STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

TECHNICAL REPORT COVERSHEET

650-050-38
ENVIRONMENTAL
MANAGEMENT
06/17

LOCATION HYDRAULICS MEMORANDUM

Florida Department of Transportation

District Seven

SR 56 Southbound C-D Road/Ramps to I-75/I-275

Project Development and Environment (PD&E) Study

Limits of Project: South of the I-75/I-275 Apex to SR 56

Hillsborough and Pasco Counties, Florida

Financial Management Number: 430573-4

ETDM Number: 14330

Date: November 2021

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.

SR 56 Southbound C-D Road/Ramps to I-75/I-275

Project Development & Environment (PD&E) Study

Location Hydraulics Memorandum

Work Program Item Segment No. 430573-4
ETDM Project No. 14330
Hillsborough and Pasco Counties, Florida

Prepared for:

Florida Department of Transportation
District Seven

Prepared by:
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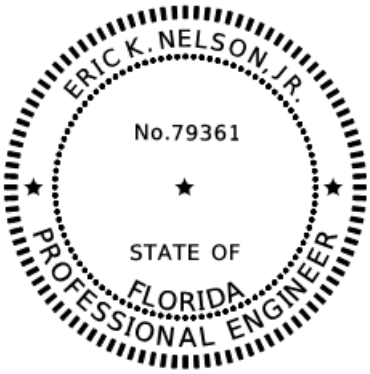
November 2021



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:
Digitally signed by Eric K Nelson
Date: 2021.11.11 17:09:52-05'00'
ON THE DATE ADJACENT TO THE SEAL

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AMERICAN CONSULTING ENGINEERS OF FLORIDA, LLC
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EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT), District Seven, conducted a Project Development and Environment (PD&E) study to evaluate location and design concepts for constructing a southbound collector-distributor (C-D) road system to carry the southbound on-ramps from State Road (SR) 56 to Interstate 75 (I-75) and I-275. The limits of the study are along I-75 from south of the I-75/I-275 Apex to SR 56 in Hillsborough and Pasco Counties. The project will improve the southbound operations between the I-75/I-275 and I-75/SR 56 interchanges and eliminate undesirable weaving movements. The design year for the improvements is 2045.

The PD&E study objectives include: determine proposed typical sections and develop preliminary conceptual design plans for proposed improvements, while minimizing impacts to the environment; consider agency and public comments; and ensure project compliance with all applicable federal and state laws. A Type 2 Categorical Exclusion was prepared as part of this study. The proposed improvements will include construction of stormwater management and floodplain compensation facilities. The PD&E study satisfies all applicable requirements, including the National Environmental Policy Act (NEPA), to qualify for federal-aid funding of subsequent development phases (design, right-of-way acquisition, and construction).

This Location Hydraulics Memorandum (LHM) has been prepared to identify impacts to the existing regional drainage. Based on the evaluation of the build alternative, the applicable floodplain statement from the PD&E Manual is statement 3, as follows:

3- PROJECTS INVOLVING MODIFICATION TO EXISTING DRAINAGE STRUCTURES:

"Modifications to existing drainage structures, specifically cross drains and SMF control structures, included in this project will result in an insignificant change in their capacity to carry floodwater. These modifications will cause minimal increases in flood heights and flood limits which will not result in any significant adverse impacts on the natural and beneficial floodplain values or any significant change in flood risks or damage. There will be no significant change in the potential for interruption or termination of emergency service or emergency evacuation routes as the result of modifications to existing drainage structures. Therefore, it has been determined that this encroachment is not significant."

There will be minimal encroachments within Zone AE floodplains with Base Flood Elevations (BFE) between 49.1' and 52' associated with the build alternative, for which equivalent compensating floodplain storage will be provided. Modeling of recommended stormwater management and floodplain compensation facilities will be performed utilizing the Cypress Creek Watershed model to verify that the changes will be insignificant. Land use within the vicinity of the floodplains is mostly wetlands and wooded areas. Public involvement for floodplain impacts does not appear to be warranted.

The build alternative will have potential impacts to traffic during construction. The traffic control plan should provide for minimal disruption to highway users and maintain access to ramps, local roads,

and driveways at all times. A stormwater pollution prevention plan should be produced during the design phase to minimize impacts to water quality during construction.

A Pond Siting Report was prepared for the project to identify project stormwater management requirements. This includes regulations regarding runoff attenuation and water quality treatment associated with surface water runoff from proposed impervious areas, as well as “cup-for-cup” compensation for any fill within the floodplain.

Table of Contents

Appendices

List of Figures and Tables

Figures

Tables

SECTION 1 INTRODUCTION

1.1 PD&E STUDY PURPOSE

The objective of the PD&E study is to assist the FDOT's Office of Environmental Management (OEM) in reaching a decision on the type, location, and conceptual design of the necessary improvements for the southbound on-ramps from State Road (SR) 56 to Interstate 75 (I-75) and I-275 to safely and efficiently accommodate future travel demand. This study documents the need for the improvements as well as the procedures utilized to develop and evaluate various improvements, including elements such as proposed typical sections, preliminary horizontal alignments, and interchange enhancement alternatives.

The PD&E study satisfies all applicable requirements, including the National Environmental Policy Act (NEPA), to qualify for federal-aid funding of subsequent development phases (design, right-of-way acquisition, and construction). This project was screened through the FDOT's Efficient Transportation Decision Making (ETDM) process as ETDM Project No. 14330. An ETDM Programming Screen Summary Report was published on February 21, 2018, containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical, and social resources. A Type 2 Categorical Exclusion was prepared as part of this PD&E study.

1.2 PROJECT PURPOSE AND NEED

1.2.1 Purpose

The purpose of the project is to improve operations on I-75 southbound between SR 56 and the southbound off-ramp to I-275 (I-75/I-275 interchange).

1.2.2 Need

This project is needed to address the effect on operations by reducing the number of weaving vehicles in the project area.

1.2.3 Roadway Capacity/Deficiencies

I-75 currently operates at an acceptable level of service (LOS C). It is expected that by 2040 the study segment of I-75 will operate at an unacceptable level of service (LOS F).

1.2.4 Safety

The distribution of crash types on this segment of I-75 between 2014 and 2018 show that rear end crashes make up 35% of the crashes and sideswipe crashes make up 20%. These crash types are indicative of an inadequate weaving segment.

1.3 PROJECT DESCRIPTION

This project consists of operational improvements on I-75/I-275 from south of County Line Road to SR 56 in Hillsborough and Pasco Counties, a distance of approximately 2.2 miles. See **Figure 1-1** for project location. This project consists of the construction of a southbound collector-distributor (C-D) road and the addition of new ramps to improve the southbound operations between the I-75/I-275 and I-75/SR 56 interchanges and eliminate undesirable weaving movements. This portion of I-75/I-275 is functionally classified by the FDOT as an urban principal arterial/interstate and is part of FDOT's Strategic Intermodal System (SIS).

1.4 EXISTING FACILITY AND PROPOSED IMPROVEMENTS

Southbound I-75 from north of SR 56 consists of four through lanes. At the connection of the SR 56 southbound ramps to I-75, there are six lanes of traffic. The six lanes of traffic separate to four lanes that continue southbound on I-75 and three lanes that exit to southbound I-275. For vehicles entering I-75 from SR 56 to proceed on southbound I-75, they must weave with southbound I-75 vehicles that are exiting onto southbound I-275. The crash types in this area are indicative of an inadequate weave segment.

The Build Alternative proposes separating vehicles from the SR 56 southbound ramp and I-75 to eliminate the weave condition. Traffic from SR 56 would enter a southbound C-D road, separated from I-75 traffic. Lanes on the southbound C-D road would split traffic to I-75 and I-275 and enter the interstates downstream from the existing apex of the I-75/I-275 lane split. Southbound I-75 traffic would exit to southbound I-275 without the influence of southbound traffic from SR 56. A new bridge would be constructed south of County Line Road to carry the I-75 ramp to I-275 over the C-D road ramp to I-75. The proposed improvements would eliminate the traffic weave along I-75 between the entrance ramp to SR 56 and the exit to I-275. **Figure 2** shows a simplified schematic of the differences between the existing and proposed traffic routes for southbound I-75 and SR 56 ramp to I-275 and I-75 and the elimination of the existing weave zone. Additional details are found in the *Preliminary Engineering Report* (*PER*) and concept plans developed for this PD&E study.

1.5 REPORT PURPOSE

As part of the PD&E Study, this Location Hydraulics Memorandum describes regional drainage characteristics and evaluates potential impacts to the existing drainage system and floodplains within the project vicinity.

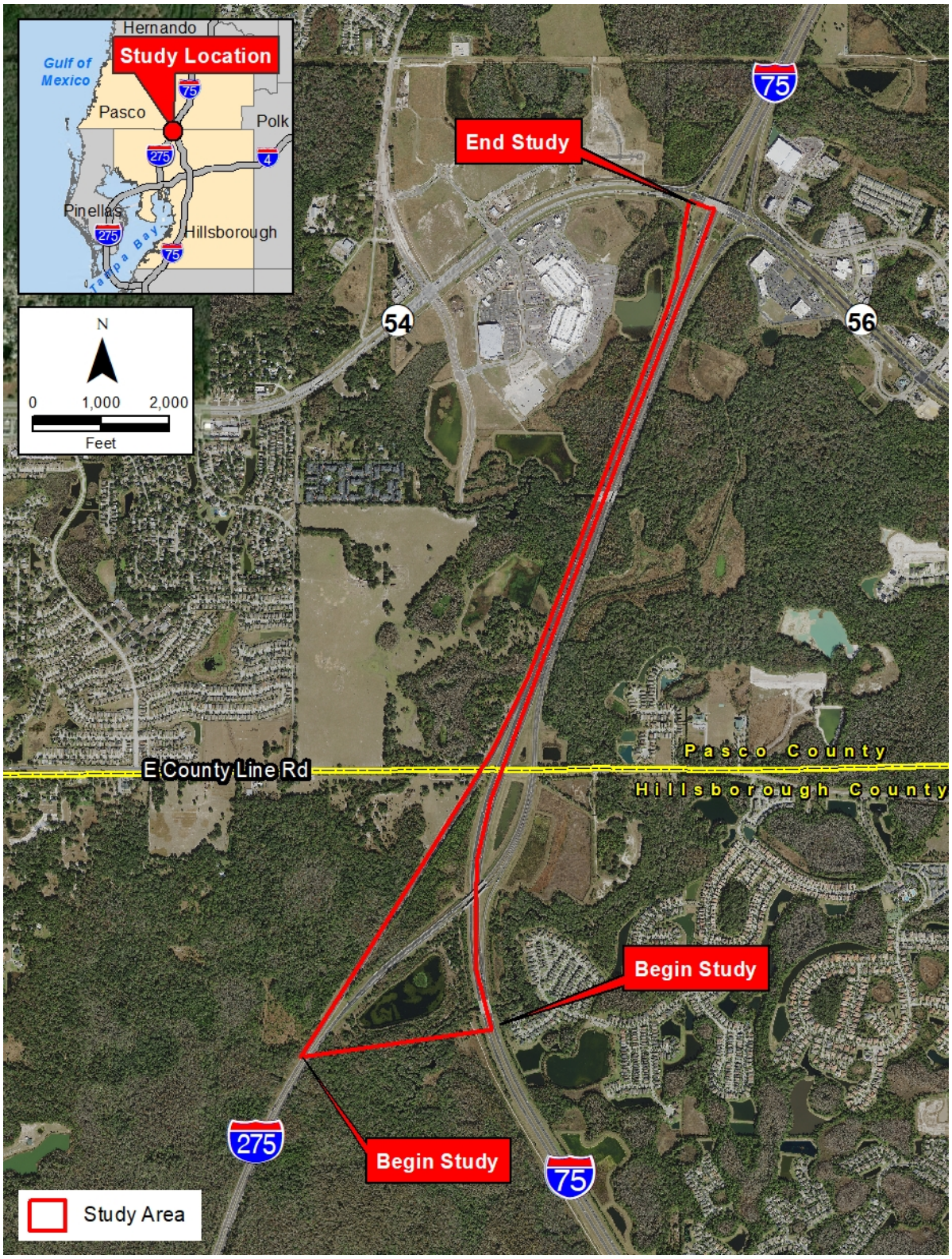


Figure 1-1 Project Location Map

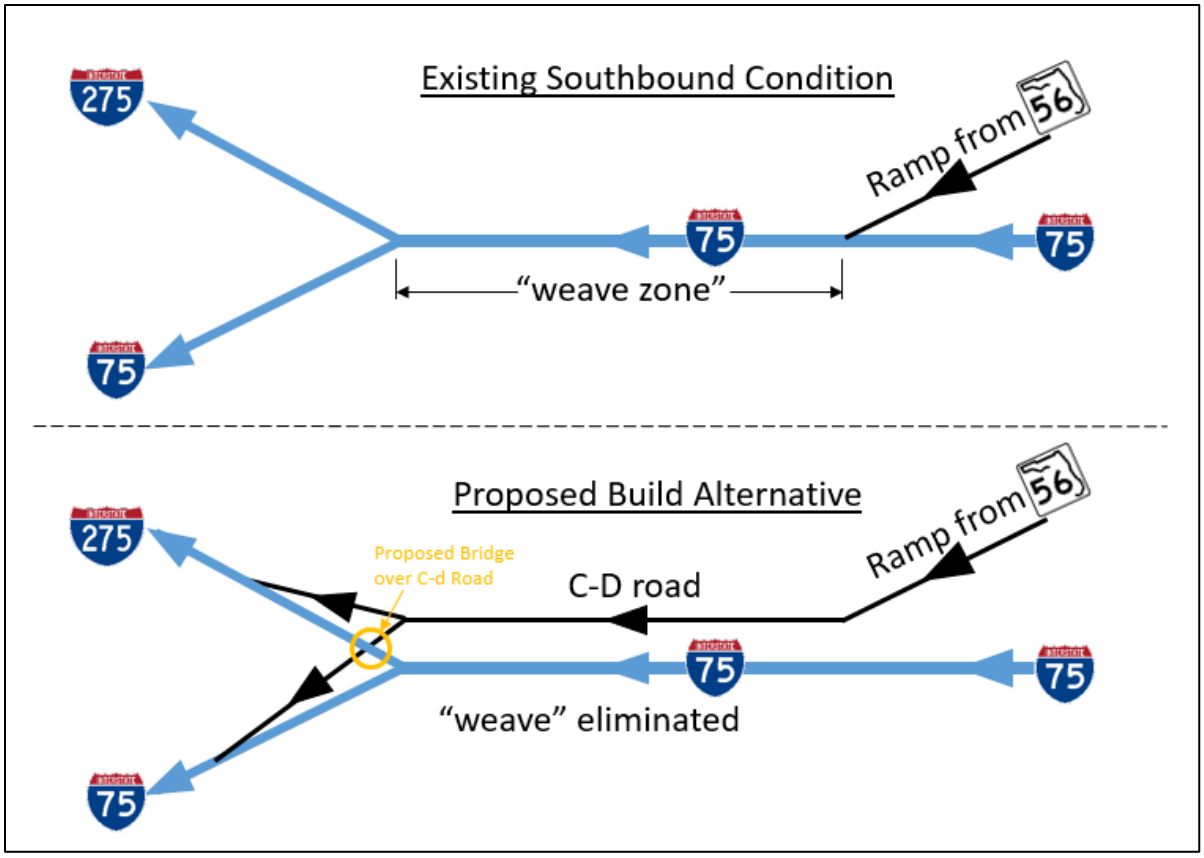


Figure 1-2 Existing and Proposed Traffic Routes for I-75, I-275 & SR 56 Ramp

SECTION 2 EXISTING CONDITIONS

At the regional level, stormwater within the project area is collected in wetlands that connect to Cypress Creek via natural weirs and cross drains. Cypress Creek is a tributary of the Hillsborough River, which is classified as an Outstanding Florida Water (OFW). The Cypress Creek floodplains lie just outside of the I-75 right of way on both the east and west sides for the entirety of the project. Refer to **Appendix A** for Straight Line Diagrams (SLD) that depict the cross drains and FEMA FIRM Panels that identify the flood zone and location of the floodplains. Within the project limits, the existing drainage system is comprised of four basins and includes a combination of inlets, pipes, ditches, and wet detention ponds that treat roadway runoff prior to discharge to the receiving waters. Generally, the runoff from I-75 and the I-75/I-275 interchange is conveyed via shoulder gutter to gutter inlets, after which pipes of varying size drain the runoff to one of five permitted wet detention ponds. Segments of median and side swales supplement the shoulder gutter drainage by collecting runoff in ditch bottom inlets and connecting to the gutter inlet pipe networks. South of County Line Road, two of the existing SMFs connect to a roadside ditch adjacent to the I-75 NB lanes and drain south to Cypress Creek. The other SMF drains west via 24" and 30" culverts to wetlands adjacent to the I-275 SB ramp. North of County Line Road, a pair of ponds interconnected by an 18" equalizer pipe outflow east via 48" pipe to adjacent wetland.

2.1 SOILS

Per National Resource Conservation Service (NRCS) soils data, soils within the project limits are described by various Hillsborough County and Pasco County map units, as listed in **Table 2-1** below. See **Figure B-1** in **Appendix B** for a map of the soils within the project area.

Table 2-1 USDA Soils

Map #	Soil Name	County	Hydrologic Group	Depth to High Water Table (ft)	Description
5	Basinger, Holopaw, and Samsula soils, depressional	Hillsborough	A/D	0"	Depressional, very poorly drained
15	Felda Fine Sand, 0 to 2 percent slopes	Hillsborough	A/D	3"-18"	Poorly drained
16	Felda Fine Sand, 0 to 2 percent slopes	Hillsborough	A/D	3"-18"	Poorly drained, occasionally flooded
21	Immokalee Fine Sand, 0 to 2 percent slopes	Hillsborough	B/D	6"-18"	Poorly drained
27	Malabar Fine Sand, 0 to 2 percent slopes	Hillsborough	A/D	3"-18"	Poorly drained
29	Myakka fine sand, 0 to 2 percent slopes	Hillsborough	A/D	6"-18"	Poorly drained

Map #	Soil Name	County	Hydrologic Group	Depth to High Water Table (ft)	Description
60	Winder fine sand, 0 to 2 percent slopes	Hillsborough	C/D	0”-12”	Poorly drained, frequently flooded
61	Zolfo fine sand, 0 to 2 percent slopes	Hillsborough	A	18”-42”	Somewhat poorly drained
4	Felda fine sand, 0 to 2 percent slopes	Pasco	A/D	3”-18”	Poorly drained
5	Myakka-Myakka, wet, fine sands, 0 to 2 percent slopes	Pasco	A/D	3”-18”	Poorly drained
6	Tavares sand, 0 to 5 percent slopes	Pasco	A	42”-72”	Moderately well drained
10	Wabasso-Wabasso, wet, fine sand, 0 to 2 percent slopes	Pasco	B/D	3”-18”	Poorly drained
11	Adamsville fine sand, 0 to 2 percent slopes	Pasco	A/D	18”-42”	Somewhat poorly drained
22	Basinger fine sand, 0 to 2 percent slopes	Pasco	A/D	0”-12”	Poorly drained
26	Narcoossee fine sand, 0 to 2 percent slopes	Pasco	A	24”-42”	Moderately well drained
27	Anclote fine sand, 0 to 2 percent slopes	Pasco	A	0”	Very poorly drained, ponded
30	Okeelanta-Terra Ceia Association, 0 to 2 percent slopes	Pasco	A/D	0”	Very poorly drained
35	EauGallie fine sand, 0 to 2 percent slopes	Pasco	A/D	6”-18”	Poorly drained
39	Chobee soils, 0 to 2 percent slopes	Pasco	C/D	0”-6”	Very poorly drained, frequently flooded
59	Newnan fine sand, 0 to 5 percent slopes	Pasco	A/D	18”-42”	Somewhat poorly drained
63	Delray mucky fine sand, 0 to 2 percent slopes	Pasco	A/D	0”	Very poorly drained

2.2 LAND USE

This project lies within both Hillsborough and Pasco Counties. The existing land use within the project vicinity is primarily stream swamps (bottomland) and forested areas. **Figure B-2** in **Appendix B** displays the various land use types within 500-ft of the project area.

2.3 CROSS DRAINS

There are 7 cross drains within the project limits, which are responsible for draining the wetlands to Cypress Creek. **Table 2-2** lists the properties and locations of the cross drains. Approximate locations are shown on the attached Straight Line Diagrams (SLD) found in **Appendix A**, as well as on **Figure B-3** in **Appendix B**.

Table 2-2 Cross Drains

Cross Drain Number	Roadway ID	Milepost (mi)	Description	Number of Barrels	Length (ft)	Apparent Flow Direction
CD-1	10075000	39.494	24" RCP	1	343	W to E
CD-2A*	10075000	39.652	30" RCP	1	104	W to E
CD-2B*	10075000	39.681	30" RCP	1	108	W to E
CD-3	14140000	0.270	10' x 4' CBC	1	338	W to E
CD-4	14140000	1.032	10' x 10' CBC	1	288	W to E
CD-5A	14140000	1.605	4' x 4' CBC	1	235	W to E
CD-5B	14140000	1.61	54" RCP	1	235	W to E

*Cross drains 2A and 2B are connected via 293-ft of 30" pipe

2.4 BRIDGE STRUCTURES

There are two existing bridge pairs over Cypress Creek within the study limits. The first pair is the I-75 SB and NB lanes over Cypress Creek in Hillsborough County (Bridge Nos. 100412 and 100413, respectively). This bridge pair is approximately 0.6 miles south of County Line Road. The second bridge pair, located approximately 0.8 miles north of County Line Road, is the I-75 SB and NB lanes over Cypress Creek in Pasco County (Bridge Nos. 140061 and 140062, respectively). The Hillsborough County bridge pair was built in 1982 and the Pasco County bridge pair was built in 1963. According to the bridge inspection reports, both are in very good condition, as shown in **Table 2-3.** The locations of these two bridges are shown on **Figure B-3** in **Appendix B**.

Table 2-3 Bridge Sufficiency Rating and Health Index

Bridge Number	Roadway ID	Milepost	Sufficiency Rating	Health Index
100412	10075000	39.219	96	94.82
100413	10075000	39.216	96	96.85
140061	14140000	0.770	94	93.42
140062	14140000	0.782	93.5	89.66

2.5 FLOODPLAINS AND FLOODWAYS

FEMA Flood Insurance Rate Map panels 12057C0070H, 12101C0417F, and 12101C0409F identify the flood zone information for the project area, and can be seen in **Appendix A**. The I-75 and I-275 interchange south of County Line Road, including the infield areas, are not within a floodplain. Other than the interchange, zone AE floodplains, ranging in elevation from 42-ft NAVD to 53.8-ft NAVD, exist within the I-75 right of way or adjacent to it for the entirety of the project limits. The I-75 roadway is above the 100-year floodplain, and no history of flooding has been identified within the project limits. The build alternative will not substantially change the elevation of the existing roadway or bridges. Impacts to floodplain storage will require cup-for-cup compensation and will be incorporated into the effective Cypress Creek Watershed model to ensure there are no flood risks associated with the build alternative.

SECTION 3 PROPOSED CONDITIONS

3.1 CROSS DRAINS

The existing cross drains will be extended as required to accommodate the C-D road width. Cross drain analysis is to be performed during the design phase of this project.

3.2 BRIDGE STRUCTURES

Bridge pair No. 100412/100413 is within the project limits, however, no bridge modifications are proposed with the build alternative. Bridge pair No. 140061/140062 lies within FEMA Flood Zone AE (BFE 48.7'-53.4'), and will therefore require a bridge hydraulic evaluation. The Bridge hydraulic evaluation will be performed during the design phase.

3.3 FLOODPLAINS AND FLOODWAYS

The build alternative is associated with minimal longitudinal encroachments within the floodplains on the west side of I-75. The proposed C-D road will require fill to be placed below the base flood elevations of several floodplains, ranging in elevation from 49.1' to 52', thus requiring equivalent floodplain compensation. Equivalent cup-for-cup volumes of cut will be provided to compensate for the anticipated fill volumes. A *Pond Siting Report* is being prepared, which will identify potential compensation sites, calculate floodplain cut and fill volumes between the estimated seasonal high water table elevation and the base flood elevation, and demonstrate that the proposed conditions 100-year flood stages are unchanged within the impacted watershed basins.

3.4 PROJECT CLASSIFICATION

Impacts to the floodplain associated with the Build alternative can be classified as Minimal Encroachment. Compensatory cut volume will be provided at viable sites to offset the loss of floodplain storage, thereby minimizing flood-related risk. This memorandum provides a conceptual assessment of the risks associated with the build alternative. The *Pond Siting Report* will provide more detailed risk assessment in the form of floodplain impact quantification and cost estimation.

3.5 RISK EVALUATION

By balancing floodplain cut volumes with compensatory fill and providing adequate stormwater management as detailed in the *Pond Siting Report*, the hydraulic capacity of existing drainage structures will not be significantly impacted. Floodplain compensation sufficiency will be verified by modeling the impact and compensation sites in the effective Cypress Creek model. Thus, there is little or no risk to the floodplains within the vicinity of the Build alternative being considered by this study.

Likewise, there is little or no anticipated impacts to cultural resources, recreation, wetlands, water quality, and wildlife and habitats associated with the construction of the Build alternative. There are potential impacts to traffic due to lane shifts, modifications to the interchange ramps, and connecting the C-D road to I-75 and I-275. A traffic control plan will be prepared to minimize disruption to highway

users and ensure that access to interchange ramps, side streets, and driveways is maintained at all times. A stormwater pollution prevention plan will be prepared during the design phase to minimize impacts to water quality during construction.

3.6 COORDINATION WITH LOCAL AGENCIES

A meeting was held with the Southwest Florida Water Management District (SWFWMD) to discuss requirements and considerations regarding stormwater quality, stormwater quantity, and floodplain impacts. Meeting minutes can be found in **Appendix C.** A Floodplain Coordination meeting with FDOT D7 and Federal Highway Administration (FHWA) representatives will be held.

3.7 PD&E REQUIREMENTS

A risk assessment has been performed to evaluate the potential for flooding and determine any drainage risks associated with the construction of the Build alternative.

Minimal, longitudinal encroachment onto floodplains will take place, but by providing equivalent compensation, it does not appear that the project has the potential to adversely impact existing drainage or flood conditions. Overall, the risk of flooding will not be changed upon construction of the Build alternative, and flood-related risk to transportation infrastructure, highway users, and residents is minimal or nonexistent.

Bridge pair nos. 140061/140062 will require a bridge hydraulic report to be prepared during the design phase of this project. The existing bridge length will be maintained at 156-ft. The bridge will be widened to accommodate the C-D road and adjustments to the existing I-75 lanes. The bridge hydraulic recommendation sheet provided in ERP 43033020.002 calculated the long-term scour elevation as 34.8 ft-NAVD. Compared to pier bottom elevations of approximately 42-ft, this represents a scour depth of 7.2-ft. The scour associated with the Build alternative is anticipated to be similar to this. The bridge hydraulic report to be prepared will analyze existing scour and provided updated calculations regarding bridge geometry and scour elevations. Per the FDOT Drainage Manual, chapter 4.9.2, the long term scour elevation will be calculated based on the 50-year storm event. Worst-case scour elevations associated with the 100-year and 500-year storm events will also be determined.

Further evaluation of the location hydraulics does not appear warranted. The Pond Siting Report will identify stormwater management and floodplain compensation requirements associated with the Build alternative.

A separate public notification will not be necessary because floodplain impacts will be mitigated and flood risk is minimal.

SECTION 4 RECOMMENDATIONS AND CONCLUSIONS

Based on the evaluation of the build alternative, the applicable floodplain statement from the PD&E Manual is as follows:

3- PROJECTS INVOLVING MODIFICATION TO EXISTING DRAINAGE STRUCTURES:

"Modifications to existing drainage structures, specifically cross drains and SMF control structures, included in this project will result in an insignificant change in their capacity to carry floodwater. These modifications will cause minimal increases in flood heights and flood limits which will not result in any significant adverse impacts on the natural and beneficial floodplain values or any significant change in flood risks or damage. There will be no significant change in the potential for interruption or termination of emergency service or emergency evacuation routes as the result of modifications to existing drainage structures. Therefore, it has been determined that this encroachment is not significant."

There is little or no risk to the floodplains associated with the build alternative. All fill placed below the base flood elevations of the impacted floodplains will be compensated for with equivalent cut volume, and the natural floodplain values will be maintained. There will be no flood-related risks to highway users, highway infrastructure, or residents. A public notification for floodplain impacts will not be necessary.

The build alternative will have potential impacts to traffic during the construction phase. A traffic control plan will be prepared to minimize disruption to highway users and ensure that access to interchange ramps, side streets, and driveways is maintained at all times. There are little or no anticipated impacts to cultural resources, recreation, wetlands, water quality, and wildlife and habitats associated with the build alternative. A stormwater pollution prevention plan will be prepared during the design phase to minimize impacts to water quality during construction.

The Pond Siting Report prepared for the study identifies stormwater management and floodplain compensation requirements. Stormwater treatment and attenuation will be quantified and provided at sites identified in the report. Similarly, floodplain impacts will be quantified and equivalent "cup-for-cup" cut volumes will be provided at sites identified in the report.

APPENDICES

APPENDIX A

FEMA FIRM Maps and Straight Line Diagram

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Coastal Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Coastal Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Florida State Plane west zone (FIPSZONE 0902). The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at www.ngs.noaa.gov. Information on elevation reference marks is readily available through a variety of sources: the NGS website, www.ngs.noaa.gov/cgi-bin/datasheet.prl; the Land Boundary Information System (LABINS) maintained by the Florida Department of Environmental Protection www.labins.org; and the Hillsborough County Survey Division www.hillsboroughcounty.org/resources/survey/.

Base map information shown on this FIRM was derived from multiple sources. Road centerlines were provided by the City of Tampa Geographic Information System (GIS) group. These data were aligned to aerial imagery at 6-inch pixel resolution dated 2004. Surface water features were provided by the Hillsborough County Information Technology & Services GIS Section. These data were digitized from aerial imagery at 1-foot and 6-inch pixel resolution dated February 2000 and April 2004. Political boundaries were provided by the Hillsborough County Real Estate Department, Survey Division, GIS Section. These data were compiled in 2003. Public Land Survey System (range, township, and sections) were provided by the Florida Geographic Data Library. These data were produced at a scale of 1:24,000.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov/.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.

Hillsborough County

In cooperation with the Federal Emergency Management Agency (FEMA), Hillsborough County developed this Flood Insurance Rate Map in a digital countywide format to assist communities in their efforts to minimize the loss of property and life through effectively management development in floodprone areas. Hillsborough County has implemented a long term approach to floodplain management to reduce the impacts of flooding. This is demonstrated by the County's commitment to map floodplain areas at the local level. As part of this effort, Hillsborough County is working closely with FEMA as a Cooperating Technical Partner to produce and maintain this digital FIRM.

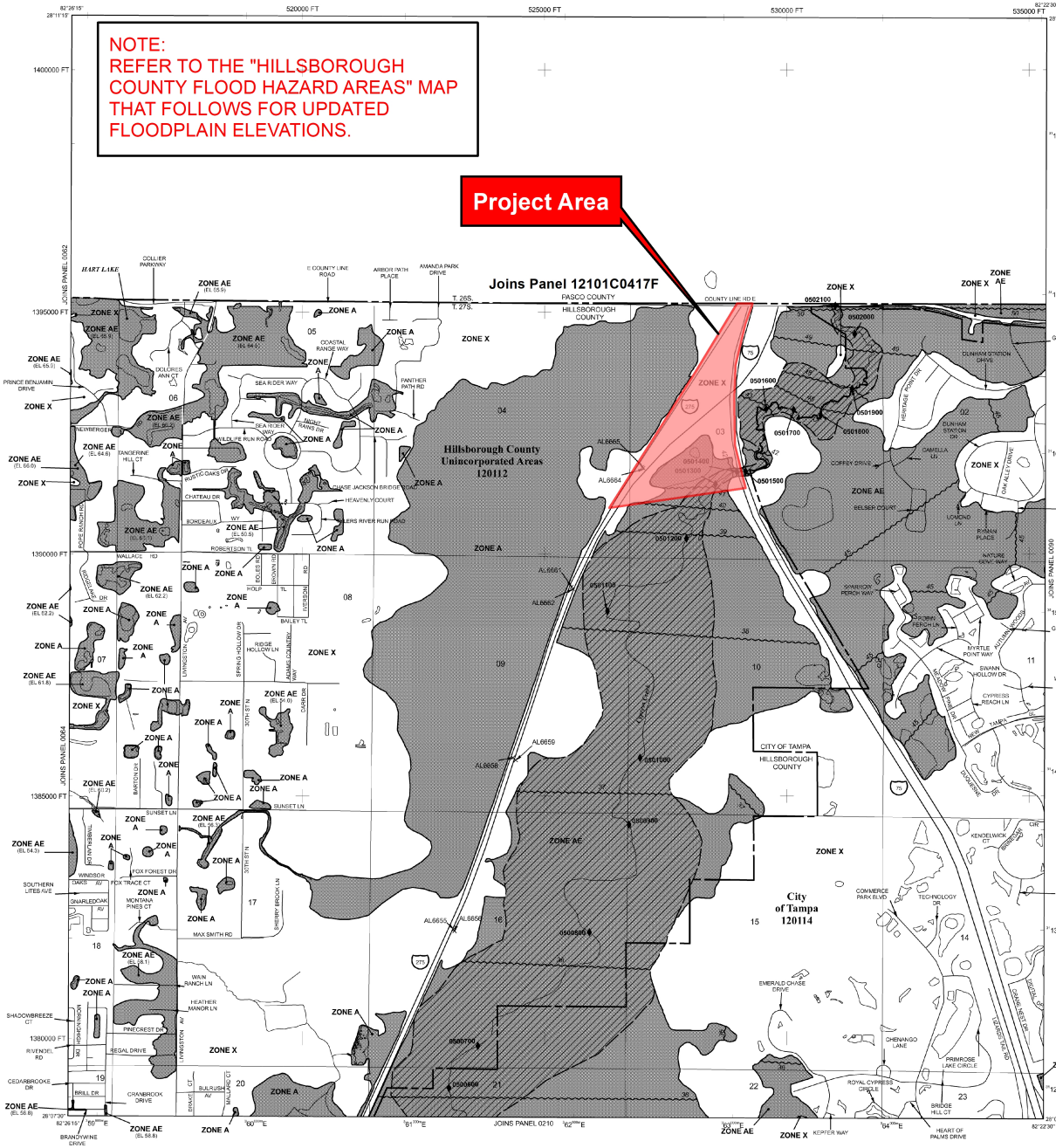
NOTE:
REFER TO THE "HILLSBOROUGH COUNTY FLOOD HAZARD AREAS" MAP THAT FOLLOWS FOR UPDATED FLOODPLAIN ELEVATIONS.

Project Area

Joins Panel 12101C0417F

Hillsborough County Unincorporated Areas 120112

City of Tampa 120114



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** No Base Flood Elevations determined.
- **ZONE AE** Base Flood Elevations determined.
- **ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 (EL 987) Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- A — A Cross section Line
- 23 — 23 Transect line
- 87°07'45", 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 3976000mN 1000-meter Universal Transverse Mercator grid values, zone 17N
- 600000 FT 1000-foot grid ticks: Florida State Plane coordinate system, West zone (FIPSZONE 0902), Transverse Mercator projection
- DX5510 × Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 River Mile
- 410235 Junction

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

300 0 300 600 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0070H

FIRM

FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 70 OF 801

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS

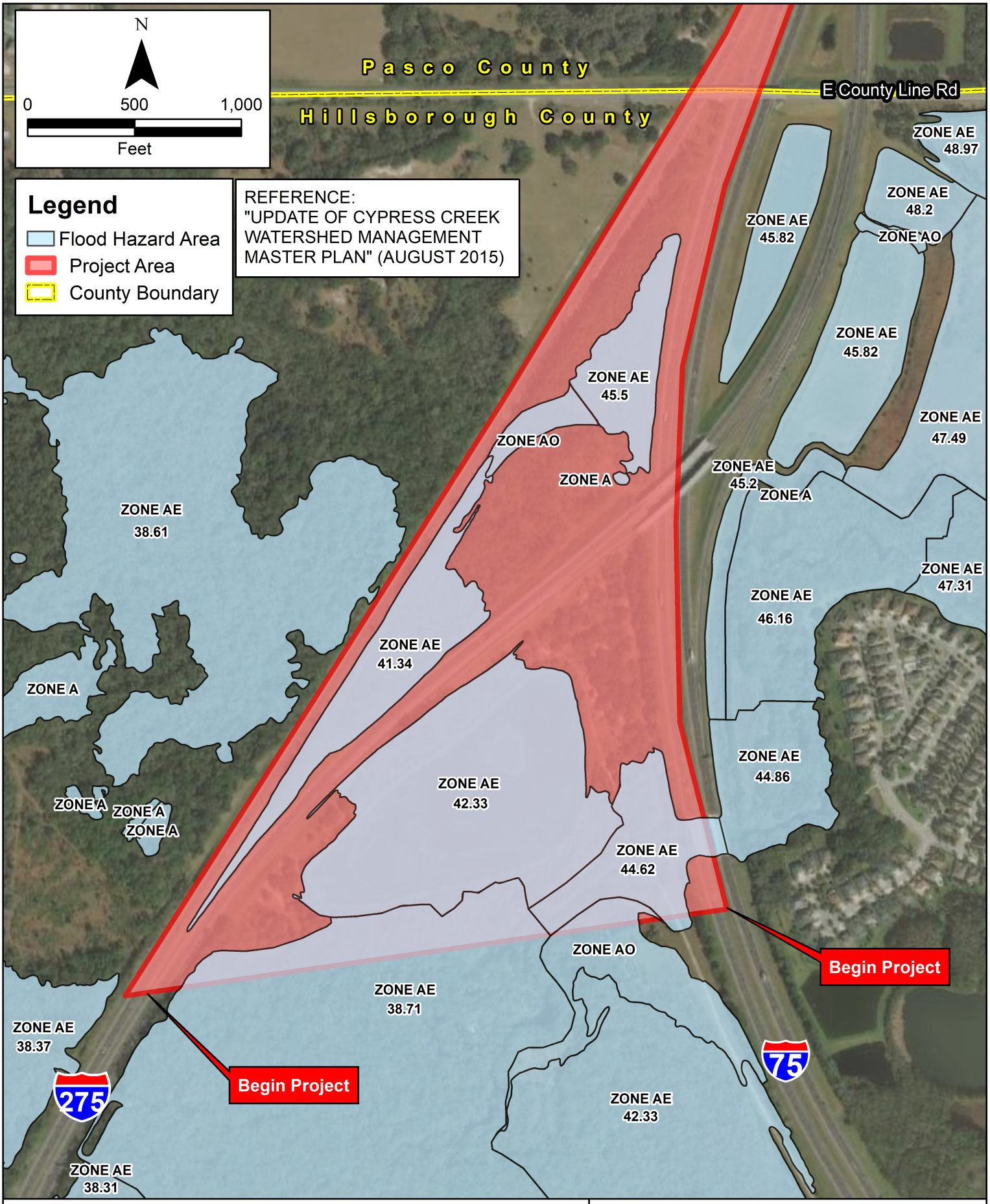
COMMUNITY	NUMBER	PANEL	SUFFIX
HILLSBOROUGH COUNTY	120112	0070	H
TAMPA, CITY OF	120114	0070	H

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
12057C0070H

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency



Document Path: F:\PROJECT\5167733_010_PD&E FileCabinet\C.DesignDocumentation\C.07-Drainage\GIS\MXD\HC-FP-REV-Map.mxd

FDOT

SB I-75/I-275 South of County Line Road to SR 56 (SB) C-D Road with Flyover Ramp
FPID: 254552-1-22-19 // WPI No.: 430573-4
Hillsborough and Pasco Counties

HILLSBOROUGH COUNTY FLOOD HAZARD AREAS

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole foot elevations. BFEs in detailed watersheds are rounded to tenth-foot elevations, see Watershed Table below. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

Base map information shown on this FIRM was provided in digital format by the Southwest Florida Water Management District. The original orthophotographic base imagery was provided in color with a one-foot pixel resolution at a scale of 1" = 1' from photography flown January 2009.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include Letters of Map Change, *a Flood Insurance Study report,* and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov/. A FIRMETTE (full scale section of a FIRM) is also available at this website.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip/.

DATUM INFORMATION

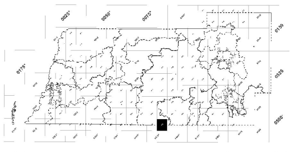
The **projection** used in the preparation of this map was State Plane Florida West. The **horizontal datum** was HARN, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane Zone used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not reflect the accuracy of this FIRM.

Base Flood Elevation (BFEs) on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metro Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

Example Datum Offset Calculation
using datum offset table below
NAVD88 = NGVD29 + (datum offset value)

To obtain current elevation, description, and/or location information for **benchmarks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242** or visit its website at http://www.ngs.noaa.gov/.



* PANEL NOT PRINTED

Watershed Boundary

Coastal Construction Control Line
Developed by the Department of Environmental Protection to safeguard coastal property from damage during storm events.

Watershed Table

Watershed	Datum Offset (ft)	Study Type	Total Rainfall Volume (in) 1 Day 100yr	Multi-Day Rainfall Used‡	Date of Model
1. Bear Creek	-0.84	Effective Transfer†	12.0	NO	09/30/92
2. Blanton Lake	-0.84	Effective Transfer	11.0	NO	09/30/92
3. Cypress Creek	-0.84	Detailed	12.4	YES	04/27/10
4. Double Hammock Creek	-0.84	Effective Transfer†	12.0	NO	09/30/92
5. Duck Lake	-0.84	Effective Transfer	11.0	NO	09/30/92
6. East Pasco	-0.84	Detailed	12.0	YES	02/23/10
7. East Pinellas Anclote	-0.84	Detailed	12.0	NO	04/26/11
8. Hammock Creek	-0.84	Effective Transfer†	12.0	NO	09/30/92
9. Lower Coastal	-0.84	Effective Transfer†	12.1	NO	09/30/92
10. New River	-0.84	Effective Transfer	11.1	NO	09/30/92
11. North Lakes	-0.84	Effective Transfer	N/A	NO	09/30/92
12. Pithlachascotee	-0.84	Effective Transfer†	12.0	NO	09/30/92
13. Trout Creek	-0.84	Detailed	12.4	YES	06/29/10
14. Upper Hillsborough	-0.84	Effective Transfer	11.0	NO	05/01/79
15. Upper Pithlachascotee	-0.84	Effective Transfer	12.0	NO	09/30/92
16. Upper Withlacoochee	-0.84	Effective Transfer	10.9	NO	05/01/79
17. West Pinellas Anclote	-0.84	Effective Transfer	12.0	NO	09/30/92

†Redelineation performed for coastal flood zones
‡Multi-Day event used only in specific sub-basins, refer to the FIS report.

§Zone X (shaded) 0.2% annual chance floodplain is delineated only in watersheds where the Study Type is Redelineation or Coastal. The 0.2% annual chance floodplain is not delineated in watersheds where the Study Type is Detailed. Refer to the Watershed Table for Study Type.

This digital Flood Insurance Rate Map (FIRM) was produced through a cooperative partnership between the Southwest Florida Water Management District (SWFWMD), Pasco County, Federal Emergency Management Agency (FEMA), and the associated communities within Pasco County.

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** No Base Flood Elevations determined.
- **ZONE AE** Base Flood Elevations determined.
- **ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X§** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot; and areas protected by levees from 1% annual chance flood. See additional note in Watershed Table on left collar.

OTHER AREAS

- **ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- (A)—(A) Cross section line
- (23)- - -(23) Transect line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 4275000mE — 1000-meter Universal Transverse Mercator grid ticks, zone 17
- 6000000 FT — 5000-foot grid values: Florida State Plane coordinate system, West Zone (FIPSZONE – 0902), Transverse Mercator projection
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- • M1.5 — River Mile
- 222218 — Section - Township - Range
- 7NX1000 ♦ — Junction - Points defining locations of flow accumulation or hydraulic connectivity. The first two characters of the Junction name represents the specific watershed (as shown in the map collar locator map) in which the Junction is located (note that boundary Junctions, without an associated floodplain, are also shown).
- — · — · — Hydraulic Connectivity - Flow pathway between junctions.

MAP REPOSITORIES
Refer to Map Repositories List on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
September 26, 2014
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 250 500 750 1,000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0417F

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

PANEL 417 OF 500

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0417	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 12101C0417F

EFFECTIVE DATE SEPTEMBER 26, 2014

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. BFEs in detailed watersheds are rounded to tenth-foot elevations, see Watershed Table below. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

Base map information shown on this FIRM was provided in digital format by the Southwest Florida Water Management District. The original orthophorographic base imagery was provided in color with a one-foot pixel resolution at a scale of 1" = 1' from pricogrophy flown January 2009.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

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If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/businessnfip/.

DATUM INFORMATION

The **projection** used in the preparation of this map was State Plane Florida West. The horizontal datum was NAD83 (2007) spheroid. Differences in datum, spheroid, projection or State Plane Zone used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not reflect the accuracy of this FIRM.

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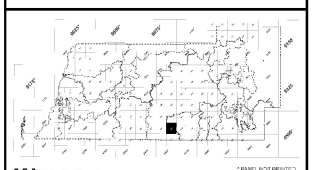
Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metro Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

Example Datum Offset Calculation
using datum offset table below
NAVD88 = NGVD29 + (datum offset value)

To obtain current elevation, description, and/or location information for **benchmarks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242** or visit its website at http://www.ngs.noaa.gov/.



* PANEL NOT PRINTED

Watershed Boundary

Coastal Construction Control Line
Developed by the Department of Environmental Protection to regulate coastal projects from storage during storm events.

Watershed Table

Watershed	Datum Offset (ft)	Study Type	Total Rainfall Volume (in) 1 Day 100yr	Multi-Day Rainfall Used?	Date of Model
1. Bear Creek	-0.86	Effective Transfer	12.0	NO	09/30/02
2. Barrow Lake	-0.04	Effective Transfer	11.0	NO	09/30/02
3. Cypress Creek	-0.04	Detailed	12.4	YES	04/27/10
4. Double Hammock Creek	-0.04	Effective Transfer	12.0	NO	09/30/02
5. Duck Lake	-0.04	Effective Transfer	11.0	NO	09/30/02
6. East Pasco	-0.04	Detailed	12.0	YES	07/25/10
7. East Pinellas Anclote	-0.04	Detailed	12.0	NO	04/28/11
8. Hammock Creek	-0.04	Effective Transfer	12.0	NO	09/30/02
9. Lower Coastal	-0.04	Effective Transfer	12.1	NO	09/30/02
10. New River	-0.04	Effective Transfer	11.1	NO	09/30/02
11. North Lakes	-0.04	Effective Transfer	N/A	NO	09/30/02
12. Pithlachascotee	-0.04	Effective Transfer	12.0	NO	09/30/02
13. Trout Creek	-0.04	Detailed	12.4	YES	06/29/10
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15. Upper Pithlachascotee	-0.04	Effective Transfer	12.0	NO	09/30/02
16. Upper Withlacoochee	-0.04	Effective Transfer	10.9	NO	05/01/79
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*Redelineation performed for coastal flood zones
Multi-Day event used only in specific sub basins, refer to the FIS report.

†Zone X (shaded) 0.2% annual chance floodplain is delineated only in watersheds where the Study Type is Redelineation or Coastal. The 0.2% annual chance floodplain is not delineated in watersheds where the Study Type is Detailed. Refer to the Watershed Table for Study Type.

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LEGEND

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- ZONE V — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X† — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot; and areas protected by levees from 1% annual chance flood. See additional note in Watershed Table on left collar.

OTHER AREAS

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- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- A — Cross section line
- 23 — Transect line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), western hemisphere
- 4278000 FT — 1000-meter Universal Transverse Mercator grid ticks, zone 17
- 5000000 FT — 5000-foot grid values: Florida State Plane coordinate system, West Zone (FIPSZONE = 0902), Transverse Mercator projection
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile
- 222218 — Section - Township - Range
- 7NX1000 — Junction - Points defining locations of flow accumulation or hydraulic connectivity. The first two characters of the Junction name represents the specific watershed (as shown in the map collar locator map) in which the Junction is located (note that boundary Junctions, without an associated floodplain, are also shown).
- Hydraulic Connectivity - Flow pathway between junctions.

MAP REPOSITORIES
Refer to Map Repositories List on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
September 26, 2014
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

200 0 250 500 750 1,000 FEET
150 0 150 300 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0409F

FIRM

FLOOD INSURANCE RATE MAP

PASCO COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 409 OF 500

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0409	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
12101C0409F

EFFECTIVE DATE
SEPTEMBER 26, 2014

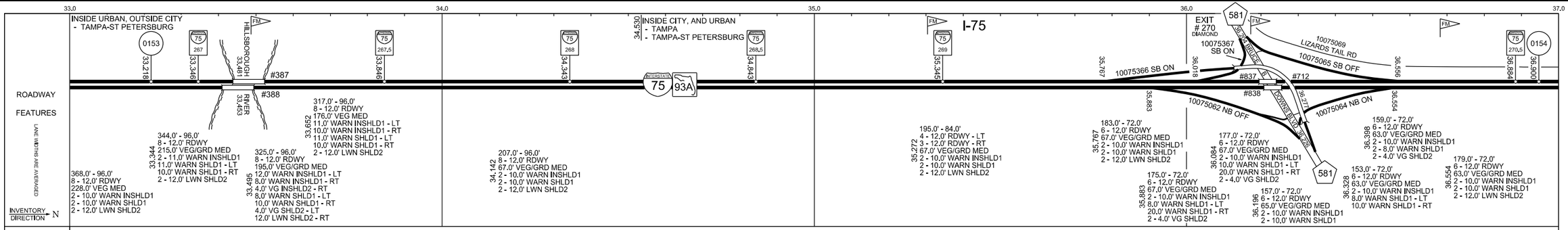
Federal Emergency Management Agency

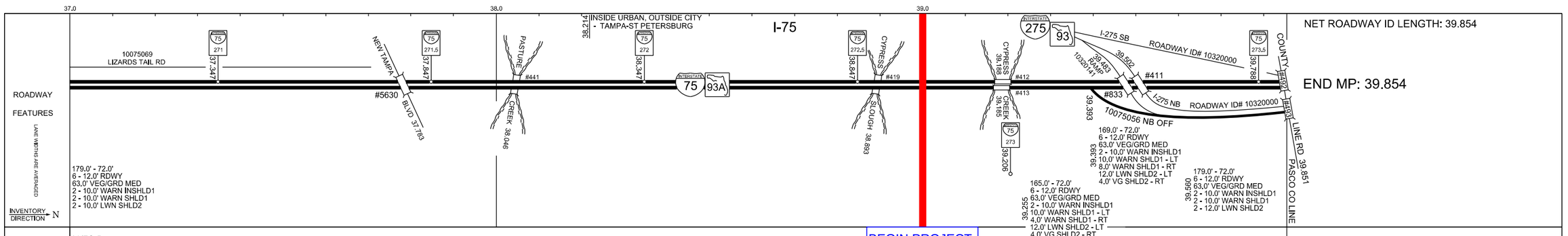
	5 YR INV	SLD REV	INTERIM REVISIONS BMP	EMP	INV	SLD REV
DATE	08 / 24 / 2012	09 / 27 / 2012	5.803	37.624	03 / 24 / 2020	05 / 22 / 2020
BY	FTE / JW-KA	FTE / KA	CONSTRUCTION ACCEPT & ADD FRONTAGE ROADS		FTE / KA-RL	FTE / KA

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02	I-75	SR 93A	HILLSBOROUGH	07	10 075 000	4 OF 4



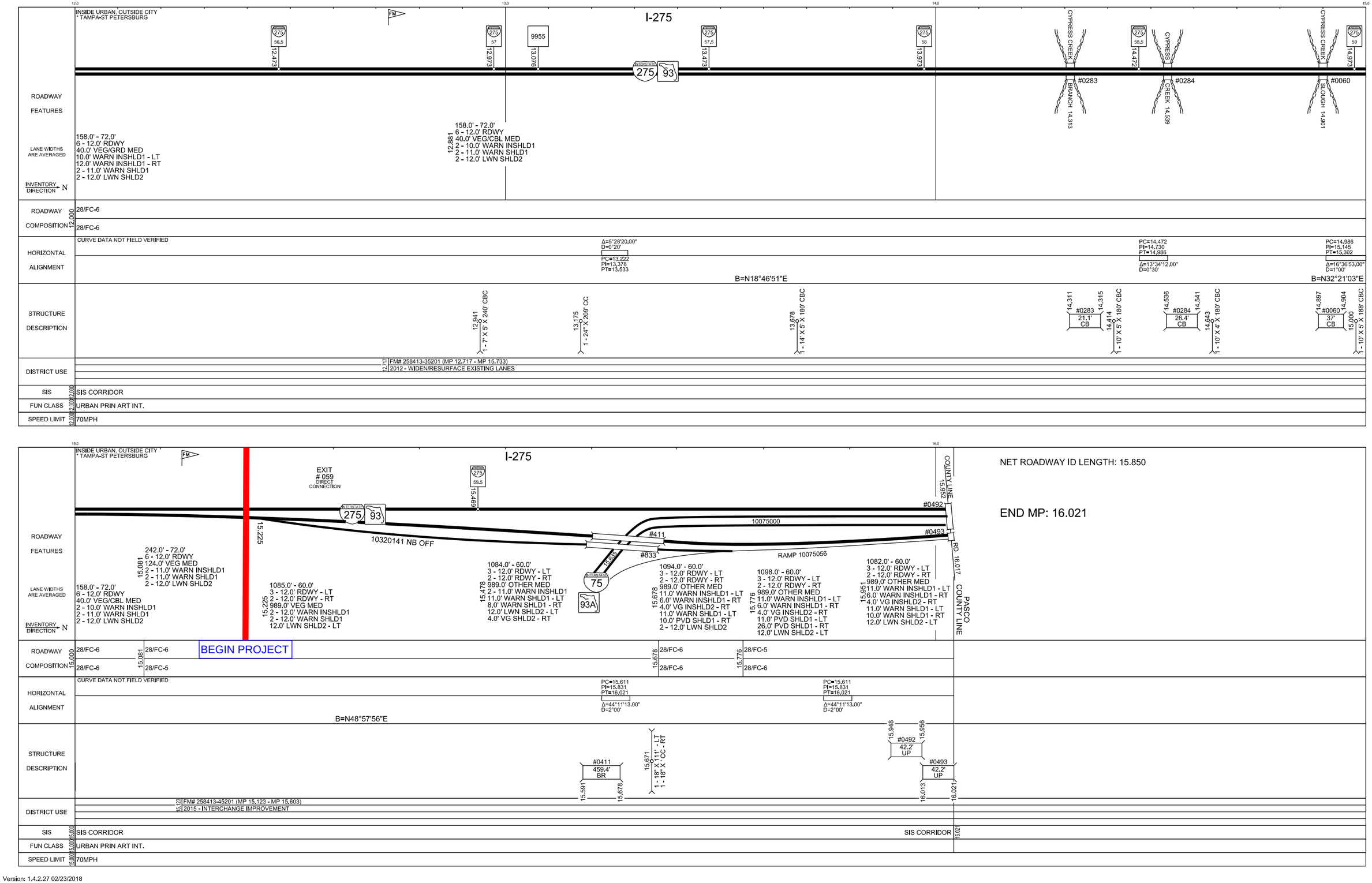


	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	01/24/2018	02/26/2018	0.368	0.465		08/05/2020
BY	FTE / IM-BK	FTE / KA	REVISED F252			FTE/KA
			EXIT 45A & 45B			

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
12	I 275	SR 93	HILLSBOROUGH	07	10 320 000	4 OF 5



NET ROADWAY ID LENGTH: 15.850

END MP: 16.021

Version: 1.4.2.27 02/23/2018

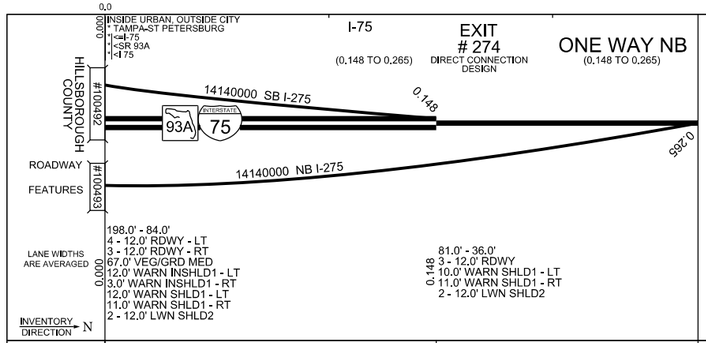
	5 YR INV	SLD REV
DATE	05/01/2017	06/22/2017
BY	FTE / JR-IM	FTE / KA

BMP	EMP	INV	SLD REV
0.000	0.265		12/11/2017
EMP SHORTENED			FTE / KA
TO 0.265			

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02	I 75	SR 93A	PASCO	07	14 075 000	1 OF 1



NET ROADWAY ID LENGTH: 0.265

END MP: 0.265

ROADWAY COMPOSITION	0.000: 28/FC-2 / 28/FC-2	0.148: 28/FC-2
HORIZONTAL ALIGNMENT	Δ=11°35'00" CURVE DATA NOT FIELD VERIFIED D=0°00'01" PC=0,000 P=0,156 PT=0,311 B=N20°32'24E	
STRUCTURE DESCRIPTION	0.102: 1 - 18" X 182' CC	
DISTRICT USE		
SIS	0.000: SIS CORRIDOR	0.265: SIS CORRIDOR
FUN CLASS	0.000,0.000: URBAN PRIN ART INT.	
SPEED LIMIT	0.000: 65MPH	

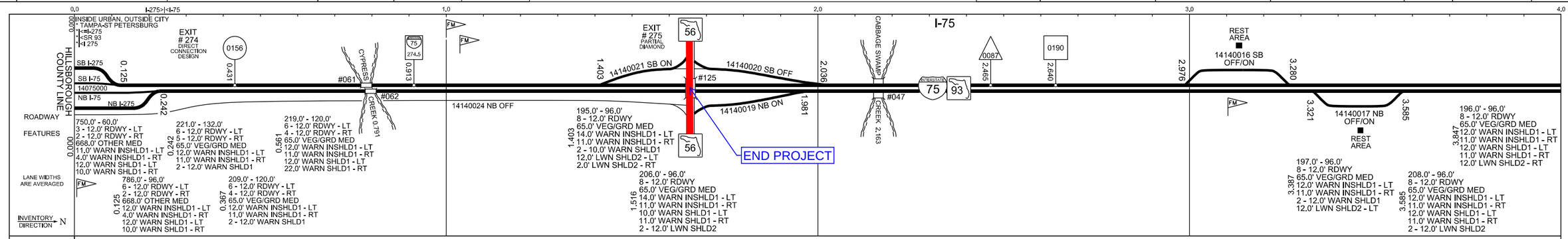
Version: 1.4.2.26 06/21/2017

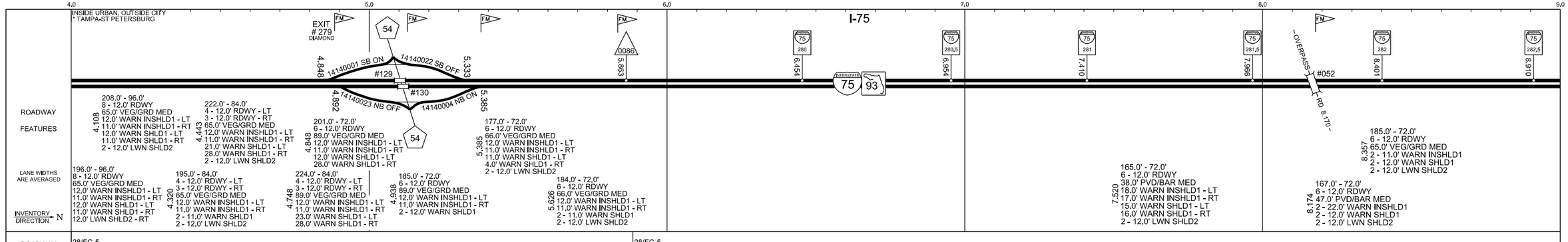
	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	08/28/2018	11/06/2018				
BY	FTE / IM-BK	FTE / KA				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02	I 275/I 75	SR 93	PASCO	07	14 140 000	1 OF 3





Version: 1.4.2.27 11/06/2018

APPENDIX B

Figures

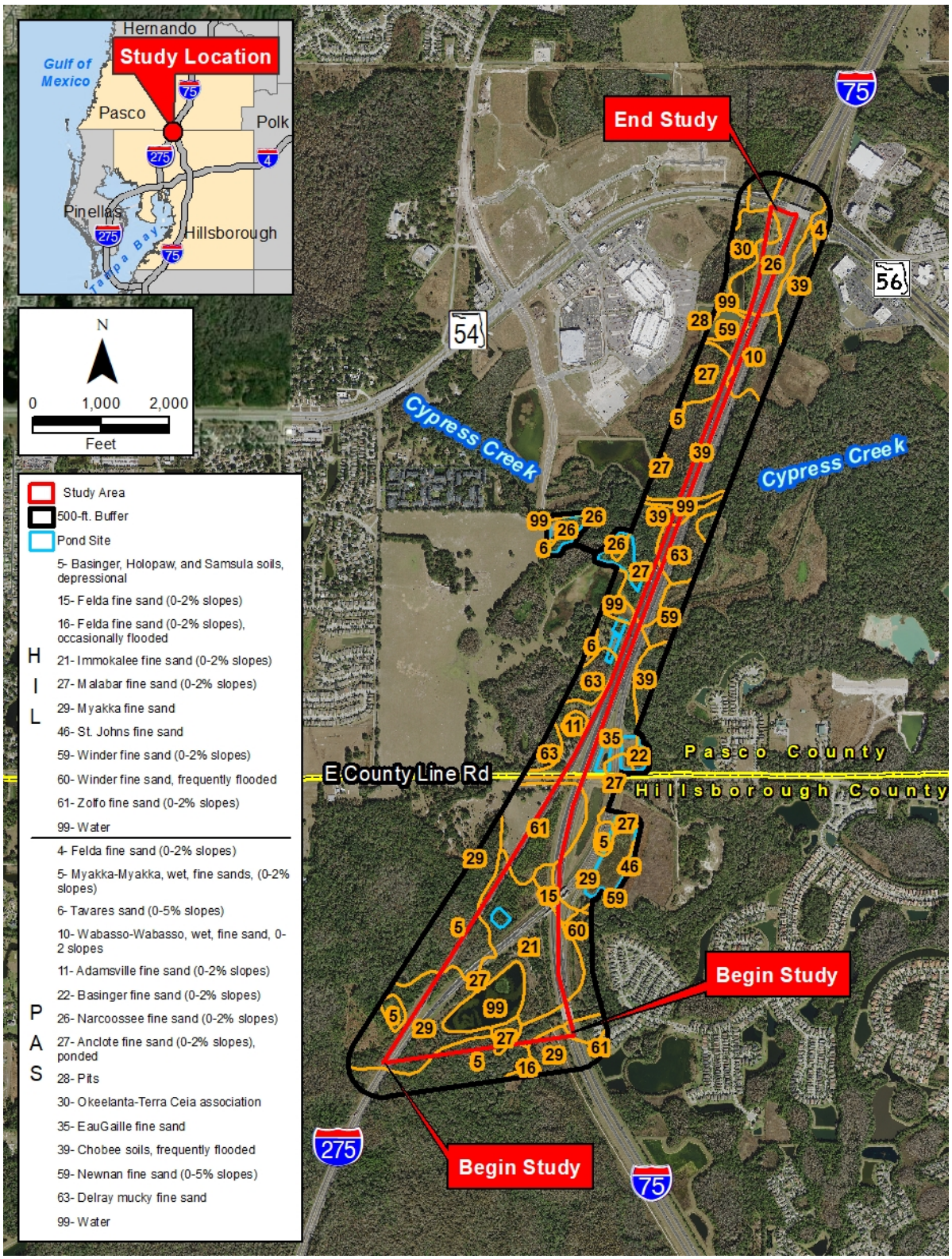


Figure B-1 Soils Map

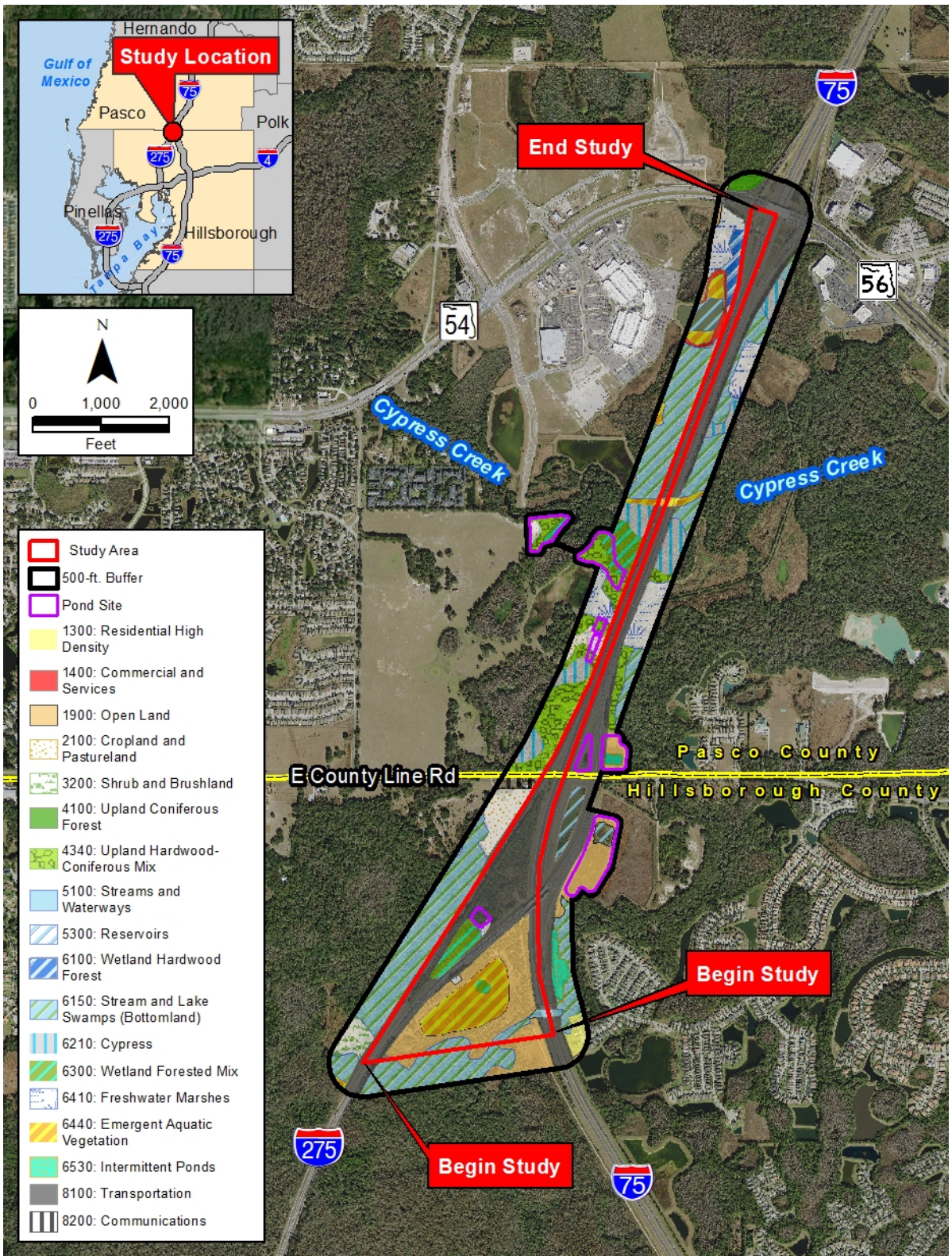


Figure B-2 Land Use Map

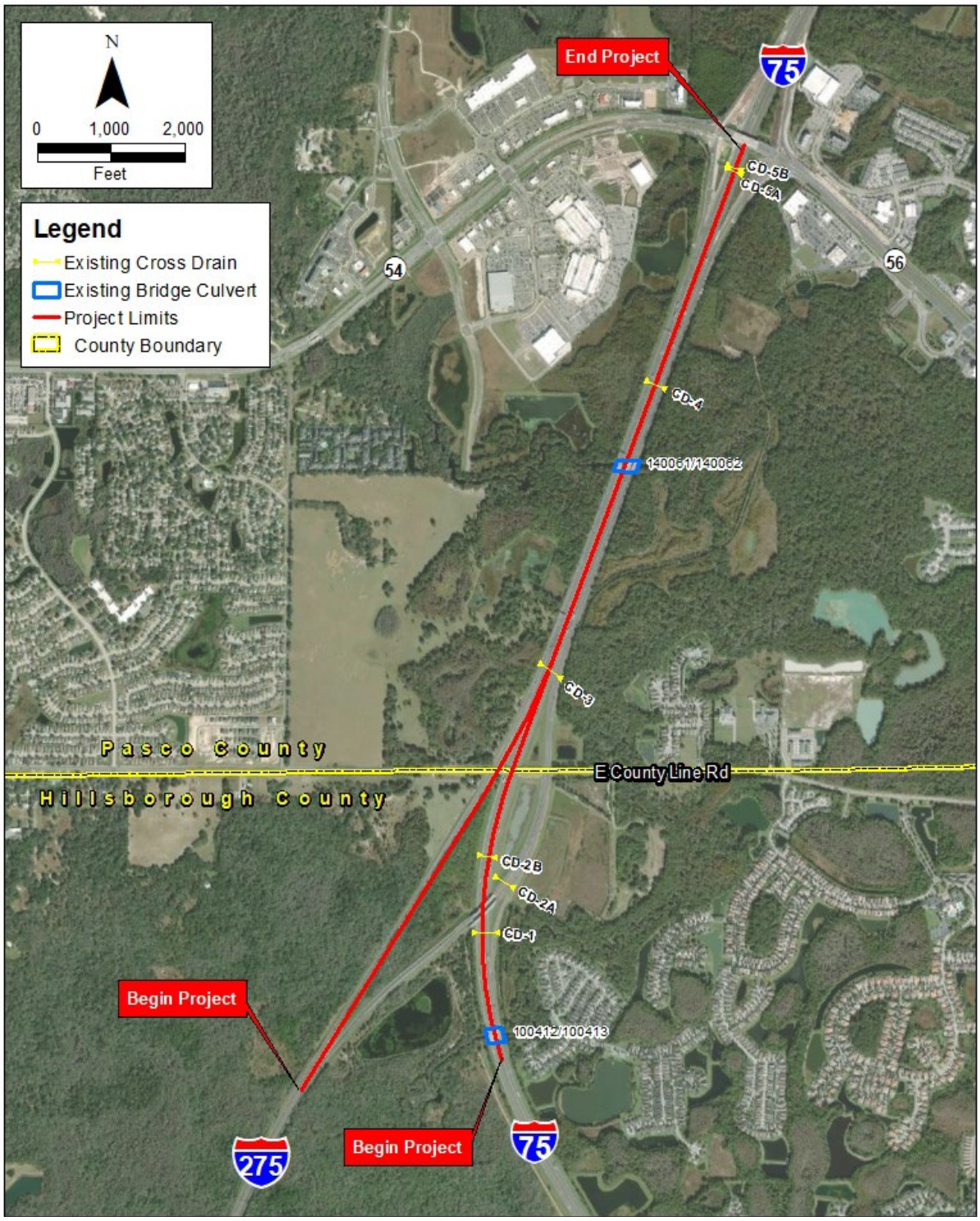


Figure B-3 Cross Drain and Bridge Map

APPENDIX C

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 407927

Date:	09/16/2020		
Time:	11:00		
Project Name:	SB I-75/I-275 Ramps from SR 56 PD&E Study		
District Engineer:	Scott VanOrsdale		
District ES:	Lauren Greenawalt		
Attendees:	Eric Nelson, PE, Chris Salicco		
County:	Pasco	**Sec/Twp/Rge:**	26, 27, 34 & 35/26/19, 3 & 4/27/19
Total Land Acreage:	N/A	**Project Acreage:**	unknown acres

Prior On-Site/Off-Site Permit Activity:

- ERP – 43033020.004

Project Overview:

- PD&E/PSR phase of project. Proposing to widen I-75 r/w to the west to accommodate new SB Ramp from SR 56 to I-275, modifications to existing ramps at I-75/I-275 interchange. Will require SMF(s) to treat new impervious. Three permitted in the interchange will be modified from wet treatment to conservation ponds. FPC sites also required.
- Project will modify existing permit, Individual Major Modification.
- Discussed utilizing storage modeling to show no adverse floodplain impacts where cup for cup cannot be provided.
- Discussed digging three existing ponds deeper to function better and reduce maintenance issues. Provide justification for removing the littoral zone.

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.)

- Provide the limits of jurisdictional wetlands and surface waters. Roadside ditches or other water conveyances, including permitted and constructed water conveyance features, can be claimed as surface waters per Chapter 62-340 F.A.C. if they do not meet the definition of a swale as stated under Rule 403.803 (14) F.S.
- Provide appropriate mitigation using UMAM for impacts, if applicable.
- The site is located in the Hillsborough River ERP Basin. Mitigation Banks that serve this area include Hillsborough River and North Tampa. For an interactive map of permitted mitigation banks and their service areas, use this LINK.
- If the wetland mitigation is appropriate and the applicant is proposing to utilize mitigation bank credit as wetland mitigation, the following applies: Provide letter or credit availability or, if applicable, a letter of reservation from the wetland mitigation bank. The wetland mitigation bank current credit ledgers can be found out the following link: https://www.swfwmd.state.fl.us/business/epermitting/environmental-resource-permit, Go to “ERP Mitigation Bank Wetland Credit Ledgers”
- Demonstrate elimination and reduction of wetland impacts.
- Maintain minimum 15 foot, average 25 foot wetland conservation area setback or address secondary impacts.
- The project is proposing to attenuate/treat in wetlands. Please demonstrate that adverse impacts to the wetland hydro-periods will not occur by providing hydrographs of the 2.33 year mean annual storm. The graph should start and end at the pop-off elevation with Existing Condition and Proposed Condition hydrographs superimposed for comparison. Please provide a supporting narrative for the hydrographs explaining any variations that are shown. The invert of the agricultural ditches may be the existing ‘pop-off’ elevation, or SHWL of the wetland and may need to be considered when designing the storm water management system.
- Determine SHWL’s at pond locations, wetlands, and OSWs.
- Determine normal pool elevations of wetlands.

- Determine 'pop-off' locations and elevations of wetlands.
- As of October 1, 2017, the District will no longer send a copy of an application that does not qualify for a State Programmatic General Permit (SPGP) to the U.S. Army Corps of Engineers. If a project does not qualify for a SPGP, you will need to apply separately to the Corps using the appropriate federal application form for activities under federal jurisdiction. Please see the Corps' Jacksonville District Regulatory Division Sourcebook for more information about federal permitting. Please call your local Corps office if you have questions about federal permitting. Link: http://www.saj.usace.army.mil/Missions/Regulatory/Source-Book/

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

- Existing roadway/intersections – I-75, I-275; SR 54
- Watersheds – Cypress Creek
- WBIDs need to be independently verified by the consultant - WBID 1402 – Cypress Creek; not impaired at this time. Possible WBID 1440E – Cypress Creek (North); not impaired at this time. Possible WBID 1455 – Trout Creek; TMDL for Fecal Coliform and impaired for Escherichia.
- OFW – Cypress Creek, at least one pond will have a direct discharge.
- Document/justify SHWE's at pond locations, wetlands, and OSWs.
- Determine normal pool elevations of wetlands.
- Determine 'pop-off' locations and elevations of wetlands.
- Provide documentation to support tailwater conditions for quality and quantity design
- Proposed control structures in wetlands should be consistent with existing 'pop-off' elevations of wetlands; demonstrate no adverse impacts to wetland hydroperiod for up to 2.33yr mean annual storm.
- Minimum flows and levels of receiving waters shall not be disrupted.
- Contamination issues need to be resolved with the FDEP. Check FDEP MapDirect layer for possible contamination points within/adjacent to the project area. FDEP MapDirect Link
  - FDEP Site ID No. **9101790** located within or adjacent to site. Please verify with FDEP if any have current contamination issues.
  For known contamination within the site or within 500' beyond the proposed stormwater management system:
  - after the application is submitted, please contact FDEP staff listed below and provide them with the ERP Application ID # along with a mounding analysis (groundwater elevation versus distance) of the proposed stormwater management system that shows the proposed groundwater mound will not adversely impact the contaminated area. FDEP will review the plans submitted to the District and mounding analysis to determine any adverse impacts. Provide documentation from FDEP that the proposed construction will not result in adverse impacts. This is required prior to the ERP Application being deemed complete.
  - If a SWMS is to be constructed within a contamination zone area, a groundwater sample collected from the first aquifer water bearing zone (i.e. zone of saturation or first zone that the water table is encountered) will most likely be required.
  FDEP Contacts:
  - For projects located within Citrus, Hernando, Pasco, Hillsborough, Pinellas, Manatee, Polk and Hardee Counties: Yanisa Angulo yanisa.angulo@floridadep.gov
- Check for District owned lands over and adjacent to project area.
- Stormwater retention and detention systems are classified as moderate sanitary hazards with respect to public and private drinking water wells. Stormwater treatment facilities shall not be constructed within 100 feet of an existing public water supply well and shall not be constructed within 75 feet of an existing private drinking water well. Subsection 4.2, A.H.V.II.
- Any wells on site should be identified and their future use/abandonment must be designated.
- Are there any high water data, flooding complaints or issues onsite or nearby?
- District data collection site may be impacted by proposed construction. Contact data.maps@watermatters.org to coordinate relocation of District data collection site.

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

- Demonstrate that post development peak 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. Providing cup-for-cup storage in dedicated areas of excavation is the preferred method of compensation~~.~~ if no impacts to flood conveyance are proposed and storage impacts and compensation occur within the same

basin. In this case, tabulations should be provided at 0.5-foot increments to demonstrate encroachment and compensation occur at the same levels. Otherwise, storage modeling will be required to demonstrate no increase in flood stages will occur on off-site properties, using the mean annual, 10-year, 25-year, and 100-year storm events for the pre- and post-development conditions.

- Please be aware that if there is credible historical evidence of past flooding or the physical capacity of the downstream conveyance or receiving waters indicates that the conditions for issuance will not be met without consideration of storm events of different frequency or duration, applicants shall be required to provide additional analyses using storm events of different duration or frequency than the 25-year 24-hour storm event, or to adjust the volume, rate or timing of discharges. [Section 3.0 Applicant's Handbook Volume II]

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

- Replace treatment function of existing ditches to be filled.
- Presumptive Water Quality Treatment for Alterations to Existing Public Roadway Projects:
  -Refer to Section 4.5 A.H.V.II for Alterations to Existing Public Roadway Projects.
  -Refer to Sections 4.8, 4.8.1 and 4.8.2 A.H.V.II for Compensating Stormwater Treatment, Overtreatment, and Offsite Compensation.
  -All co-mingled existing & new impervious that is proposed to be connected to a treatment pond will require treatment for an area equal to the co-mingled existing & new impervious (times ½" for dry treatment or 1" for wet treatment). This applies whether or not equivalent treatment concepts are used.
  -However, if equivalent treatment concepts are used it is possible to strategically locate the pond(s) so that the minimum treatment requirement may be for an area equivalent to the new impervious area only. That is, co-mingled existing & new impervious that is not connected to a treatment pond may bypass treatment (as per Section 4.5(2), A.H.V.II); if the 'total impervious area' that is connected to the treatment pond(s) is at least equivalent to the area of new impervious only. The 'total impervious area' that is connected to the pond(s) may be composed of co-mingled existing & new impervious.
  -Offsite impervious not required to be treated; but may be useful to be treated when using equivalent treatment concepts.
  -Existing treatment capacity displaced by any road project will require additional compensating volume. Refer to Subsection 4.5(c), A.H.V.II.
- Will acknowledge compensatory treatment to offset pollutant loads associated with portions of the project area that cannot be physically treated.
- Provide additional 50% treatment for any direct discharges to OFW. Refer to ERP Applicant's Handbook Vol. II Subsection 4.1(f).
- Please be advised that although use of isolated wetlands for ERP treatment purposes is permittable as per Section 4.1(a)(3), A.H.V.II, use of isolated wetlands for treatment purposes may not necessarily meet US Army Corps criteria.

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

- The project may be located within state owned sovereign submerged lands (SSSL). Be advised that a title determination will be required from FDEP to verify the presence and/or location of SSSL.
- If use of SSSL is proposed, authorization will be required. Refer to Chapter 18-21, F.A.C. and Chapter 18-20, F.A.C. for guidance on projects that impact SSSL and Aquatic Preserves.

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 entity that owns or controls the property.
- Provide evidence of ownership or control by deed, easement, contract for purchase, etc. Evidence of ownership or control must include a legal description. A Property Appraiser summary of the legal description is NOT acceptable.

Application Type and Fee Required:

- SWERP Individual Major Modification – Sections A, C, and E of the ERP Application.
- < 40 acres of project area and < 3 wetland or surface water impacts - $1,082.00 Online Submittal
- < 100 acres of project area and <10 acre of wetland or surface water impacts - $1,245.75
- Consult the fee schedule for different thresholds.

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

- An application for an individual permit to construct or alter a dam, impoundment, reservoir, or appurtenant work, requires that a notice of receipt of the application must be published in a newspaper within the affected area. Provide documentation that such noticing has been accomplished. Note that the published notices of receipt for an ERP can be in accordance with the language provided in Rule 40D-1.603(10), F.A.C.

- Provide a copy of the legal description (of all applicable parcels within the project area) in one of the following forms:
  a. Deed with complete Legal Description attachment.
  b. Plat.
  c. Boundary survey of the property(ies) with a sketch.

- The plans and drainage report submitted electronically must include the appropriate information required under Rules 61G15-23.005 and 61G15-23.004 (Digital), F.A.C. The following text is required by the Florida Board of Professional Engineers (FBPE) to meet this requirement when a digitally created seal is not used and must appear where the signature would normally appear:

  ELECTRONIC (Manifest): *[NAME] State of Florida, Professional Engineer, License No. [NUMBER] This item has been electronically signed and sealed by [NAME] on the date indicated here using a SHA authentication code. Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies*

  DIGITAL: *[NAME] State of Florida, Professional Engineer, License No. [NUMBER]; This item has been digitally signed and sealed by [NAME] on the date indicated here; Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.*
- Provide soil erosion and sediment control measures for use during construction. Refer to ERP Applicant's Handbook Vol. 1 Part IV Erosion and Sediment Control.
- Demonstrate that excavation of any stormwater ponds does not breach an aquitard (see Subsection 2.1.1, A.H.V.II) such that it would allow for lesser quality water to pass, either way, between the two systems. In those geographical areas of the District where there is not an aquitard present, the depth of the pond(s) shall not be excavated to within two (2) feet of the underlying limestone which is part of a drinking water aquifer. [Refer to Subsection 5.4.1(b), A.H.V.II]
- If lowering of SHWE is proposed, then burden is on Applicant to demonstrate no adverse onsite or offsite impacts as per Subsection 3.6, A.H.V.II. Groundwater drawdown 'radius of influence' computations may be required to demonstrate no adverse onsite or offsite impacts. Please note that new roadside swales or deepening of existing roadside swales may result in lowering of SHWE. Proposed ponds with control elevation less than SHWE may result in adverse lowering of onsite or offsite groundwater.