$ -	\$ 12,000.00	\$ -
Temporary Barrier Wall Type K (LF x \$9.6)	\$ 33,938.08	\$ 34,716.84	\$ 40,123.60	\$ 30,743.68	\$ 23,454.64
Special Detour (temporary pavement)	\$ -	\$ -	\$ -	\$ -	\$ 206,653.11
Roadway Subtotal	\$ 2,818,305.46	\$ 2,461,575.10	\$ 2,597,879.24	\$ 2,618,202.16	\$ 2,473,477.13
Project Subtotal	\$ 2,818,305.46	\$ 2,502,687.10	\$ 5,445,865.24	\$ 2,618,202.16	\$ 2,514,589.13
MOT (5%)	\$ 140,915.27	\$ 125,134.36	\$ 272,293.26	\$ 130,910.11	\$ 125,729.46
Mobilization (10%)	\$ 281,830.55	\$ 250,268.71	\$ 544,586.52	\$ 261,820.22	\$ 251,458.91
Project Total	\$ 3,241,051.28	\$ 2,878,090.17	\$ 6,262,745.02	\$ 3,010,932.49	\$ 2,891,777.50
Project Unknowns (5%)	\$ 162,052.56	\$ 143,904.51	\$ 313,137.25	\$ 150,546.62	\$ 144,588.87
Initial Contingency	\$ 150,000.00	\$ 150,000.00	\$ 150,000.00	\$ 150,000.00	\$ 150,000.00
Project Grand Total	\$ 3,553,103.84	\$ 3,171,994.67	\$ 6,725,882.27	\$ 3,311,479.11	\$ 3,186,366.37

* Concept costs include 72" pipe for wildlife crossing as cost savings measure. Cost to utilize box culvert shown below.

** Fencing cost based on engineering estimate.

Box Culvert Option					
Box Culvert (10' x 6')	\$ 202,671.00	\$ 194,487.00	\$ -	\$ 198,786.00	\$ 194,487.00
72" Pipe Culvert (Linear Ft x \$1000.00)	\$ (74,000.00)	\$ (69,000.00)	\$ -	\$ (71,000.00)	\$ (69,000.00)
Endwall (Cubic Yard x \$1716.57)	\$ (49,780.53)	\$ (49,780.53)	\$ -	\$ (49,780.53)	\$ (49,780.53)
Reinforcing Steel (Pounds x \$0.22)	\$ (549.56)	\$ (549.56)	\$ -	\$ (549.56)	\$ (549.56)
Project SubTotal (Box Culvert)	\$ 2,896,646.37	\$ 2,577,844.01	\$ 5,445,865.24	\$ 2,695,658.07	\$ 2,589,746.04
MOT (5%)	\$ 144,832.32	\$ 128,892.20	\$ 272,293.26	\$ 134,782.90	\$ 129,487.30
Mobilization (10%)	\$ 289,664.64	\$ 257,784.40	\$ 544,586.52	\$ 269,565.81	\$ 258,974.60
Project Total (Box Culvert)	\$ 3,331,143.33	\$ 2,964,520.61	\$ 6,262,745.02	\$ 3,100,006.78	\$ 2,978,207.94
Project Unknowns (5%)	\$ 166,557.17	\$ 148,226.03	\$ 313,137.25	\$ 155,000.34	\$ 148,910.40
Initial Contingency	\$ 150,000.00	\$ 150,000.00	\$ 150,000.00	\$ 150,000.00	\$ 150,000.00
Project Grand Total	\$ 3,647,700.49	\$ 3,262,746.64	\$ 6,725,882.27	\$ 3,405,007.12	\$ 3,277,118.34
Difference in Cost	\$ 94,596.65	\$ 90,751.97	\$ -	\$ 93,528.01	\$ 90,751.97



MEETING MINUTES
FWC – URS
Mitigation Process
Airport Conservation Easement
SR 29 PD&E Study
From Oil Well Road to SR 82
Financial Project No.: 417540-1-22-01
FDOT Contract: C8N56
URS Project No. 12007302, File 106.04

November 1, 2013

Attendees:

Tom Pride – URS
Adam Purcell – URS
Marty Peate - URS
Richard McCann – FWC

On November 1, 2013 a conference call was held between the Florida Fish and Wildlife Conservation Commission (FWC) and the URS Corporation (representing FDOT D1). The call focused on the identification of mitigation options in addressing potential impacts on the Immokalee Airport Conservation Easement that may result from the development of SR 29 PD&E Central 2 Alternative. The meeting occurred at 1:30 in the afternoon.

Both a copy of the Conservation Easement Deed and diagram depicting the Central 2 Alternative in the area of the Conservation Easement were forwarded to Rick McCann on 17 September for review prior to the conference call. A copy of the information forwarded to FWC is attached.

The call opened with staff introductions and a brief description of the SR 29 project. Reference was made to the information transmitted in September. Mr. McCann was generally familiar with both the property in question and PD&E process.

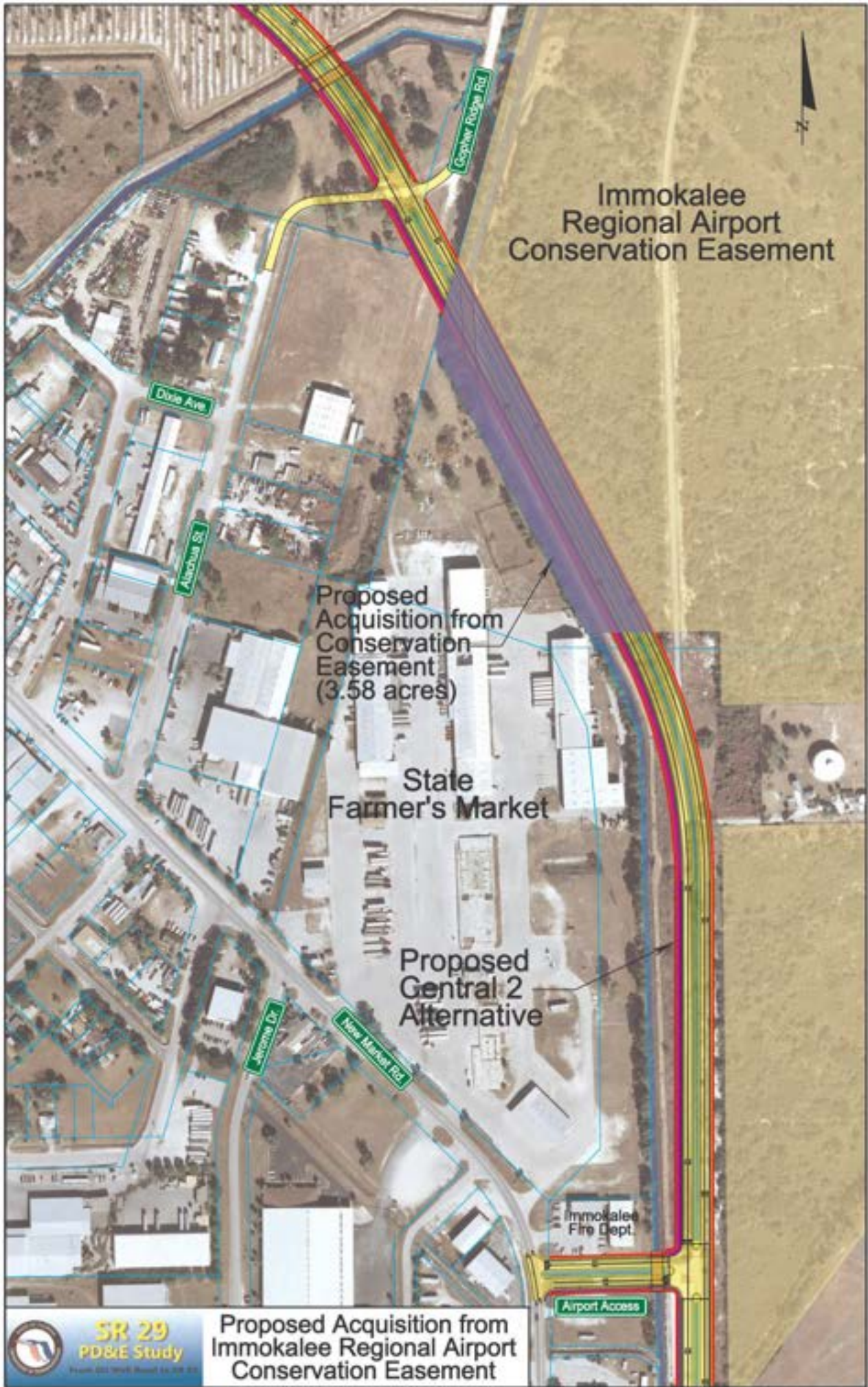
Tom Pride posed the question, "What is the process that needs to be followed to use a part of the easement?". Mr. McCann responded by identifying the following steps:

1. **Must Mitigate First:** Lands for mitigation must be identified, purchased, and dedicated to FWC prior to taking any action that impacts existing protected lands
 - a. **Adjacent Lands are Best:** In selecting property to serve as mitigation, lands contiguous to the property being impacted are preferred by FWC.
 - b. **Adjacent to Public Land:** If property adjacent to the impacted resource is not available, mitigation lands should be adjacent to other existing Public Lands.
 - c. **2:1 Ratio:** Two acres of "good" habit must be provided for every 1 acre of protected land impacted. (Result for impact depicted \approx 7 Acres of mitigation).

- d. **Tortoise Present:** Lands selected for mitigation of the Airport Easement which functions to protect the gopher tortoise, must already have tortoises present.
 - e. **Managed for Tortoise:** The area selected for mitigation must be managed for the gopher tortoise. FDOT must provide funding for management activity.
 - i. Mr. McCann noted current management costs range between \$20 and \$30 per acre per year for property that can be managed through controlled burns. Management costs in areas not able to be burned (require mechanical clearing) are much higher.
 - ii. FWC assumes 4% annual growth on funds dedicated for management.
2. Based on the criteria outlined in the previous step, FWC must then review the area proposed for acquisition, and agree to the site selected.

Mr. McCann offered Heather Rigby as the FWC regional point of contact for the mitigation effort related to the SR 29 project. He also noted Richard Mospens manages the FWC land acquisition program in Southwest Florida.

Attachments



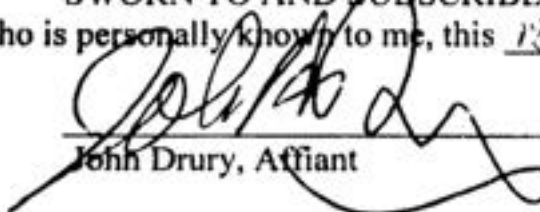
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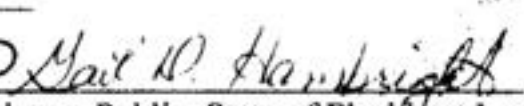
STATE OF FLORIDA)
COUNTY OF COLLIER)

BEFORE ME, an officer duly qualified to administer oaths and take acknowledgments in Collier County, Florida, personally appeared the undersigned Affiant, who by me being first duly sworn, deposes and says:

1. I, the undersigned Affiant, am employed by the Collier County Airport Authority, a dependent district of the County of Collier, a political subdivision of the State of Florida. I am authorized to submit this Affidavit on behalf of the Airport Authority.
2. I hereby certify that attached hereto as Exhibit "A" is a "true copy" of a Deed of Conservation Easement that is yet to be recorded in the Public Records of Collier County. Exhibit "A" is exactly similar to a prior Deed of this same Conservation Easement, which prior Deed is recorded at book 2614, Page 0666, public records of Collier County, Florida.
3. I hereby certify that the only difference between the attached Exhibit "A" and the prior recorded Deed of Conservation Easement is that the words "incorporated herein by reference" have been inserted in the 5th line of paragraph numbered 1 of page 1 in the Deed. These words have been inserted into the Deed as only a clarification of the prior Deed. The initials on the right hand side of page one (1) are also additional for approval of change. Nothing substantive in the prior Deed of Easement is being changed by this amendment to the Deed.

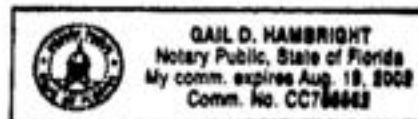
SWORN TO AND SUBSCRIBED before me by _____;
who is personally known to me, this 13th day of September 2001.


John Drury, Affiant


Notary Public, State of Florida at Large

Commission Number: CC 163562

My Commission expires: Aug 19, 2002



DEED OF CONSERVATION EASEMENT

THIS DEED OF CONSERVATION EASEMENT is hereby granted by the Collier County Airport Authority and the County of Collier, a political subdivision of the State of Florida, whose mailing address is 3301 Tamiami Trail, Administration Building, Naples, Florida, 34112, ("Grantor") to the Fish and Wildlife Conservation Commission, an Agency of the State of Florida, whose address is 620 South Meridian Street, Tallahassee, Florida, 32399-1600, ("Grantee").

WITNESSETH:

WHEREAS, the Grantor is the owner of certain lands situated in Collier County, Florida, hereinafter referred to as the "Property," more specifically described in Exhibit "A" attached hereto and made a part hereof; and

WHEREAS, Grantor desires to protect and conserve certain uplands preserve areas; and

WHEREAS, Grantor in consideration of the consents of the Grantee to that certain Gopher Tortoise Incidental Take Permit issued to Grantor on the 3rd day of November, 1999, by Grantee, hereinafter referred to as the "Permit," whereby Grantor is required to grant and secure the enforcement of a perpetual conservation easement as defined in Section 704.06, *Florida Statutes* (1991), over the Easement Area.

NOW THEREFORE, consistent with the issuance of the Permit, Grantor hereby grants, creates, and establishes a perpetual conservation easement upon the Easement Area, which is depicted by the "cross-hatched" areas (generally west of runway 18-36) as shown on Exhibit "B." The Easement Area does not include 50 ft. wide existing roads and their associated rights-of-way and that proposed road to the hangar located within the Easement Area all identified on Exhibit "B". The easement shall run with the land within the Easement Area and shall be binding upon Grantor, its heirs, successors and assigns, and shall remain in full force and effect forever unless released by Grantee, its successors or assigns, as the case may then be.

1. The scope, nature, and character of this easement is to ensure, to the greatest extent now and/or hereafter allowed by law, that uplands preserve areas, including buffer zones, (Easement Area) shall be used only as conservation areas pursuant to Section 704.06, *Florida Statutes*, consistent with the Permit and the Management Plan ^(incorporated herein by reference). To carry out these purposes, the following rights are conveyed to Grantee by this easement:

(a) Authorized representatives of Grantee may enter upon the Property at reasonable times to enforce any and all rights herein granted upon prior notice to Grantor (or Grantor's successors or assigns as the case may then be) in a manner that will

PSM

MW

09/14

Deed of Conservation Easement
Page 2

not unreasonably interfere with the use and quiet enjoyment of the Property by Grantor (its successors or assigns as the case may be) at the time of each such entry; and,

(b) Authorized representatives of (1) Grantee and/or (2) any other then authorized government entity may enjoin any activity on, or use of, the Property that is inconsistent with the purpose of this easement, and may enforce restoration of such areas or features of the Property that may be damaged by any inconsistent activity or use.

2. Collier County reserves to itself, its successors and/or assigns all rights as a non-charter County and as owner of the Airport, including rights to engage in all uses of the Airport that are not expressly prohibited herein and which are not inconsistent with the purposes of this easement as set forth in Section 704.06, *Florida Statutes*, as now exists or may hereafter be amended. Within the Easement Area, the following are prohibited uses/activities except as otherwise authorized elsewhere in this document, or as then required by applicable law(s), including Chapter 333, *Florida Statutes*, or the then current FAA FAR Part 77 Standards (or successor) in function of any of same:

(a) Construction or placing of buildings, roads, signs, billboards and other advertising, utilities, and/or other structures on or above the ground.

(b) Dumping or otherwise placing of trash, waste, or unsightly or offensive materials.

(c) Removal or alteration of trees, shrubs, or other vegetation unless allowed or mandated by the then current Management Plan and/or officials of Grantee.

(d) Excavation, dredging, or removal of loam, peat, gravel, soil, rock, or other material substance in such manner as to affect the surface except as necessary for maintenance of drainage ditches.

(e) Surface use except for purposes that permit the land or water area to remain predominantly in its natural condition.

(f) Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, and/or fish and/or wildlife habitat preservation.

(g) Acts and/or uses that are detrimental to such retention of land.

(h) Alteration of the Easement Area except to the extent authorized by the Permit, by then applicable law(s) and/or the then current Management Plan.

Deed of Conservation Easement
Page 3

(i) Use of any pesticides within the Property without the prior written consent of the Grantee, which consent(s) will not be unreasonably withheld.

3. No right of access by any members of the general public to any portion of the Easement Area is conveyed by this easement.

4. Grantor agrees to bear all reasonable costs related to the normal operation, upkeep and maintenance of the Easement Area.

5. Grantor agrees that taxes and/or assessments levied on the Airport by competent authority will be paid.

6. Enforcement of this easement shall be at the discretion of Grantee. Any forbearance on behalf of Grantee to exercise any of its rights hereunder in the event of any breach hereof by Grantor (or its successors, personal representatives or assigns, as the case may be) shall not be deemed or construed to be any waiver of Grantee's rights hereunder in the event of any subsequent breach hereof.

7. Grantee will hold this easement exclusively for conservation purposes and will not assign this easement or any of its rights and/or obligations hereunder except to another organization then (a) qualified by law to hold such interests and/or perform those obligations under any then applicable law(s), and (b) then and thereafter committed to holding this easement exclusively for conservation purposes. If Grantor sells or otherwise conveys title to any part of the Airport or Easement Area to any person or entity, Grantor shall deliver written notice of such transfer to Grantee not later than thirty (30) days after recordation of the respective transfer in the public records of Collier County.

8. If any provision of this easement, or the application thereof to any person or circumstance, is found to be invalid, all other provisions of this easement, and the applications of any such provision(s) to persons or circumstances other than those as to which it is found to be invalid, shall not be affected thereby to the greatest extent then allowed by law.

9. All notices, consents, approvals or other communications pursuant hereto shall be in writing and shall be deemed properly received by the recipient if actually received via United States mail, certified, return receipt requested, addressed to the appropriate party (or successor-in-interest), at the addresses above set forth or such new address as either party may in writing deliver to the other party.

10. This easement may be amended, altered, released or revoked only by written agreement between the parties hereto, or their successors or assigns.

11. Grantor certifies to Grantee that the Airport is not subject to any mortgage or any other form of security that is superior to this easement or which needs to be subordinated.

12. This easement shall be recorded by Grantor in the public records of Collier County after receipt of acknowledgment of acceptance hereof by the Grantee.

13. Grantor agrees that if the property is subject to a mortgage or any form of security interest, Grantor shall provide documentation to verify that mortgage or security interest is subordinate to this Conservation Easement and such verification shall be provided and recorded either before or concurrent with execution of this Easement.

TO HAVE AND TO HOLD unto Grantees, their respective successors and assigns forever. The covenants, terms, conditions, restrictions and purposes imposed with this easement shall not only be binding upon Grantor but also upon its agents, authorized representatives, assigns, and all other successors in interest to it, and shall continue as a servitude running in perpetuity with the Airport unless and until released by Grantee or its successor or assigns, and then only to the extent of any such release(s).

IN WITNESS WHEREOF, Grantor has executed this easement on the 14 day of Sept 1999.

ATTEST:
Dwight E. Brock, Clerk

BOARD OF COUNTY COMMISSION
OF COLLIER COUNTY, FLORIDA

By: [Signature]
Deputy Clerk
Attest as to Chairman's
signature only.

By: [Signature]
Pamela S. Mac'Kie, Chairwoman

Approved as to form
and legal sufficiency:

COLLIER COUNTY AIRPORT AUTHORITY
By: [Signature]
Michael Williams, Chairman

By: [Signature]
Thomas C. Palmer
Assistant County Attorney

GRANTEE'S ACCEPTANCE

The Fish and Wildlife Conservation Commission hereby approves and accepts the foregoing Conservation Easement and agrees to all of its terms and provisions this 26th Day of October, 1999.

**FLORIDA FISH AND WILDLIFE
CONSERVATION COMMISSION**

By: *Victor Heller*

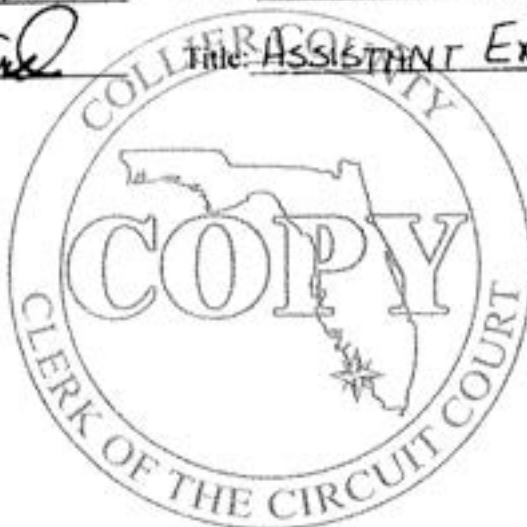
WITNESSES:

Brenda Collins

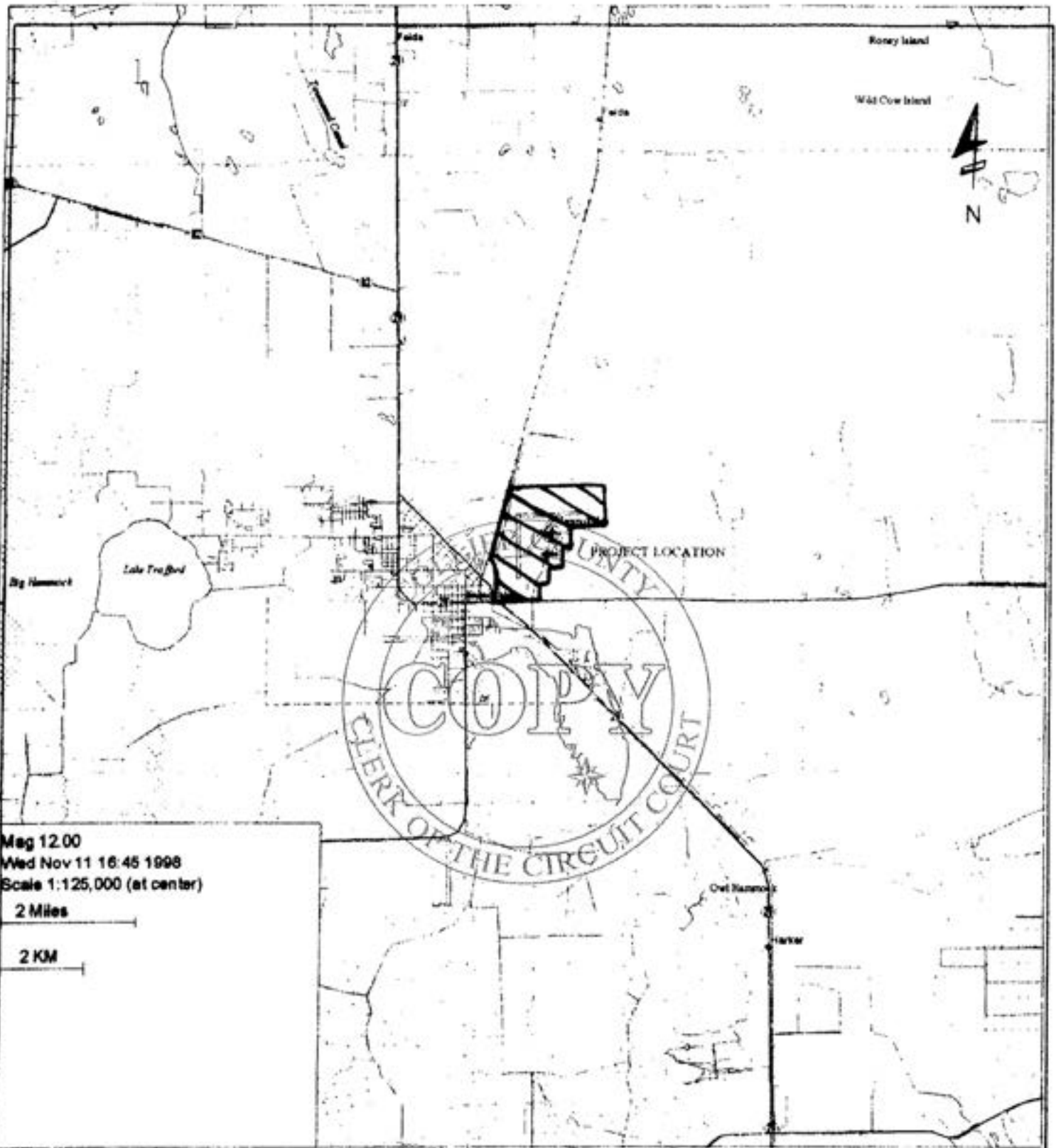
Name VICTOR J. Heller

Cynthia Ward

Title: ASSISTANT Executive Director



APPROVED AS TO FORM
AND LEGAL SUFFICIENCY
Robert V. Roberts
Commission Attorney



OR: 2614 PG: 0671

DATE: 11-12-98

**IMMOKALEE REGIONAL AIRPORT
LOCATION MAP**

SCALE:

PROJECT NO: 94087.8

EXHIBIT A

**FLORIDA
ENVIRONMENTAL
INCORPORATED**

18505 Paulson Drive, Bldg. B
Port Charlotte, FL 33954
Tel (941) 624-2811
Fax (941) 629-7210

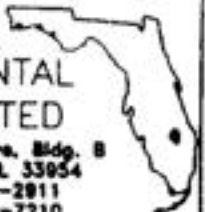
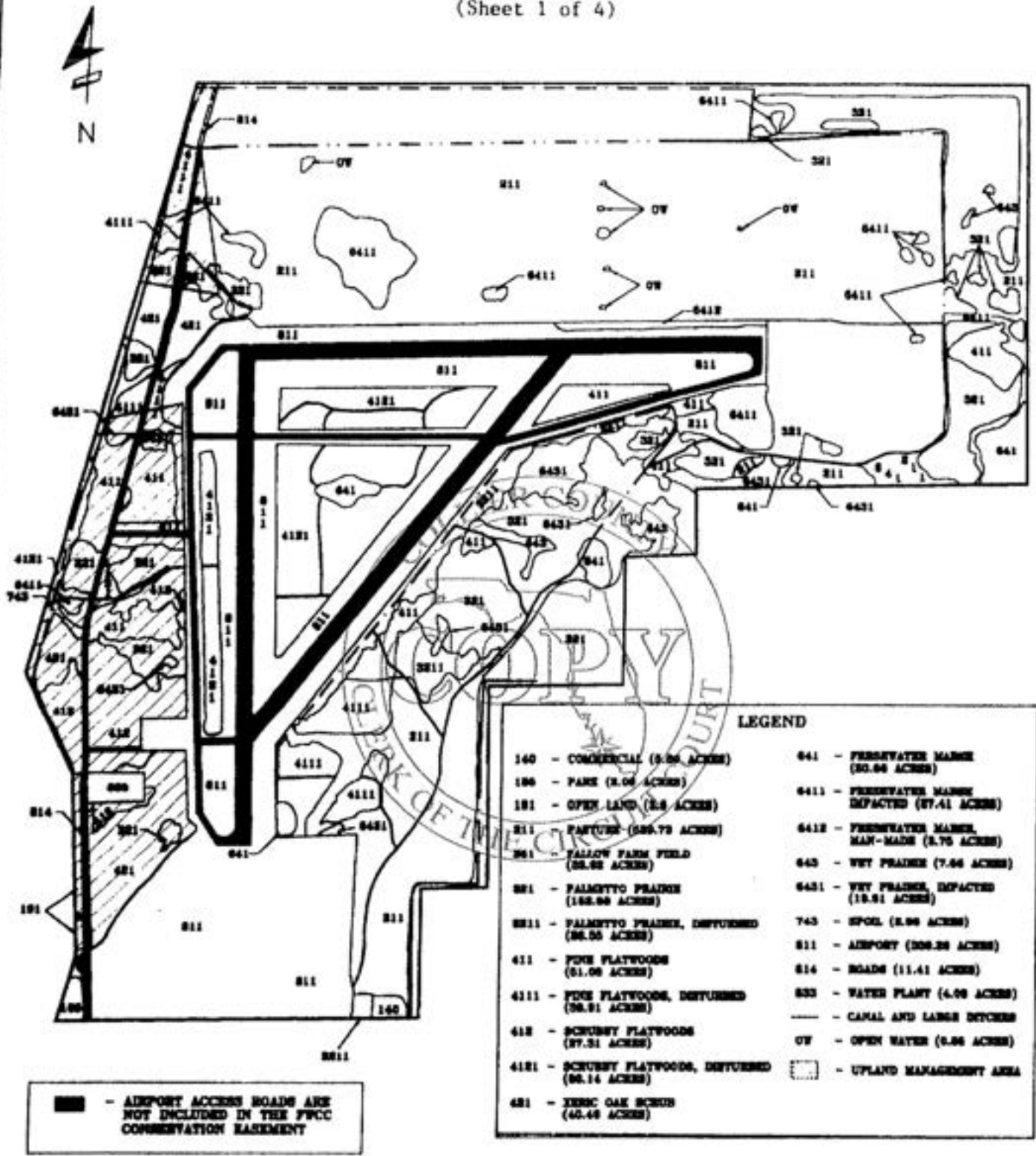


Exhibit B
(Sheet 1 of 4)



DATE: 7/12/99

SCALE: 1" = 1400'

PROJECT NO: 94067.10

IMMOKALEE REGIONAL AIRPORT
UPLAND
MANAGEMENT AREA

EXHIBIT B SHEET 1 OF 4

FLORIDA
ENVIRONMENTAL
INCORPORATED

18505 Paulson Drive, Bldg. B
Port Charlotte, FL 33854
Tel (941) 824-2811
Fax (941) 829-7210



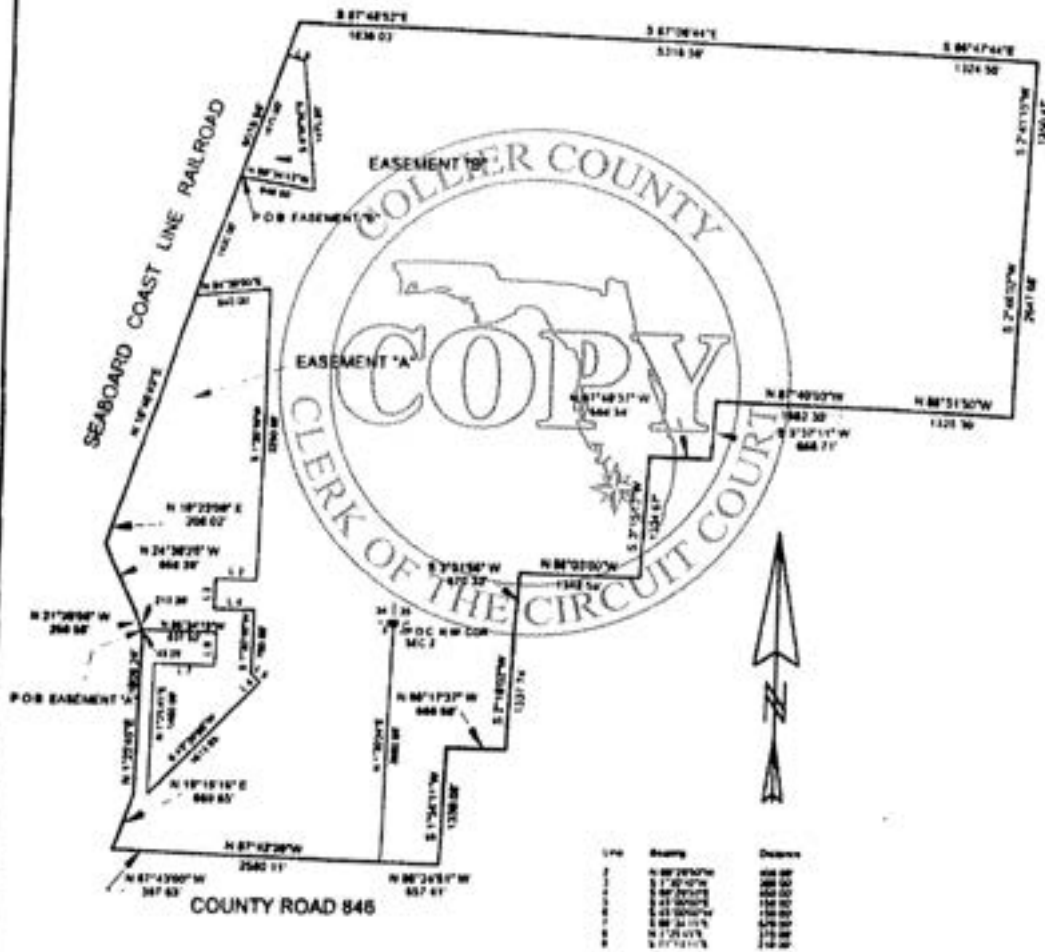
PUBLIC WORKS ENGINEERING DEPARTMENT

3301 EAST TAMiami TRAIL,

NAPLES, FLORIDA 34112

(941) 774-8192

SKETCH OF DESCRIPTION
NOT A SURVEY



GENERAL NOTES

- 1) P.O.C. = POINT OF COMMENCEMENT
- 2) P.O.B. = POINT OF BEGINNING
- 3) SEC. = SECTION
- 4) TWP. = TOWNSHIP
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- 6) RW = RIGHT OF WAY
- 7) ALL DISTANCES ARE IN FEET AND DECIMALS THEREOF
- 8) NOT VALID UNLESS SIGNED AND SEALED WITH THE EMBOSSED SEAL OF A PROFESSIONAL LAND SURVEYOR

DESIGNED BY	DRAWN BY	SCALE	DATE	TITLE NO.	
		NOT TO SCALE	OCTOBER 25, 1999	IAFSJE	SHEET 2 OF 4

PUBLIC WORKS ENGINEERING DEPARTMENT
3301 EAST TAMiami TRAIL NAPLES, FLORIDA 34112
(941) 774-8192

Easement Parcel "A"

PROJECT NO.

PARCEL NO.

FOLIO NO.

LEGAL DESCRIPTION (NOT A SURVEY)

COMMENCING AT THE NORTHWEST CORNER OF SECTION 2, TOWNSHIP 47 SOUTH, RANGE 29 EAST, COLLIER COUNTY, FLORIDA; THENCE SOUTH 1 DEGREE 30 MINUTES 24 SECONDS WEST, A DISTANCE OF 2680.88 FEET; THENCE NORTH 87 DEGREES 47 MINUTES 39 SECONDS WEST ALONG THE NORTH RIGHT OF WAY LINE OF COUNTY ROAD 446, A DISTANCE OF 2580.11 FEET; THENCE NORTH 87 DEGREES 43 MINUTES 00 SECONDS WEST, A DISTANCE OF 367.60 FEET; THENCE LEAVING SAID NORTH RIGHT OF WAY LINE NORTH 19 DEGREES 15 MINUTES 14 SECONDS EAST, A DISTANCE OF 669.65 FEET; THENCE NORTH 1 DEGREE 25 MINUTES 45 SECONDS EAST, A DISTANCE OF 1808.24 FEET; THENCE NORTH 21 DEGREES 30 MINUTES 05 SECONDS WEST, A DISTANCE OF 45.29 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING NORTH ALONG SAID LINE, A DISTANCE OF 213.26 FEET; THENCE NORTH 24 DEGREES 38 MINUTES 25 SECONDS WEST, A DISTANCE OF 856.39 FEET; THENCE NORTH 18 DEGREES 23 MINUTES 08 SECONDS EAST ALONG THE EAST RIGHT OF WAY LINE OF THE SEABOARD COASTLINE RAILROAD, A DISTANCE OF 208.02 FEET; THENCE NORTH 18 DEGREES 46 MINUTES 49 SECONDS EAST, A DISTANCE OF 2728.00 FEET; THENCE LEAVING SAID EAST RIGHT OF WAY LINE NORTH 34 DEGREES 30 MINUTES 00 SECONDS EAST, A DISTANCE OF 840.00 FEET; THENCE SOUTH 1 DEGREE 30 MINUTES 10 SECONDS WEST, A DISTANCE OF 3250.00 FEET; THENCE NORTH 88 DEGREES 29 MINUTES 50 SECONDS WEST, A DISTANCE OF 450.00 FEET; THENCE SOUTH 1 DEGREE 30 MINUTES 10 SECONDS WEST, A DISTANCE OF 360.00 FEET; THENCE SOUTH 88 DEGREES 29 MINUTES 50 SECONDS EAST, A DISTANCE OF 450.00 FEET; THENCE SOUTH 1 DEGREE 30 MINUTES 10 SECONDS WEST, A DISTANCE OF 700.00 FEET; THENCE SOUTH 45 DEGREES 00 MINUTES 00 SECONDS EAST, A DISTANCE OF 150.00 FEET; THENCE SOUTH 45 DEGREES 00 MINUTES 00 SECONDS WEST, A DISTANCE OF 150.00 FEET; THENCE SOUTH 43 DEGREES 30 MINUTES 06 SECONDS WEST, A DISTANCE OF 1613.95 FEET; THENCE NORTH 1 DEGREE 25 MINUTES 45 SECONDS EAST, A DISTANCE OF 1480.00 FEET; THENCE SOUTH 88 DEGREES 34 MINUTES 15 SECONDS EAST, A DISTANCE OF 670.00 FEET; THENCE NORTH 1 DEGREE 25 MINUTES 45 SECONDS EAST, A DISTANCE OF 370.00 FEET; THENCE NORTH 88 DEGREES 34 MINUTES 15 SECONDS WEST, A DISTANCE OF 837.52 FEET TO THE POINT OF BEGINNING, SAID DESCRIBED TRACT CONTAINING 137.084 ACRES (5,971,401) SQUARE FEET, MORE OR LESS.

WFS/EA

PREPARED BY

George R. Richmond
GEORGE R. RICHMOND

DATE 1/1/88

PROFESSIONAL LAND SURVEYOR-FL. REG. # 2406
PUBLIC WORKS ENGINEERING DEPARTMENT.
COLLIER COUNTY GOVERNMENT COMPLEX
3301 EAST TAMiami TRAIL
NAPLES, FLORIDA 34112 SHEET 3 OF 4

PUBLIC WORKS ENGINEERING DEPARTMENT
3301 EAST TAMiami TRAIL NAPLES, FLORIDA 34112
(941) 774-8192

PROJECT NO.

PARCEL NO.

FOLIO NO.

LEGAL DESCRIPTION (NOT A SURVEY)

Easement Parcel "B"

COMMENCING AT THE NORTHWEST CORNER OF SECTION 2, TOWNSHIP 47 SOUTH, RANGE 29 EAST, COLLIER COUNTY, FLORIDA; THENCE SOUTH 1 DEGREE 30 MINUTES 24 SECONDS WEST, A DISTANCE OF 2680.88 FEET; THENCE NORTH 87 DEGREES 42 MINUTES 39 SECONDS WEST ALONG THE NORTH RIGHT OF WAY LINE OF COUNTY ROAD 846, A DISTANCE OF 2580.11 FEET; THENCE NORTH 87 DEGREES 43 MINUTES 00 SECONDS WEST, A DISTANCE OF 397.63 FEET; THENCE LEAVING SAID NORTH RIGHT OF WAY LINE NORTH 19 DEGREES 15 MINUTES 15 SECONDS EAST, A DISTANCE OF 669.65 FEET; THENCE NORTH 1 DEGREE 25 MINUTES 45 SECONDS EAST, A DISTANCE OF 1808.24 FEET; THENCE NORTH 21 DEGREES 20 MINUTES 05 SECONDS WEST, A DISTANCE OF 258.55 FEET; THENCE NORTH 24 DEGREES 18 MINUTES 25 SECONDS WEST, A DISTANCE OF 856.39 FEET; THENCE NORTH 18 DEGREES 23 MINUTES 08 SECONDS EAST ALONG THE EAST RIGHT OF WAY LINE OF THE SEABOARD COAST LINE RAILROAD A DISTANCE OF 206.02 FEET; THENCE NORTH 18 DEGREES 46 MINUTES 49 SECONDS EAST, A DISTANCE OF 4158.00 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING NORTH ALONG SAID LINE, A DISTANCE OF 1470.00 FEET; THENCE LEAVING SAID EAST RIGHT OF WAY LINE SOUTH 71 DEGREES 13 MINUTES 11 SECONDS EAST, A DISTANCE OF 210.60 FEET; THENCE SOUTH 6 DEGREES 06 MINUTES 55 SECONDS EAST, A DISTANCE OF 1470.00 FEET; THENCE NORTH 80 DEGREES 34 MINUTES 43 SECONDS WEST, A DISTANCE OF 840.00 FEET TO THE POINT OF BEGINNING; SAID DESCRIBED TRACT CONTAINING 17.199 ACRES (749,189 SQUARE FEET), MORE OR LESS.

LAFSJE

PREPARED BY George R. Richmond DATE 8/15/92
GEORGE R. RICHMOND

PROFESSIONAL LAND SURVEYOR-FL. REG. # 2406
PUBLIC WORKS ENGINEERING DEPARTMENT
COLLIER COUNTY GOVERNMENT COMPLEX
3301 EAST TAMiami TRAIL
NAPLES, FLORIDA 34112 SHEET 4 OF 4

PUBLIC WORKS ENGINEERING DEPARTMENT

3301 EAST TAMiami TRAIL

NAPLES, FLORIDA 34112

(941) 774-8192

PROJECT NO..

PARCEL NO..

FOLIO NO..

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IAFSJEB

PREPARED BY George R. Richmond DATE 10/25/20

GEORGE R. RICHMOND

PROFESSIONAL LAND SURVEYOR-FL. REG. # 2406
 PUBLIC WORKS ENGINEERING DEPARTMENT.
 COLLIER COUNTY GOVERNMENT COMPLEX
 3301 EAST TAMiami TRAIL
 NAPLES, FLORIDA 34112

SHEET 1 OF 2

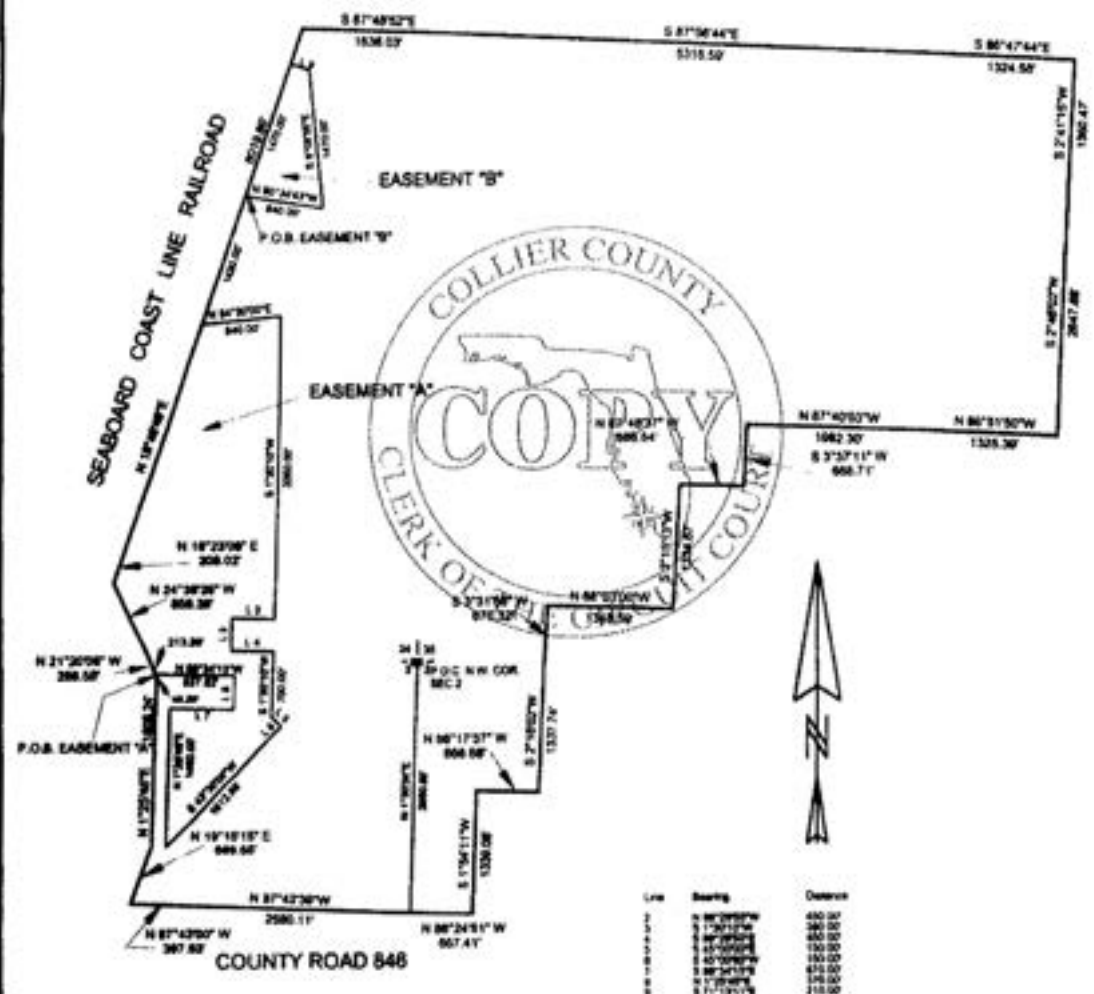
PUBLIC WORKS ENGINEERING DEPARTMENT

3301 EAST TAMiami TRAIL

NAPLES, FLORIDA 34112

(941) 774-8192

SKETCH OF DESCRIPTION
NOT A SURVEY



GENERAL NOTES

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DESIGNED BY	CHECKED BY	SCALE	DATE	FILE NO.	
		NOT TO SCALE	OCTOBER 25, 1999	IAFSJE	SHEET 2 OF 2



Tippen Bay Mitigation Bank
44.43 miles

Platt Branch Mitigation Bank
41.77 miles

417540-1 - SR 29 from CR 846 to SR 82

NORTH

the species and improve our consultation process. Surveys results and reports should be transmitted to the Service at FBBsurveyreport@fws.gov or mail electronic file to U.S. Fish and Wildlife Service, Attention Florida bonneted bat surveys, 1339 20th Street, Vero Beach, Florida 32960. When formal consultation is requested, survey results and reports should be submitted with the consultation request to verobeach@fws.gov.

No effect: If the use of the Key results in a determination of “no effect,” no further consultation is necessary with the Service. The Service recommends that the Corps (or other Federal action agency) documents the pathway used to reach the determination in the project record and proceeds with other species analyses as warranted.

May Affect, Not Likely to Adversely Affect (MANLAA): In this Key we have identified two ways that consultation can conclude informally, MANLAA-P and MANLAA-C.

MANLAA-P: If the use of the Key results in a determination of “MANLAA- P,” the Service concurs with this determination based on the rationale provide above, and no further consultation is necessary for the effects of the proposed action on the Florida bonneted bat. The Service recommends that the Corps (or other Federal action agency) documents the pathway used to reach the determination in the project record and proceeds with other species analyses as warranted.

MANLAA-C: If the use of the Key results in a determination of MANLAA-C, further consultation with the Service is required to confirm that the Key has been used properly, and the Service concurs with the evaluation of the survey results. Survey results should be submitted with the consultation request.

May Affect, Likely to Adversely Affect (LAA) - When the determination in the Key is “LAA” technical assistance with the Service and modifications to the proposed action may enable the project to be reevaluated and conclude with a MANLAA-C determination. Under other circumstance, “LAA” determinations will require formal consultation.

Working with the Fish and Wildlife Foundation of Florida, the Service has established a fund to support conservation and recovery for the Florida bonneted bat. Any project that has the potential to affect the Florida bonneted bat and/or its habitat is encouraged to make a voluntary contribution to this fund. If you would like additional information about how to make a contribution and how these monies are used to support Florida bonneted bat recovery please contact Ashleigh Blackford, Connie Cassler, or José Rivera at 772-562-3909.

This revised Key is effective immediately upon receipt by the Corps. Should circumstances change or new information become available regarding the Florida bonneted bat and/or implementation of the Key, the determinations herein may be reconsidered and this Key further revised or amended. We have established an email address to collect comments on the Key and the survey protocols at: FBBguidelines@fws.gov.

Email from John Wrublik to Thu-Huong Clark (22-05-24, 11:28 AM)

Federally listed species expected to be adversely affected by the project

The Service finds that the Project will result in adverse effects to the endangered Florida panther (*Puma concolor coryi*), and Florida bonneted bat (*Eumops floridanus*) and the threatened Florida scrub-jay (*Aphelocoma coerulescens*) and Audubon's crested caracara (*Polyborus plancus auduboni*).

As a result of a meeting between the U.S. Fish and Wildlife Service (USFWS) and the Florida Department of Transportation (FDOT) on November 6, 2023, it was agreed that a Biological Opinion (BO) would be issued for the northern portion of State Road (SR) 29 from south of the County Road (CR) 846 Intersection to SR 82, which is currently funded for construction beginning in fiscal year (FY) 2027. The FDOT anticipates that the BO will also provide review of the effects determinations for documented species with a "No Effect" and concurrence with the effects determinations for documented species with a "may affect, not likely to adversely affect (MANLAA)" determinations to complete consultation for the northern portion (see **Exhibit 1** below) of SR 29. FDOT anticipates pursuing permits for the northern portion of the project in the near future to support the FY 2027 construction schedule.



Exhibit 1: Northern Segment versus Southern Segment

The FDOT commits to re-initiate consultation for the southern portion of SR 29 from Oil Well Road to south of the CR 846 intersection during the permitting process for individual design segments.

Based on coordination with the USFWS, the FDOT will re-initiate consultation with the USFWS for the limits of the project from Oil Well Road to south of the CR 846 intersection for the Florida panther, Florida bonneted bat and Audubon's crested caracara. At that time, the FDOT will provide additional information, as needed, that will allow the USFWS to complete their analysis of the project's effects on documented species and complete consultation, for the project in accordance with Section 7 of the Endangered Species Act of 1973, as amended, during the design and permitting project phases.

The responses provided below address the northern portion of SR 29 from the CR 846 intersection to SR 82 only and includes the mainline roadway and stormwater management facilities (SMF)/Floodplain Compensation (FPC) sites which the FDOT design teams have identified.

FLORIDA PANTHER

Comment 1: The new bypass road east of Immokalee represents a potential threat to the Florida panther because panthers could be struck by motor vehicles if they enter or attempt to cross the roadway. The Service notes that a small portion of the bypass footprint is located in the Service's Focus Area for the Florida panther and the remainder of the footprint is located near the Focus area. As such, the Service finds it likely that panthers could occur in the Project area and enter the bypass roadway. As a protective measure, the Service requests that 8 to 10-foot-tall chain link fence be installed within the right-of-way immediately east of the new paved bypass roadway. The purpose of the fence would be to prevent panthers from entering the bypass. Underpass structures and fence along the Eastern right-of-way of the bypass road right-of-way would not be necessary within this section of the Project because much of the lands located west of the proposed bypass contain residential and commercial development and do not contain panther habitat. Please indicate if the FDOT would be willing to install barrier fence along the bypass (as described) in association with the project.

Response 1: *The Department believes the risk to panthers (and motorists) is very small along the new alignment (bypass) portion of SR 29 as there have been no existing panther vehicle collisions along either the existing SR 29 or New Market Road which parallels the new alignment. The new alignment was purposely aligned to be very close to the urbanized area of Immokalee, which deters use by panthers. There are no natural habitats south of the proposed SR 29 alignment attracting panther usage. Only a single telemetry data point documented in 1998 occurred within the bypass footprint or south. However, the Department commits to monitoring this section of the SR 29 bypass as part of the annual hotspots update and if a panther vehicle collision occurs, FDOT will implement best management practices consistent with the Florida Panther Conservation Plan currently being developed in partnership with the USFWS.*

Comment 2: The Service is concerned that the proposed bypass roadway east of Immokalee associated with the Project will provide new access to currently undeveloped lands that may provide habitat for the Florida panther. These lands are located East of the proposed bypass footprint. We find this access is likely to promote commercial and residential development in the Project area that would not be likely to occur but for the new motor vehicle access provided by the bypass. Such development would likely result in the loss of habitat for the panther and ultimately has the potential to affect the survival and recovery of the species. To reduce the potential for indirect habitat loss due to the bypass, the Service requests that the bypass be designated as a limited access road that would allow minimal access to the West of the bypass to tie into the current developed lands within the City of Immokalee, but not allow new access to the East of the bypass. Please indicate if the FDOT would be willing to do this as part of the project as a measure to minimize the Project's adverse impacts to the panther.

Response 2: *The Department commits to implementing best management practices consistent with the Florida Panther Conservation Plan currently being developed in partnership with the USFWS.*

Comment 3: The Service finds that the project is likely to increase the potential for vehicle-related panther mortalities in the Project footprint. In order for the Service to estimate the incidental take of panthers from motor vehicle strikes likely to occur due to the Project, the Service requests an estimate of the current motor vehicle traffic (in Annual Average Daily Traffic [AADT]) and an estimate of motor vehicle traffic (in AADT) expected to occur in the future (2043*) for the following segments of the Project corridor following widening:

- 1) SR 29 project corridor from SR 82 to New Market Road
- 2) SR 29 project corridor from County Road 846 to Oil Well Road.

In addition, we request an estimate of motor vehicle traffic (in AADT) expected to occur in the proposed bypass roadway located East of Immokalee when it opens following construction and, in the future (2043*).

*I used 2043 as the year for the future motor vehicle traffic estimate because this is the year of the future estimate of motor vehicle traffic that FDOT provided for the SR 82 from Hendry County Line to Gator Slough Lane biological opinion. If this is not correct, we leave it to the FDOT to determine the appropriate future year for which an estimate of traffic could be made

Response 3: *The requested traffic information is documented below.*

*The information provided in **Exhibit 2** (next page) addresses the traffic requested in sub-bullet 1 above (SR 29 project corridor from New Market Road to SR 29 Bypass and SR 29 Bypass to SR 82). The table below provides the associated Existing Year (2017), Opening Year (2025) and Design Year (2045) AADT volumes. The segment of the project from the CR 846 intersection to SR 82 is the subject of our request for a Biological Opinion (BO).*

Exhibit 2: Existing and Anticipated AADT Volumes

Roadway Segment	2017	2025	2045
New Market Road to SR 29 Bypass	18,000	12,000	19,000
SR 29 Bypass to SR 82	18,000	25,000	41,000

Comment 4: Proposed Panther Underpass at Owl Hammock – The FDOT has proposed to install an underpass for panthers and other wildlife to cross under the roadway within the SR 29 corridor at Owl Hammock. Please provide the proposed design information for this underpass including the length of the barrier fence associated with the underpass.

Response 4: *The Owl Hammock underpass is located south of the CR 846 intersection and is not located within the limits of the section of SR 29 for which we are requesting a Biological Opinion. However, the FDOT has conducted a Wildlife Crossing Memorandum (June 2022) (Attachment A) to assist with identifying the approximate location of a proposed crossing of the existing SR 29 roadway in the area of Owl Hammock. The Owl Hammock area is located between Oil Well Road and Sunniland Nursery Road. As stated in the June 2022 report (Section 5.5, page 5-2), the preferred location of the crossing is approximately 1,200 feet north of the Gator Slough bridge and falls within the area of recent panther and black bear vehicle collisions, and within a telemetry documented high wildlife usage area.*

FDOT commits to constructing the wildlife crossing in the southern segment. This commitment will not have to wait until that portion of SR 29 is constructed. This crossing will be listed at the annual prioritization meeting of the Panther Conservation Plan to determine priority for available funding. As part of the preferred recommendation, directional fencing associated with the proposed crossing would be consistent with the Florida Panther Conservation Plan and, as appropriate, the Wildlife Crossing Memorandum (June 2022) (Attachment A).

FLORIDA SCRUB-JAY

Comment 1: As a conservation measure to benefit the survival and recovery of the scrub-jay, the FDOT has proposed to compensate for impacts to 2 occupied scrub-jay territories located in lands identified in FDOT’s biological assessment as the Collier Property. The construction of the proposed SR 29 bypass roadway East of Immokalee is expected to result in the loss of two occupied scrub-jay territories that comprise 52.14 acres of habitat. To compensate for the loss of the two occupied territories, the FDOT has proposed to provide at least 104.28 acres of currently occupied scrub-jay habitat at a Service-approved scrub-jay conservation bank.

The Project will also result in the loss of 10.41 acres of potential scrub-jay habitat that is located within a 151.5-acre conservation area at the Immokalee Airport known as the Upland Management Area (UMA). This area was established to protect and manage scrub habitat for the scrub-jay and other scrub dependent species by the Collier County Airport Authority through approval by the Federal Aviation Administration in association with and as documented in the Service’s biological opinion for improvements to the airport dated January 14, 1998. This area was established within the intent that it be protected in perpetuity to benefit the scrub-jay. However, it appears the appropriate protective easement

was not established when the biological opinion was issued. Because the bypass roadway will result in the loss of habitat in a conservation area, we request that the FDOT provide at least 41.64 acres of currently unprotected and occupied scrub-jay habitat as compensation for this loss (i.e., compensation provided at a ratio of 4 acres of occupied scrub-jay habitat protected for every acre of habitat impacted within the existing conservation area). We find this rate of compensation to be appropriate because the impacts are associated with an area that was set aside for conservation purposes in association with a previous Federal action.

In summary, we request that the FDOT provide a total of 145.92 acres of occupied scrub-jay habitat (104.28 associated with the loss of two scrub territories within the Collier Property + 41.64 associated with scrub-jay habitat within UMA = 145.92) as a conservation measure to compensate for the loss of scrub-jay habitat resulting from the Project. Please indicate if this is acceptable to the FDOT.

Response 1: *Based on our review of the Biological Opinion (BO) issued in 1998 by the USFWS for the Immokalee Regional Airport (FWS Log No.: 4-1-97-F-556), the USFWS indicated in the BO Terms and Conditions that the 151.5-acre Upland Management Area (UMA) was to be established for compensation for anticipated loss of occupied scrub-jay habitat. This area is currently under a conservation easement to the Florida Fish and Wildlife Conservation Commission (FWC) (previously the Florida Game and Freshwater Fish Commission) for gopher tortoise conservation. The land was intended to be managed for both species.*

While historically Type I and Type II habitat, the UMA is now in poor condition due to the management plan not being implemented as intended. The plan includes alternating prescribed burns and herbicide use to address nuisance vegetation and overgrowth. Prescribed burns have not been utilized due to airport safety concerns. Accordingly, the habitat has deteriorated. Based upon field observations in 2010, 2011, 2018, and the species-specific survey conducted in October 2020, scrub-jays are not present within the UMA.

The FDOT design teams have identified two new Stormwater Management Facilities (SMF) within scrub-jay habitat:

- *One SMF is located within the limits of the UMA, within an area isolated from the remainder of the UMA by the proposed bypass roadway (**Attachment B: Florida scrub-jay Habitat with Pond Sites and UMA Map**).*
 - *The drainage analysis identified and studied several sites seeking to avoid and/ or minimize impacts to the UMA. It was recommended that locating an SMF in the remainder of that parcel would have the fewest impacts.*
 - *This SMF will result in an additional 5.34 acres of impact, in addition to the previously identified 10.41 acres of impact for the bypass road, for a total of 15.75 acres of impact to the UMA.*
- *The second SMF is located within the portion of the Collier property where two active scrub-jay territories have been identified (**Attachment B: Florida scrub-jay Habitat with Pond Sites and UMA Map**). Since FDOT has proposed a total take of both territories and will mitigate for these impacts as noted in your comment*

above, there will be no additional acreage of impact associated with the SMF in this location.

*The USFWS has proposed a replacement ratio of four acres for each acre impacted within the UMA by the project. Based on discussions with the FFWCC in November 2013 (see **Attachment C: FFWCC Meeting Notes**), they require a replacement ratio of two acres for each acre of UMA habitat impacted. The FDOT proposes to mitigate at a ratio of two acres per one acre of impact for the loss of 52.14 total acres of occupied territory on the Collier property and a ratio of four acres per one acre of impact for the loss of 15.75 acres of the UMA. Therefore, FDOT will provide a total of 167.28 acres of occupied scrub-jay habitat (104.28 associated with the loss of two scrub-jay territories within the Collier Property + an additional 63 acres associated with potential habitat loss within the UMA = 167.28) as a conservation measure to compensate for the loss of scrub-jay habitat resulting from the Project.*

Comment 2: The Service notes that FDOT's SR 29 Project is not located with scrub-jay mitigation service area (see attached map) that contains an approved scrub-jay conservation bank. Consequently, we request that the FDOT provide 145.92 acres of occupied scrub habitat either through the acquisition of credits at the Tippen Bay Scrub-Jay Conservation Bank in DeSoto County (the bank closest to the Project site) or by providing funding to the Service's Florida Scrub-jay Conservation Fund sufficient to acquire 145.92 acres of scrub-jay habitat. Please indicate if this acceptable to the FDOT.

Response 2: *In addition to the two alternative mitigation options identified by the USFWS, the FDOT requests approval to utilize available Florida scrub-jay mitigation credits at the Platt Branch Mitigation Bank in Highlands County. This mitigation bank is approximately the same distance from the project site as the Tippen Bay Scrub-Jay Conservation Bank in DeSoto County. FDOT proposes to provide a total of 167.28 acres of occupied scrub-jay habitat and requests the addition of Platt Branch as a mitigation option. As discussed during the November 6, 2023 meeting, the Platt Branch MOU with USFWS would not need to be modified, but the BO could address this request for out of service area mitigation. The location of the two alternative mitigation options is depicted in **Attachment D: Map of Scrub-Jay Mitigation Sites Depicting Mileage**. The current ledger for Platt Branch showing the proposed deduction of the 167.28 credits is depicted in **Attachment E: Platt Branch Species Credit Ledger**.*

FLORIDA BONNETED BAT

Comment 1: The Service notes that acoustic surveys conducted by FDOT's consultant in the Project footprint recorded the call of a Florida bonneted bat (FBB) within 1 and ½ hours of sunset. This evidence suggests that the FBB is likely to be roosting on the Project site and is reasonably certain to occur. Consequently, the Service finds that the Project may affect and is likely to adversely affect the FBB. The Service notes that the FDOT has determined that the Project may affect, but is not likely to adversely affect the FBB. We recommend that you change your determination for the FBB in association with the Project to may affect, likely to adversely affect. Please let me know if this is acceptable to the FDOT.

Response 1: *The determination for the bonneted bat of "may affect, likely to adversely affect" is acceptable.*

Comment 2: As a conservation measure to benefit the FBB and to help meet the FDOT's and the Federal Highway Administration's responsibilities pursuant to Section 7(a)(1) of the Endangered Species Act of 1973, we request that the FDOT contribute \$10,000.00 to the Service's Florida bonneted bat fund administered by the Wildlife Foundation of Florida. Monies accumulated in the fund are used to support measures that aid in the survival and recovery of FBB. Please indicate if this acceptable to the FDOT.

Response 2: *The FDOT agrees to contribute \$10,000.00 to the USFWS Florida Bonneted Bat Fund (Attachment F: FBB Conservation Fund Fee, page 4).*

AUDUBON'S CRESTED CARACARA

Comment 1: Nest surveys conducted by the FDOT's consultant in association with the Project documented an active nest of the Audubon's crested caracara (caracara) approximately 279 feet west of the Project footprint approximately 1 mile north of Oil Well Road.

The Service has determined that the Project will result in the loss of caracara habitat within the Primary Zone (i.e., all lands within 985 feet) of this nest site and is likely to adversely affect the caracara. As such, we will include the caracara in the biological opinion for the project and conduct the jeopardy analysis associated with project for this species. The Service notes that the FDOT has determined that the Project may affect, but is not likely to adversely affect the caracara. We recommend that you change your determination for the caracara in association with the Project to may affect, likely to adversely affect. Please let me know if this is acceptable to the FDOT.

Response 1: *The subject nest (Station 10) is located south of the CR 846 intersection and is not within the limits of the project segment being advanced. The FDOT will re-initiate ESA Formal Section 7 consultation during design and permitting phase for this subject nest. There is an active nest (Station 1) located in the segment north of the CR 846 intersection, approximately 0.55 miles west of SR 29 and south of SR 82 (Exhibit 3: Caracara Secondary Zone with Pond Sites Location Map). The northernmost portion of this project segment, approximately 0.6 miles (3,100 feet), is within the secondary zone of this nest. The proposed effects determination for the caracara is "may affect, not likely to adversely affect". This is based on the following: the project's location within the nest's secondary zone; the acquisition of high-quality upland and wetland credits, which will also mitigate for the loss of habitat; and FDOT's commitment to implement conservation measures identified on p. 4-3 of the NRE Addendum (listed below).*

Land clearing activities for the project will be conducted outside of the Audubon's crested caracara nesting season (December 1 through April 30) to the greatest extent practicable. Since caracara nesting season is from December 1 through April 30, clearing should be completed between May 1 and November 30. Should it be necessary to conduct land clearing activities within the nesting season, the FDOT or their designated agent will survey suitable caracara nesting habitat to determine if an active caracara nest occurs within or adjacent to the project area. If an active nest is observed within 300 meters (985 feet) of the project area, land clearing within 300 meters (985 feet) of the nest will not occur until monitoring has determined the nest has either been abandoned, or chicks within the nest have fledged and left the nest site.



Exhibit 3: Caracara Secondary Zone with Pond Sites Location Map

Comment 2: Also, please provide the total acreage of the Project footprint that occurs within the Primary Zone of this nest and the acreage of each habitat or land cover type that occurs within this acreage.

Response 2: *The subject nest (Station 10) is located south of the CR 846 intersection and is not within the limits of the project segment being advanced.*

Federally listed species not expected to be affected by the project

EASTERN INDIGO SNAKE

Comment 1: The FDOT has determined that the Project may affect but is not likely to adversely affect the threatened Eastern indigo snake (EIS; *Drymarchon corais couperi*). The Service notes that the species was not observed to occur within the Project footprint during pedestrian inspections conducted by FDOT's consultants. Furthermore, the Service does not have records of EIS occurring in or within 0.62 mile of the Project footprint. Consequently, we find that the EIS is not reasonably certain to occur within the Project corridor and is unlikely to be affected by the Project. We recommend that the FDOT change its determination for the EIS from may affect, not likely to adversely affect, to no effect. Please let me know if this is acceptable to FDOT.

Response 1: *The FDOT accepts the effects determination of “no effect” for the Eastern indigo snake.*

Comment 1: I have been reviewing the plans for the SR 29 from SR 82 to Oil Well Road Project provided in FDOT’s biological assessment dated December 8, 2021. The plans show approximately 41 sites listed as potential pond sites (stormwater treatment ponds I assume). Can you tell me about how many stormwater treatment ponds will be constructed for the project? Also, did your consultant include stormwater treatment ponds located in the portion of the project footprint in the Service’s panther focus area when they calculated the number of panther habitat units (PHUs) impacted by the project and the number of PHUs needed to offset the panther habitat lost due to the project? (see table 3-10 on page 3-73 of your biological assessment). The loss of panther habitat due to the construction of storm water ponds in the panther focus area will need to be accounted for in the PHU calculations before I can finish the biological opinion for the project. If you would like to discuss further, please let me know.

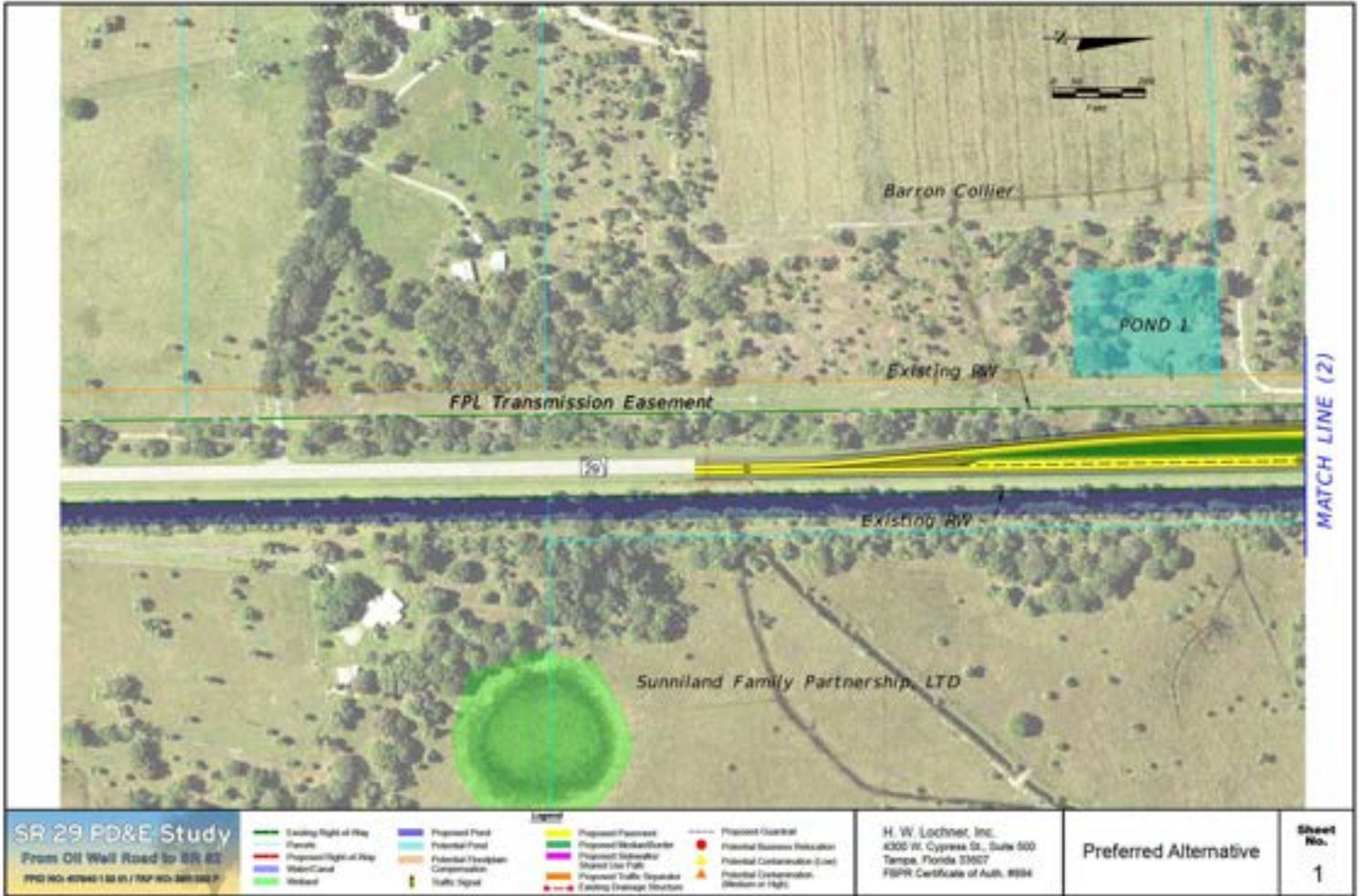
Response 1a: *The first table below (Exhibit 4) summarizes the number and size of the recommended stormwater management facilities (pond sites). The second table (Exhibit 5) summarizes all project panther habitat impacts, including impacts by roadway and stormwater management facilities associated with the segment of the SR 29 project currently funded for construction, SR 29 from the CR 846 Intersection to SR 82. The stormwater management facilities for the southern sections of the project will be provided during the re-initiation of consultation during their design phases.*

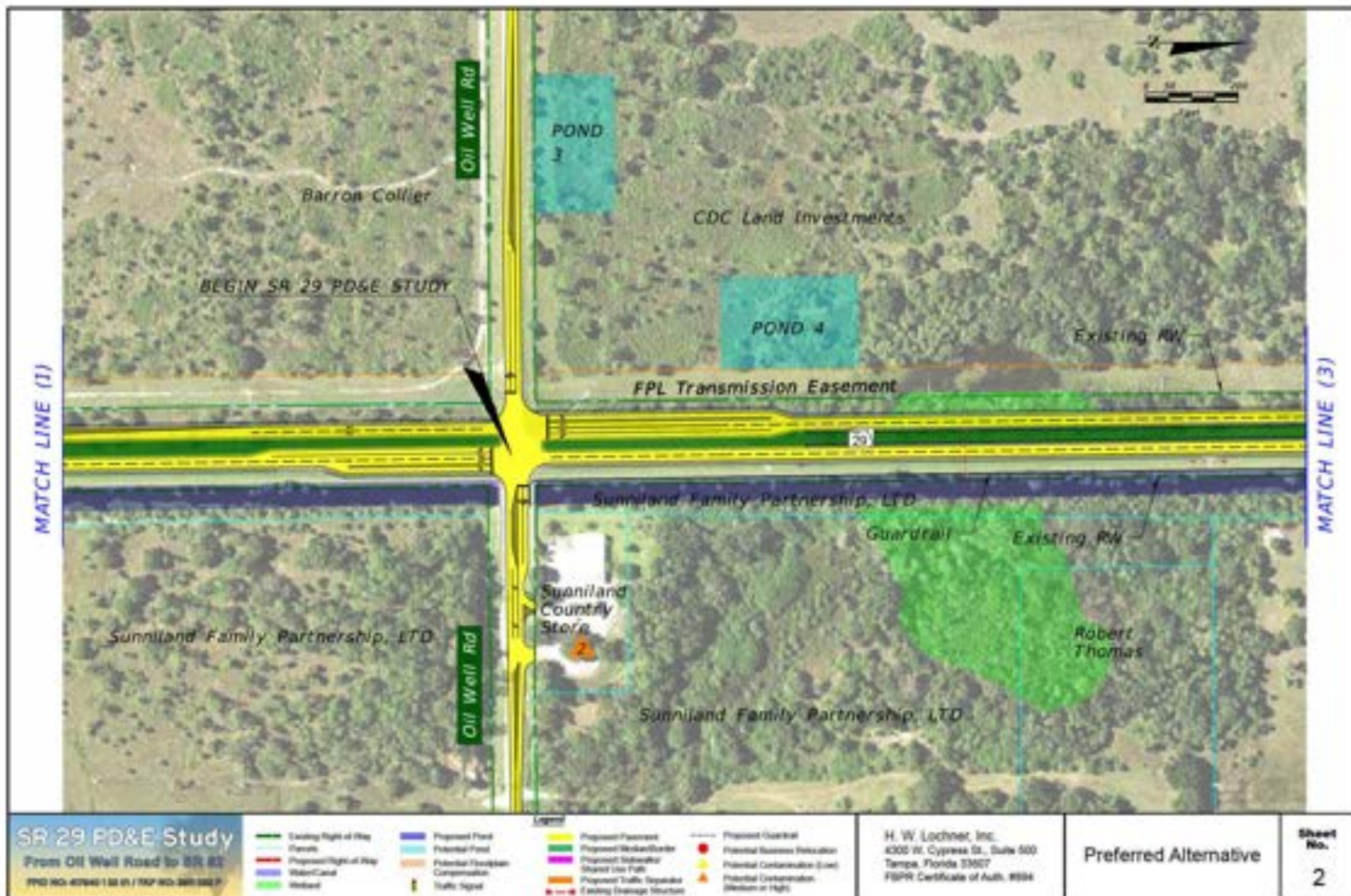
Exhibit 4: Stormwater Management Facilities

<i>Pond Site</i>	<i>Acreage</i>	<i>Secondary Protection Zone</i>
<i>501B</i>	<i>5.5</i>	<i>No</i>
<i>502A</i>	<i>5.59</i>	<i>No</i>
<i>503B</i>	<i>11.16</i>	<i>No</i>
<i>601A</i>	<i>1.5</i>	<i>Yes</i>
<i>602B-1</i>	<i>2.1</i>	<i>Yes</i>
<i>603/604B</i>	<i>5.7</i>	<i>Yes</i>
<i>605A</i>	<i>4.0</i>	<i>Yes</i>
<i>606B</i>	<i>3.1</i>	<i>Yes</i>
<i>607A</i>	<i>2.6</i>	<i>Yes</i>

Exhibit 5: Panther Habitat Unit Assessment Summary Table

Panther Zone	Land Cover	Acres	Habitat Score	Habitat Value	Base Rate	Landscape Multiplier	PHUs Required
Secondary	211 - Improved Pasture	23.44	5.2	121.89	1.98	0.69	166.53
Secondary	213 - Woodland Pasture	1.69	5.7	9.63	1.98	0.69	13.16
Secondary	214 - Row Crops	1.92	4.8	9.22	1.98	0.69	12.6
Secondary	221 - Citrus Groves	7.09	4.7	33.32	1.98	0.69	45.52
Secondary	420 - Upland Hardwood Forest	0.34	9.0	3.06	1.98	0.69	4.18
Secondary	422 - Brazilian Pepper	0.42	3.0	1.26	1.98	0.69	1.72
Secondary	510 - Streams and Waterways	0.66	0.0	0.00	1.98	0.69	0.00
Secondary	530 - Reservoirs	0.10	0.0	0.00	1.98	0.69	0.00
Secondary	814 - Roads and Highways	57.38	0.0	0.00	1.98	0.69	0.00
Secondary Impact Totals		93.04					243.71





SR 29 PD&E Study

From Oil Well Road to SR 82

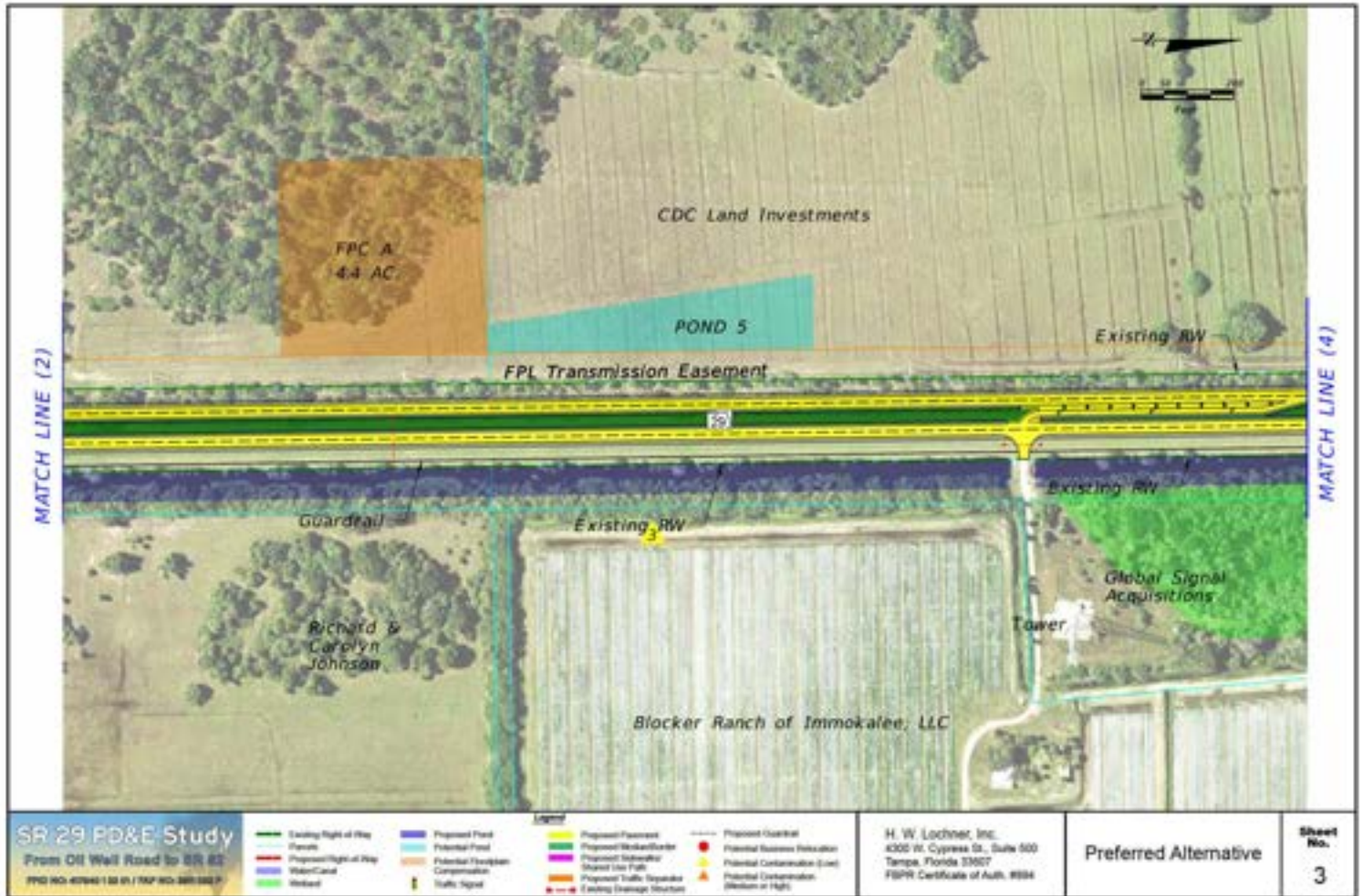
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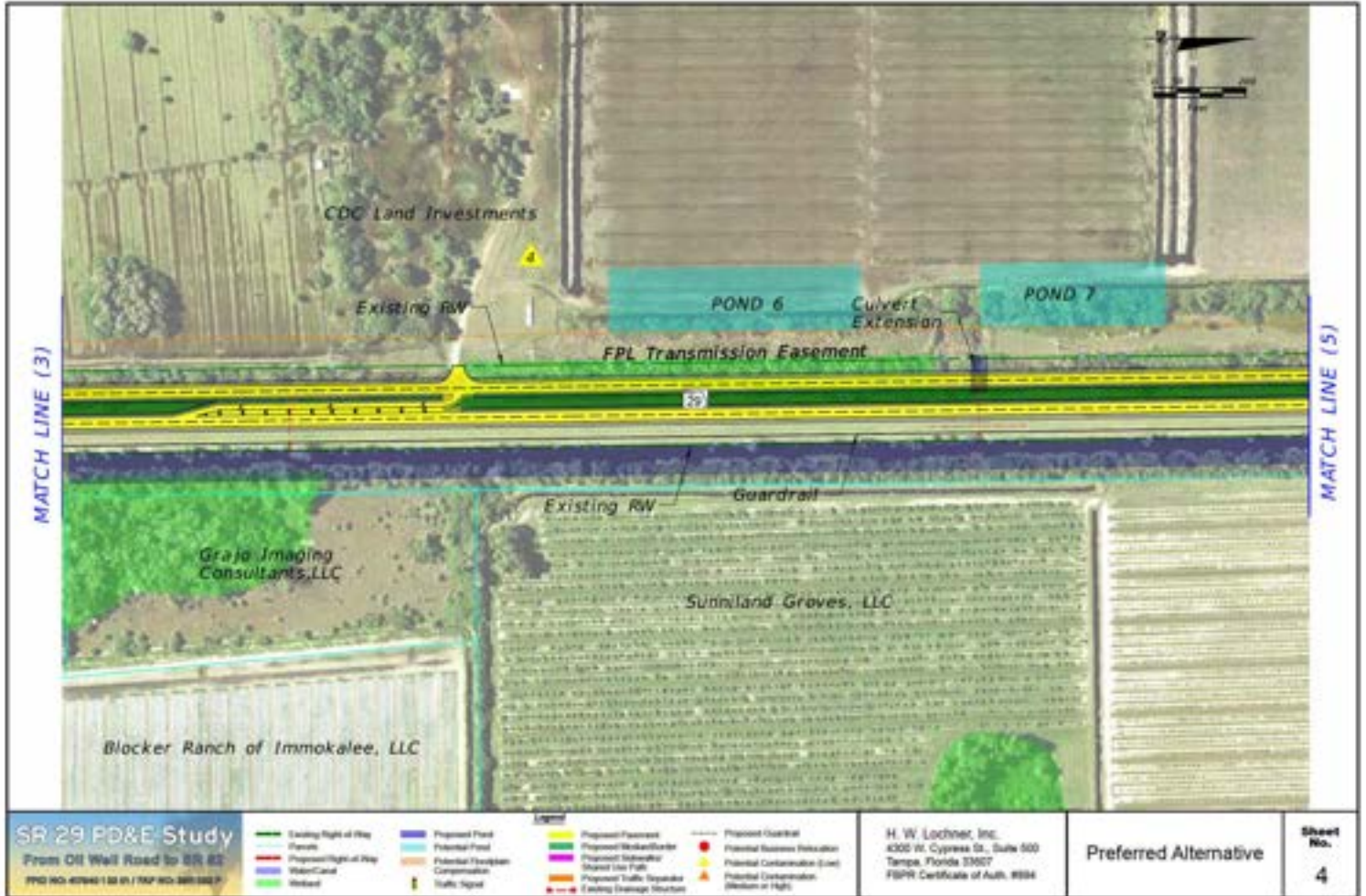
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| Existing Right of Way | Proposed Pond | Proposed Pavement | Proposed Guardrail |
| Driveway | Potential Pond | Proposed Median/Barrier | Potential Business Relocation |
| Proposed Right of Way | Potential Trough/Compression | Proposed Subsurface Drainage (see Note) | Potential Contamination (Low) |
| Water Canal | Traffic Signal | Proposed Traffic Separator | Potential Contamination (Medium or High) |
| Retained | | Existing Drainage Structure | |

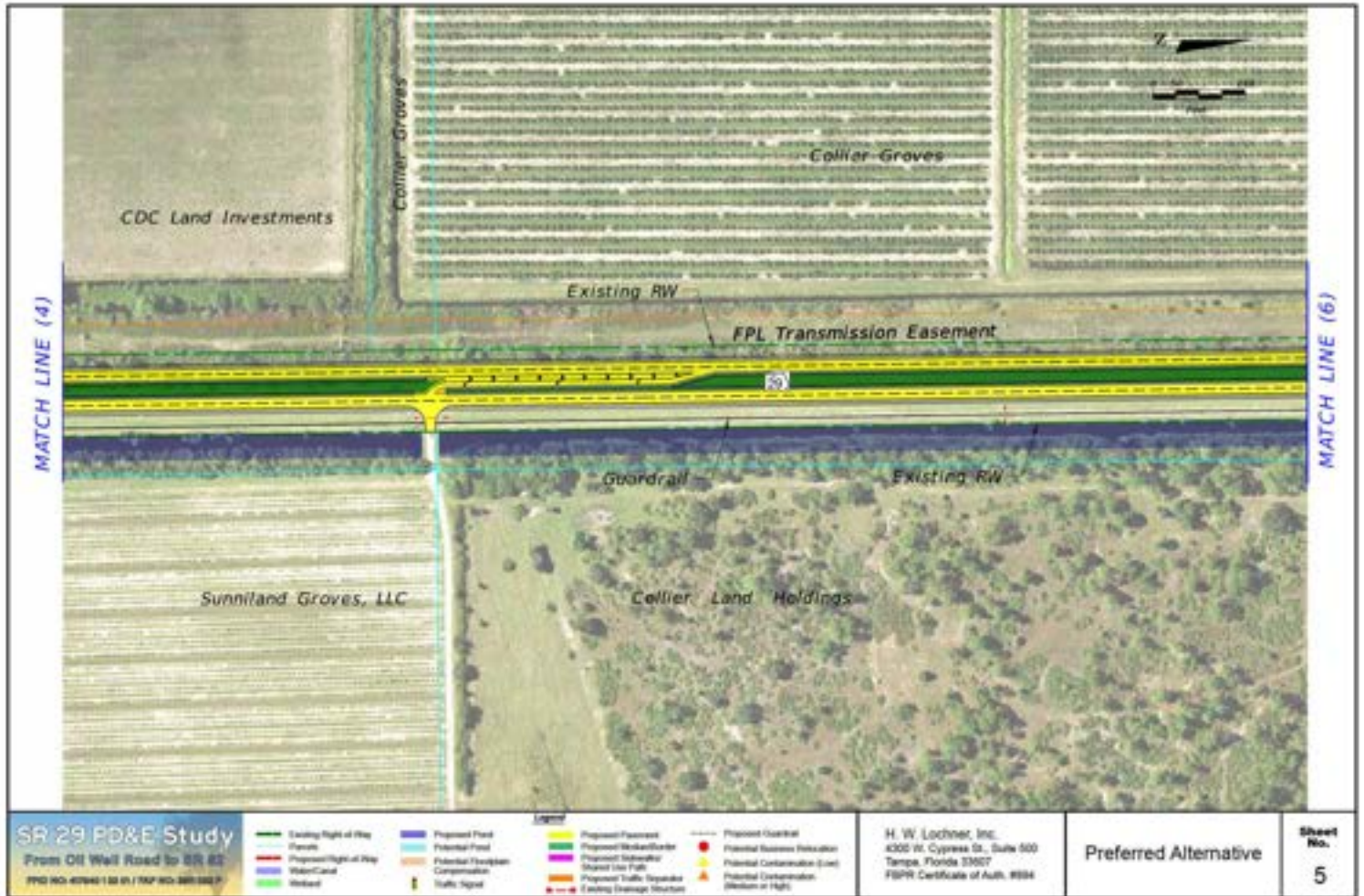
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SR 29 PD&E Study

From Oil Well Road to SR 82

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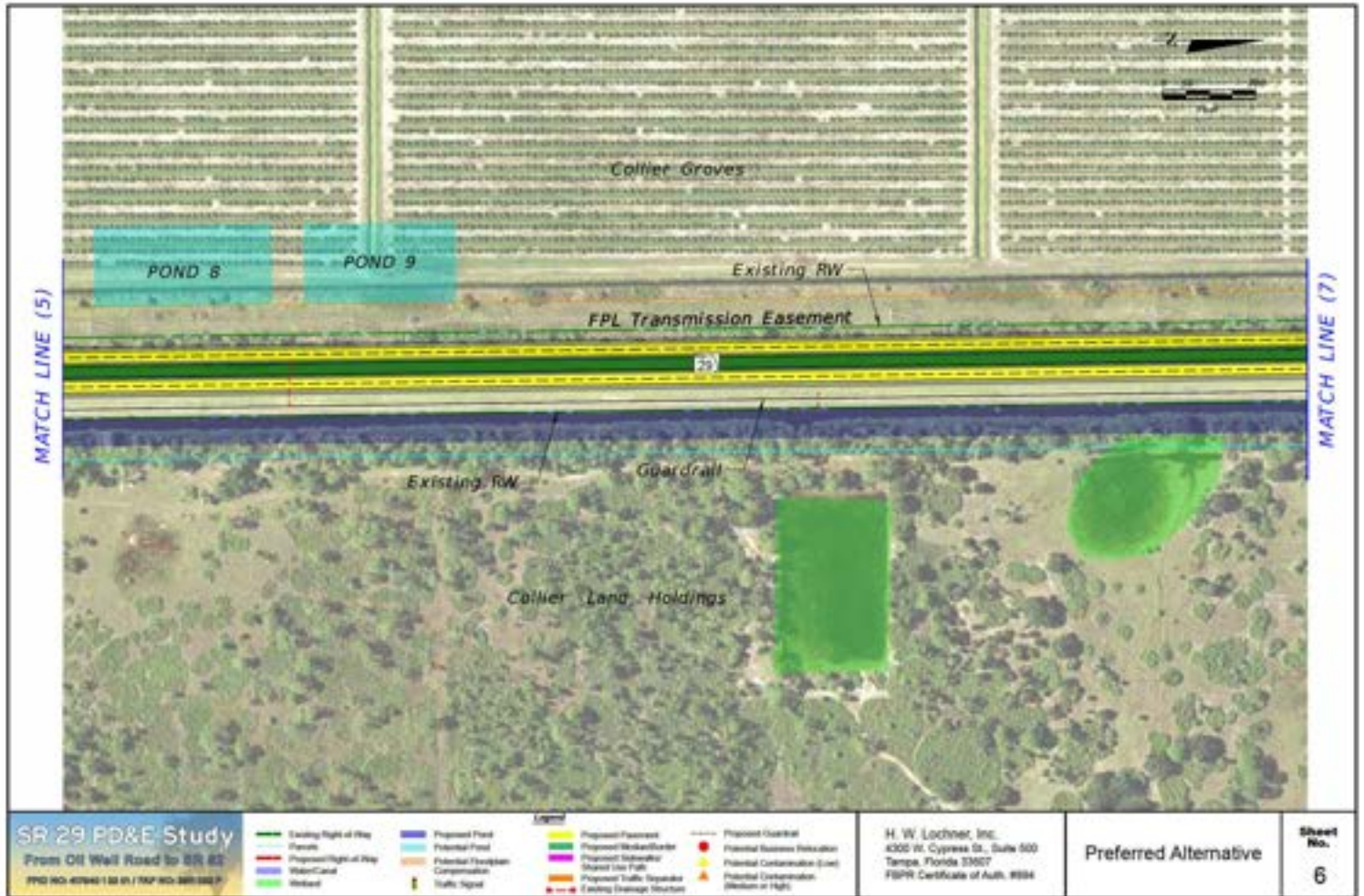
Legend

Existing Right of Way	Proposed Flood	Proposed Pavement	Proposed Guardrail
Easement	Potential Topsoil Compaction	Proposed Median/Center Street Use Right	Potential Business Relocation
Proposed Right of Way	Traffic Signal	Proposed Traffic Separator	Potential Contamination (Leak)
Water Canal	Existing Drainage Structure	Potential Contamination (Spill or Hgt)	
Wetland			

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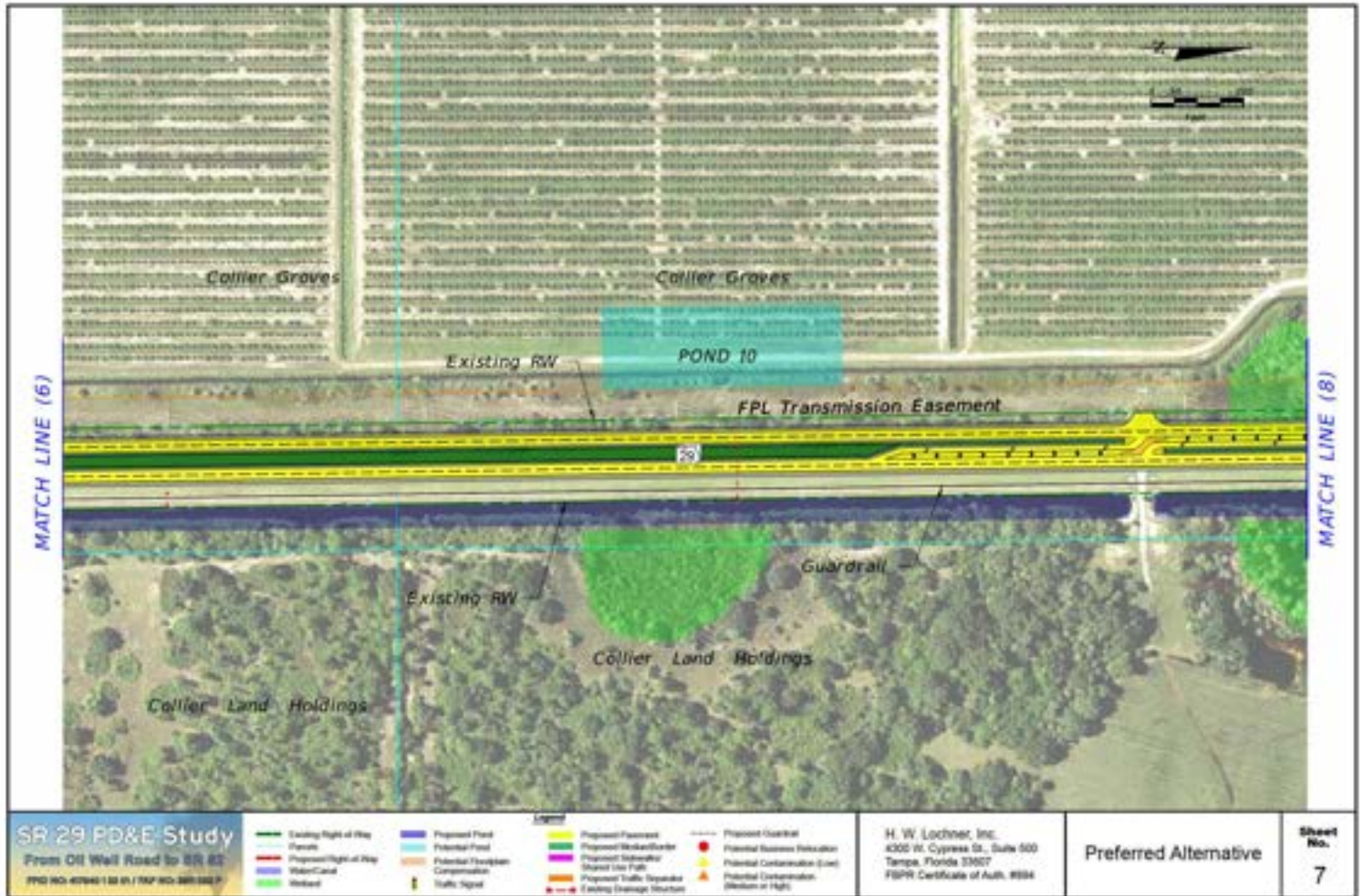
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 280-100-0

Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Potential Business Relocation
Easement	Potential Pond	Proposed Median/Center	Potential Contamination (Low)
Proposed Right of Way	Potential Topsoil/Compaction	Proposed Shoulder/Shoulder Line Right	Potential Contamination (Medium or High)
Water Canal	Traffic Signal	Proposed Traffic Separator	Existing Drainage Structure
Wetland		Existing Drainage Structure	

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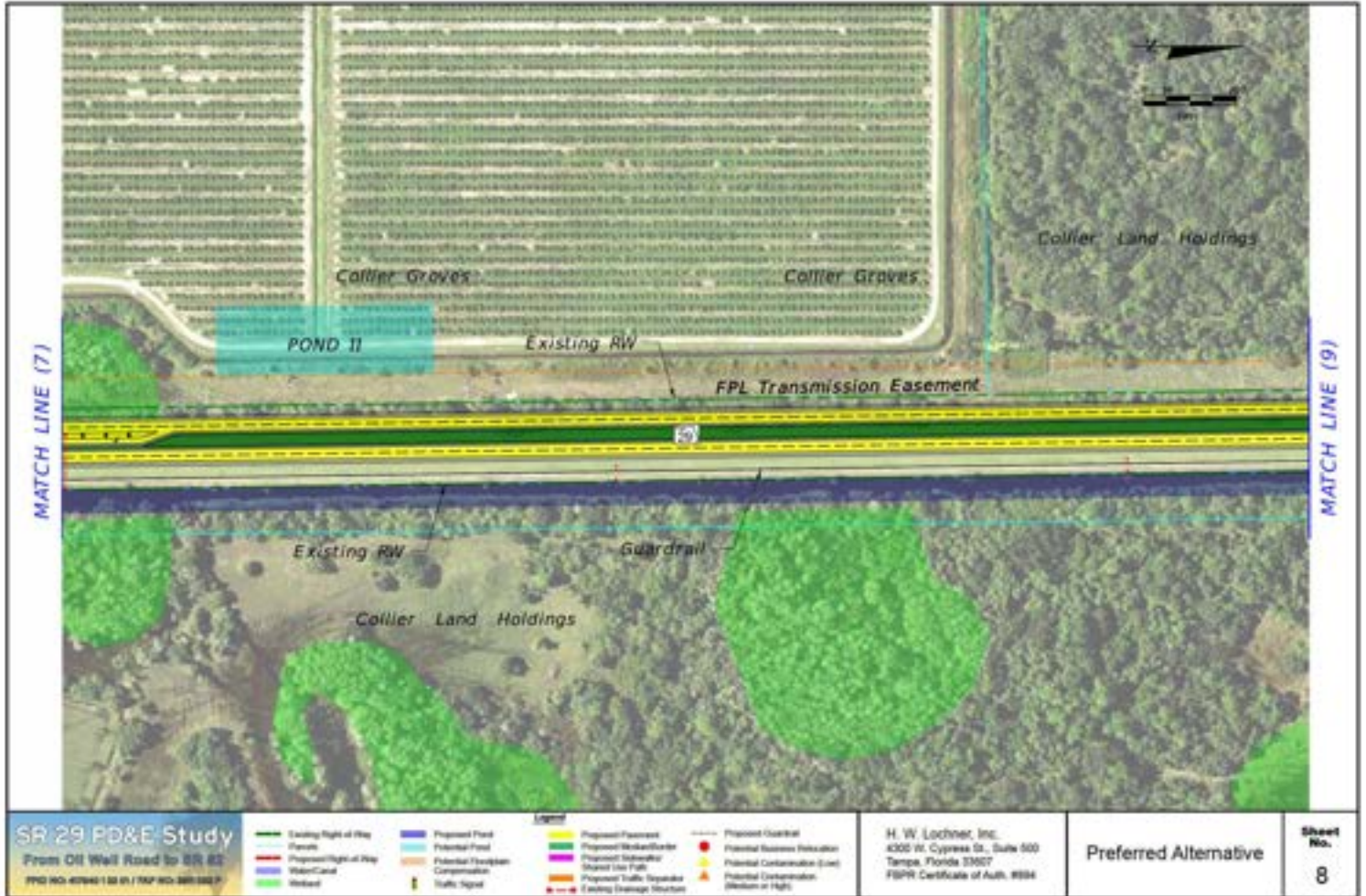
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47945-1 SS 01 / PFD NO. 281-100-1

Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Guardrail
Easement	Potential Pond	Proposed Median/Center	Potential Business Relocation
Proposed Right of Way	Potential Floodplain	Proposed Subparallel	Potential Contamination (Leak)
Water Canal	Potential Floodplain	Proposed Over Right	Potential Contamination (Spill or High)
Wetland	Traffic Signal	Existing Drainage Structure	

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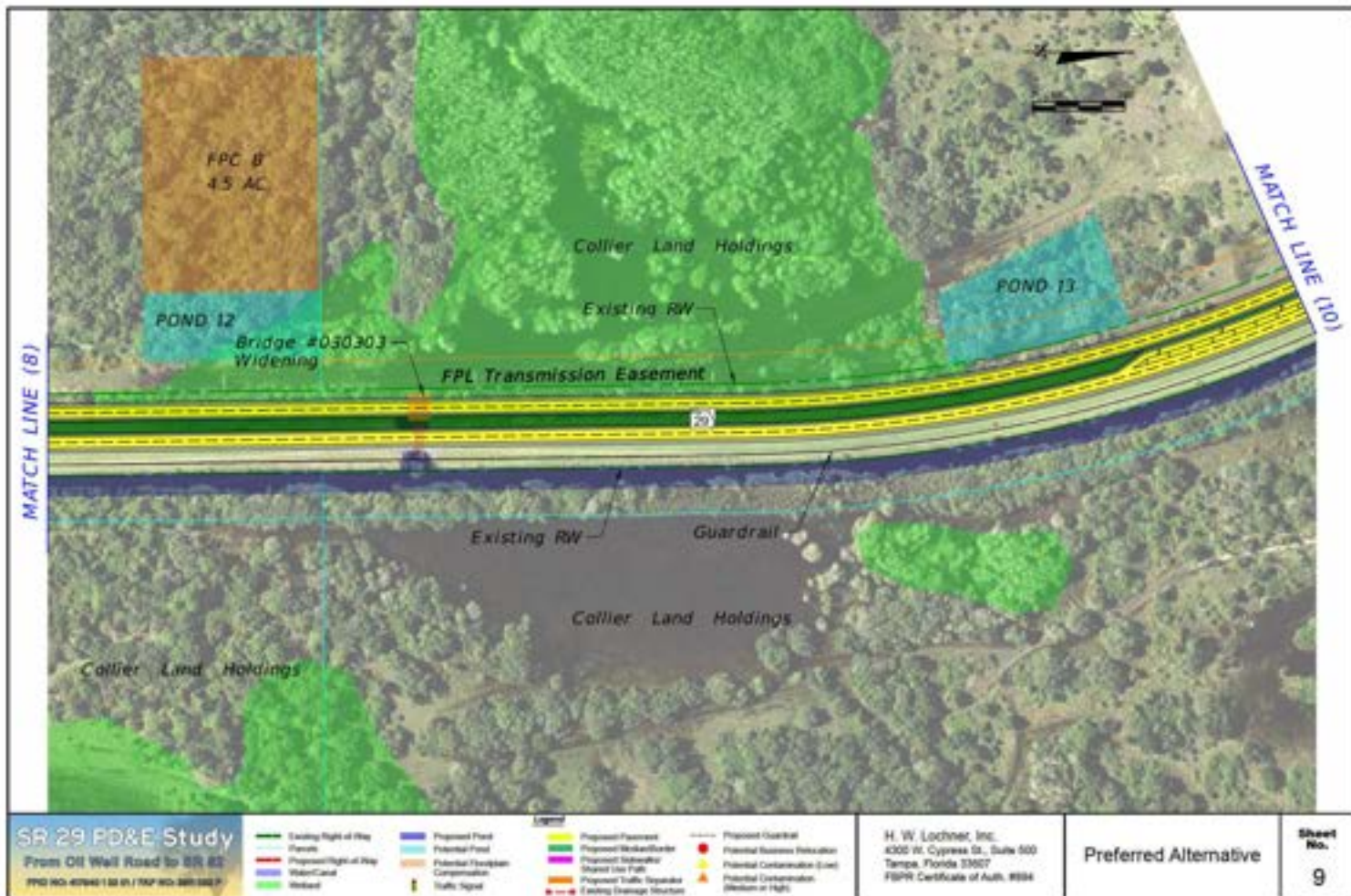
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 From Oil Well Road to SR 82
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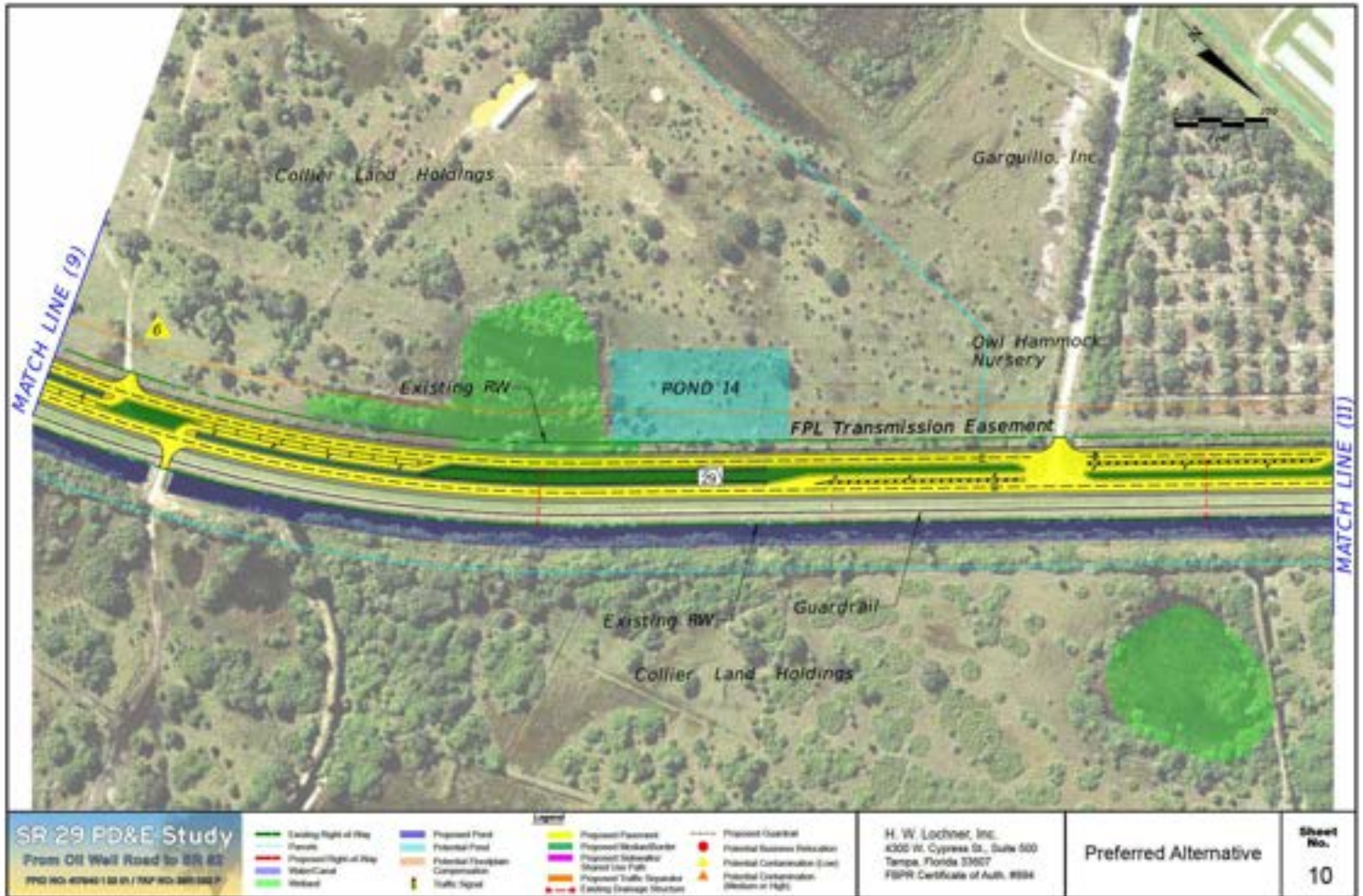
Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Guardrail
Easement	Potential Pond	Proposed Median/Center	Potential Business Relocation
Proposed Right of Way	Potential Topsoil Compaction	Proposed Shoulder/Shoulder Line Right	Potential Contamination (Low)
Water Canal	Traffic Signal	Proposed Traffic Separator	Potential Contamination (Medium or High)
Wetland		Existing Drainage Structure	

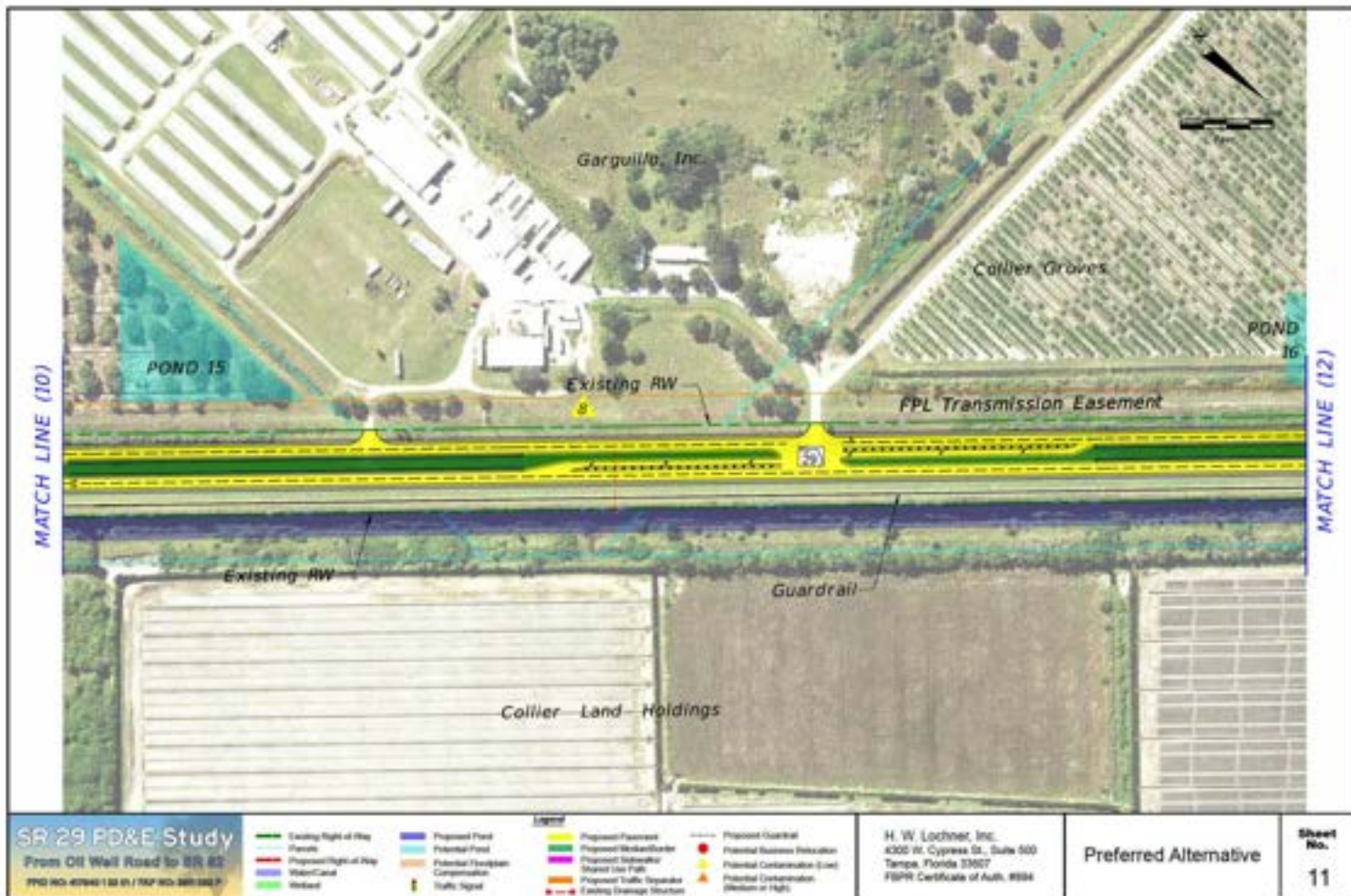
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SR 29 PD&E Study

From Oil Well Road to SR 82

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|-----------------------|-------------------------------|-----------------------------|--|
| Existing Right of Way | Proposed Road | Proposed Pavement | Proposed Guardrail |
| Easement | Potential Pond | Proposed Median/Center | Potential Business Relocation |
| Proposed Right of Way | Potential Roadway Compression | Proposed Subroadway | Potential Contamination (Low) |
| Water Canal | Traffic Signal | Proposed Traffic Separator | Potential Contamination (Medium or High) |
| Wetland | | Existing Drainage Structure | |

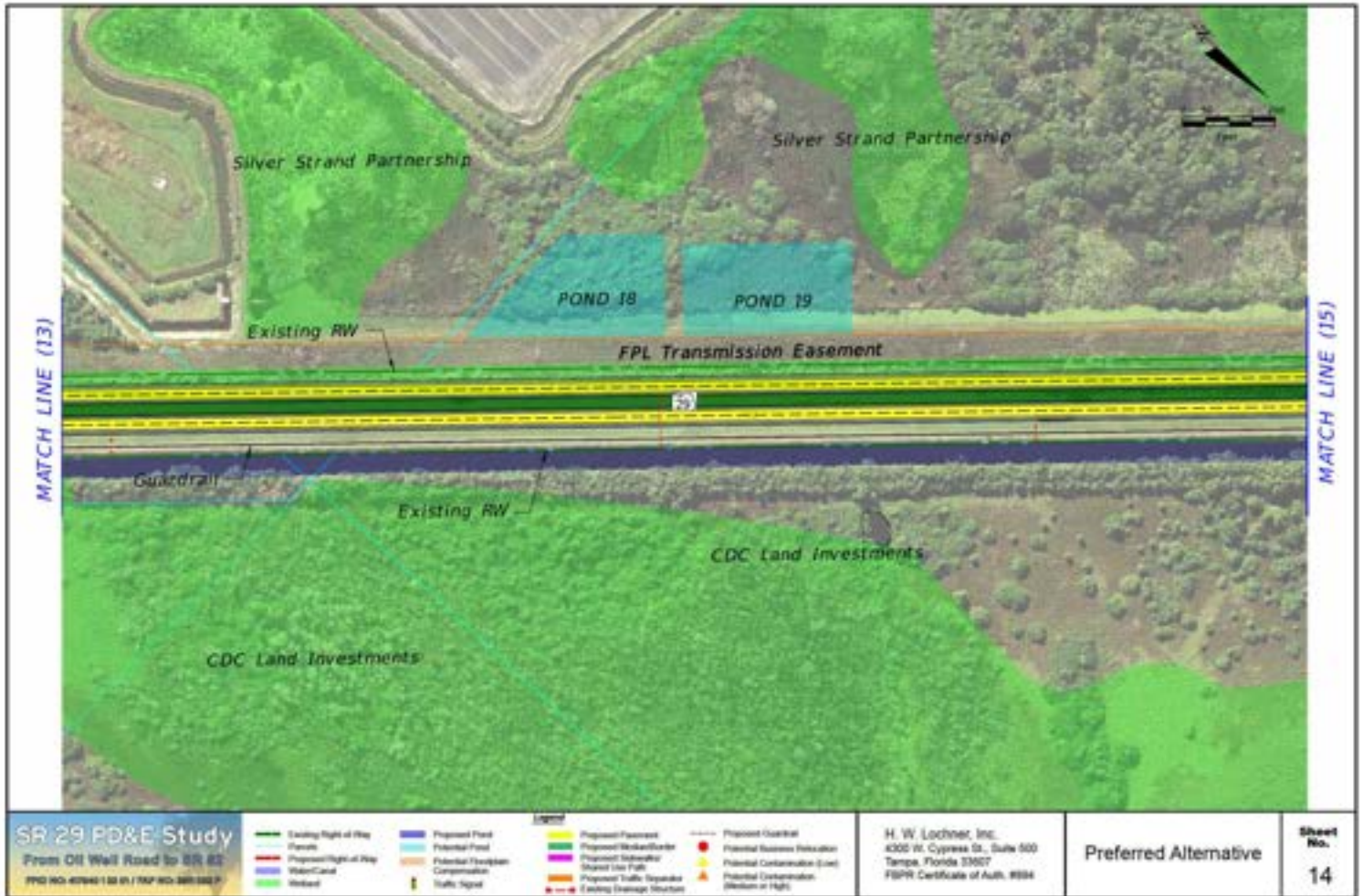
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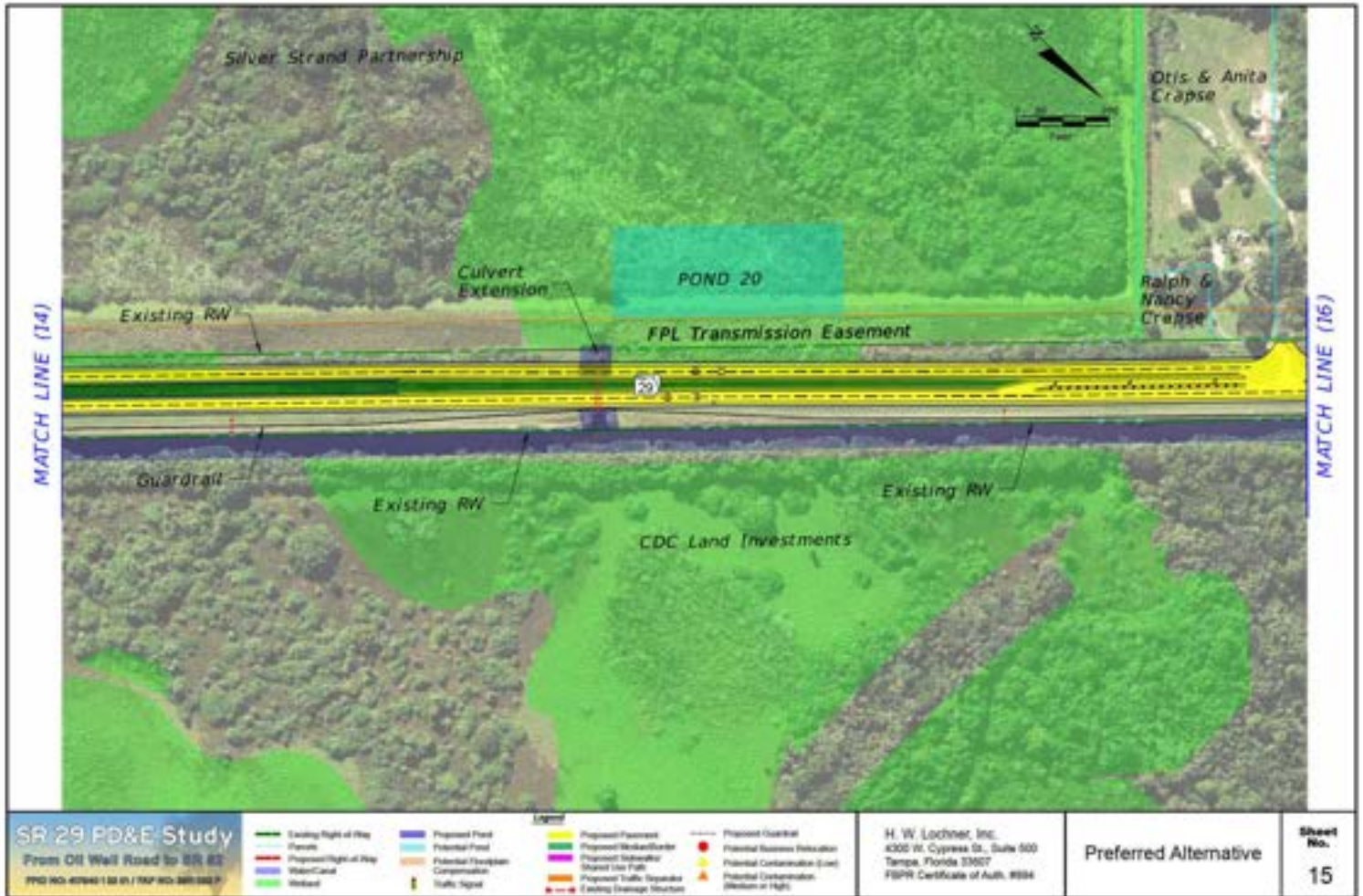
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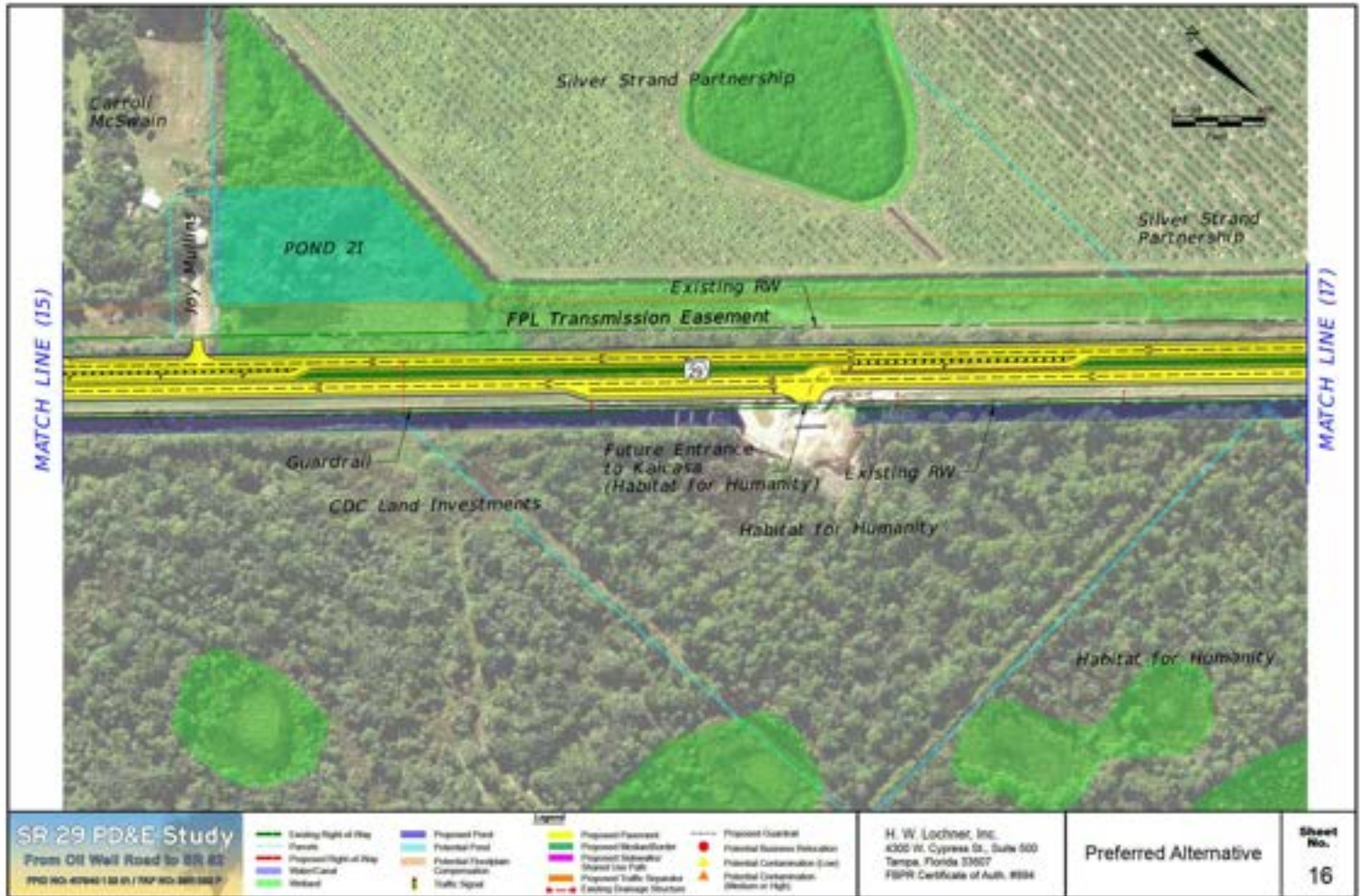
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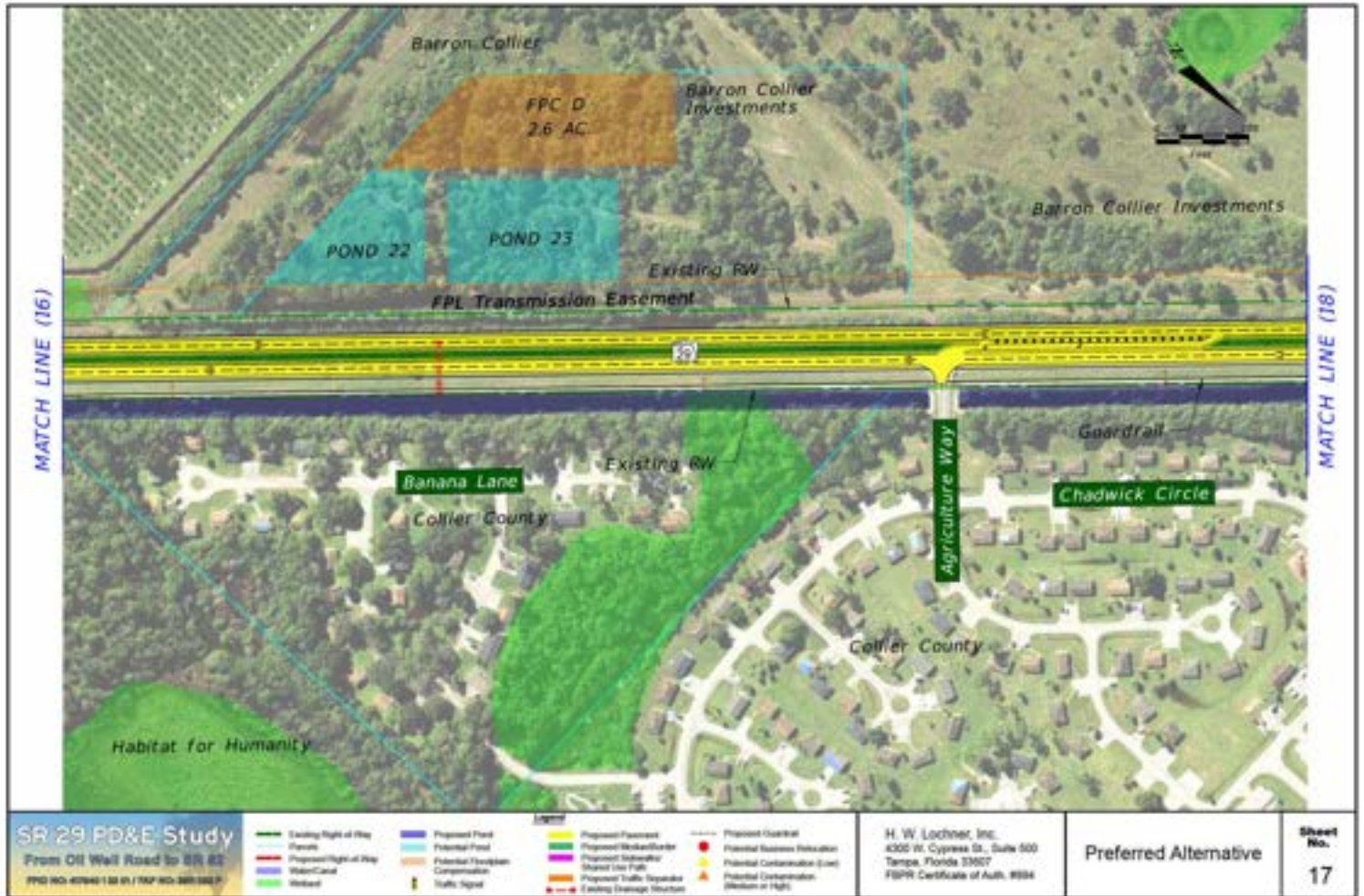
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Existing Right of Way	Proposed Road	Proposed Easement	Proposed Shoulder
Easement	Potential Pond	Proposed Wetland Buffer	Potential Business Relocation
Proposed Right of Way	Potential Floodplain Compression	Proposed Subwater Sealed Use Right	Potential Contamination (Low)
Water/Canal	Traffic Signal	Proposed Traffic Separator	Potential Contamination (Medium or High)
Wetland	Existing Drainage Structure		

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Sheet No.
 15





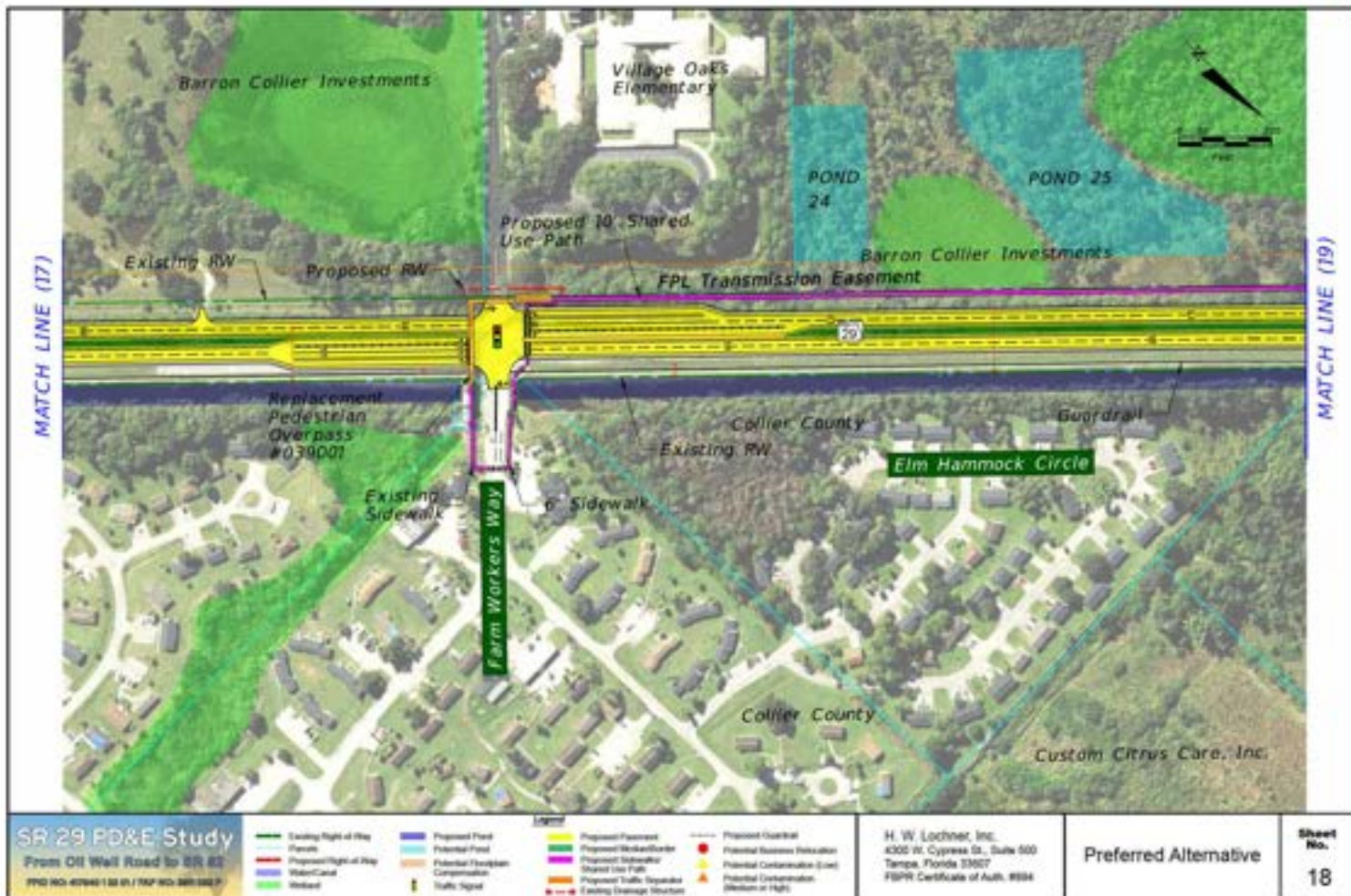
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 280-100-1

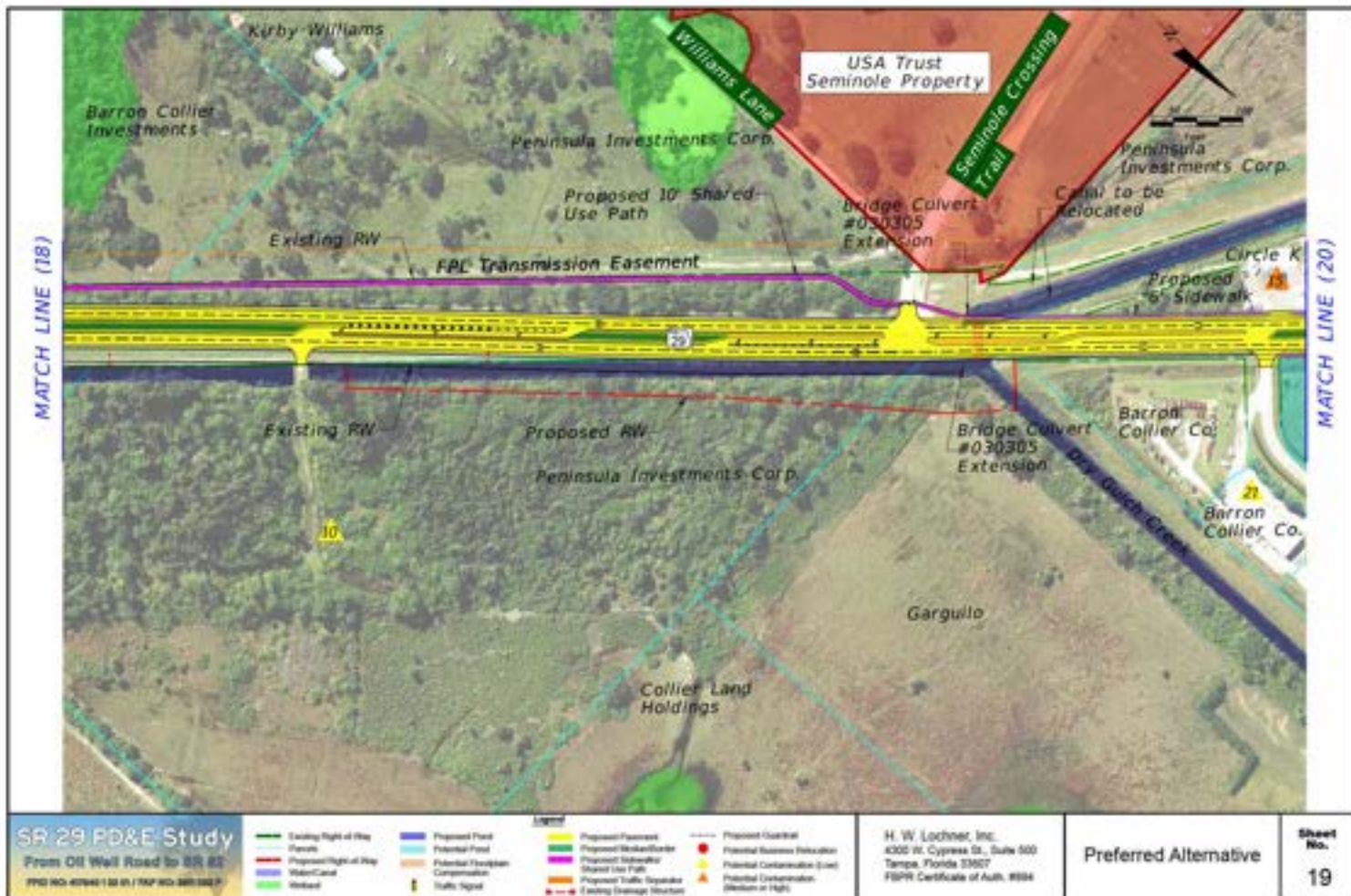
Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Guardrail
Proposed Right of Way	Potential Pond	Proposed Median/Center	Potential Business Relocation
Water/Canal	Potential Roadway Compression	Proposed Signal/Stop Sign/Right	Potential Concentration (East)
Wetland	Traffic Signal	Proposed Traffic Separator	Potential Concentration (West or Right)
		Existing Drainage Structure	

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Sheet No.
 17





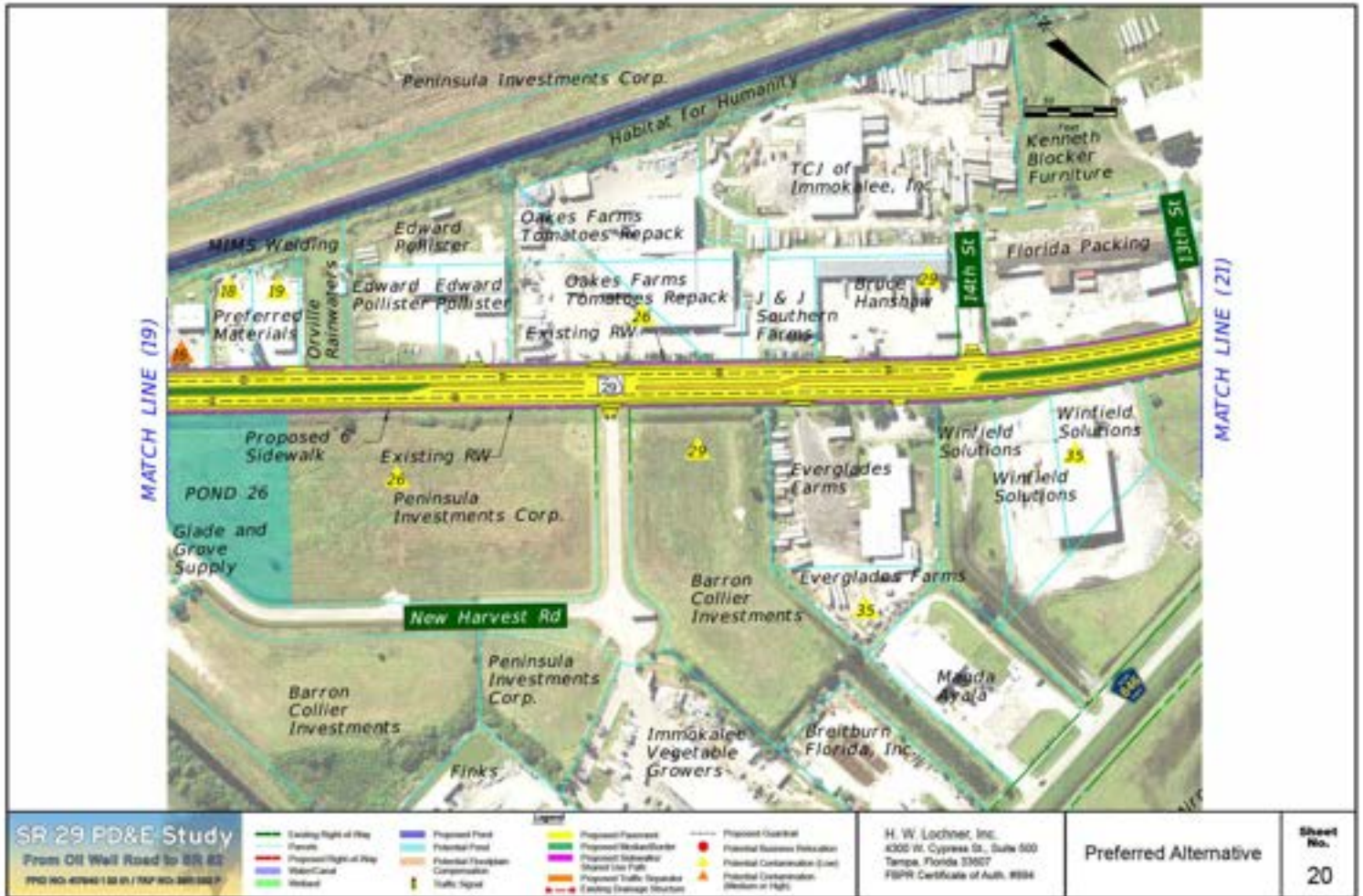
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 280-100 01

Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Overhead
Easement	Potential Pond	Proposed Wetland Buffer	Potential Business Relocation
Proposed Right of Way	Potential Obstruction Compression	Proposed Subwater Shared Use Path	Potential Contamination (Land)
Water/Canal	Traffic Signal	Proposed Traffic Separator	Potential Contamination (Water or High)
Wetland		Existing Drainage Structure	

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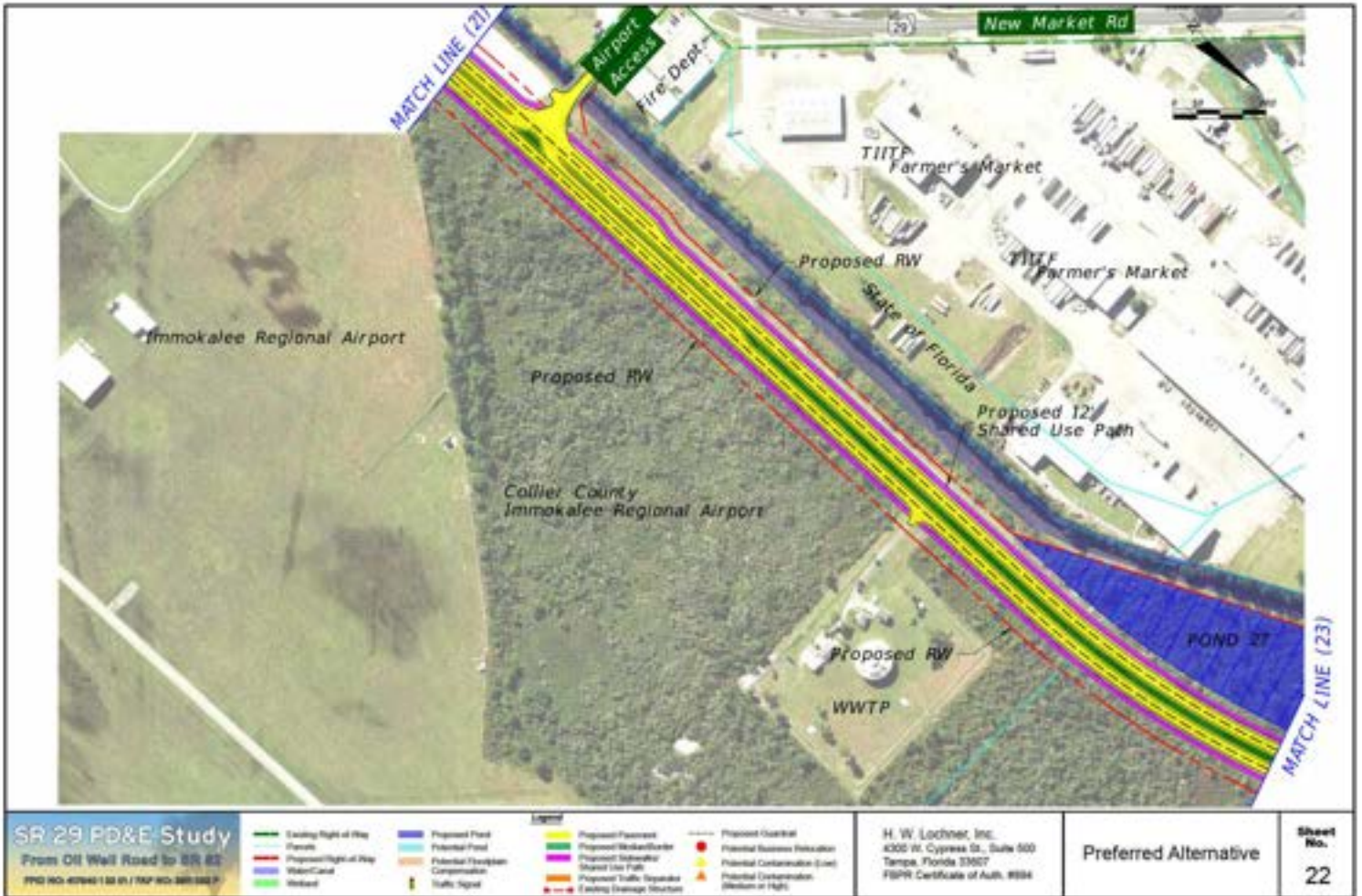
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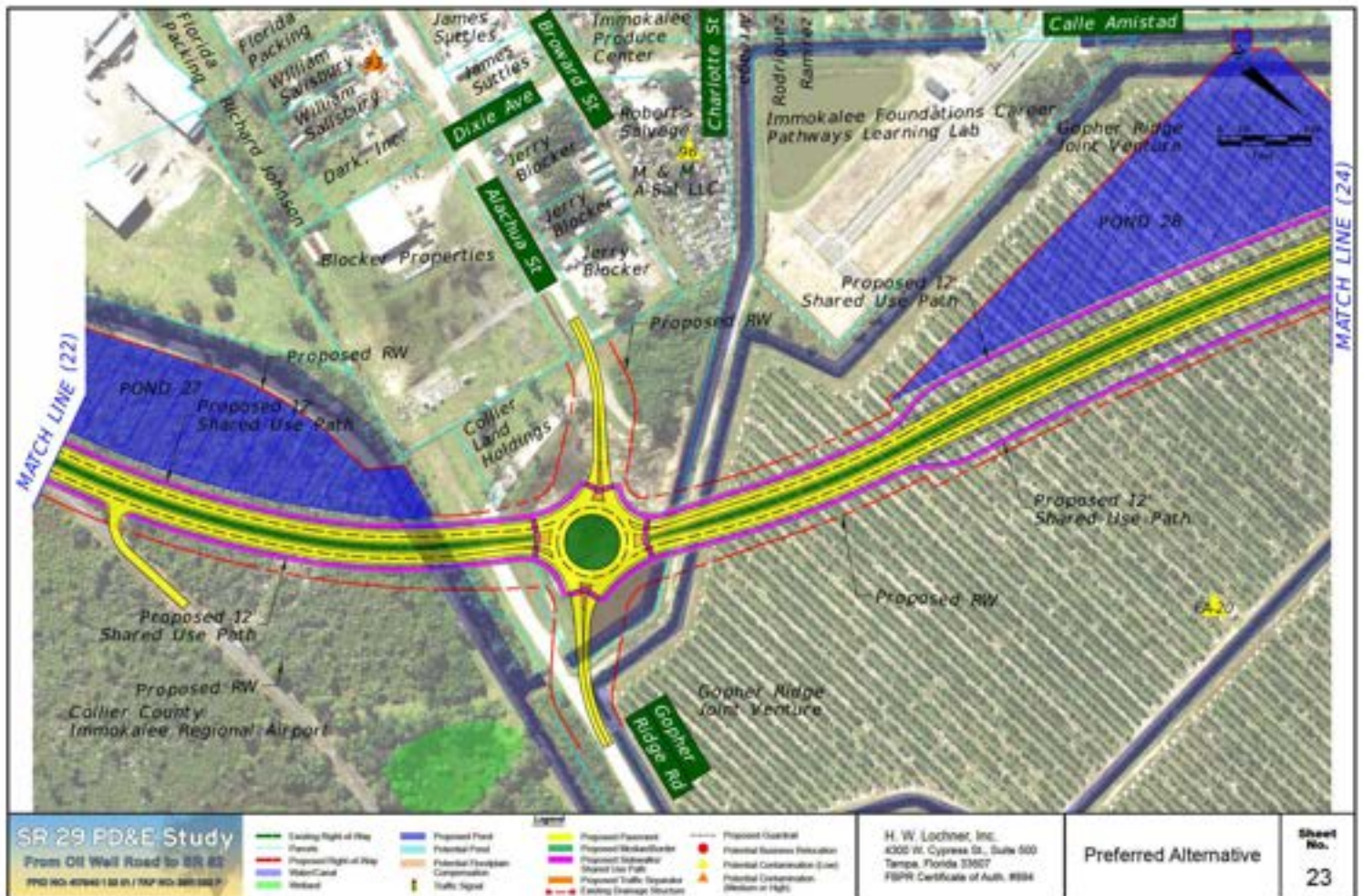
Sheet No.
 19





<p>SR 29 PD&E Study From Old Wall Road to SR 82 PFD NO. 47941-1 03 01 / PFD NO. 2811 03 01</p>	<p>Legend</p> <ul style="list-style-type: none"> Existing Right of Way Proposed Road Proposed Right of Way Water/Canal Wetland Potential Flood Potential Troubled Compression Traffic Signal Proposed Pavement Proposed Median/Center Proposed Submarket Street Use Traffic Proposed Traffic Separator Existing Drainage Structure Proposed Overfall Potential Business Interruption Potential Contamination (Land) Potential Contamination (Water or High) 	<p>H. W. Lochner, Inc. 4300 W. Cypress St., Suite 500 Tampa, Florida 33607 FBRP Certificate of Auth. #994</p>	<p>Preferred Alternative</p>	<p>Sheet No. 21</p>
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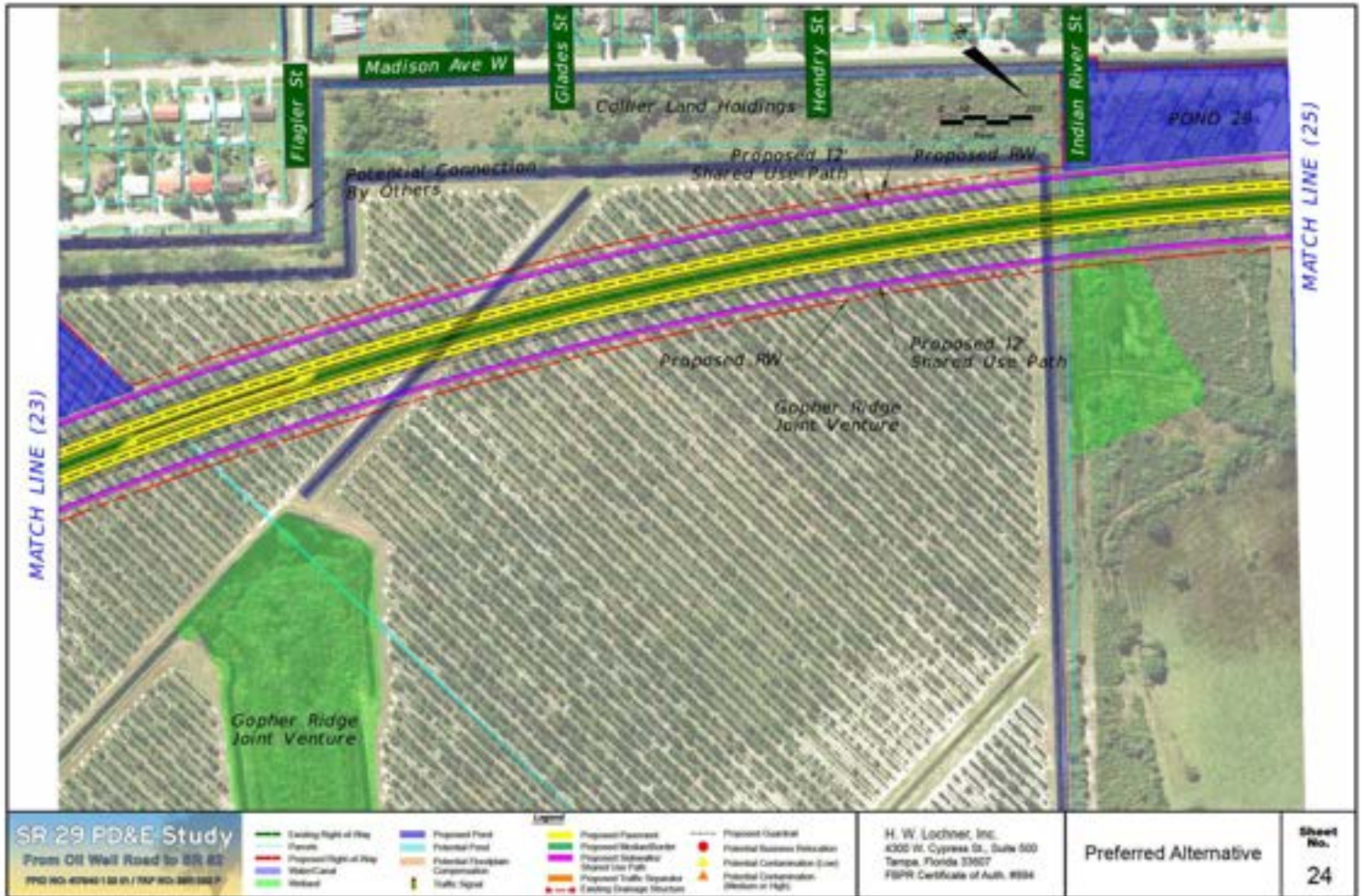
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 281-002 P

Legend	
Existing Right of Way	Proposed Road
Easement	Potential Pond
Proposed Right of Way	Potential Obstruction Compression
Water Canal	Traffic Signal
Wetland	Proposed Pavement
Wetland	Proposed Median/Center
Wetland	Proposed Shoulder
Wetland	Proposed Shared Use Path
Wetland	Proposed Traffic Separator
Wetland	Existing Drainage Structure
Wetland	Proposed Overhead
Wetland	Potential Business Relocation
Wetland	Potential Contamination (Low)
Wetland	Potential Contamination (Medium or High)

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Sheet No.
23



SR 29 PD&E Study
 From Old Wall Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 280-100-0

Legend			
Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Overlay
Easement	Potential Pond	Proposed Median/Center	Potential Business Relocation
Proposed Right of Way	Potential Floodplain	Proposed Subparallel Shared Use Path	Potential Contamination (Low)
Water Canal	Potential Floodplain Compression	Proposed Traffic Separator	Potential Contamination (Medium or High)
Wetland	Traffic Signal	Existing Drainage Structure	

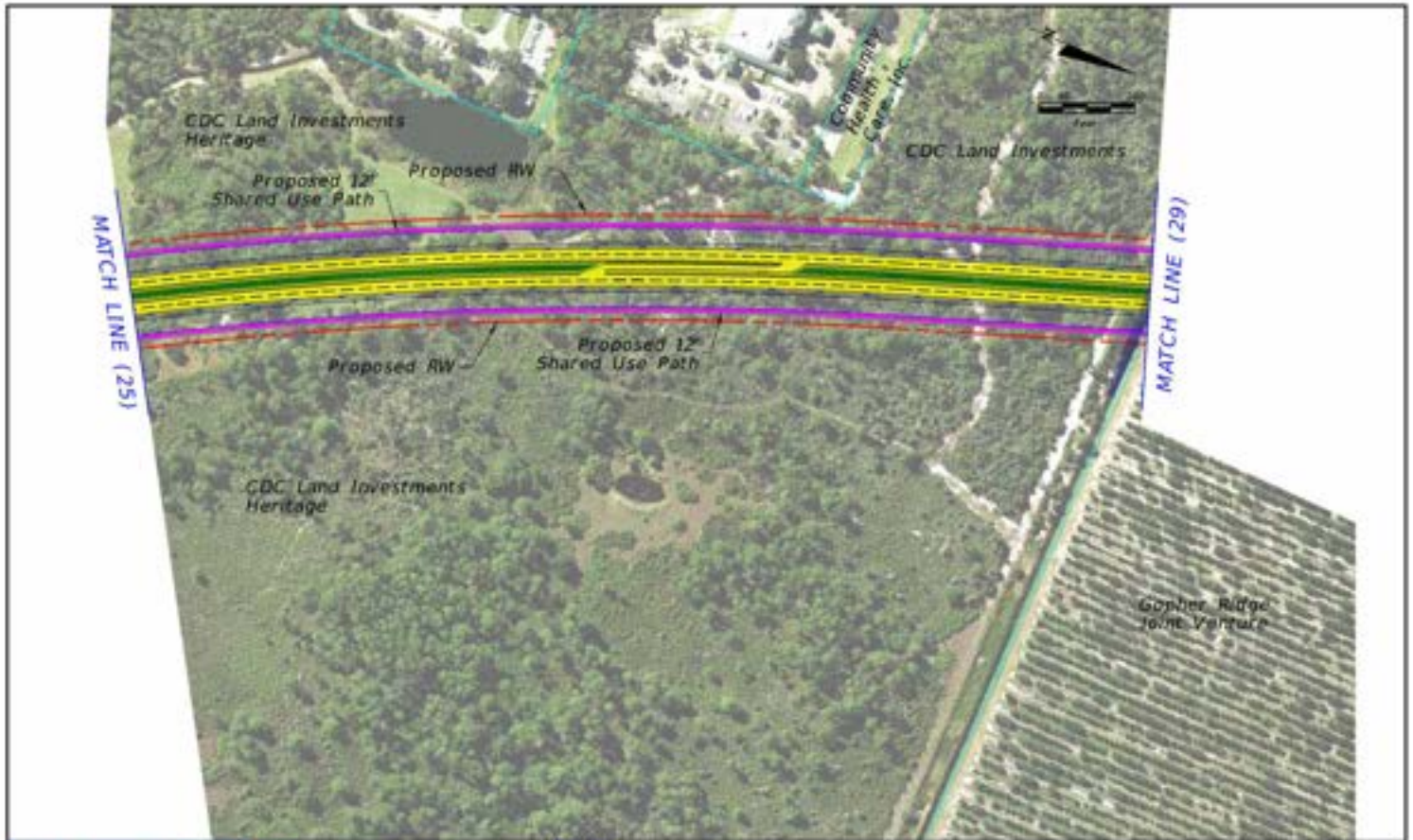
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Sheet No.
 24



<p>SR 29 PD&E Study From Old Wall Road to SR 82 PFD NO. 47940-1 03 01 / PFD NO. 289-100-1</p>	<p>Legend</p> <ul style="list-style-type: none"> Existing Right of Way Proposed Right of Way Water/Canal Retained Proposed Pond Potential Pond Potential Topsoil/Soil Compaction Traffic Signal 	<ul style="list-style-type: none"> Proposed Pavement Proposed Median/Center Proposed Subparallel Shared Use Path Proposed Traffic Separator Existing Drainage Structure 	<ul style="list-style-type: none"> Proposed Shoulder Potential Business Relocation Potential Contamination (Low) Potential Contamination (Medium or High) 	<p>H. W. Lochner, Inc. 4300 W. Cypress St., Suite 500 Tampa, Florida 33607 FSPR Certificate of Auth. #994</p>	<p>Preferred Alternative</p>	<p>Sheet No. 25</p>
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SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 281-002 P

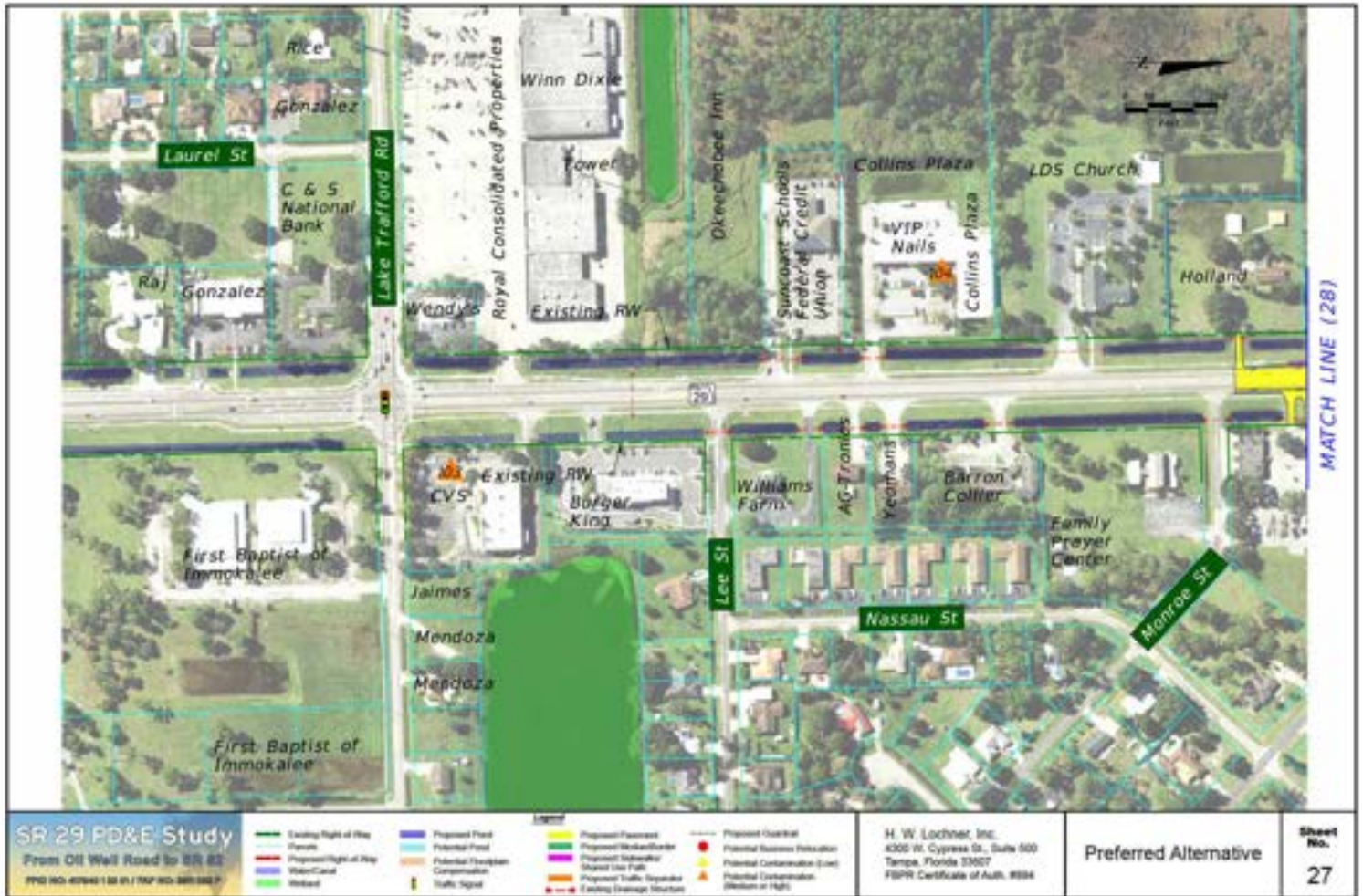
Legend

Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Shoulder
Driveway	Potential Pond	Proposed Median/Center	Potential Business Relocation
Proposed Right of Way	Potential Floodplain	Proposed Subparallel	Potential Contamination (Leak)
Water Canal	Compaction	Proposed Use Path	Potential Contamination (Blowdown or HSP)
Retard	Traffic Signal	Proposed Traffic Separator	
		Existing Drainage Structure	

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Sheet No.
 26





SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 02 01 / PFD NO. 280-000-0

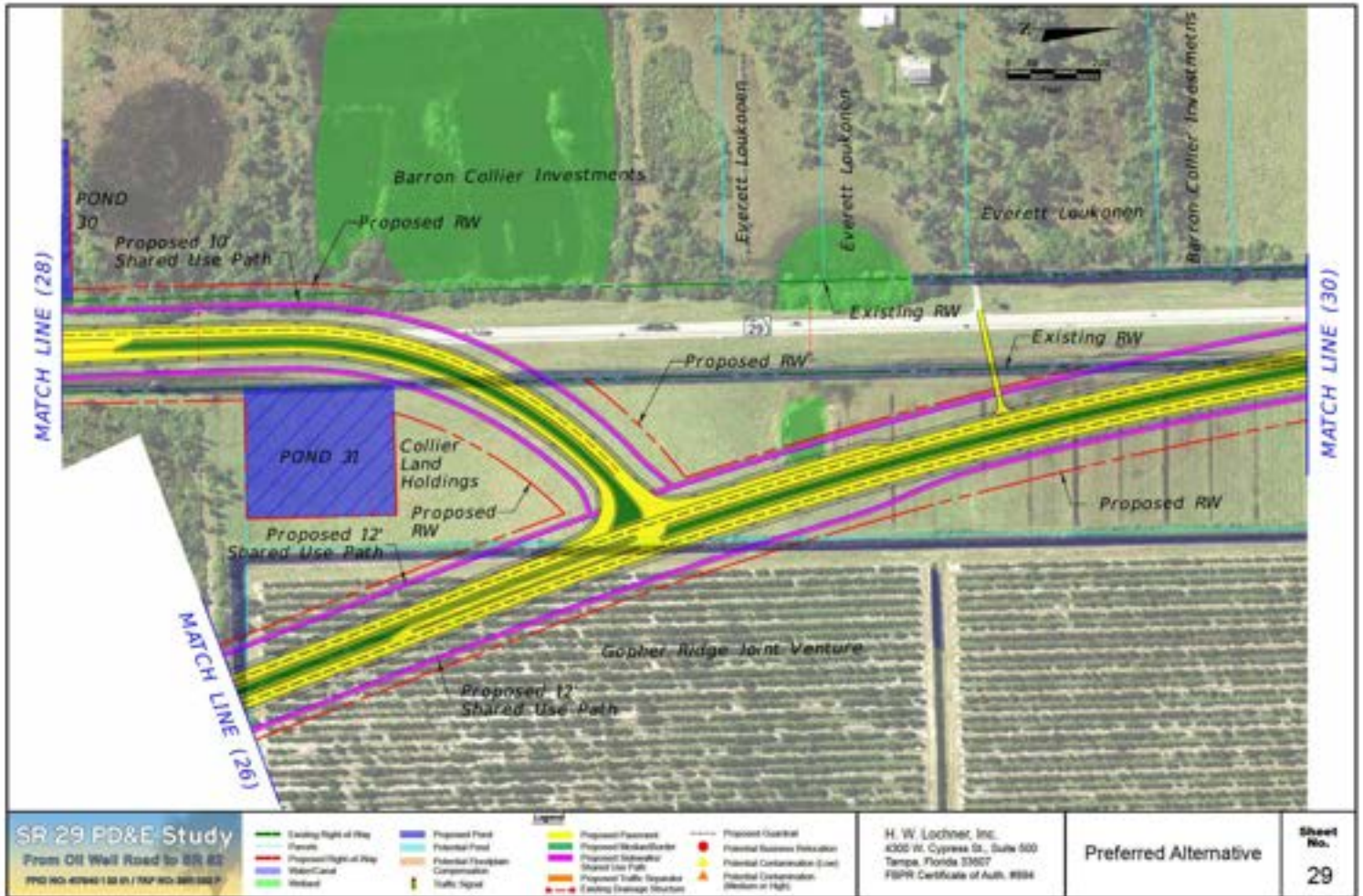
Legend

Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Overhead
Proposed Right of Way	Potential Flood	Proposed Median/Barrier	Potential Business Relocation
Water/Canal	Potential Trench/Compression	Proposed Sidewalk	Potential Contamination (Low)
Wetland	Traffic Signal	Proposed Shared Use Path	Potential Contamination (Medium or High)
		Proposed Traffic Separator	
		Existing Drainage Structure	

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Sheet No.
 28



SR 29 PD&E Study
 From Oil Well Road to SR 82

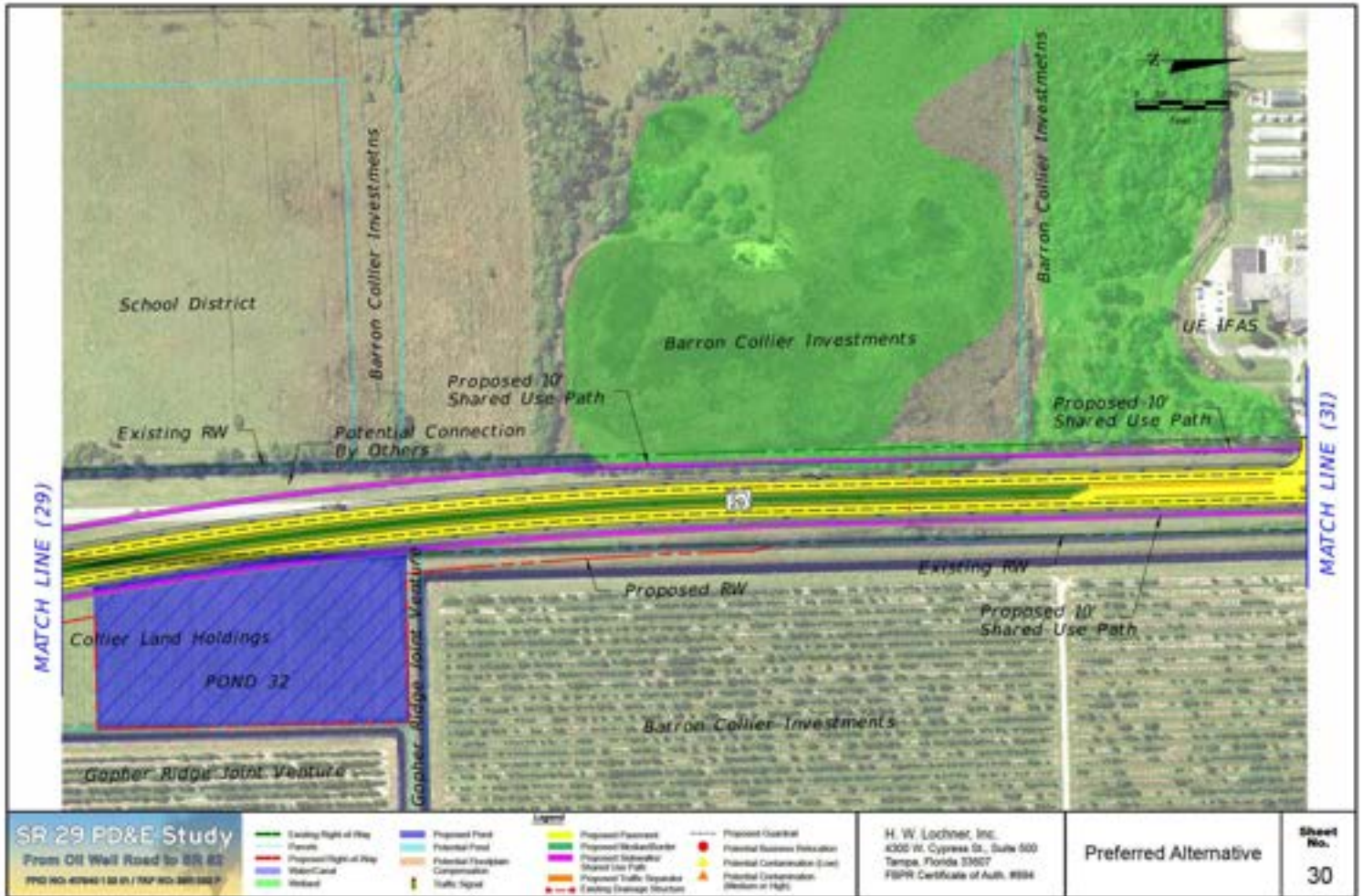
PHD NO. 47940-1 03 01 / 502 NO. 281 002 P

Legend			
	Existing Right of Way		Proposed Pavement
	Proposed Right of Way		Proposed Shared Use Path
	Water/Canal		Proposed Traffic Separator
	Wetland		Existing Drainage Structure
	Proposed Pond		Potential Business Relocation
	Potential Troubled Compression		Potential Contamination (Low)
	Traffic Signal		Potential Contamination (Medium or High)
	Proposed Counterwall		

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Sheet No.
29



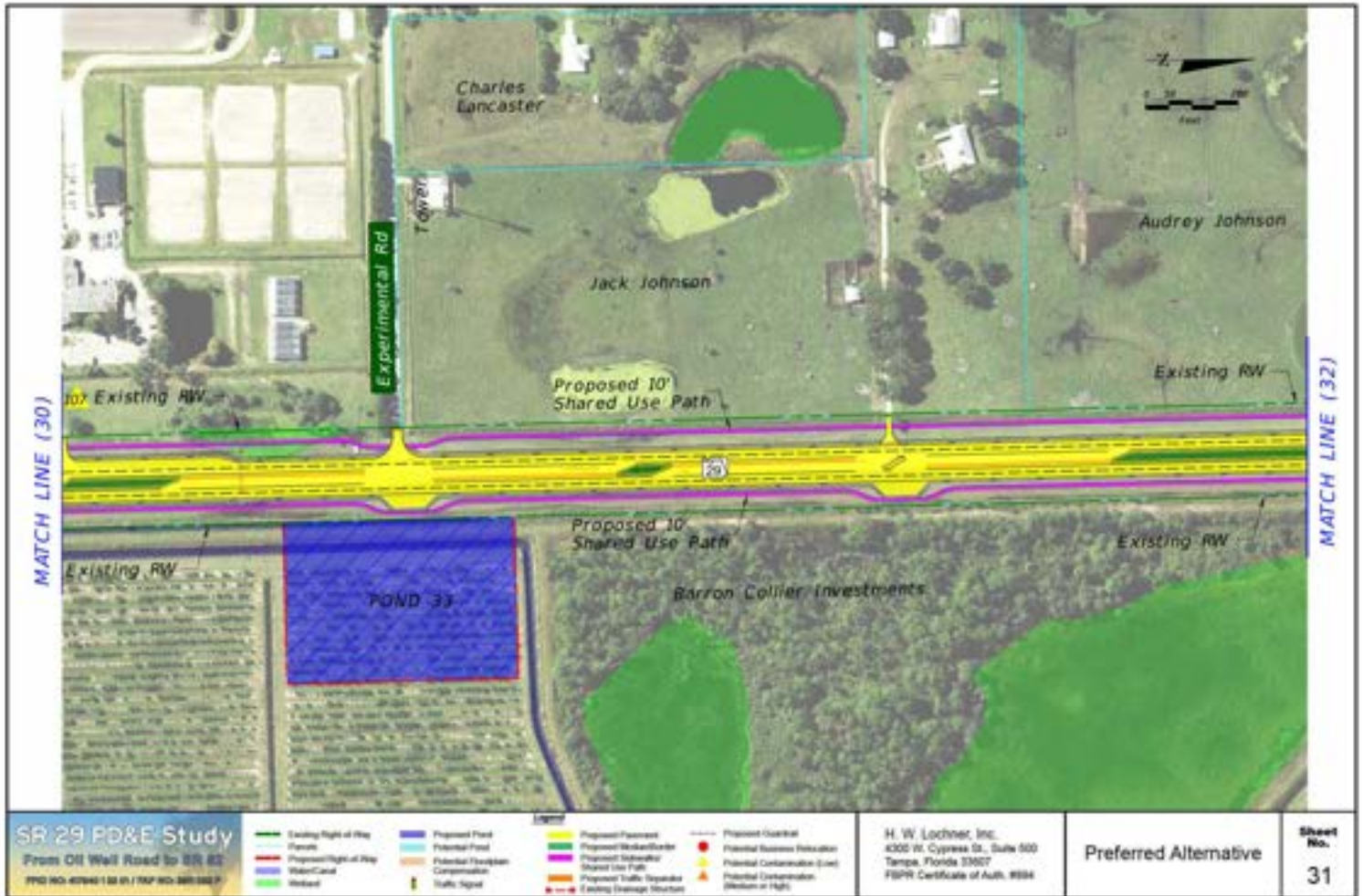
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 02 01 / 100' NO. 280-100-0

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|-----------------------|------------------------------|-------------------------------------|--|
| Existing Right of Way | Proposed Pond | Proposed Pavement | Proposed Overhead |
| Proposed Right of Way | Potential Pond | Proposed Median/Border | Potential Business Relocation |
| Water/Canal | Potential Trench/Compression | Proposed Subsurface Shared Use Path | Potential Contamination (Low) |
| Retard | Traffic Signal | Proposed Traffic Separator | Potential Contamination (Medium or High) |
| | | Existing Drainage Structure | |

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Sheet No.
30



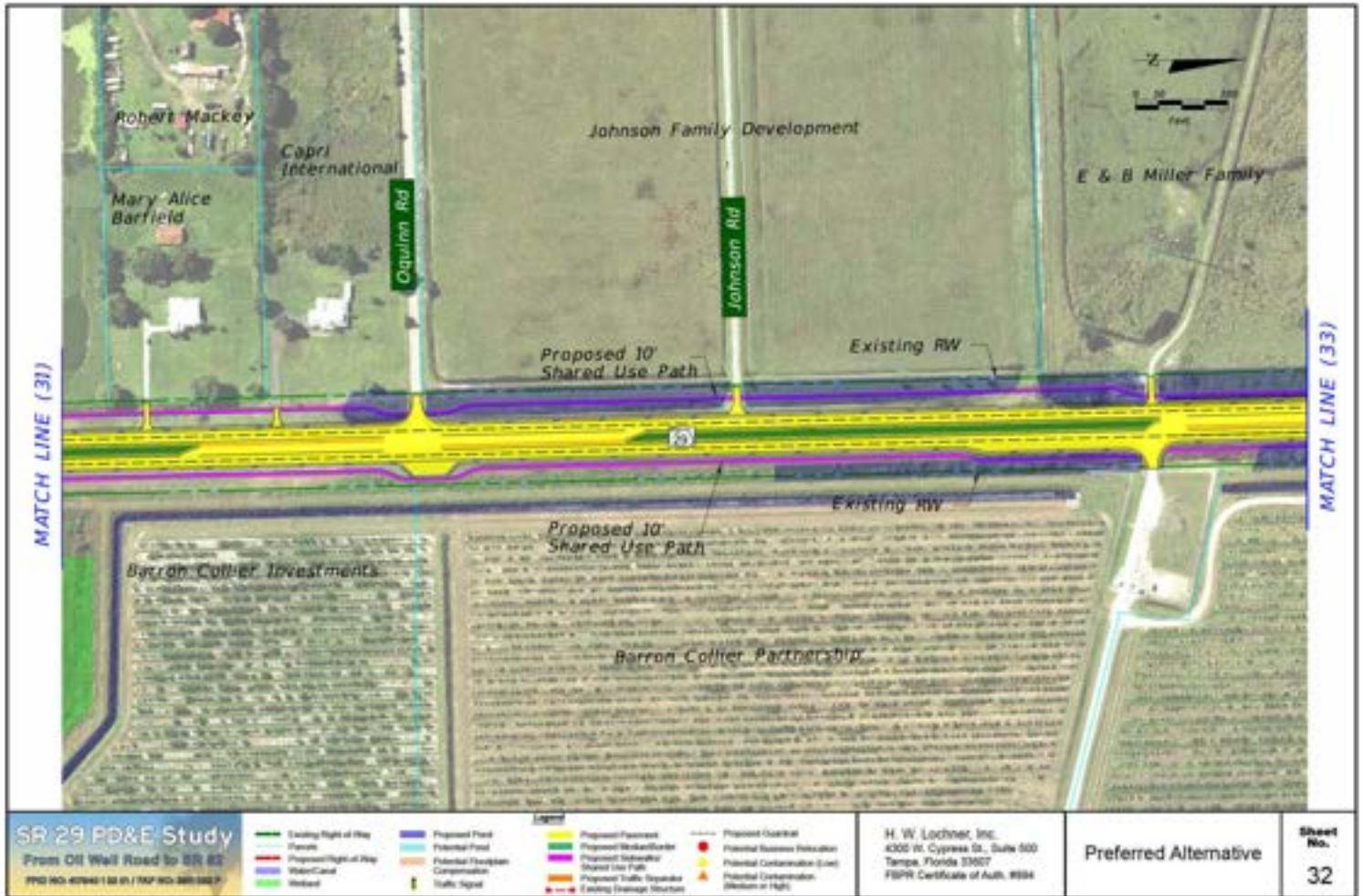
SR 29 PD&E Study
 From Old Wall Road to SR 82
 PFD NO. 47940-1 02 01 / PFD NO. 289-100-1

Existing Right of Way	Proposed Pond	Proposed Pavement	Proposed Shoulder
Proposed	Potential Pond	Proposed Median Barrier	Potential Business Relocation
Proposed Right of Way	Potential Roadway Compression	Proposed Subparallel Shared Use Path	Potential Construction (Low)
Water Canal	Traffic Signal	Proposed Traffic Separator	Potential Construction (Medium or High)
Retard		Existing Drainage Structure	

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 FSPR Certificate of Auth. #994

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Sheet No.
31



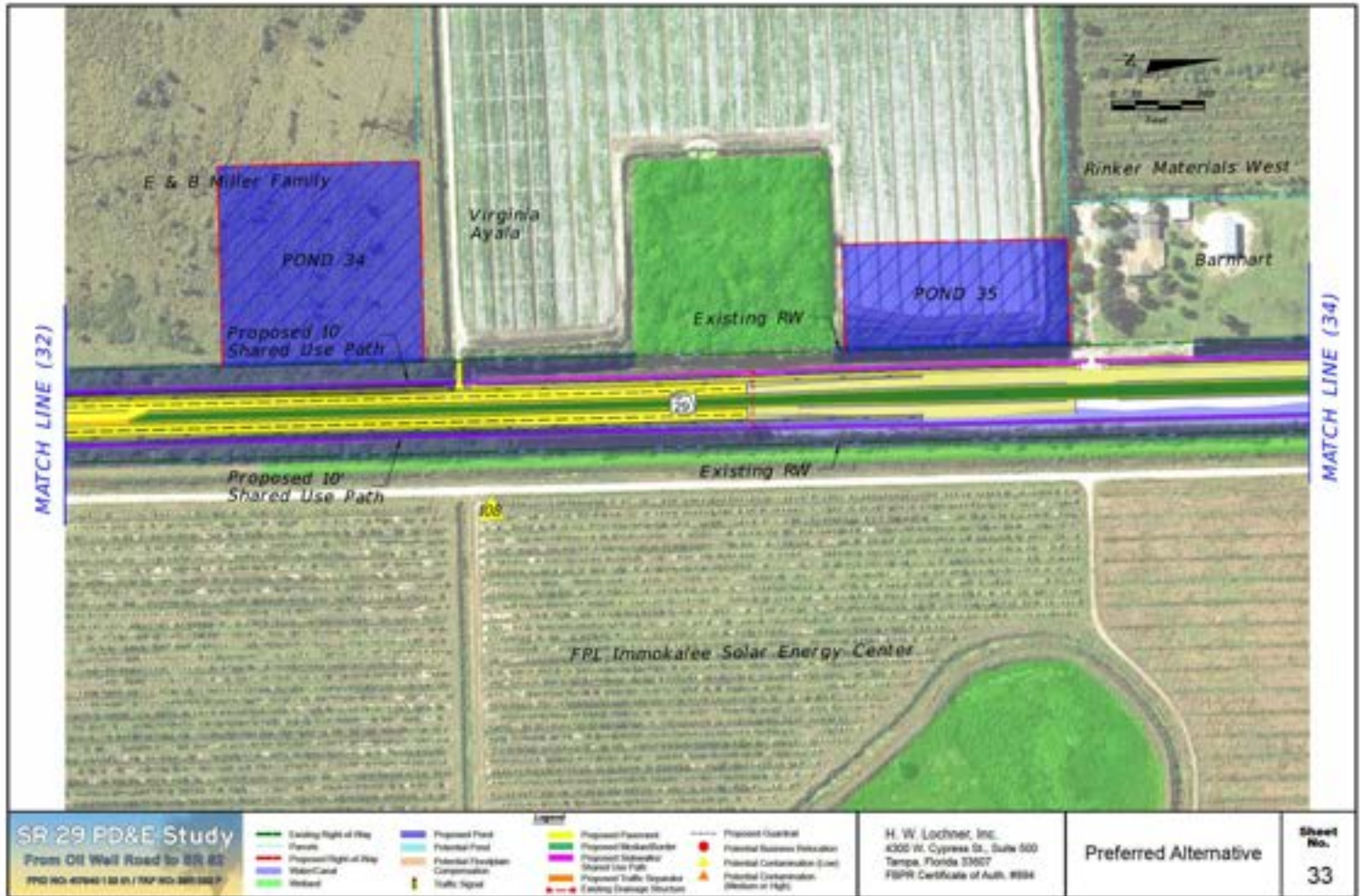
SR 29 PD&E Study
 From Old Wall Road to SR 82
 787-401-1333 or 787-401-2811

Legend	
Existing Right of Way	Proposed Road
Proposed Fenceline	Potential Success Potential
Proposed Median/Barrier	Potential Contamination (Low)
Proposed Signal	Potential Contamination (Medium or High)
Proposed Traffic Separator	Potential Success Potential
Existing Drainage Structure	Potential Contamination (Low)
Potential Flood	Potential Contamination (Medium or High)
Potential Topsoil Compression	Potential Success Potential
Traffic Signal	Potential Contamination (Low)

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Sheet No.
32



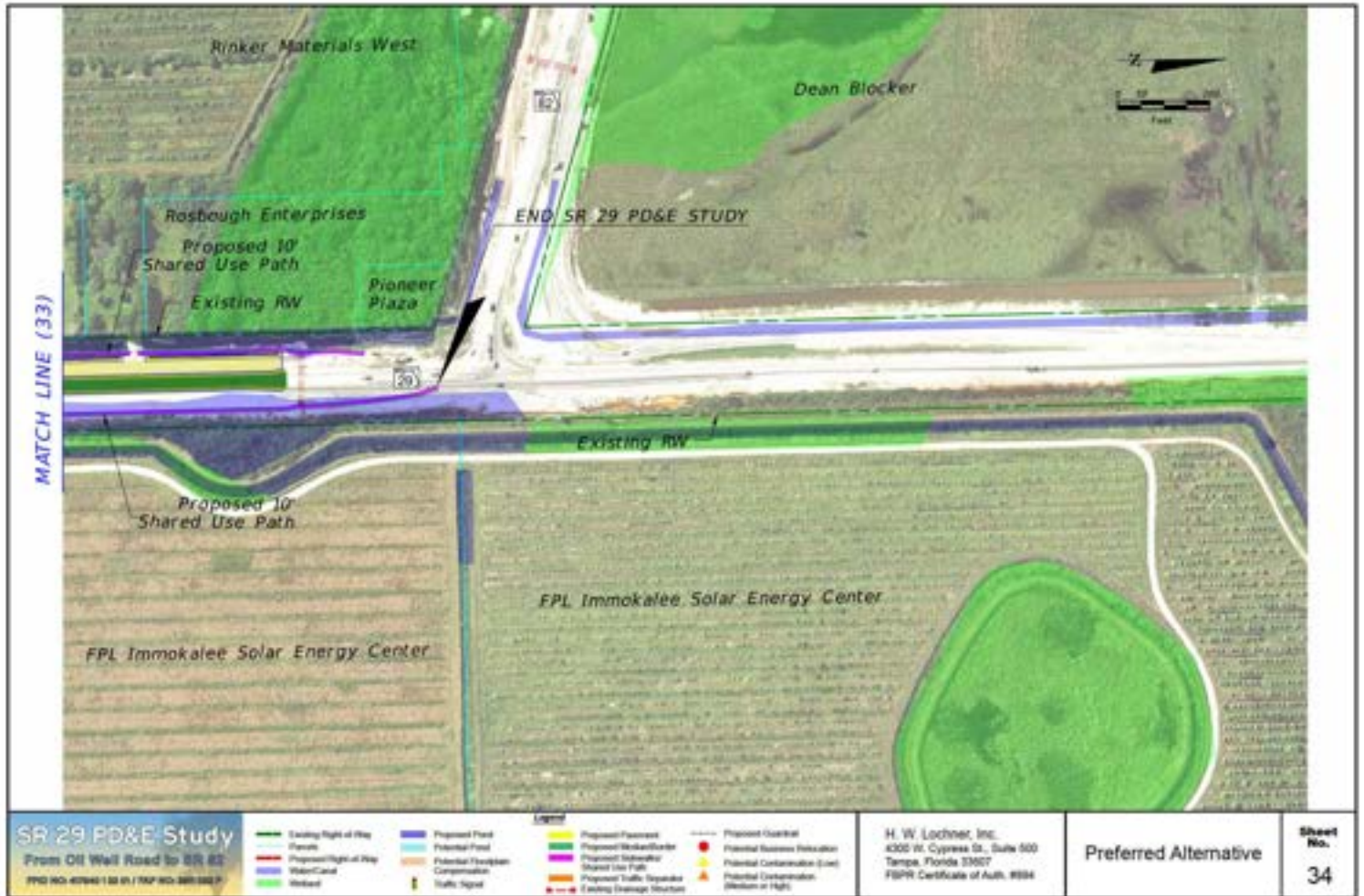
SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 02 01 / PFD NO. 280-100-0

Legend			
Existing Right of Way	Proposed Pond	Proposed Pavement	Proposed Control
Easement	Potential Pond	Proposed Wetland Buffer	Potential Business Relocation
Proposed Right of Way	Potential Obstruction Compression	Proposed Wetland Shared Use Path	Potential Contamination (Land)
Water Canal	Traffic Signal	Proposed Traffic Separator	Potential Contamination (Water or Hgt)
Wetland		Existing Drainage Structure	

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Sheet No.
33



SR 29 PD&E Study
 From Oil Well Road to SR 82
 PFD NO. 47940-1 03 01 / PFD NO. 2891 03 01

Existing Right of Way	Proposed Road	Proposed Pavement	Proposed Overhead
Driveway	Potential Pond	Proposed Median/Center	Potential Business Relocation
Proposed Right of Way	Potential Trench/Utility Compression	Proposed Subparallel Shared Use Path	Potential Concentration (Low)
Water Canal	Traffic Signal	Proposed Traffic Separator	Potential Concentration (Medium or High)
Wetland		Existing Drainage Structure	

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 FSPR Certificate of Auth. #994

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Sheet No.
34