

LOCATION HYDRAULICS REPORT

Florida Department of Transportation

District 7

US 41 (SR 45) at SR 54 PD&E Study

From South of SR 54 Intersection to North of SR 54 Intersection

Pasco County, Florida

Work Program Item Segment No. 419182-1

Efficient Transportation Decision Making (ETDM) Number: 7883

February 2026

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.



US 41 (SR 45) at SR 54 PROJECT DEVELOPMENT & ENVIRONMENT STUDY

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TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 INTRODUCTION.....	1
1.1 Report Purpose.....	1
1.2 Existing Roadway Facility.....	3
1.3 Future Land Use.....	6
2.0 PROPOSED IMPROVEMENT	8
3.0 DATA COLLECTION	14
4.0 EXISTING CONDITIONS	15
4.1 Existing Cross Drains	15
4.2 Floodplains and Floodways	15
5.0 PROPOSED CONDITIONS	16
5.1 Project Classification	16
5.2 Floodplain Encroachment and Compensation	17
5.3 Flood Risk Evaluation.....	18
6.0 CONCLUSION	20

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
Figure 1-1 Project Location Map.....	2
Figure 1-2 US 41 (SR 45) Existing Typical Section South of SR 54.....	4
Figure 1-3 US 41 (SR 45) Existing Typical Section (Near Intersection)	4
Figure 1-4 SR 54 One-Half Mile East of US 41 (SR 45)	5
Figure 1-5 SR 54 One-Half Mile West of US 41 (SR 45).....	5
Figure 1-6 Future Land Use Map	7
Figure 1-7 Proposed Typical Section - US 41 (SR 45)-DDI.....	9
Figure 1-8 Proposed Typical Section - SR 54-DDI.....	10
Figure 1-9 Proposed Southbound US 41 (SR 45) Bridge over SR 597 (N. Dale Mabry Highway) Typical Section-DDI.....	10
Figure 1-10 Proposed Northbound US 41 (SR 45) Bridge over SR 597 (N. Dale Mabry Highway) Typical Section-DDI.....	11
Figure 1-11 Proposed US 41 (SR 45) over SR 54 Bridge Typical Section-DDI	11

Figure 1-12	US 41 (SR 45) North of SR 54 Intersection Proposed Typical Section-SPUI.....	12
Figure 1-13	US 41 (SR 45) South of SR 54 Intersection Proposed Typical Section-SPUI.....	13
Figure 1-14	SR 54 East of US 41 (SR 45) Intersection Proposed Typical Section-SPUI.....	13
Figure 1-15	SR 54 West of US 41 (SR 45) Intersection Proposed Typical Section-SPUI.....	14

LIST OF TABLES

<u>Table</u>		<u>Page</u>
Table 3-1	List of Data Collected	14
Table 4-1	Summary of Existing Cross Drains.....	15

LIST OF APPENDICES

Appendix

A	FEMA FIRM Map
B	SWFWMD Pre-Application Meeting Minutes
C	Existing Basin Maps-SPUI and DDI

1.0 INTRODUCTION

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study to evaluate capacity and operational improvements at the intersection of United States (US) Highway 41/State Road (SR) 45 and State Road (SR) 54 in Pasco County, Florida. Each roadway is a six-lane divided facility intersecting at-grade with a box span traffic signal. US 41 (SR 45) is a major north-south arterial that provides access to Tampa, Lutz, Land O' Lakes, and Brooksville. SR 54 is a major east-west arterial that connects US 19 near New Port Richey to the west and US 301 in Zephyrhills to the east.

The length of the project is approximately 1.7 miles along US 41 (SR 45), with limits on SR 54 from approximately 1.2 miles east and 1.2 miles west of the intersection, as well as a 0.3-mile section of Dale Mabry Highway (SR 597). This intersection is located in the Land O' Lakes area of unincorporated Pasco County, Florida. This intersection is under the jurisdiction of FDOT.

Please refer to **Project Location Map, Figure 1-1**.

1.1 Report Purpose

This Location Hydraulics Report (LHR) was prepared as part of the US 41 (SR 45) at SR 54 interchange PD&E Study to assess potential impacts due to intersection improvements of US 41 (SR 45) at SR 54 on base floodplains. Protection of floodplains and floodways are required by Executive Order 11988 "Floodplain Management", USDOT Order 5650.2 "Floodplain Management Protection" and Federal Aid Policy Guide 23 CFR 650A. The intent of these regulations is to avoid or minimize highway encroachments within 100-year (base) floodplains, where practicable, and to avoid supporting land use development which is incompatible with floodplain values. Where encroachment is unavoidable, the regulations require appropriate measures to minimize impacts. This report is consistent with the FDOT guidelines and procedures identified in the FDOT Drainage Manual and the FDOT PD&E Manual. Information concerning floodplains, culvert data and locations used in the preparation of this report are listed in section 3.0 Data Collection.

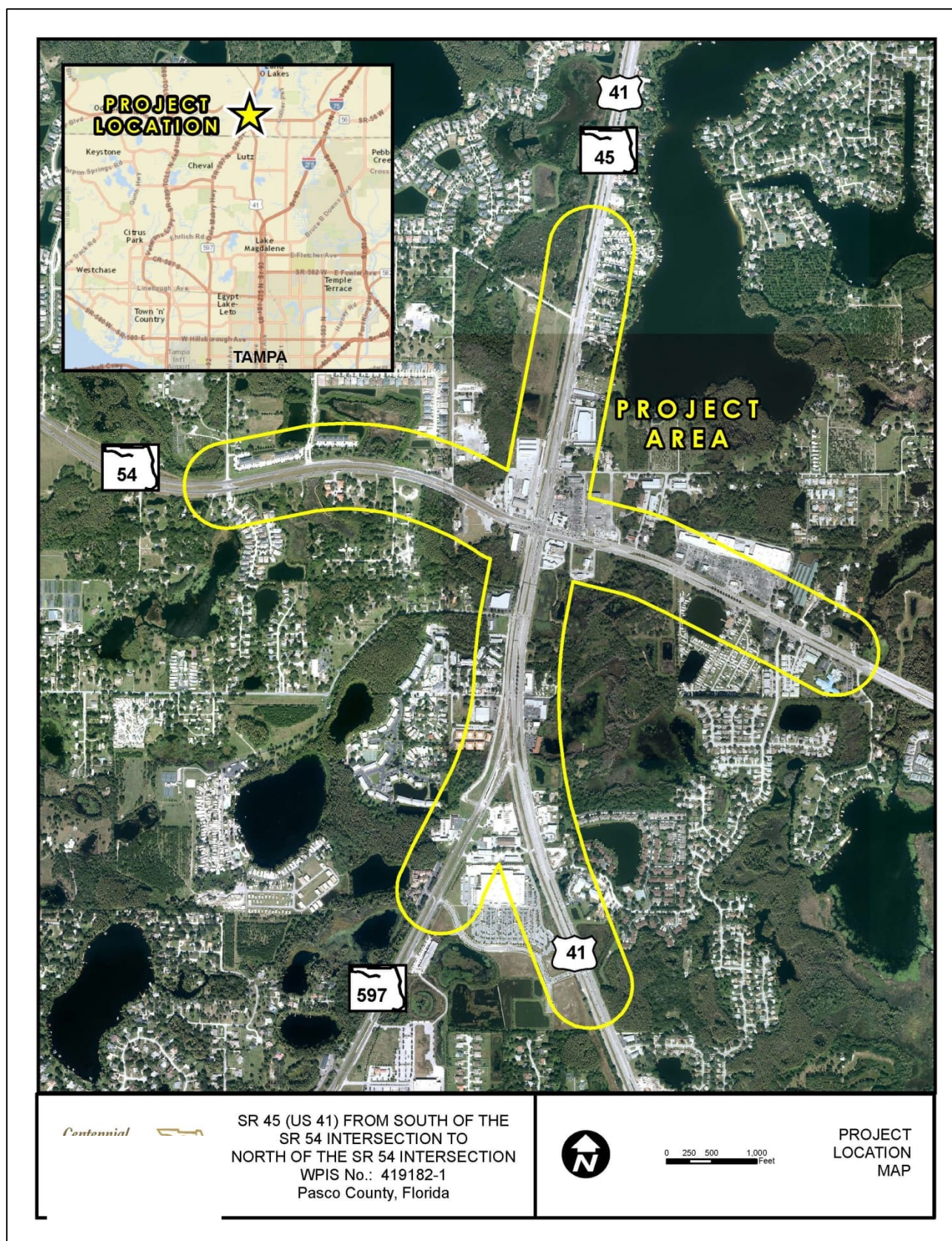


Figure 1-1: Project Location Map

1.2 Existing Roadway Facility

Located in the southern part of Pasco County, SR 54 is classified as an urban principal arterial and one of two existing major east-west arterials that connect eastern and western Pasco County. SR 54 provides connections to several regional north-south routes including US 19 (SR 55), SR 589 (Suncoast Parkway), US 41 (SR 45), I-75, US 301 (SR 39) and US 98 (SR 35). US 41 (SR 45) is also classified as an urban principal arterial and provides an important north-south connection to Tampa, Lutz, Land O' Lakes and Brooksville.

The typical sections of both SR 54 and US 41 (SR 45) include the following: three through lanes, two left turn lanes and one right turn lane in all directions. US 41 (SR 45) consists of two, 12-foot lanes and a single 14-foot lane with Type F curb and gutter on the outside in each direction separated by a 22-foot grass raised median with Type E curb and gutter. The facility includes a five-foot sidewalk on the east side of the travel lanes, and a CSX railroad line on the west side of the travel lines. ROW width in this section of US 41 (SR 45) is a minimum of 156 feet. No bicycle lanes are provided, see **Figure 1-2**.

Near the intersection of US 41 (SR 45) at SR 54, SR 54 is a six-lane divided facility with three 12-foot lanes in each direction separated by a 37.5-foot raised grass median with Type E curb and gutter. A six to eight-foot sidewalk is located on the north and south sides of the travel lanes immediately adjacent to the roadway, along with Type F curb and gutter. A four-foot bike lane is located in each direction. ROW width for this section of SR 54 is approximately 141.5 feet, see **Figure 1-3**.

Approximately one-half mile east of US 41 (SR 45), SR 54 consists of three 12-foot travel lanes, an eight-foot unpaved inside shoulder and an eight-foot paved outside shoulder with shoulder gutter, and five-foot sidewalks in each direction separated by a 49-foot depressed grass median. ROW width for this of SR 54 is a minimum of 138 feet, See **Figure 1-4**.

Approximately one-half mile west of US 41 (SR 45), SR 54 includes three 12-foot travel lanes, an eight-foot unpaved inside shoulder and a 10-foot outside shoulder including a paved five-foot bicycle lane, and five-foot sidewalks in each direction separated by an approximate 48-foot depression grass median. ROW width for this section of SR 54 is a minimum of 250 feet, see **Figure 1-5**.

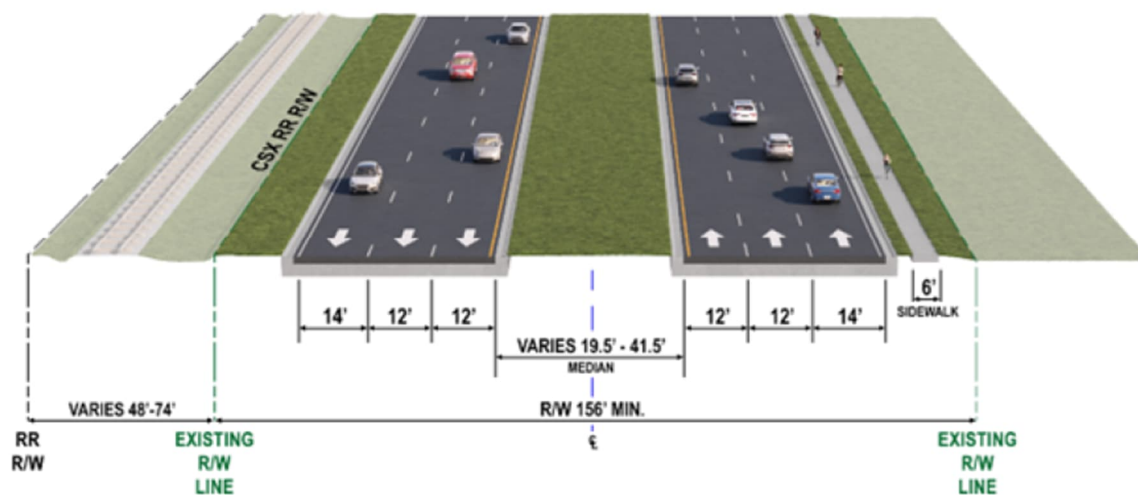


Figure 1-2: US 41 (SR 45) Existing Typical Section South of SR 54

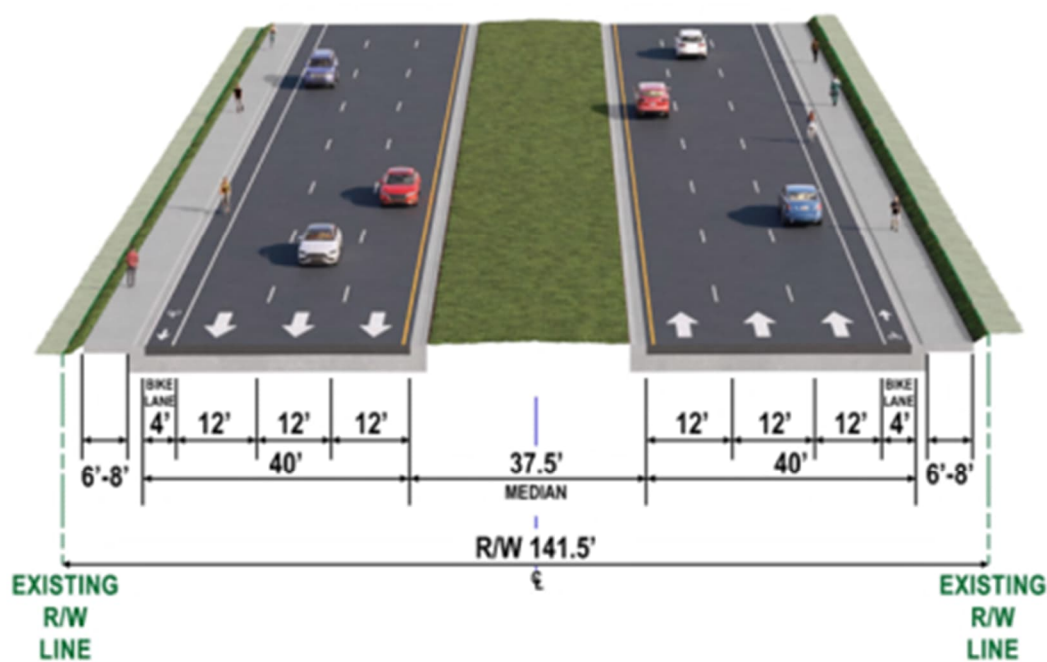


Figure 1-3: SR 54 East and West of US 41 (SR 45) (Near Intersection)

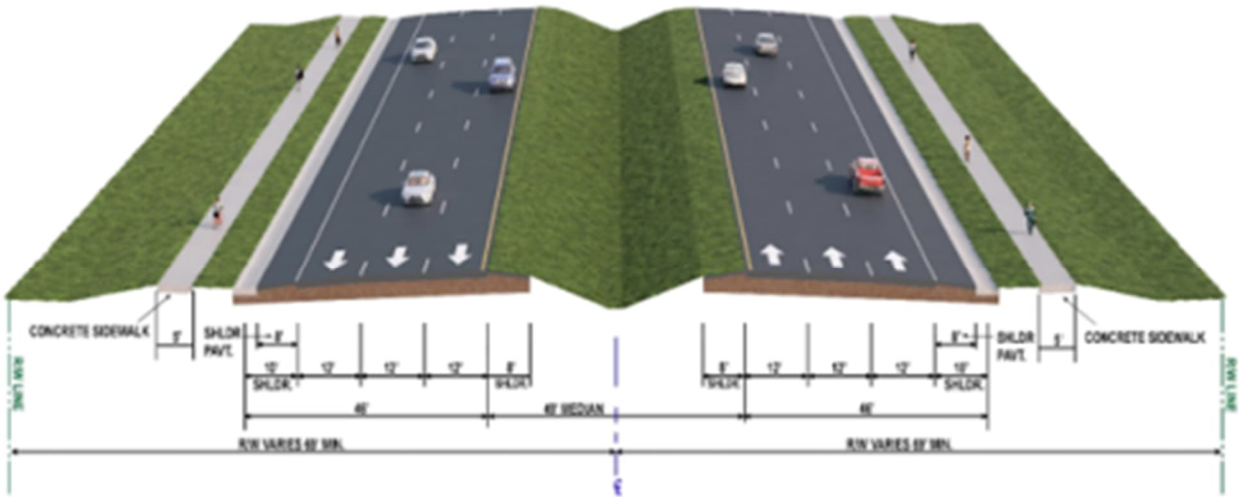


Figure 1-4: SR 54 One-half Mile East of US 41 (SR 45)

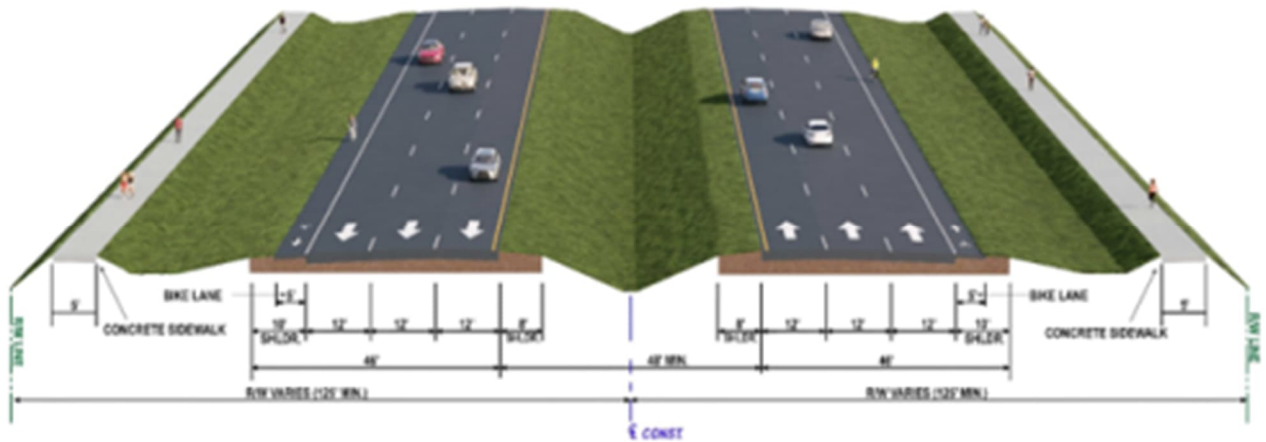


Figure 1-5: SR 54 One-half Mile West of US 41 (SR 45)

1.3 Future Land Use

The intersection of US 41 (SR 45) at SR 54 project area is located within unincorporated Pasco County. Pasco County's future land use for the portions of the corridor predominantly includes retail/office/residential along the east side of the intersection. On the west side, the intersection is bordered by retail/office/residential, light industrial and residential (six dwelling units per gross acre). South of the interchange, at the split of SR 597 and US 41 (SR 45), future land uses include heavy industrial, residential (nine dwelling units per gross acre) and some retail/office/residential. A map of the Pasco County's 2025 future land uses for the project area is shown in Error! Reference source not found.6.

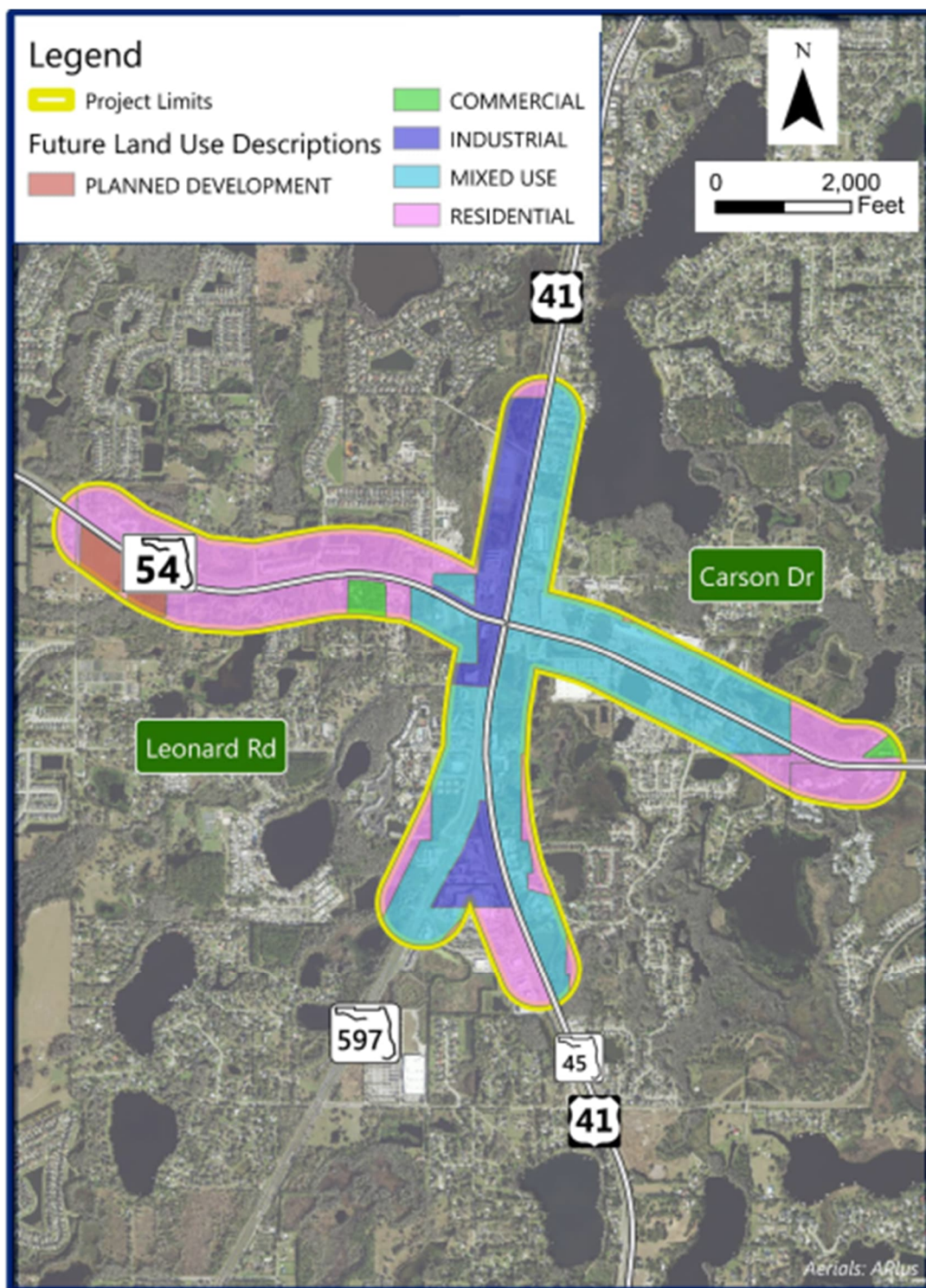


Figure 1-6: Future Land Use Map

2.0 PROPOSED IMPROVEMENT

The Preferred Alternative is a Diverging Diamond Interchange (DDI) with US 41 (SR 45) elevated over SR 54 and SR 597 (Dale Mabry Highway).

At SR 54, US 41 (SR 45) will carry two lanes in each direction over SR 54 via a single bridge. The bridge will be expandable to three lanes in each direction for future traffic demand. Two lane exit ramps from US 41 (SR 45) in each direction will connect to SR 54. The northbound and southbound exit ramps will widen to two left turn lanes and two right turn lanes at the at-grade intersection with SR 54. Along SR 54, the westbound lanes will widen from three lanes to five lanes after the signalized intersection at the Village Lakes Shopping Plaza/Lowe's driveway. The five lanes will enter the first crossover intersection of the DDI. Prior to the first crossover intersection, a sixth lane will be developed for right turns only to northbound US 41 (SR 45). Of the five lanes entering the first crossover intersection, the inside lane will be a left turn only lane and the adjacent lane will be a shared left/through lane. The remaining three lanes will be through lanes. Four lanes will enter the 2nd crossover intersection. After the 2nd crossover intersection, the inside lane will merge and end. Three lanes will continue westbound to match existing conditions.

Similarly, the eastbound lanes will widen from three lanes to five lanes as they approach the interchange. The five lanes will enter the first crossover intersection of the DDI. Prior to the crossover intersection, a sixth lane will be developed for right turns only to southbound US 41 (SR 45). Of the five lanes entering the first crossover intersection, the inside lane will be a left turn only lane and the adjacent lane will be a shared left/through lane. The remaining three lanes will be through lanes. Four lanes will enter the 2nd crossover intersection. After the 2nd crossover intersection, the outside lane will become a right turn only lane at the signalized intersection at the Village Lakes Shopping Plaza/Lowe's driveway. Three lanes will continue eastbound to match existing conditions.

A new roadway connection will be provided between Carson Drive and SR 54, east of US 41 (SR 45). From Carson Drive, the new connection will use the existing Raden Drive alignment before turning east towards the Village Lakes Shopping Plaza. The roadway will then connect to the existing signalized intersection of SR 54 at the Village Lakes Shopping Plaza/Lowe's driveway. This new roadway connection will require ROW acquisition to make the roadway available for public use.

At SR 597 (N. Dale Mabry Highway), northbound US 41 (SR 45) will carry two lanes over SR 597 (N. Dale Mabry Highway) via a bridge. Southbound US 41 (SR 45) will carry three lanes over SR 597 (N. Dale Mabry Highway) via a separate bridge. The third lane will come from SR 54 via a single lane southbound slip ramp. For the southbound direction, ramps are provided from SR 54 to southbound US 41 (SR 45) and southbound SR 597 (N. Dale Mabry Highway). For the northbound direction of US 41 (SR 45), the two-lane exit ramp from US 41 (SR 45) to SR 54 will form a signalized intersection at SR 597 (N. Dale Mabry Highway). The signal will manage the traffic from northbound US 41 (SR 45) to SR 54 and northbound SR 597 (N. Dale Mabry Highway) to SR 54.

This intersection will allow a northbound US 41 (SR 45) to southbound US 41 (SR 45) u-turn via a “Texas u-turn”. Traffic from northbound SR 597 (N. Dale Mabry Highway) to northbound US 41 (SR 45) will utilize a free flow ramp and merge onto US 41 (SR 45) south of the bridge over SR 54.

The existing CSX rail crossings at SR 54 and SR 597 (N. Dale Mabry Highway) will be modified to accommodate roadway improvements.

Figure 1-7 shows the proposed US 41 (SR 45) typical section. US 41 (SR 45) provides three 12-foot through lanes in each direction, seven-foot bike lanes in each direction, and 10-foot sidewalks in each direction. A 22-foot-wide grass median separates the southbound and northbound lanes. The proposed ROW width is 171 feet. A CSX rail in a separate ROW corridor is located on the west side of US 41 (SR 45).

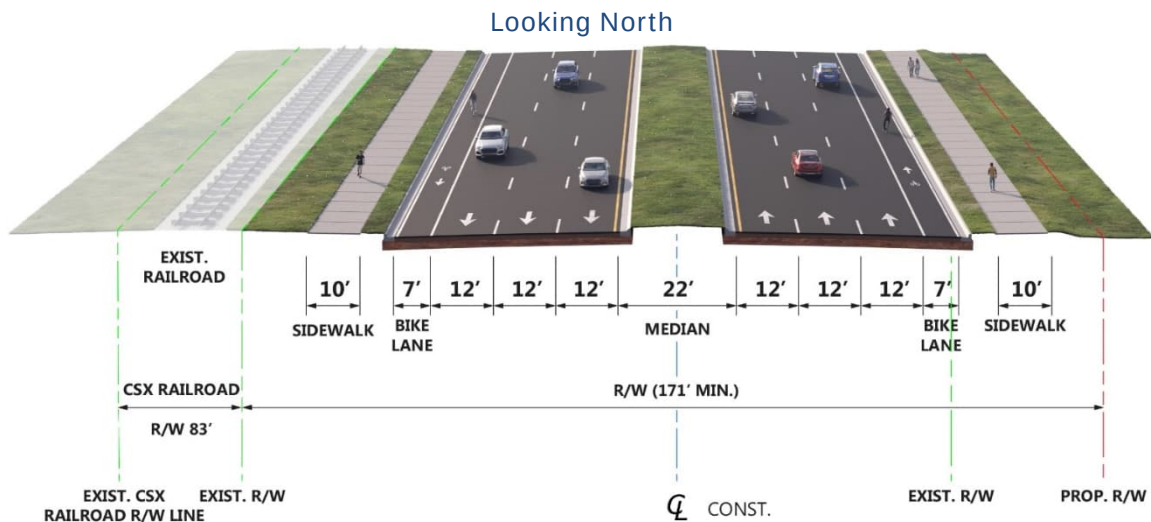


Figure 1-7: Proposed Typical Section - US 41 (SR 45)-DDI

Figure 1-8 shows the proposed SR 54 typical section. SR 54 provides three 12-foot lanes with one 12-foot auxiliary lane in each direction, seven-foot bike lanes in each direction, and 10-foot sidewalks in each direction. A grass median of varying width separates the eastbound and westbound lanes. The maximum proposed ROW width is 286 feet.

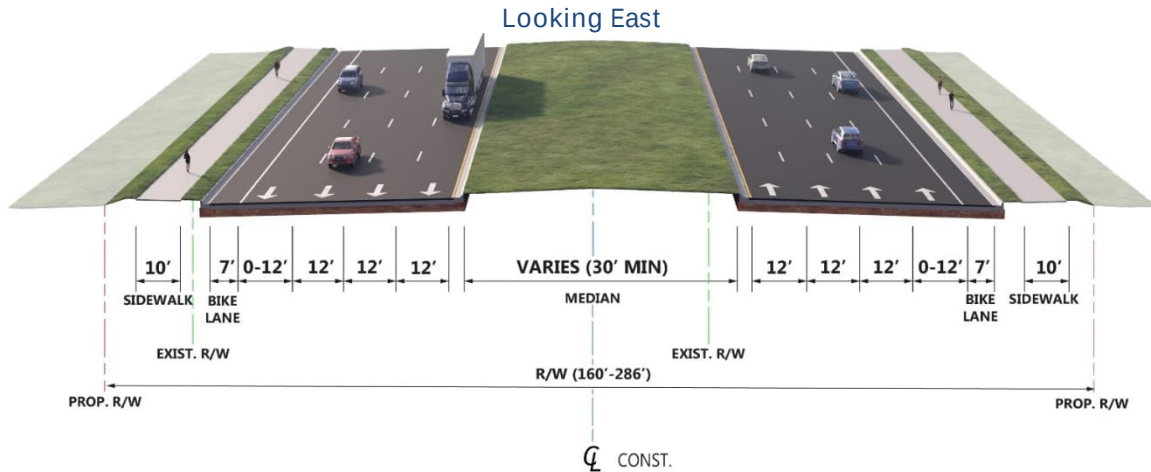


Figure 1-8: Proposed Typical Section - SR 54-DDI

Figure 1-9 shows the proposed typical section for the southbound US 41 (SR 45) bridge over SR 597 (N. Dale Mabry Highway). The bridge provides three 12-foot lanes, a 10-foot inside shoulder, and a 10-foot outside shoulder.

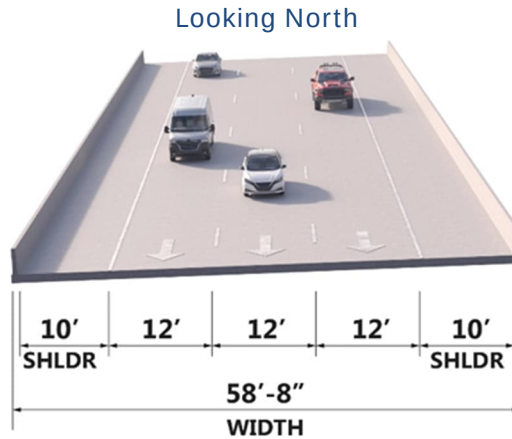


Figure 1-9: Proposed Southbound US 41 (SR 45) Bridge over SR 597 (N. Dale Mabry Highway) Typical Section-DDI

Figure 1-10 shows the proposed typical section for the northbound US 41 (SR 45) bridge over SR 597 (N. Dale Mabry Highway). The bridge provides two 12-foot lanes, an 8-foot inside shoulder, and a 10-foot outside shoulder.



Figure 1-10: Proposed Northbound US 41 (SR 45) Bridge over SR 597 (N. Dale Mabry Highway) Typical Section-DDI

Figure 1-11 shows the proposed typical section for the US 41 (SR 45) bridge over the SR 54 intersection. The bridge provides two 12-foot lanes, a 10-foot outside shoulder and 14.5-foot inside shoulder in each direction, separated by a 17' wide raised median. The inside shoulders can be converted into 12-foot travel lanes in the future, so the bridge is expandable to three lanes in each direction.

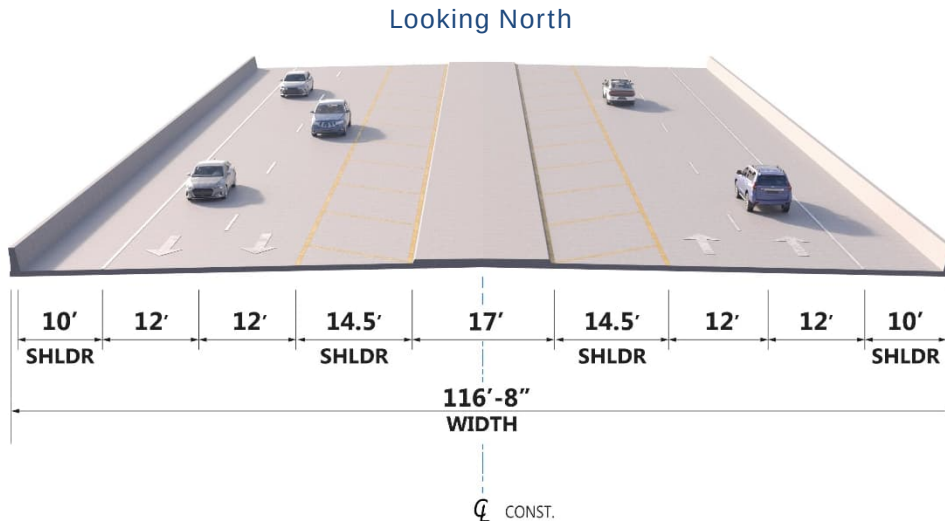


Figure 1-11: Proposed US 41 (SR 45) over SR 54 Bridge Typical Section-DDI

A Single Point Urban Interchange (SPUI) with SR 54 elevated over US 41 (SR 45) is the second evaluated intersection design to improve the capacity and operations of the intersection.

US 41 (SR 45), north of SR 54 intersection, will provide three 12-foot through lanes in each direction, a 12-foot right turn lane in the southbound direction, seven-foot bike lanes in each direction, and a six-foot sidewalk in the northbound direction. At the intersection with SR 54 southbound US 41 (SR 45) provides three through lanes, three left turn lanes, and one right turn lane.

South of SR 54, northbound US 41 (SR 45) provides three through lanes and widens to five lanes at the junction with Dale Mabry Highway. These two additional lanes become left turn lanes at the intersection with SR 54. US 41 (SR 45), south of SR 54 intersection and north of Dale Mabry Highway, provides three 12-foot through lanes in each direction, three 12-foot left turn lanes in the northbound direction, one 12-foot right turn lane in the northbound direction, two 12-foot right turn lanes in the southbound direction, seven-foot bike lanes in each direction, and a six-foot sidewalk in the northbound direction. At the intersection with SR 54, northbound US 41 (SR 45) provides three through lanes, three left turn lanes, and one right turn lane.

A traffic signal is proposed for the northbound US 41 (SR 45) traffic to allow the northbound Dale Mabry Highway traffic to weave across US 41 (SR 45) to provide access to the right turn lanes to eastbound SR 54.

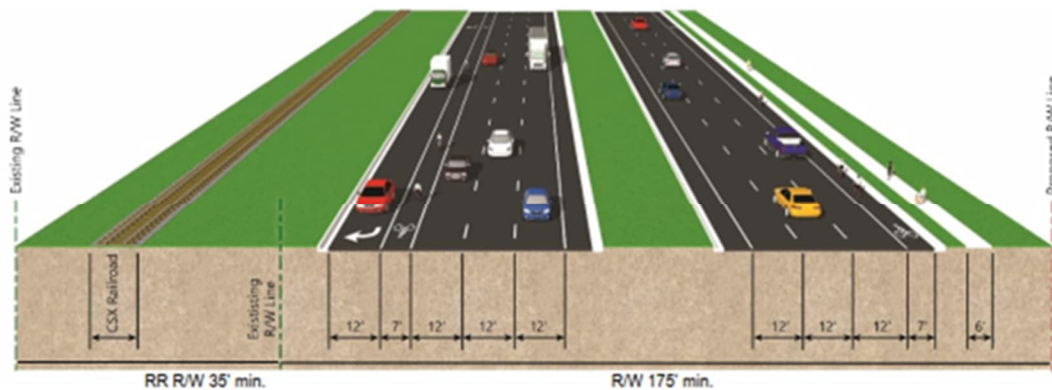


Figure 1-12: US 41 (SR 45) North of SR54 Intersection Proposed Typical Section-SPUI

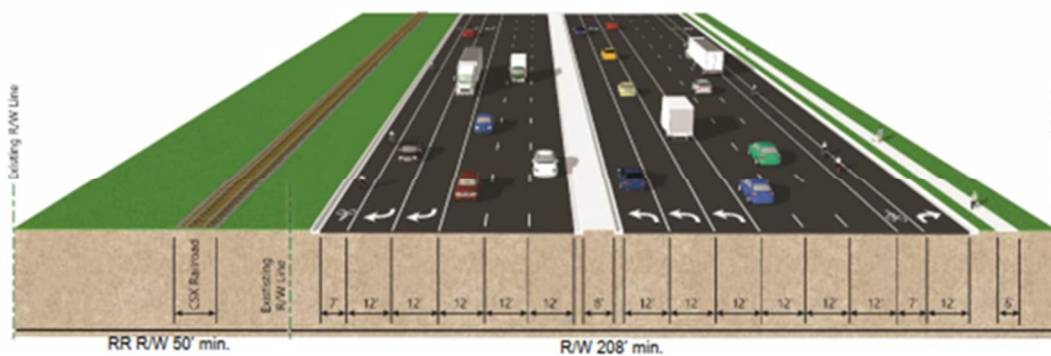


Figure 1-13: US 41 (SR 45) South of SR54 Intersection Proposed Typical Section-SPUI

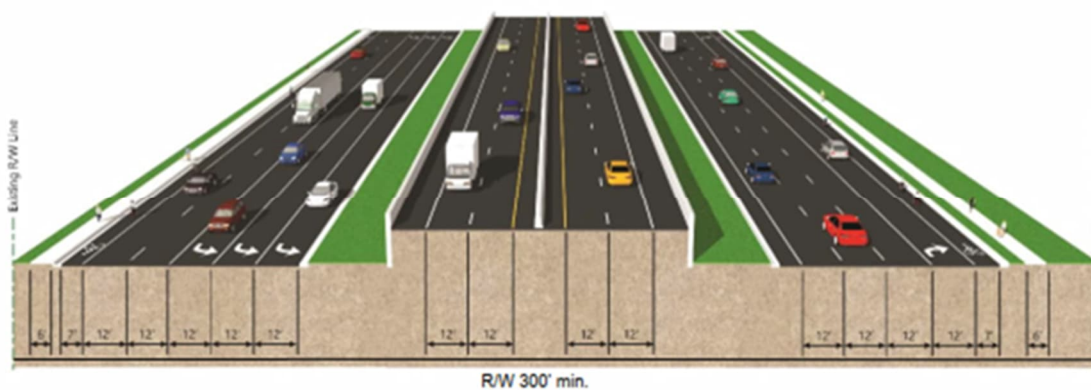


Figure 1-14: SR 54 East of US 41 (SR 45) Intersection Proposed Typical Section-SPUI

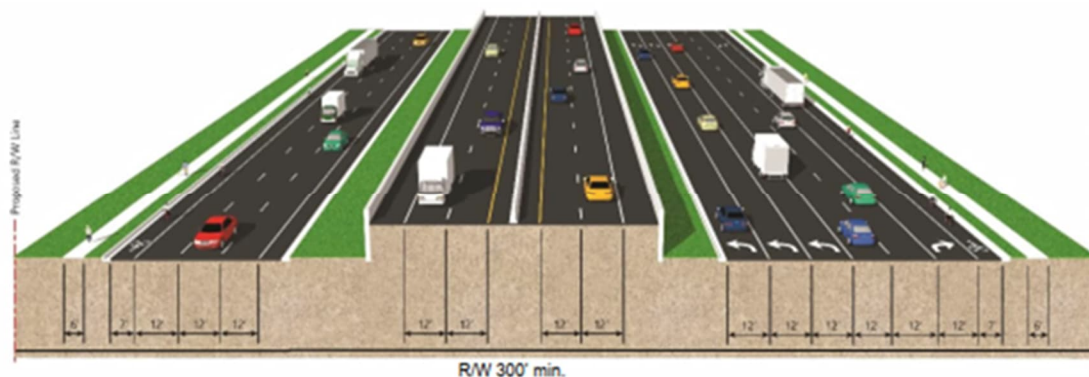


Figure 1-15: SR 54 West of US 41 (SR 45) Intersection Proposed Typical Section-SPI

3.0 DATA COLLECTION

For completion of the review of the existing drainage conditions within the project corridor, data from various sources was obtained. Data included geographic information system (GIS) coverages for roadways and Federal Emergency Management Agency (FEMA) flood studies. A list of the collected data and their source(s) is presented in **Table 3-1**.

**TABLE 3-1
LIST OF DATA COLLECTED**

DATA	SOURCE	AGENCY
GIS Base Layers, such as county boundaries, highways, roadways, etc.	Florida Geographic Data Library	Florida Department of Transportation (FDOT)
FEMA Floodplain Maps	Florida Geographic Data Library	FEMA
Hydrology GIS layers, such as surface water, wetlands	Florida Geographic Data Library	SWFWMD
Land Use Maps	Pasco County	Pasco County
Topographic information	Pasco County	Pasco County
Contours	Pasco County	Pasco County
Soil Survey maps	Florida Geographic Data Library	Natural Resources Conservation Service (NRCS)
Surface Drainage Basins	Florida Geographic Data Library	SWFWMD
Aerial Imagery	FDOT	FDOT
Parcel Boundaries	Pasco County	Pasco County

4.0 EXISTING CONDITIONS

The project is located within the jurisdiction of the Southwest Florida Water Management District (SWFWMD). The project boundaries are located within 3 basins: the South Branch basin and the Upper Rocky Creek Basin West of the intersection; and the Lake Hanna Outlet Basin East of the intersection.

Per water management discussion and existing permits, all the hydrologic basins identified are open basins. The west portion of the intersection is within 2 waterbody ID's; Water Body ID# 1456 and WBID 1463S.

4.1 Existing Cross Drains

There are five (5) existing cross drains that convey stormwater runoff under SR 54 and one under US 41 (SR 45) and serve as outfall locations for the roadway collection system. Generally, the cross drains convey stormwater runoff in a north to south direction under SR 54 with only one (1) of the culverts, CD-1, conveying runoff in a west to east direction. These cross drains vary in size from an 18-inch reinforced concrete pipe (RCP) to two 8 ft. x 3 ft. concrete box culverts (CBCs). A summary of the existing cross drains is shown in **Table 4-1** below.

**TABLE 4-1
SUMMARY OF EXISTING CROSS DRAINS**

Cross Drain	Approximate Location (CL Const. SR 54)	Description	Outfall
CD-1	2568+80 (US 41)	(1) – 30" RCP	Wetland
CD-2	1431+25	(1) – 18" RCP	Wetland
CD-3	1436+50	(1) – 42" RCP	Wetland
CD-4	1452+90	(2) – 8' X 3' CBC	Wetland
CD-5	1420+50	(2) – 30" RCP	Wetland

4.2 Floodplains and Floodways

The Federal Emergency Management Agency (FEMA) has developed Flood Insurance Rate Maps (FIRM) for Pasco County. The existing interchange area is in a FEMA Flood Zone AE flood hazard area according to the effective FEMA Flood Insurance Rate Maps (FIRMs), dated September 26, 2014. There are impacts to Zone A floodplains east of the intersection. The portions of the FEMA FIRMs (Panels 403, 404 and 412) used for this analysis are presented in **Appendix A**. The flood elevations vary from 67.3 feet on the south side of SR 54 west of US 41 (SR 45) to 69.6 feet on the south side of SR 54 east of

US 41 (SR 45). No floodways are within the project limits per FEMA FIRM maps and Pasco County GIS FEMA floodways information.

There are existing floodplain compensation sites associated with both US 41 (SR 45) and SR 54. These floodplain compensation sites are located adjacent to the US 41 (SR 45) at SR 54 existing stormwater ponds. Please refer to the **Appendix C-Existing Basin Map** for the locations of the existing floodplain compensation sites and associated SWFWMD ERP permit numbers. In the preferred alternative, existing floodplain compensation sites are not impacted in existing Basin 1, Basin 4, and Village Lake Shopping Center Dr Basin. Evaluation of Floodplain Compensation Sites alternatives is presented in this PD&E's Pond Siting Report which accounts for impacts to existing floodplain compensation sites within existing Basin 2 and Basin 3.

5.0 PROPOSED CONDITIONS

5.1 Project Classification

In accordance with the requirements set forth in 23 CFR 650A, the project corridor was evaluated to determine the effects, if any, of the proposed alternatives on the hydrology and hydraulics of the area. Hydraulic improvements required as part of the roadway project are divided into categories based on the type of hydraulic improvement proposed and the estimated floodplain effects.

- Within the project corridor, the improvements to the existing US 41 (SR 45) at SR 54 interchange represent transverse encroachments on the floodplain. This encroachment should remain at existing levels for all proposed alternatives.
- Interruption of emergency services and emergency evacuation routes due to roadway flooding should not be changed from existing levels.
- Cut and fill activities required as part of the roadway improvements are not expected to significantly impact the fauna, flora and open space environments along the corridor.
- Additionally, local groundwater and surface water systems, flow patterns, and water quality will experience no significant impacts.

Under the categorization scheme mentioned above, the potential impacts from the US 41 (SR 45) at SR 54 Interchange improvements were classified as Category 5.

Category 5: Projects on Existing Alignment Involving Replacement of Drainage Structures in Heavily Urbanized Floodplains

These projects include work in flood sensitive, heavily urbanized floodplains, where the conditions of flooding are largely attributable to the low lying terrain. The work does not include those replacement structures that will reduce the hydraulic performance of existing facilities or a change in the profile grade when the existing grade is overtopped by an event below the 100-year storm. Replacement drainage structures are limited to hydraulically equivalent structures in most instances. The following statement applies to Category 5 structures:

“Replacement drainage structures for this project are limited to hydraulically equivalent structures. The limitations to the hydraulic equivalency being proposed are basically due to restrictions imposed by the geometrics of design, existing development, cost feasibility, or practicability. An alternative encroachment location is not considered in this category since it defeats the project purpose or is economically unfeasible. Since flooding conditions in the project area are inherent in the topography or are a result of other outside contributing sources, and there is no practical alternative to totally eradicate flood impacts or even reduce them in any significant amount, existing flooding will continue, but not be increased. The proposed structure will be hydraulically equivalent to or greater than the existing structure, and backwater surface elevations are not expected to increase. As a result, the project will not affect existing flood heights or floodplains limits. This project will not result in any new or increased adverse environment impacts. There will be no significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant.”

5.2 Floodplain Encroachment and Compensation

US 41 (SR 45) at SR 54 Interchange improvements, which include widening the roadway typical section and adding sidewalks and bike lanes, will encroach FEMA Flood Zones AE and A, as identified in the Pasco County FIRM (Panels 403, 404 and 412, September 2014).

Avoidance alternatives for the project's longitudinal encroachment into the floodplains include realignment of the roadway to reduce impacts, and/or reducing the structural footprint through the use of retaining walls. While these strategies effectively reduce floodplain impacts, they may increase the project length, resulting in higher construction

and maintenance costs, and additional land acquisition requirements. During final design, implementation of retaining walls should be evaluated in an effort to reduce floodplain impacts.

Compensation for the floodplain impacts incurred by the proposed US 41 (SR 45) at SR 54 interchange improvements will be provided by off-site floodplain compensation (FPC) areas. There are 13 Zone AE floodplains that will be impacted because of the intersection improvements. Drainage features will be designed in accordance with the FDOT Drainage Manual, Topic No. 625-040-002, and no adverse impacts to floodplains are anticipated as a result of the project. Floodplain compensation site analysis is provided in the Pond Siting Report under a separate cover.

5.3 Flood Risk Evaluation

There is no significant change in flood “Risk” associated with this project. The encroachments will not have a significant potential for interruption or termination of transportation facilities needed for emergency vehicles or used as an evacuation route. In addition, no significant adverse impacts on natural and beneficial floodplain values are anticipated and no significant impacts to highway users are expected. Therefore, the encroachments are considered minimal. Per the FDOT PD&E Manual Part 2, Chapter 13.2.2.5, the following items must be documented within this report:

- A. General description of the project including location, length, existing and proposed typical sections, drainage basins, and cross drains.
Section 1.0 of this report includes project description including location and length. Section 1.2 of this report has existing typical sections. Section 2 of this report includes proposed typical sections. Section 4.0 of this report includes existing drainage basin description. Section 4.1 of this report includes existing cross drain description.
- B. Determination of whether the proposed action is in the base floodplain.
The entire project is located within the base floodplain. Please refer to Section 5.2 of this report.
- C. The history of flooding of the existing facilities and/or measures to minimize any impacts due to the proposed improvements.
There are no active flood investigations documented in the vicinity of the project.

- D. Determination of whether the encroachment is longitudinal or transverse, and if it is a longitudinal encroachment, an evaluation and discussion of practical avoidance alternatives.

Please refer to section 5.2 of this report.

- E. The practicability of avoidance alternatives and/or measures to minimize impacts.

The proposed floodplain impacts from the roadway are unavoidable. The proposed pond sites have been chosen to have no/minimal floodplain impacts. Floodplain compensation sites have been proposed to account for the total impacts from both the roadway and pond encroachment.

- F. Impact of the project on emergency services and evacuation.

This project will not have an effect on emergency services or evacuation.

- G. Impacts of the project on the base flood, likelihood of flood risk, overtopping, location of overtopping, backwater.

Conceptual volumetric design results in no impacts however regional modeling will be required in Design Phase.

- H. Determination of the impact of the project on regulatory floodways, if any, and documentation of coordination with FEMA and local agencies to determine the requirements for the project to be developed consistent with the regulatory floodway.

Per FEMA FIRM maps, this project is not located within a FEMA regulatory floodway.

- I. The impacts on natural and beneficial floodplain values, and measures to restore and preserve the natural and beneficial floodplain values impacted by the project.

Conceptual volumetric design results in no impacts however regional modeling will be required in Design Phase.

- J. Consistency of the project with the local floodplain development plan or the land use elements in the Local Government Comprehensive Plan (LGCP), and the potential of encouraging development within the base floodplain.

The proposed project is mostly comprised of operational improvements within a commercial/industrial corridor. There is minimal risk of encouraging additional development adjacent to the corridor within the base floodplain.

- K. Measures to minimize floodplain impacts associated with the project, and measures to restore and preserve the natural and beneficial floodplain values impacted by the project.

Final design will determine locations retaining walls can be used to minimize further impacts to the floodplain.

- L. A map showing project location, and impacted floodplains. A FIRM Map should be used if available. If not, other maps(e.g. US Geological Survey (USGS), U.S. Army Corps of Engineers (USACE), Soil Conservation Service (SCS), Bureau of Land Management, U.S. Forest Service, or best available information from the WMDs) may be used. Copies of applicable maps should be included in the appendix. *Please refer to Appendix A of this report.*

- M. Results of any risk assessments performed.

Please refer to Section 5.0 of this report.

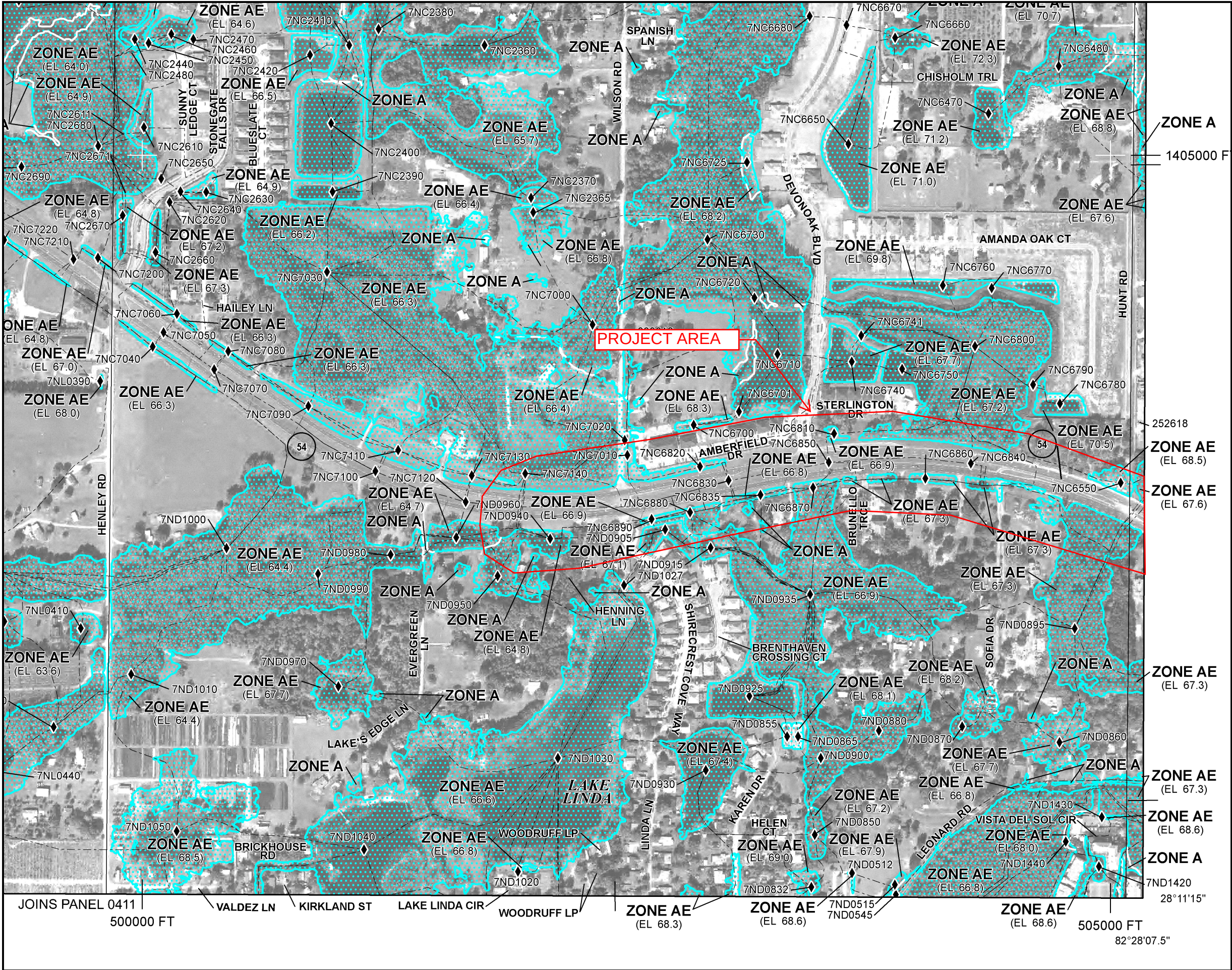
6.0 CONCLUSION

This report is an initial assessment of the floodplain impacts due to the US41/SR 54 intersection improvements. The total impacts of each floodplain, from the two proposed roadway configurations and from the pond alternative impacts, were used to provide alternatives and a preferred alternative for each area of existing floodplain impact. Most of the floodplain compensation areas will require R.O.W. acquisition. Analysis during the final design phase will require the use of stormwater models from SWFWMD.

APPENDIX A

FEMA FIRM Map







MAP SCALE 1" = 500'

250 0 250 500 750 1,000 FEET

PANEL 0403F

FIRM

FLOOD INSURANCE RATE MAP
PASCO COUNTY,
FLORIDA
AND INCORPORATED AREAS

PANEL 403 OF 500
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0403	F

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

 **MAP NUMBER**
12101C0403F

EFFECTIVE DATE
SEPTEMBER 26, 2014

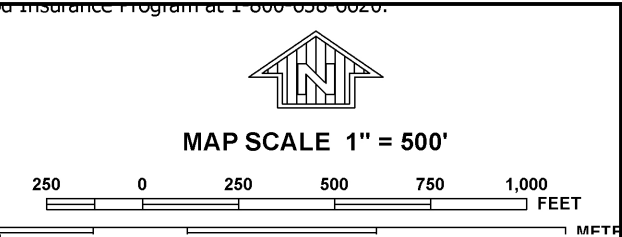
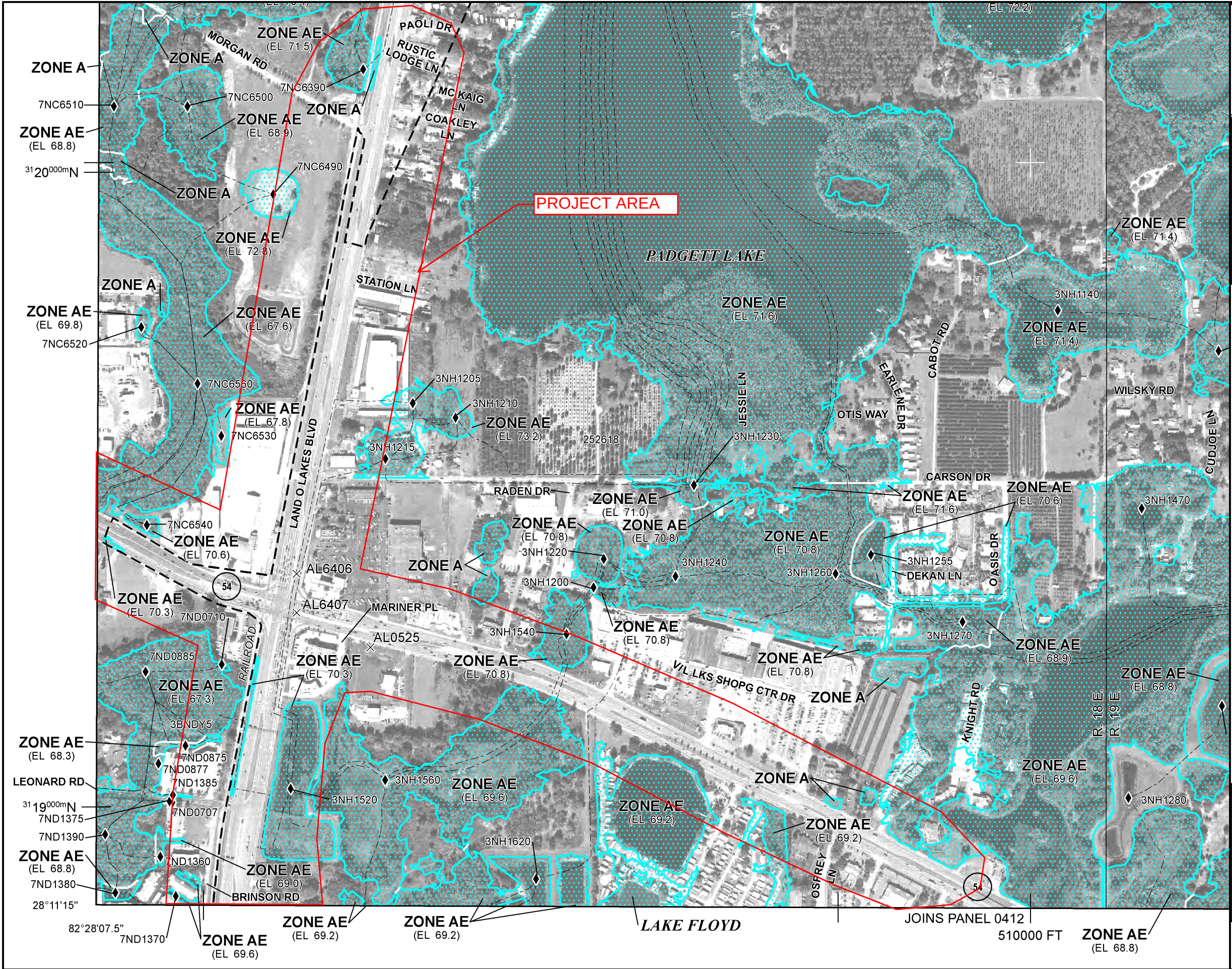
Federal Emergency Management Agency

28°11'15"

505000 FT

82°28'07.5"

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0404F

FIRM
FLOOD INSURANCE RATE MAP
PASCO COUNTY,
FLORIDA
AND INCORPORATED AREAS

PANEL 404 OF 500
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

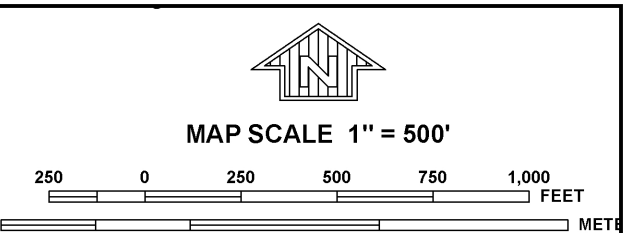
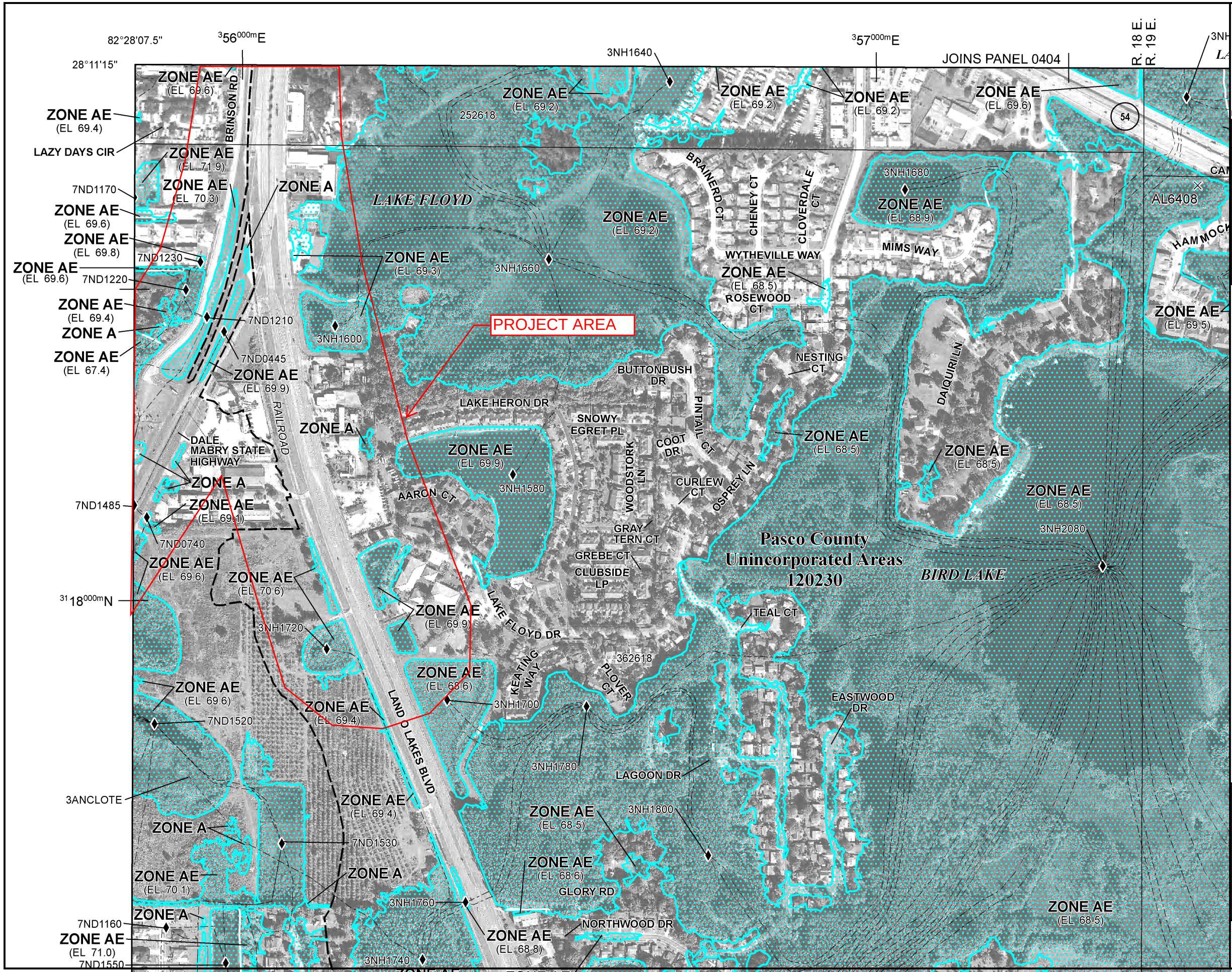
COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0404	F

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

 **MAP NUMBER**
12101C0404F
EFFECTIVE DATE
SEPTEMBER 26, 2014

Federal Emergency Management Agency

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NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0412F

FIRM
FLOOD INSURANCE RATE MAP
PASCO COUNTY,
FLORIDA
AND INCORPORATED AREAS

PANEL 412 OF 500
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0412	F

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
12101C0412F

EFFECTIVE DATE
SEPTEMBER 26, 2014

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

APPENDIX B

SWFWMD Pre-Application Meeting Minutes



THIS FORM IS INTENDED TO FACILITATE AND GUIDE THE DIALOGUE DURING A PRE-APPLICATION MEETING BY PROVIDING A PARTIAL "PROMPT LIST" OF DISCUSSION SUBJECTS. IT IS NOT A LIST OF REQUIREMENTS FOR SUBMITTAL BY THE APPLICANT.



**SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
RESOURCE REGULATION DIVISION
PRE-APPLICATION MEETING NOTES**

FILE NUMBER:

PA 400962

Date: March 13, 2014
Time: 10:00 AM
Project Name: FDOT- SR 54 & US41- Interchange Improvements
Attendees: Richard Alt; Blake Meinecke; Robert Johnson, Robert.e.johnson@urs.com; Chris Dailey
Chris.dailey@rsandh.com, Cynthia Grizzle, Cynthia.grizzle@rsandh.com

County: Pasco Co. **Sec/Twp/Rge:** 25/26/18
Total Land Acreage: 100+ **Project Acreage:** 100+ acres

Prior On-Site/Off-Site Permit Activity:

- Existing roadway - 43012854.000

Project Overview:

- SR 54 flyover US 41
- 2 scenarios 3A (2.82 acres wetland impacts, 104 acres project) and 3C (0.45acre impact, 88 acres project)

Environmental Discussion: (Wetlands On-Site, Wetlands on Adjacent Properties, Delineation, T&E species, Easements, Drawdown Issues, Setbacks, Justification, Elimination/Reduction, Permanent/Temporary Impacts, Secondary and Cumulative Impacts, Mitigation Options, SHWL, Upland Habitats, Site Visit, etc.)

- Include limits of wetlands and surface waters on plans, will review wetland limits as part of application review.
- Include limits of proposed wetland/surface water impacts on plans.
- Provide appropriate mitigation using UMAM for impacts, if applicable.
- Potential to use two different mitigation banks to offset proposed functional losses, or provide cumulative impact analysis.
- Review potential mitigation area located in "Denim Pond" and address impacts to it, if applicable.

Site Information Discussion: (SHW Levels, Floodplain, Tailwater Conditions, Adjacent Off-Site Contributing Sources, Receiving Waterbody, etc.)

- WBIDs 1463O – not impaired and 1451D1 – not impaired
- Floodplain on site – preliminary revised flood maps available

Water Quantity Discussions: (Basin Description, Storm Event, Pre/Post Volume, Pre/Post Discharge, etc.)

- Demonstrate that discharges from proposed project area will not cause an adverse impact for a 25-year, 24-hour storm event.
- Demonstrate that site will not impede the conveyance of contributing off-site flows.
- Demonstrate that the project will not increase flood stages up- or down-stream of the project area(s).
- Provide equivalent compensating storage for all 100-year, 24-hour riverine floodplain impacts if applicable.

Water Quality Discussions: (Type of Treatment, Technical Characteristics, Non-presumptive Alternatives, etc.)

- Provide water quality treatment for required project area.
- Will acknowledge compensatory treatment to offset pollutant loads associated with portions of the project area that cannot be physically treated.

Sovereign Lands Discussion: (Determining Location, Correct Form of Authorization, Content of Application, Assessment of Fees, Coordination with FDEP)

- N/A

Operation and Maintenance/Legal Information: (Ownership or Perpetual Control, O&M Entity, O&M Instructions, Homeowner Association Documents, Coastal Zone requirements, etc.)

- The permit must be issued to the FDOT.
- Provide proof of ownership in the form of a deed, contract for sale, or easements.
- Provide appropriate O&M instructions.

Application Type and Fee Required:

- SWERP – Sections A, C and E of the ERP Application. 3A - \$3,106.00, 3C - \$2,798.00

Other: (Future Pre-Application Meetings, Fast Track, Submittal Date, Construction Start Date, Required District Permits – WUP, WOD, Well Construction, etc.)

•

Disclaimer: The District ERP pre-application meeting process is a service made available to the public to assist interested parties in preparing for submittal of a permit application. Information shared at pre-application meetings is superseded by the actual permit application submittal. District permit decisions are based upon information submitted during the application process and Rules in effect at the time the application is complete.

APPENDIX C

Existing Basin Maps-SPUI and DDI



EXISTING BASIN 1
TOTAL AREA: 31.07 AC
IMPERVIOUS AREA: 23.03 AC
PERVIOUS AREA: 6.48 AC
WATER SURFACE: 1.57 AC
CN: 92.80

EXISTING BASIN 2
TOTAL AREA: 42.47 AC
IMPERVIOUS AREA: 28.88 AC
PERVIOUS AREA: 9.22 AC
WATER SURFACE: 4.37 AC
CN: 92.76

EXISTING BASIN 2
QUASI-EQUIVALENT TREATMENT
TOTAL AREA: 1.72 AC
IMPERVIOUS AREA: 1.72 AC
PERVIOUS AREA: 0.00 AC
WATER SURFACE: 0.00 AC
CN: 98.00

EXISTING BASIN 3
TOTAL AREA: 34.47 AC
IMPERVIOUS AREA: 12.25 AC
PERVIOUS AREA: 20.34 AC
WATER SURFACE: 1.88 AC
CN: 89.85

EXISTING BASIN 4
TOTAL AREA: 16.87 AC
IMPERVIOUS AREA: 8.19 AC
PERVIOUS AREA: 4.45 AC
WATER SURFACE: 4.23 AC
CN: 95.65

EXISTING BASIN 5
TOTAL AREA: 8.42 AC
IMPERVIOUS AREA: 3.82 AC
PERVIOUS AREA: 4.45 AC
WATER SURFACE: 0.15 AC
CN: 87.33

EXISTING BASIN VILLAGE
LAKES CENTER DRIVE
TOTAL AREA: 0.73 AC
IMPERVIOUS AREA: 0.57 AC
PERVIOUS AREA: 0.16 AC
WATER SURFACE: 0.00 AC
CN: 86.19

FLOW ARROW

CROSS DRAIN

EXISTING R/W

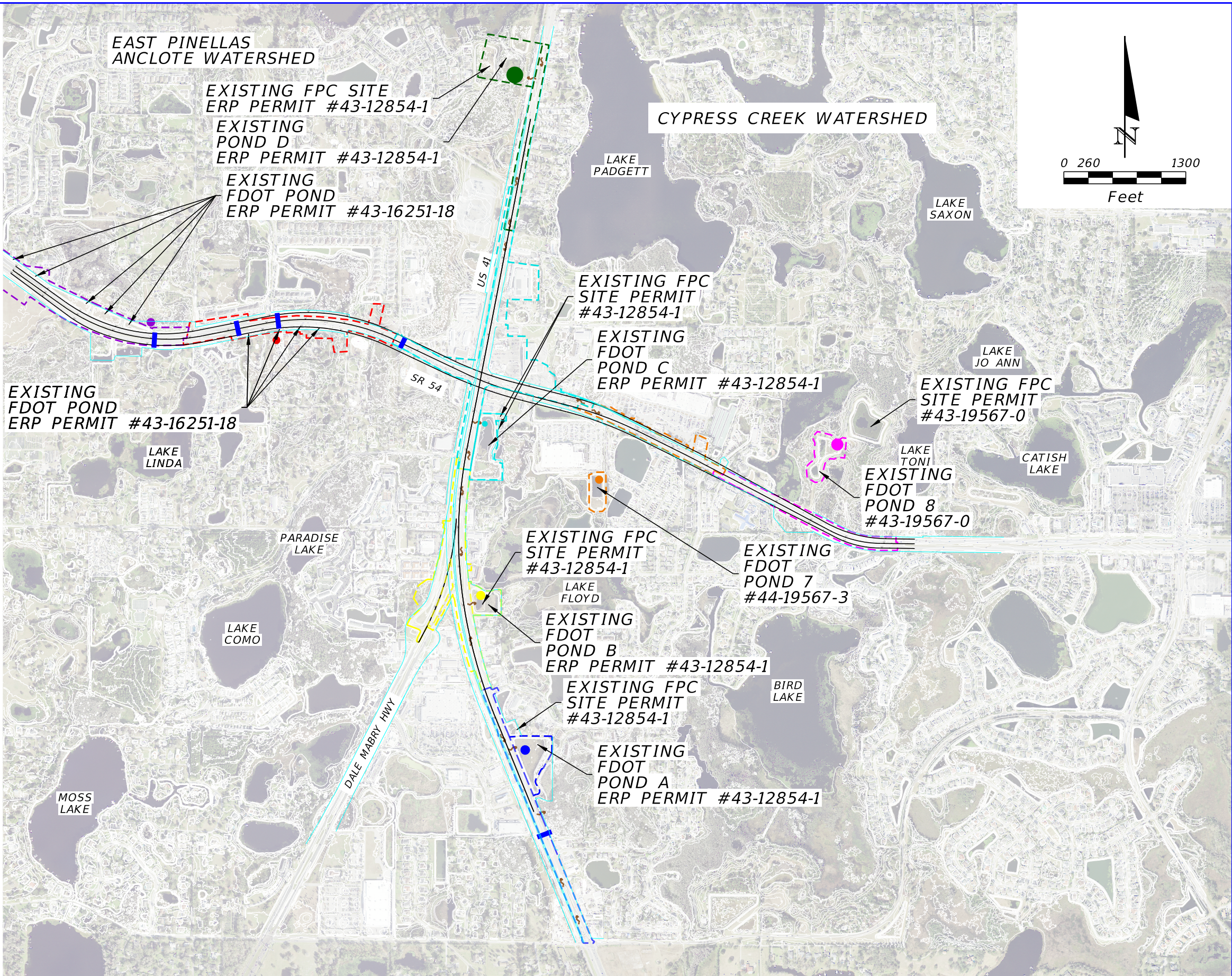
REVISIONS				STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			US 41 AT SR 54 PD&E STUDY PRE DEVELOPMENT BASIN MAP DDI	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
			JENNIFER FLORES, P.E. LICENSE NUMBER: 84372 AECOM TECHNICAL SERVICES, INC. 390 N. ORANGE AVE. ORLANDO, FLORIDA 32801	US 41 SR54	PASCO			

c:\pwworking\usf\l\dms25530\DRMPRD_Existing Basin Maps_DDI.dgn : EXISTING BASIN MAP [SHEET]
SadakaR 1/22/2026 3:30:28 PM

F.A.C. NOTE

- EXISTING BASIN 1
TOTAL AREA: 32.64 AC
IMPERVIOUS AREA: 23.49 AC
PERVIOUS AREA: 7.17 AC
WATER SURFACE: 1.98 AC
CN: 91.73
- EXISTING BASIN 2
TOTAL AREA: 41.64 AC
IMPERVIOUS AREA: 28.88 AC
PERVIOUS AREA: 8.39 AC
WATER SURFACE: 4.37 AC
CN: 92.75
- EXISTING BASIN 3
TOTAL AREA: 23.86 AC
IMPERVIOUS AREA: 12.25 AC
PERVIOUS AREA: 9.74 AC
WATER SURFACE: 1.88 AC
CN: 92.45
- EXISTING BASIN 4
TOTAL AREA: 14.64 AC
IMPERVIOUS AREA: 8.22 AC
PERVIOUS AREA: 2.56 AC
WATER SURFACE: 3.86 AC
CN: 96.08
- EXISTING BASIN 5
TOTAL AREA: 15.19 AC
IMPERVIOUS AREA: 6.59 AC
PERVIOUS AREA: 8.12 AC
WATER SURFACE: 0.48 AC
CN: 86.33
- EXISTING BASIN 6
TOTAL AREA: 16.30 AC
IMPERVIOUS AREA: 8.50 AC
PERVIOUS AREA: 5.76 AC
WATER SURFACE: 2.04 AC
CN: 88.55
- EXISTING BASIN 7
TOTAL AREA: 10.17 AC
IMPERVIOUS AREA: 5.89 AC
PERVIOUS AREA: 2.57 AC
WATER SURFACE: 1.71 AC
CN: 93.63
- EXISTING BASIN 8
TOTAL AREA: 11.67 AC
IMPERVIOUS AREA: 7.07 AC
PERVIOUS AREA: 3.03 AC
WATER SURFACE: 1.57 AC
CN: 92.17

- FLOW ARROW
- CROSS DRAIN
- EXISTING R/W



REVISIONS				STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			US 41 AT SR 54 PD&E STUDY PRE DEVELOPMENT BASIN MAP SPUI	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
			JENNIFER FLORES, P.E. LICENSE NUMBER: 84372 AECOM TECHNICAL SERVICES, INC. 390 N. ORANGE AVE. ORLANDO, FLORIDA 32801	US 41 SR54	PASCO			