POND SITING REPORT

Florida Department of Transportation

Florida's Turnpike Enterprise

Central Polk Parkway East PD&E Study

From US 17/92 to Poinciana Connector (SR 538)

Polk County, Florida

Financial Management Number: 451419-1

ETDM Number: 14524

October 2025

Pond Siting Report (PSR)

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Executive Summary

The Florida Department of Transportation (FDOT) Florida's Turnpike Enterprise (FTE) is conducting a Project Development and Environment (PD&E) Study to evaluate an approximately eight-mile new tolled, multi-lane, limited access highway referred to as the Central Polk Parkway (CPP) East. The PD&E study area extends from US 17/92, south of the Power Line Road extension, to the future Poinciana Connector (State Road (SR) 538), with the CSX railroad delineating the western study area boundary. The Poinciana Connector, under development by FDOT, will be a new tolled limited access highway extending from CR 532 to Interstate 4 (I-4) and SR 429. Once completed, it will provide a regional link between the Poinciana Parkway in Osceola County, currently under design by the Central Florida Expressway Authority (CFX) and I-4 at the SR 429 interchange. Access points to/from CPP East will be evaluated at US 17/92, the future Poinciana Connector, and at a potential intermediate location. Multi-modal transportation improvements including a shared use path will be evaluated. Most of the study area is in northeast Polk County, with a small section extending into Osceola County.

A No-Build and two Build Alternatives were developed and evaluated to meet the project's purpose and need. One alternative was a co-located typical section with US 17-92. The other was a new alignment that only included a small section of co-location with US 17-92 at the southern end. The preferred alignment is the new alignment alternative and the focus of this report. The pond siting analysis segmented the preferred CPP East alignment into basins based on historic stormwater outfall locations. FDOT and Southwest Florida Water Management District (SWFWMD) design criteria were used as a basis for determining the appropriate storm event for attenuation and for water quality volumes. Attenuation volumes were developed using the Natural Resource Conservation Service (NRCS) runoff methodology. Seasonal high water table information was taken from the NRCS web-based soil survey. Rainfall depths were taken from NOAA Atlas 14.

Only offsite areas outside the mainline Right-of-Way (R/W) were identified as pond alternatives. There was no existing remnant parcel information identified within the limits of the corridor. Remnant parcels that may ultimately exist due to the CPP East alignment location were not

considered as potential pond sites since it was not clear where these would occur. The pond siting analysis considered the potential for shared use stormwater management with the larger stormwater stakeholders along the corridor. Meetings were held with CFX, and SWFWMD and scheduled with Polk County and FDOT District 1. A potential opportunity was identified with the CFX Project 538-235 (SR 538 Segment 2) from CR 532 to US 17/92, but no specific agreement was finalized during these discussions. Coordination will continue with all stakeholders through the design process.

Each of the pond alternatives within the basins are presented in the evaluation matrices included in **Appendix C**. The matrices include information related to costs for R/W, construction and wetland or species mitigation. Wetland information was taken from the National Wetlands Inventory, but no specific jurisdictional lines have been established as part of this study. The following table presents the preferred pond alternative along with sizing and preliminary cost information.

Basin/Pond Nomenclature	Preferred Alternative	R/W Required (Ac.)	Additional Easement Area (Ac.)	Pond Cost
Basin 100	A	6.41	-	$7,418,348
Basin 200	A	4.05	-	$792,542
Basin 300	A	2.78	-	$1,008,727
Basin 350A	B	2.54	-	$778,499
Basin 350B	C	3.96	-	$2,206,792
Basin 400A	C	3.05	-	$831,170
Basin 400B	C	3.36	-	$1,286,170
Basin 450	B	1.91	-	$306,600
Basin 500	C	5.48	0.28	$1,827,668
Basin 600	A	8.73	-	$3,749,754
Basin 700	C	7.33	-	$7,023,564
Basin 800A	B	1.56	-	$1,840,570
Basin 800B	A	3.84	-	$2,911,254
Basin 900	A	3.42	-	$2,943,536
Basin 1000	B	3.41	0.55	$2,240,088
TOTAL		61.83	0.83	$37,165,280

There are two existing stormwater management features that will be impacted as part of the design. Within Basin 200, an existing pond associated with a CEMEX ready mix and block commercial facility will be eliminated by the proposed improvements. Within Basin 400B, the northern tip of one of the Ernie Caldwell Boulevard permitted stormwater ponds will be impacted by the proposed improvements. The impacts to the pond and associated property adjacent to Basin 200 were not specifically evaluated as part of this analysis because it is unclear if the entire parcel will be taken as part of the proposed improvements. The impacts to the existing pond associated with recent Ernie Caldwell Boulevard improvements were considered minor and any lost volume can likely be restored through reshaping or minor excavation. The only other stormwater pond close to the alignment is a permitted pond associated with the Vista Mar subdivision east of the CPP alignment within Basin 800A. The CPP East alignment proposes to bridge this pond, so impacts are not anticipated.

With respect to wetland impacts, Alternative C within Basin 700 is the only preferred alternative that will impact wetlands. Each of the pond alternatives within Basin 700 impact wetlands, mainly because all the property within the basin and outside the wetland limits was developed or under development. Avoidance and minimization of wetland impacts has occurred to the extent possible.

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1.1 Project Description

The Florida Department of Transportation (FDOT) Florida's Turnpike Enterprise (FTE) is conducting a Project Development and Environment (PD&E) Study to evaluate an approximately eight-mile new tolled, multi-lane, limited access highway referred to as the Central Polk Parkway (CPP) East. The PD&E study area extends from US 17/92, south of the Power Line Road extension, to the future Poinciana Connector (State Road (SR) 538), with the CSX railroad delineating the western study area boundary. The Poinciana Connector, under development by FDOT, will be a new tolled limited access highway extending from CR 532 to Interstate 4 (I-4) and SR 429. Once completed, it will provide a regional link between the Poinciana Parkway in Osceola County, currently under design by the Central Florida Expressway Authority (CFX) and I-4 at the SR 429 interchange. Access points to/from CPP East will be evaluated at US 17/92, the future Poinciana Connector, and at a potential intermediate location. Multi-modal transportation improvements including a shared use path will be evaluated. Most of the study area is located in northeast Polk County, with a small section extending into Osceola County as shown on **Figure 1-1**.

1.2 Purpose and Need

The purpose of this project is to meet existing and future regional travel demands by providing an additional north-south facility that will enhance mobility and increase accessibility to the regional roadway network and improve emergency evacuation and response times.

The need for the CPP East includes accommodating population growth and the associated travel demands, improving regional connectivity and overall system linkage, enhancing freight mobility and economic competitiveness, and enhancing safety, emergency evacuation and response.

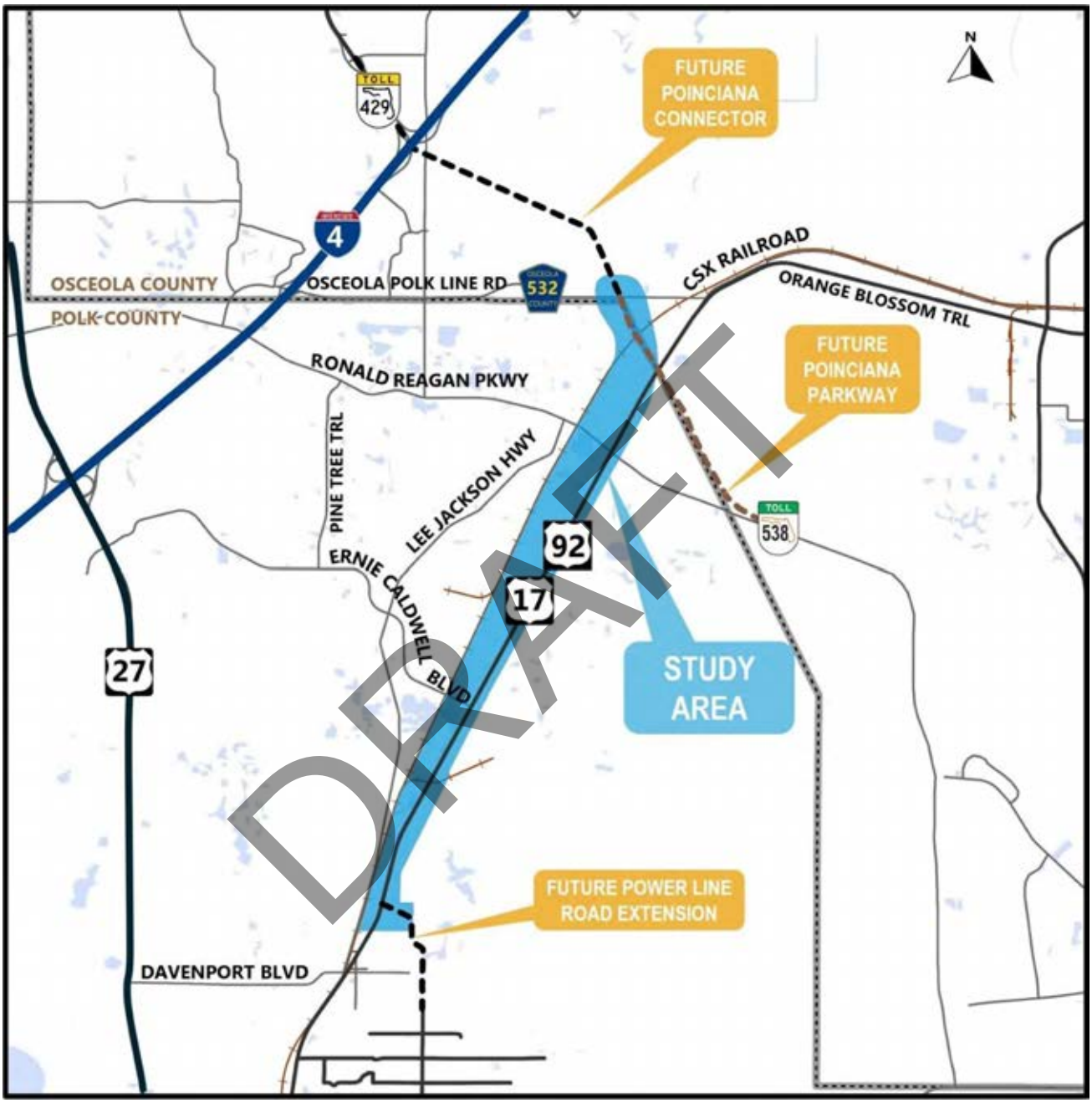

Figure 1-1: Project Location Map

1.3 Alternatives Analysis

A No-Build and two Build Alternatives were developed and evaluated to meet the project's purpose and need.

The No-Build Alternative retains the existing roadways and intersections in the study area. Under this scenario, CPP East would not be constructed. This alternative represents forecasted conditions in the project's design year (2050) if the project is not implemented, but other transportation improvements that are planned and programmed are completed. Due to the area's existing and future traffic demands, the No-Build Alternative does not meet the project's purpose and need and therefore is considered neither viable nor a practical alternative, but it will be considered throughout the PD&E Study.

Two viable Build Alternatives were evaluated for this PD&E Study: ***Alternative 1: Co-located with US 17/92*** and ***Alternative 2: New Alignment***.

1.3.1 Alternative 1: Co-located with US 17/92

The proposed typical section shown in **Figure 1-2** features a four-lane limited access facility (CPP East) flanked by two-lane, at-grade frontage roads (US 17/92). CPP East consists of two 12-foot-wide travel lanes in each direction separated by a 50-foot-wide median. In the northbound direction there is an eight-foot-wide inside shoulder and 12-foot-wide outside shoulder with barrier wall. In the southbound direction there is a 13.5-foot-wide inside shoulder with guardrail and 12-foot-wide outside shoulder with barrier wall. A 30- to 50-foot-wide buffer, measured from edge-of-travel to edge-of-travel separates the limited access facility (CPP East) from the frontage roads. The frontage roads feature two 11-foot-wide travel lanes in each direction with curb and gutter. A 6.5-foot buffer separates the outside frontage road travel lane from the 12-foot-wide shared use path. The proposed right-of-way width for this alternative varies from 260 feet to 300 feet.

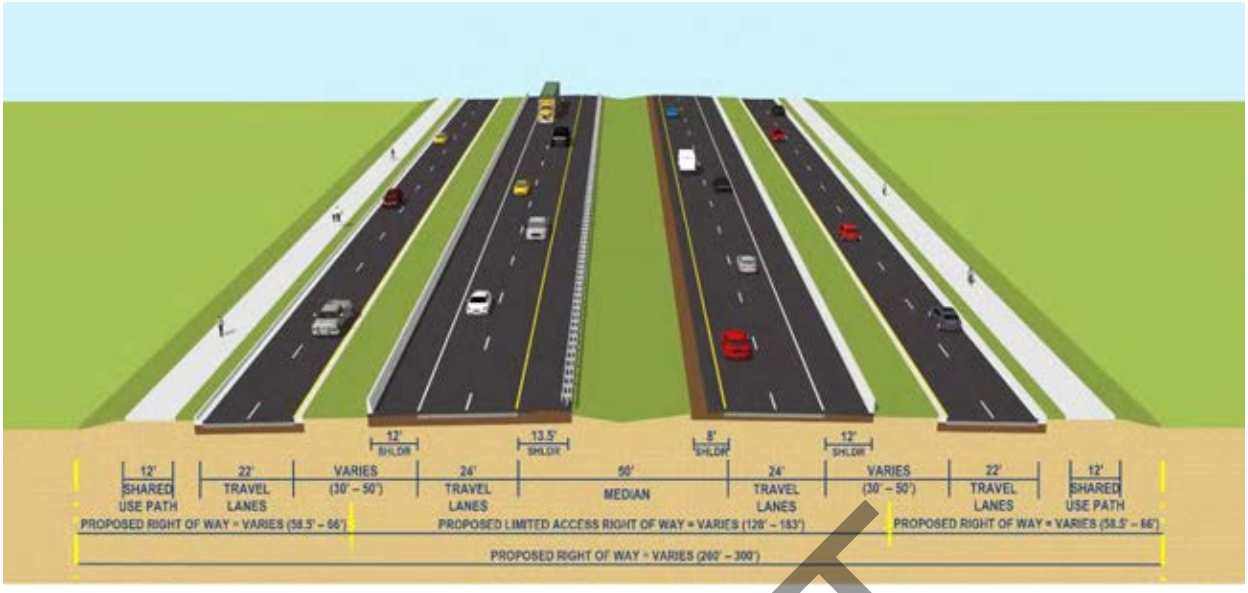

Figure 1-2: Typical Section – Alternative 1: Co-located

Alternative 1: Co-located begins near the Power Line Road extension intersection with US 17/92 and extends approximately 7.1 miles along US 17/92 to the Poinciana Connector. The southern terminus is an at-grade connection to US 17/92. The limited access facility begins/ends approximately 0.7 miles north of the Power Line Road extension intersection with US 17/92. In the northbound direction, a third lane is developed on US 17/92 at the Power Line Road intersection. CPP East is created through a slip ramp with the inside two lanes, the middle lane is a "choice" lane for vehicles to either enter the limited access highway or continue onto US 17/92. The outer lane and middle "choice" lane continue to the relocated northbound US 17/92. In the southbound direction, the limited access highway tapers into the southbound US 17/92 lanes to create four travel lanes.

The northern terminus consists of direct ramp connections tying into the outside lanes of the Poinciana Connector in the vicinity of the CR 532 overpass.

1.3.2 Alternative 2: New Alignment

The proposed typical section for Alternative 2: New Alignment, shown on **Figure 1-3**, features a four-lane limited access facility (CPP East). CPP East is comprised of two 12-foot-wide travel lanes in each direction separated by a 50-foot-wide median, including the inside shoulders. In the northbound direction there is an eight-foot-wide inside shoulder and 12-foot-wide outside shoulder. In the southbound direction there is a 13.5-foot-wide inside shoulder with guardrail and 12-foot-wide outside shoulder. The proposed limited access right-of-way is 286 feet, including 94 feet of border width on either side. A 12-foot-wide shared use path is being evaluated between the US 17/92 and Power Line Road intersection and Ernie Caldwell Boulevard. An additional 50 feet of right-of-way is required for the shared use path footprint.

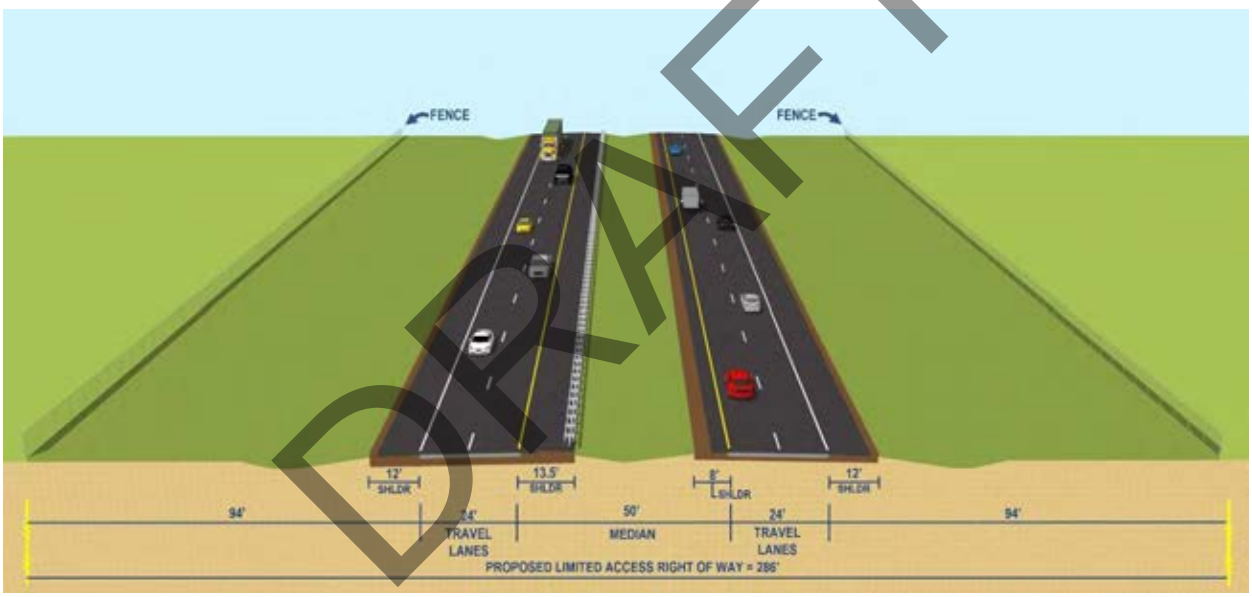

Figure 1-3: Typical Section – Alternative 2: New Alignment

The total length of Alternative 2: New Alignment is approximately 7.4 miles. The alternative begins at US 17/92 near the Power Line Road extension as described for Alternative 1. Alternatives 1 and 2 are identical for approximately 0.8 miles from Power Line Road to 0.7 miles south of Ernie Caldwell Boulevard. At this point, the New Alignment Alternative curves to the west, and the alignment follows the CSX railroad line for approximately 1.4 miles before curving back towards US 17/92. The alignment crosses over US 17/92 near the Providence neighborhood and parallels

US 17/92 on the east side until after Ronald Reagan Parkway. The alternative ends with a connection to the future Poinciana Connector. North of Ronald Reagan Parkway, CPP East is located along the east side of US 17/92. Approximately 2,000 feet north of Ronald Reagan Parkway, CPP East curves to the north, crossing over US 17/92 and then the northbound and southbound lanes diverge. Northbound CPP East crosses over the future Poinciana Connector to tie into the outside lanes in the vicinity of the CR 532 overpass and CPP East southbound is created with a ramp that forms just south of CR 532 and crosses over US 17/92.

1.4 Adjacent Land Use

Land use along the corridor varies. The southern end is mostly residential subdivisions interspersed with wetland areas. Land owned by Sand and Silica or Rinker Materials begins about one mile north of the beginning of the project and extends to just north of Ernie Caldwell Boulevard, approximately two miles. North of Ernie Caldwell Boulevard to Providence Boulevard where the preferred alternative has separated from the existing US 17/92 alignment, the existing land use is generally open water or wetland areas. The new alignment and the existing US 17/92 alignment come back together at Providence Boulevard and the land use between this location and the connection to SR 538 are similar to the southern end of the project with residential and commercial development in upland areas surrounded by wetlands. **Table 1-1** shows applicable Section, Township, and Range information.

Table 1-1: Section, Township, and Range Information

Section	Township	Range
3	T 27 S	R 27 E
01, 12, 13, 24, 25, 36, 14, 23, 26, 35, 27, 34	T 26 S	R 27 E
6, 7	T 26 S	R 28 E
36	T 25 S	R 27 E

There are no wellfield zones within the limits of the project and there are only three public water supply wells that are close to a proposed pond alternative.

Pond Alternative B in Basin 100 is near the Shady Oaks Mobile Home well and Pond Alternatives A and C in Basin 900 are also near what appear to be water supply wells for individual homes. The area of Alternative A in Basin 900 will require taking the property of the home served by the well. Alternative B in Basin 100 and Alternative C in Basin 900 are located far enough away so as not to violate the SWFWMD criteria for a 100-foot separation between the pond water surface elevation and the public water supply well (Section 4.2 SWFWMD 2018 Applicants Handbook Volume II). The well locations are shown on the proposed drainage maps and **Figure 1-4** illustrates the well locations for the entire corridor.

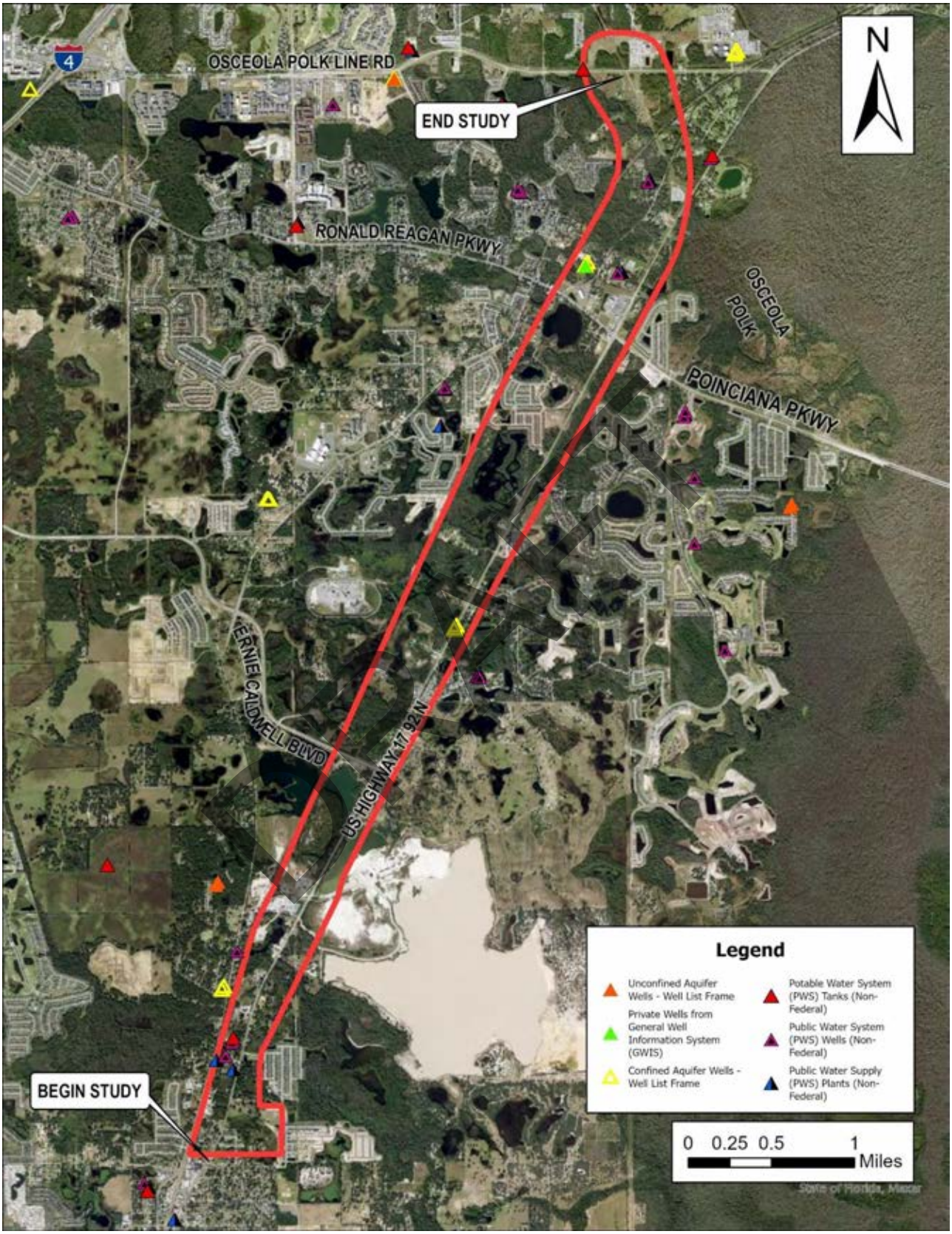

Figure 1-4: Wells and Aquifers

1.5 Vertical Datum

The vertical datum used for this project is the North American Vertical Datum of 1988 (NAVD88). The data conversion was taken from the Fox Hollow sub-division plans identifies the datum conversion at 0.94 feet.

NAVD88+0.94 = NGVD29

1.6 Soils

A Natural Resources Conservation Service (NRCS) Custom Soils Resource Report for Polk and Osceola County were developed using NRCS Web Soil Survey. **Figure 1-5** presents the soil types over the project area. The predominant hydrological soil group types are type A and A/D with a moderate to excessive drainage class. The full NRCS Soils Report can be found in **Appendix E.**

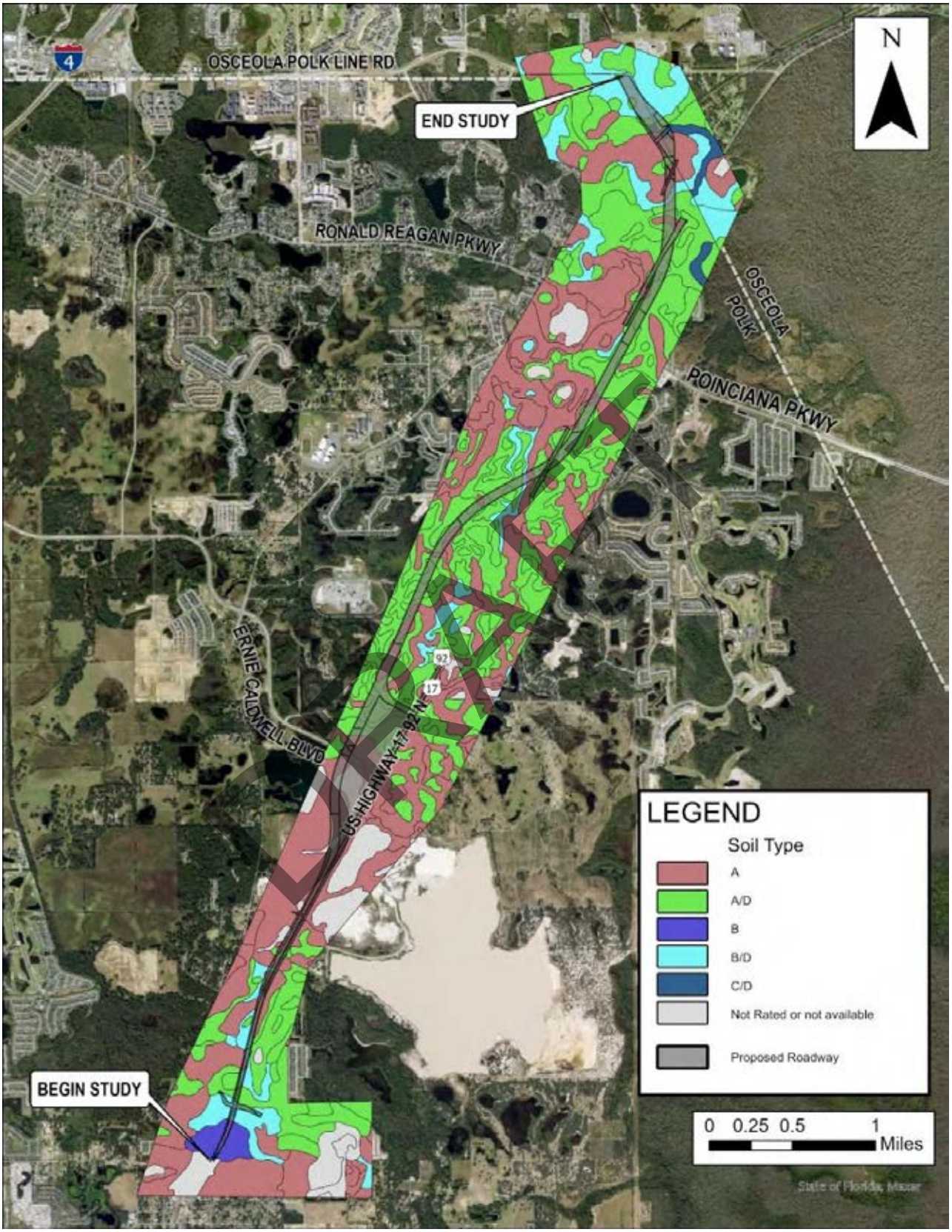

Figure 1-5: Soils Map

2.0 Data Collection

The following sources of information were reviewed or used to collect data in support of this pond siting report.

- LiDAR Data
- Aerial Imagery
- United States Department of Agriculture (USDA) NRCS Web Soil Survey (2022)
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps
- US 17/92 Straight Line Diagrams
- As-built information from the following projects
    - Polk County Project No. 0600010 (Ernie Caldwell Boulevard Phases IIB & III - Pine Tree Trail to US 17/92).
    - FDOT FPID 422391-52-01 SR 600 (South of James Street to the Osceola County Line)
- Design Information from the following projects
    - CFX Project No. 538-235 (SR 538 Segment 2 from CR 532 to US 17/92)
    - CFS Project No. 538-235A (CR 532 from Old Lake Wilson Road to US 17/92)
- South Florida Water Management District (SFWMD) and Southwest Florida Water Management District (SWFWMD) Permit Documentation
    - Permit documentation for locations affected by proposed improvements is included in **Appendix E.**

3.0 Design Criteria

3.1 Rules & Regulations / Regulatory Agency Coordination

The project is located within both the South Florida Water Management District (SFWMD) and the Southwest Florida Water Management District (SWFWMD). Typically, when this occurs, the agency within whose boundaries most of the project corridor is located will become the lead permitting agency. Since most of the corridor is located within the SWFWMD, project improvements will be designed to meet these regulatory requirements. The project will also be designed to meet the criteria of the Florida Department of Environmental Protection (FDEP), United States Army Corps of Engineers (USACE), the requirements outlined in the FDOT Drainage Manual, and the requirements of FTE. It is anticipated that the following permits will be required as part of the design.

- SWFWMD Individual Environmental Resource Permit
- USACE 404 Dredge and Fill Permit
- FDEP National Pollutant Discharge Elimination System (NPDES) Permit

The SWFWMD pre-application meeting is tentatively scheduled for November 13th, notes from pre-application meeting will be added to the final submittal.

3.1.1 Water Quantity and Quality Criteria

Water Quantity: For open basins, the post-development peak discharge rate must not exceed the pre-development peak discharge rate using the SWFWMD Florida Modified (FLMOD) 25-year / 24-hour storm event. For closed basins, the post-development peak discharge volume must not exceed the pre-development peak discharge rate and volume during the SWFWMD FLMOD 100-year / 24-hour storm event.

Water Quality: It is anticipated that the Location Design Concept Acceptance (LDCA) for this PD&E Study will be achieved prior to June 28, 2026. Because of this, the design of the project will be grandfathered into the presumptive water quality criteria that were applicable prior to June 28, 2024.

- Wet detention: Shall treat first one inch of runoff from the contributing area.

- Detention with Underdrains: Shall treat runoff from one inch of rainfall. For contributing drainage areas of less than 100 acres, the first half inch of runoff. Directly Connected Impervious Areas (DCIA) areas should be calculated separately from other land uses in determining the volume required to treat one inch of runoff.
- Dry Retention (On-line treatment): Shall treat first one inch of rainfall. For contributing drainage areas less than 100 acres, the first half inch of runoff. Treatment volume recovery shall occur within 72 hours, however only that volume which can again be available within 36 hours may be counted as part of the volume required for water quantity storage.
- Dry Retention (Off-line treatment): Shall treat the runoff from the first one inch of rainfall. For contributing drainage areas of less than 100 acres the first one half inch of runoff. Treatment volume recovery shall occur within 72 hours, however only that volume which can again be available within 36 hours may be counted as part of the volume required for water quantity storage.

In addition to providing water quality treatment for the increase in impervious areas associated with these improvements, water quality treatment will also be considered for any impervious area that was previously permitted for treatment if the existing permitted stormwater management facility will be impacted by the proposed improvements.

FDEP Nutrient Criteria: FDEP maintains the Statewide Comprehensive List of Impaired Waters, which contains waterbody-parameter combinations that have been verified as impaired based on criteria and assessment methodologies. Waterbody Identifications (WBID) that are impaired for nutrients will be required to demonstrate a net reduction in nutrient loading in the post development condition. **Table 3-1** shows WBID impairment information. **Figure 3-1** illustrates the limits and location of each WBID. Both WBID's will remain on the study list, but neither WBID is classified as Verified Impaired. Since they are both only on the study list, they cannot be used as a basis for "impaired WBID" status in regulatory programs per 62-303.150 FAC and 62-303.390 FAC.

Okeechobee BMAP: The project also lies within the limits of the Lake Okeechobee Basin Management Action Plan (BMAP). Lake Okeechobee is impaired for phosphorus, and this project will be required to demonstrate a net reduction in nutrient loading for this pollutant. **Figure 3-2** presents the limits of the Lake Okeechobee watershed that are included in the BMAP.

Table 3-1: Nutrient Criteria

WBID	Identified Parameter	Comments
3170C	Biology	Unverified impaired due to insufficient data but will remain on study list
1436	Dissolved Oxygen	Unverified impaired but added to study list due to exceedances, but causative pollutants have not been identified.
Lake Okeechobee	Phosphorus	NA

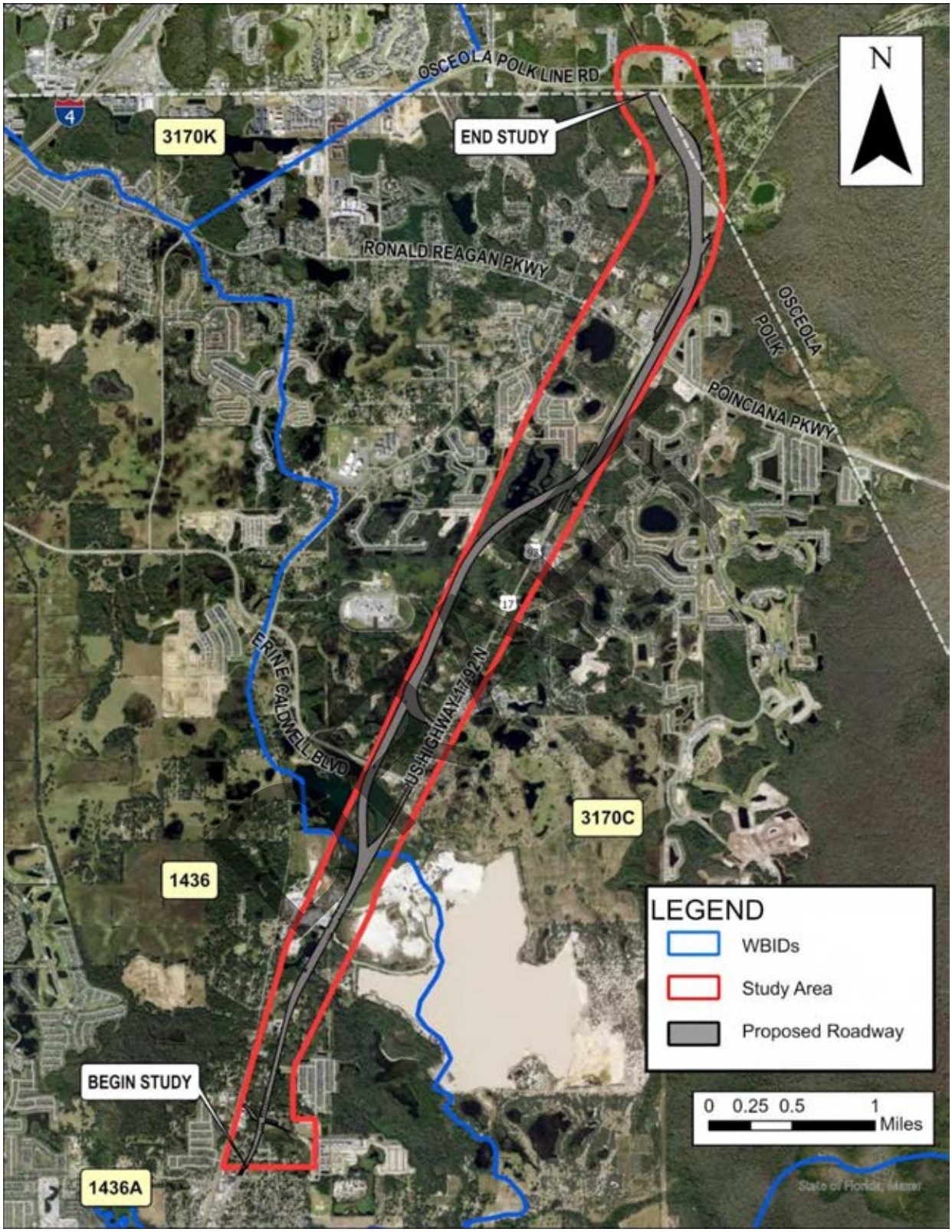

Figure 3-1: WBID Map

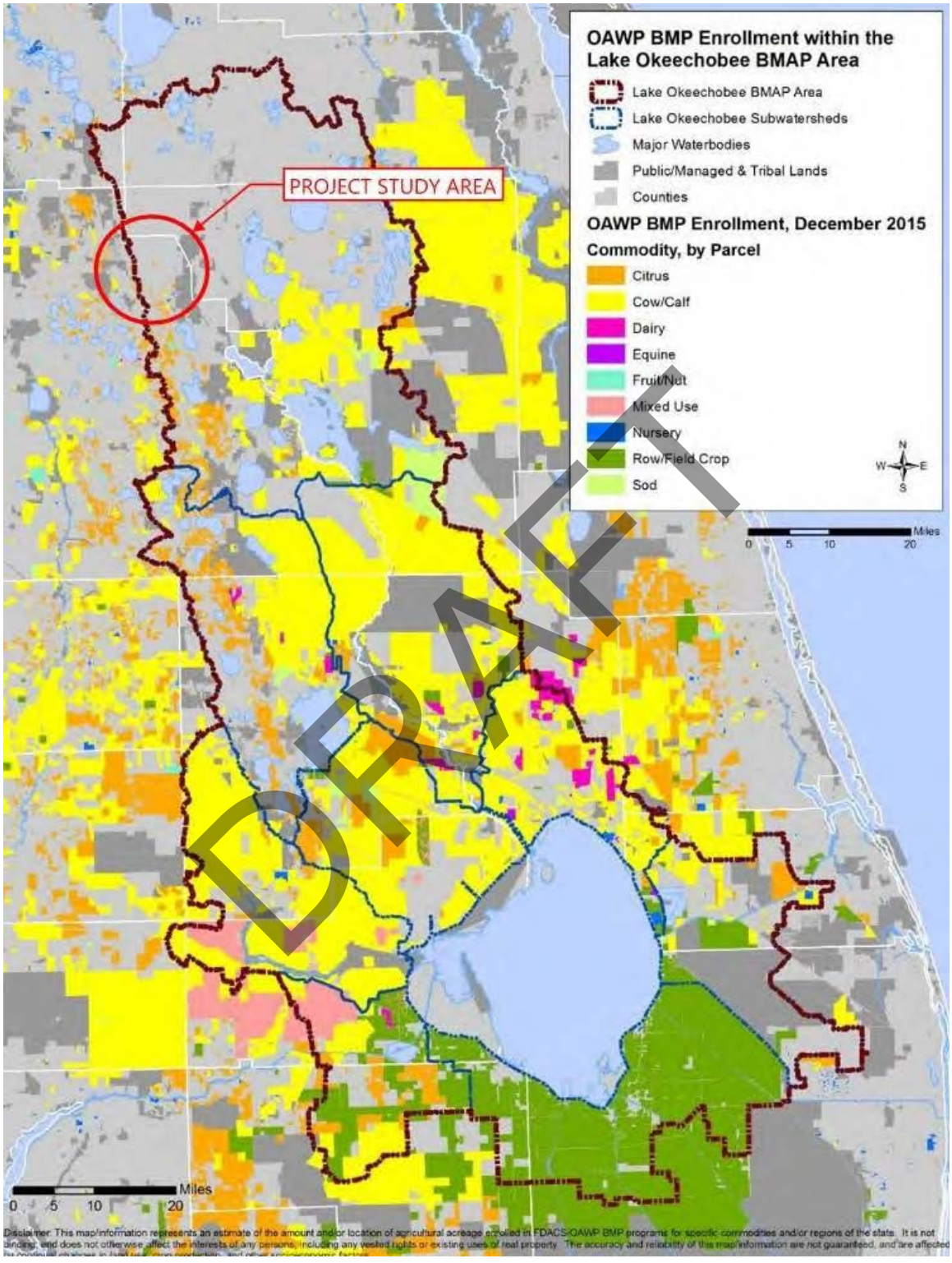

Figure 3-2: Lake Okeechobee BMAP

3.2 Project Specific Criteria

There are not any water control districts with jurisdictional limits that will cross into the limits of this study corridor. The closest water control district is the Central Florida Tourism Oversight District, but the jurisdictional boundaries are north of CR 532.

ELA/WATERSS

Environmental Look Around (ELA) Meetings were held or have been scheduled with the stormwater stakeholders shown in **Table 3-2** to discuss potential joint use and regional opportunities. An Efficient Transportation Decision Making (ETDM) Watershed Approach to Evaluate Regional Stormwater Solutions (WATERSS) screening report was also prepared to determine possible candidates for regional pond usage, but nothing was revealed in the report. Two stakeholder meetings have been held out of the four listed in Table 3-2. There is a potential opportunity associated with one of the CFX ponds permitted as part of the SR 538 Poinciana Extension project, but nothing has been finalized, and coordination will continue through design. Stakeholder meeting notes will be included in **Appendix D**. The ETDM WATERSS Report is included in **Appendix E**.

Table 3-2: ELA Meetings

Stakeholder	Meeting Date(s)	Comments
FDOT District 1		
CFX	September 26, 2025	Continuing discussion associated with CFX Project 538-532 permitted ponds during final design
SWFWMD	October 30, 2025	Agency will research potential regional or shared stormwater opportunities and continue coordination with FTE.
FDOT District 1	November 6, 2025	To be added after meeting
Polk County	November 17, 2025	To be added after meeting

4.0 Existing and Proposed Conditions

4.1 Existing Drainage Conditions

As shown in **Table 4-1**, 14 basins have been identified within the limits of the study area. Multiple alignments are provided for each basin which represent the CPP East preferred alignment as well as the various proposed ramps and areas where US 17/92 will be improved to facilitate access to and through CPP East. However, in the specific paragraph descriptions of each basin, only the CPP East stationing or the US 17/92 stationing is used for efficiency and clarity. The outfall locations vary along the corridor but the discharge for each basin is always into one of the wetland areas or existing borrow pits located adjacent to the proposed roadway improvements. None of these outfall locations are classified as Outstanding Florida Waters (OFW). Except for Basin 300 and Basin 400A, all outfalls are considered Open. Basin 300 and 400A are closed and contributing stormwater runoff discharges into an existing borrow pit which does not appear to have any outfall associated with it. The overall topography within the study corridor varies between flat and gently sloping and the overall movement of stormwater runoff is from west to east towards the large wetland areas surrounding Reedy Creek east of US 17/92.

US 17/92 is an older road and based on research, there are no existing permits on US 17/92 except for a small section of US 17/92 that was included as part of the Ernie Caldwell Boulevard (ECB) improvements (App. No. 696330/Permit No. 43032513.006). As part of the ECB design, a section of US 17/92 was collected and conveyed into a pond located adjacent to ECB and west of US 17/92. There are no other permitted stormwater facilities that provide treatment and/or attenuation for any of the existing impervious areas on US 17/92 that will be modified as part of the CPP East PD&E alignment. Similarly, where the CPP East alignment diverges away from existing US 17/92, there are also no existing permitted stormwater management facilities since it is a new alignment. There are also no existing FTE drainage connection permits along the corridor.

Existing drainage maps are included in **Appendix A**. Cross drains on the existing drainage maps are identified using "EX-___" as the preferred nomenclature. Existing offsite permits that will be impacted or potentially affected by the CPP East alignment are compiled and included in **Appendix E**.

Table 4-1: Existing Corridor Basin Summary

Basin	Extents	Receiving Waterbody	Open/ Closed
Basin 100	Sta. 1024+25.50 – Sta. 1078+53 (Mainline)	Existing wetland area	Open
Basin 200	Sta. 1078+53 – Sta. 1122+16.80 (Mainline) Sta. 10+00 – Sta. 21+45.95 (Flyover Ramp)	Existing wetland area	Open
Basin 300	Sta. 1122+16.80– Sta. 1138+20.62 (Mainline) Sta. 21+45.95 – Sta. 41+00 (Flyover Ramp)	Existing wetland/borrow pit	Closed
Basin 350A	Sta. 41+00 – Sta. 65+00 (US 17/92)	North into ECB Pond	Open
Basin 350B	Sta. 65+00 – Sta. 99+96.09 (US 17/92)	Existing wetland area and Lost Herbs Creek	Open
Basin 400A	Sta. 1138+20.62 – Sta. 1162+49.11 (Mainline)	Existing borrow pit	Closed
Basin 400B	Sta. 1162+49.11 – Sta. 1193+00 (Mainline) Sta. 20+66.14 – Sta. 43+07.63 (SB Ramp) Sta. 30+69.79 – Sta. 50+24.89 (NB Ramp)	Existing wetland area	Open
Basin 500	Sta. 1193+00 – Sta. 1239+99.40 (Mainline) Sta. 43+07.63 – Sta. 59+56.21 (SB Ramp) Sta. 50+24.89 – Sta. 53+88.02 (NB Ramp)	Existing wetland and lake area	Open
Basin 600	Sta. 1239+99.40 – Sta. 1276+09.28 (Mainline)	Existing wetland area and lake area	Open
Basin 700	Sta. 1276+09.28 – Sta. 1324+55.87 (Mainline)	Existing wetland area	Open
Basin 800A	Sta. 1324+55.87 – Sta. 1340+83.22 (Mainline) Sta. 100+00 – Sta. 121+27.80 (SB Ramp) Sta. 200+00 – Sta. 225+27.48 (NB Ramp)	Existing wetland area	Open
Basin 800B	Sta. 42+00 – Sta. 80+52.49 (US 17/92)	Existing wetland area	Open
Basin 900	Sta. 125+74.11 – Sta. 159+98.68 (SB Ramp) Sta. 229+18.68– Sta. 262+80.95 (NB Ramp)	Existing wetland area	Open
Basin 1000	Sta. 159+98.68 – Sta. 178+11.65 (SB Ramp) Sta. 262+80.95 – Sta. 280+49.87 (NB Ramp)	Existing wetland area	Open

4.1.1 Basin 100 (Sta. 1024+25.50 – Sta. 1078+53)

Basin 100 encompasses the southern end of the project where the CPP East alignment is co-located with US 17/92. The main outfall for this basin is Horse Creek (EX-160019) a three-barrel bridge culvert. The other cross drains are a 2'x2' Concrete Box Culvert (CBC) labeled as EX-101 and a 3'x2' CBC labeled as EX-102. The smaller cross drains allow stormwater runoff to discharge east under US 17/92 and eventually connect back into Horse Creek. The topography through the basin is relatively flat with stormwater discharge from west to east. There are offsite areas to the east and west of US 17/92 that discharge stormwater toward US 17/92 which has a shallow open swale system. Runoff entering the basin flows parallel to US 17/92 until it reaches the existing cross drains or bridge culvert or a lower wetland area where it can discharge offsite again.

4.1.2 Basin 200 (Sta. 1078+53 – Sta. 1122+16.80) / (Sta. 10+00 – Sta. 21+45.95)

Like Basin 100, Basin 200 also co-locates the CPP East alignment with US 17/92. The property on either side of the road is mostly owned by Rinker Materials Corporation, Standard Sand & Silica Co. or CEMEX Construction Materials. The main outfall for this basin is EX-103, a 4' x 3' CBC. However, based on the straight-line diagram there are also two smaller cross drains, EX-104 and EX-105. EX-104 is a 2'x2' CBC and EX-105 is a 30" pipe. However, an extensive field review indicated EX-104 no longer exists or has been buried over the years since construction and no longer functions. A commercial development is located on the upstream side (west end) of the pipe and there is no existing conveyance ditch. There is a low area downstream of the pipe (east end), which may have once accepted stormwater from upstream, but an extensive search of this area could not identify any type of pipe outfall and there was no forensic evidence of any type of discharge. There was also a short, mostly buried concrete wall with an opening in the center that may have been some type of control weir at one time. However, it was clear that this structure was not capable of serving in that capacity and hasn't served in that capacity in many years. There is also no conveyance ditch on the downstream side of EX-104 and stormwater runoff from the northbound lanes of US 17-92 discharges directly offsite in this location.

With respect to EX-105, this appears to serve as an outfall to the stormwater pond located within the CEMEX storage yard, but it also accepts stormwater runoff from the southbound side of US 17/92.

The topography throughout the basin and surrounding area is relatively flat but generally slopes from west to east. The area on the east side of the corridor has been extensively disturbed by sand mining activities. This has created a condition where multiple outfall or stormwater discharge points into one of the existing wetlands or borrow pits occur within the basin, and it is difficult to determine where they come together downstream. There are offsite areas to the east and west of US 17/92 that discharge stormwater toward US 17/92, but most of them are relatively small as shown on the existing condition drainage map. It should be noted that the existing swale system is very shallow and flat, with sandy soil on the surface of the existing ground. Offsite stormwater runoff that does discharge into the right-of-way (R/W) either infiltrates into the ground during normal storm events or is conveyed directly offsite into one of the adjacent low areas or cross drains.

Because of the extensive sand mining activities and the challenges of determining where the various basin stormwater discharge points coalesce together downstream, Basin 200 has been split into Basin 200A and 200B. Sub-basin 200A starts at Station 1078+53 and extends to Station 1107+00. This basin represents the area that ultimately discharges into EX-103 in the existing condition. At the southern end of the basin the discharge is directly into the outfall, in the middle of the basin the discharge from the southbound side of US 17-92 is into an existing borrow lake that appears to be connected to a wetland area upstream of EX-103. Sub-basin 200B generally begins at Station 1107+00 and extends to Station 1122+16.80. Stormwater runoff from this sub-basin discharges directly offsite or into EX-105.

4.1.3 Basin 300 (Sta. 1122+16.80 – Sta. 1138+20.62) / (Sta. 21+45.95 – Sta. 41+00)

Basin 300 is the first basin where CPP East diverges from the existing US 17/92 alignment. The area where the alignment is proposed is heavily wooded and there are no existing cross drains.

The main outfall is an existing wetland located at the northern end of the basin on the west side of the alignment. This existing wetland appears to be connected to an old borrow pit lake located further to the north and west. The topography within the basin is gently sloping and the only offsite area that will discharge into the existing R/W is the area contributing stormwater runoff into the wetland and borrow pit. As discussed previously, this is one of only two basins that appear to be closed with everything in the basin ultimately conveyed to the existing borrow pit.

4.1.4 Basin 350A (Sta. 41+00 – Sta. 65+00)

Basin 350A is located on US 17/92. US 17/92 in this location will be improved to support access to CPP East even though it is not co-located with CPP East. Most of this basin was included as part of the ECB project which conveys stormwater runoff into one of the permitted ponds along ECB. There is only one cross drain, EX-106, which is a 30" cross drain that was incorporated into the ECB stormwater system. The previous cross drain, which was identified as a 2' x 2' CBC has been filled and abandoned in place. Offsite areas to the east and west that discharge stormwater runoff into the existing US 17/92 R/W are conveyed into the ECB pond or past the ECB intersection with US 17/92 and further to the north.

4.1.5 Basin 350B (Sta. 65+00 – Sta. 99+96.09)

Basin 350B is also located along US 17/92 north of ECB. Like Basin 350A, this section will be improved to support the CPP East alignment even though it is not co-located. There are three cross drains within this basin, EX-107 is a 2'x2' CBC, EX-108 is a 30" pipe, and EX-109 is also a 30" pipe. All three cross drains discharge stormwater runoff from west to east. On the west side of the basin offsite areas discharge stormwater runoff into existing wetlands and are conveyed through box culverts to the east side of US 17/92. There are some offsite areas to the east of US 17/92 that also discharge stormwater runoff into the R/W. A shallow swale system within the R/W conveys this runoff to the downstream side of the existing cross drains and out into the wetland areas. The topography on either side of US 17/92 is generally flat and most of the stormwater runoff makes its way into one of the adjacent wetland areas with very little actually discharging into the US 17/92 R/W.

4.1.6 Basin 400A (Sta. 1138+20.62 – Sta. 1162+49.11)

Basin 400A is part of the CPP East preferred alignment located north of Basin 300. The area is heavily wooded, and the low point in the basin is an existing borrow pit. There are no cross drains, and the ultimate discharge location is into the existing borrow pit between the preferred alignment and US 17/92. Based on the information available this basin can be considered closed and any offsite area discharging stormwater runoff toward and through the basin will enter the borrow pit.

4.1.7 Basin 400B (Sta. 1162+49.11 – Sta. 1193+00) / (Sta. 20+66.14 – Sta. 43+07.63) / (Sta. 30+69.79 – Sta. 50+24.89)

Basin 400B is part of the CPP East alignment to the west of US 17/92 and includes the connector ramps between US 17/92 and the preferred alignment. The area is heavily wooded and interspersed with wetland areas. There are no existing cross drains and both basins 400A and 400B discharge stormwater runoff into a large wetland system located on either side of the connector ramps. Based on LiDAR data, the general flow pattern within these wetland areas is from east to west. But the topography is flat and, in some cases, it may be possible for stormwater to flow in both directions.

4.1.8 Basin 500 (Sta. 1193+00 – Sta. 1239+99.40) / (Sta. 43+07.63 – Sta. 59+56.21) / (Sta. 50+24.89 – Sta. 53+88.02)

Basin 500 is part of the CPP East preferred alignment located west of US 17/92. Like Basin 400B, this area is heavily wooded and there are no existing cross drains. The topography is flat and stormwater runoff discharges to a series of interconnected wetlands that appear to extend back to the west beneath the railroad tracks into a much larger wetland area through pipes underneath the railroad tracks. However, this is based on the limits of the wetland areas and the limits of the base flood elevation. There is no other information available that supports this assessment.

4.1.9 Basin 600 (Sta. 1239+99.40 – Sta. 1276+09.28)

Basin 600 is very similar to Basin 500 and is part of the CPP East alignment located west of US 17/92. The basin is heavily wooded and there are no existing cross drains. Stormwater runoff from

the basin and surrounding area discharges into a series of wetlands and lakes located on either side of the alignment and between the alignment and US 17/92. Based on existing topographical elevations, it appears as though these wetlands ultimately discharge to the east underneath US 17/92.

4.1.10 Basin 700 (Sta. 1276+09.28 – Sta. 1324+55.87)

Basin 700 generally begins where the CPP East preferred alignment crosses US 17/92 toward the north end of the project and then parallels US 17/92 on the east side. This basin ends at Poinciana Parkway and includes a small section of existing US 17/92 where improvements are proposed to allow the preferred alignment to bridge over US 17/92. The area covered by the basin where it parallels US 17/92 is heavily wooded and the main outfall is a linear wetland area that extends the length of the basin. Water within this wetland area flows from south to north and then to the east as it approaches Poinciana Parkway. The only cross drain within the basin is EX-110 which is a 24" pipe located at the southern end of the basin where it crosses US 17/92. Because CPP East parallels US 17/92 and is located on top of the wetland that currently serves as the ultimate outfall for US 17/92, there is very little offsite area that will be conveyed into the CPP East R/W other than from the wetland areas between US 17/92 and CPP East. These wetland areas accept stormwater runoff from the US 17/92 R/W and from areas west of US 17/92. Runoff enters the linear wetland via existing cross drains underneath US 17/92.

4.1.11 Basin 800A (Sta. 1324+55.87 – Sta. 1340+83.22) / (Sta. 100+00 – Sta. 121+27.80) / (Sta. 200+00 – Sta. 225+27.48)

Basin 800A starts at Poinciana Parkway where the CPP East alignment remains parallel to US 17/92. The existing basin can be described almost identically to Basin 700 except the area within the basin limits is more developed at the southern end of the basin. The linear wetland impacted by the CPP East alignment accepts stormwater runoff from US 17/92 and areas west of US 17/92. This wetland area serves as the main outfall for the basin and water within the wetland is conveyed north and eventually to the west.

4.1.12 Basin 800B (Sta. 42+00 – Sta. 80+52.49)

Basin 800B is the area of US 17/92 that parallels Basin 800A. Basins 800A and 800B were split because the existing Profile Grade Line (PGL) of US 17/92 at the north end of the basin is lower than the PGL for CPP East which creates a disadvantage when sizing ponds. This will be discussed further in Section 4.2. As discussed in Section 4.1.11, except for the Publix complex which has a permitted stormwater system, offsite stormwater enters the US 17/92 R/W from the west and passes beneath US 17/92 via EX-111 which is an existing 4' x 3' CBC. Offsite area on the east side of US 17/92 discharges runoff further to the east towards Basin 800A as described previously.

4.1.13 Basin 900 (Sta. 125+74.11 – Sta. 159+98.68) / (Sta. 229+18.68 – Sta. 262+80.95)

Basin 900 starts once the CPP East alignment crosses over US 17/92. This is a new alignment and there are no existing cross drains. The area covered by the basin is mostly undeveloped with some residential areas. The topography is gently sloping, and the overall drainage pattern is from west to east based on a review of the CFX SR 538 SFWMD Permit No. 49-104808-P (App. No. 201217). The ultimate outfall is an existing 10' x 3' CBC underneath US 17/92 east of Basin 900. This existing cross drain will be extended as part of the SR 538 design and designated as CD-2.

4.1.14 Basin 1000 (Sta. 159+98.68 – Sta. 178+11.65) / (Sta. 262+80.95 – Sta. 280+49.87)

Basin 1000 extends from the railroad tracks north to the tie-in near CR 532. There are currently no cross drains within the existing basin, but the outfall is into a series of interconnected wetlands located to the east and west that ultimately discharge stormwater runoff to the east. The CFX project is proposing a quadruple 6' x 7' CBC under SR 538 which will be located parallel to and just north of the existing CSX railroad and designated as CD-1.

4.2 Proposed Drainage Conditions

In the proposed condition, historic drainage patterns are anticipated to be maintained for both on-site and offsite stormwater runoff. The outfall location of each basin will also remain the same as it is in the existing condition. Tailwater elevations were set based on tailwater information used in the design of nearby developments or they were estimated using LiDAR and available wetland limits which was based on information taken from the National Wetlands Inventory (NWI). In the areas where LiDAR and information from NWI were used, a more detailed study is recommended during design to confirm wetland limits as well as normal pool or seasonal high. Offsite areas discharging stormwater runoff into the R/W will be maintained separately from onsite stormwater discharge. The co-located typical section which is applicable to the southern part of the corridor moves the US 17/92 travel lanes outside of the CPP East improvements. This should allow onsite and offsite discharge to remain separate. The remainder of the preferred alignment which is not co-located will not have an impact on US 17/92 and it should be possible to separate on-site stormwater discharges from offsite discharges, especially where the preferred alignment is on bridge or wall.

The presence of remnant parcels or excess parcels was evaluated, and it was determined there were not any parcels that were already remnants left over from previous improvements. However, since this project will include widening and reconstruction of US 17/92 as well as a new preferred alignment to the west, there may be remnant parcels because of these improvements. However, that information is currently unknown and for the purposes of this report pond sites were identified based on sizing needs and location rather than trying to speculate which existing parcels might ultimately be considered remnant. Utilizing remnant parcels will be re-evaluated during the design phase of the project.

With respect to existing treatment credits, US 17/92 is an older road and beyond the permit issued for the improvements at ECB which incorporated a short section of US 17/92, there is not any permit information specifically associated with the road. Therefore, it was assumed that there are no existing treatment credits that can be used to offset the treatment needs for the proposed

corridor. In the area where the preferred alignment splits from US 17/92 and the undeveloped part begins it was also assumed that no treatment credits would be available. In the areas where the CPP East alignment is co-located with US 17/92, there are two areas where existing treatment facilities associated with adjacent businesses or sub-divisions would be impacted by the improvements. One location is adjacent to the northbound lanes of US 17-92 in Basin 200. The other area is one of the Ernie Chapman Boulevard permitted ponds which will be impacted by the proposed improvements in Basin 400B. Each of these locations is discussed in more detail in Section 4.2. Proposed drainage maps are included in **Appendix A** and cross drains are identified using "CD-XX" as the preferred nomenclature. The number following the CD designation matches the existing condition maps. For example, EX-101 on the existing maps is designated as CD-101 on the proposed maps. **Table 4-2** shows the proposed basins along the corridor. For each basin all alignments are provided, but in the subsequent paragraph descriptions only the mainline stationing is used. **Table 4-3** shows the low edge of pavement elevation and the elevation of the bottom of the base.

Table 4-2: Proposed Basin Corridor Summary

Basin	Extents	Receiving Waterbody	Open/ Closed
Basin 100	Sta. 1024+25.50– Sta. 1078+53.00 (Mainline)	Existing wetland area	Open
Basin 200	Sta. 1078+53.00– Sta. 1113+99.69 (Mainline) Sta. 10+00 – Sta. 13+27.39 (Ramp)	Existing wetland area	Open
Basin 300	Sta. 1113+99.69– Sta. 1135+86.15 (Mainline) Sta. 13+27.39 – Sta. 32+26.88 (Ramp)	Existing wetland/borrow pit	Closed
Basin 350A	Sta. 32+26.88 – Sta. 64+97.05 (US 17/92)	North into ECB Pond	Open
Basin 350B	Sta. 64+97.05 – Sta. 99+96.09 (US 17/92)	Existing wetland area and Lost Herbs Creek	
Basin 400A	Sta. 1135+86.15 – Sta. 1162+23.45 (Mainline)	Existing borrow pit	Closed
Basin 400B	Sta. 1162+23.45 – Sta. 1176+97.64 (Mainline)	Existing wetland area	Open
Basin 450	Sta. 20+66.14 – Sta. 35+65.28 (SB Ramp) Sta. 30+69.79 – Sta. 46+47.42 (NB Ramp)	Existing wetland area	
Basin 500	Sta. 1176+97.64 – Sta. 1218+38.08 (Mainline) Sta. 35+65.28 – Sta. 59+56.21 (SB Ramp) Sta. 46+47.42 – Sta. 53+88.02 (NB Ramp)	Existing wetland area and lake area	Open
Basin 600	Sta. 1218+38.08 – Sta. 1276+09.28 (Mainline)	Existing wetland area and lake area	Open
Basin 700	Sta. 1276+09.28 – Sta. 1323+46.96 (Mainline) Sta. 158+63.61 – Sta. 183+49.66 (US 17/92)	Existing wetland area	Open

Table 4-2: Proposed Basin Corridor Summary (Cont'd)

Basin	Extents	Receiving Waterbody	Open/ Closed
Basin 800A	Sta. 1323+46.96 – Sta. 1340+83.22 (Mainline) Sta. 100+00 – Sta. 121+27.80 (SB Ramp) Sta. 200+00 – Sta. 227+27.48 (NB Ramp)	Existing wetland area	Open
Basin 800B	Sta. 42+00 – Sta. 80+52.49 (US 17/92)	Existing wetland area	Open
Basin 900	Sta. 125+73.93 – Sta.154+65.93 (SB Ramp) Sta. 229+19.33 – Sta. 257+81.78 (NB Ramp)	Existing wetland area	Open
Basin 1000	Sta. 154+65.93 – Sta. 178+11.65 (SB Ramp) Sta. 257+81.78 – Sta. 280+49.87 (NB Ramp)	Existing wetland area	Open

Table 4-3: Mainline Low PGL and Low Pavement Elevations

Basin	Station	Baseline	PGL Elev. (NAVD88)	Low Travel Elev. (NAVD88)	Estimated Bottom of Base Elev. (NAVD88)
Basin 100	1061+67.34	Mainline	111.82	110.62	109.12
Basin 200	1091+20.65	Mainline	112.76	111.56	110.06
Basin 300	1135+86.15	Mainline	127.45	126.25	124.75
Basin 350A	65+00.00	CL65	116.85	116.01	114.51
Basin 350B	95+00.00	CL65	112.06	111.22	109.72
Basin 400A	1160+14.72	Mainline	114.20	113.00	111.50
Basin 400B	1162+23.45	Mainline	114.48	113.28	111.78
Basin 450	22+65.03	SB-Exit Ramp	111.12	110.52	109.02
Basin 500	1196+56.05	Mainline	112.83	111.63	110.13
Basin 600	1247+91.01	Mainline	108.97	107.77	106.27
Basin 700	1304+51.99	Mainline	97.52	96.32	94.82
Basin 800A	111+19.42	SB Ramp – BL401	87.99	86.79	85.29
Basin 800B	74+00.00	NORTH 1792	78.82	77.98	76.48
Basin 900	239+79.46	NB Ramp – BL401	110.72	109.52	108.02
Basin 1000	169+32.63	SB Ramp – BL401	101.65	100.52	99.02

Note: Bottom of base assumed to be 18-inches below low travel elevation.

4.2.1 Basin 100 (Sta. 1024+25.50 – Sta. 1078+53)

The CPP East alignment in Basin 100 is co-located with US 17/92. The proposed typical section moves the northbound and southbound lanes of US 17/92 to the outside of the CPP East mainline. This will allow offsite areas contributing stormwater runoff into the R/W to be conveyed separate from onsite runoff through the existing R/W to the historic outfall which will be either CD-101 or CD-102. These cross drains will be extended in the proposed condition. CD-160019 is the bridge culvert at Horse Creek and the main outfall for the basin. The Bella Vita Subdivision (Permit No. 43044217/App. No. 805725) developed an ICPR model for the subdivision with Horse Creek as the outfall. Based on the model, the peak tailwater stage for the 25-year storm event was set estimated at 105.5-feet NAVD88.

Based on the typical section for the co-located areas, curb and gutter will be added to the outside US 17/92 lanes. Offsite stormwater runoff can be addressed with a separate closed or open conveyance system depending on the available R/W between the shared use path and the proposed R/W line. Because CPP East and US 17/92 are collocated within this basin, compensatory treatment could be considered during design, but it was not considered for this analysis, and wet detention is the recommended pond design based on the depth to season high water table (SHWT).

4.2.2 Basin 200 (Sta. 1078+53.00 – Sta. 1113+99.69) / (Sta. 10+00 – Sta. 13+27.39)

Basin 200, like Basin 100 and is co-located with US 17/92. Even though the entire basin discharges stormwater runoff to the east, because of the existing sand mining activities on the east side of the alignment it is difficult to determine where the discharge comes together downstream. Rather than split the basin into multiple sub-basins, it was split into sub-basin 200A and 200B as described in Section 4.1.2. In the proposed condition, part of sub-basin 200B will be taken into sub-basin 200A and part of sub-basin 200B will be taken into Basin 300. This will make the sub-basin 200A contributing area larger in the post development condition as compared to the pre-development condition and it will also make the contributing area in Basin 300 larger in the post development condition as compared to the pre-development condition. The remaining area in

sub-basin 200B in the post development condition will generally be the northbound lanes of US 17-92 and will be equal to or less than the contributing area in the pre-development condition. As a result, no stormwater management ponds were identified in this basin. This approach is somewhat conservative and the ponds in sub-basin 200A and Basin 300 are larger than what they will need to be during final design.

EX-103 (CD-103) is the main outfall for the basin and will be extended in the proposed condition. EX-105 (CD-105) will also be extended in the proposed condition. EX-104 (CD-104) is proposed for replacement in the proposed condition, but further evaluation may be necessary during design to determine whether it is required. Downstream of CD-103, there is currently no information on the existing invert and there is no information regarding the adjacent wetland normal pool or seasonal high water elevation. However, Temples Crossing (Permit No. 43045867/ App. No. 874889) includes permitted ponds that discharge into Horse Creek with a peak tailwater stage of 105.45-feet NAVD88 for the 25-year storm event. Because the wetlands downstream of CD-103 appear to ultimately connect to Horse Creek, it is assumed that the tailwater condition for this cross drain would be the same. Tailwater information for CD-104 and CD-105 is not available as these cross drains discharge into areas that are part of active sand mining operations.

The proposed typical section for Basin 200 will include curb and gutter added to the outside US 17/92 lanes. This proposed improvement will completely impact an existing CEMEX pond located adjacent to the southbound lanes. A permit could not be found to determine how this pond functions. Options for addressing this impact are to accept the stormwater runoff into one of the CPP East ponds or pay for the impact using cost to cure. Cost to cure is the recommended approach. Further offsite stormwater can be addressed with a separate closed or open conveyance system depending on the available R/W between the shared use path and the proposed R/W line. Because CPP East and US 17/92 are collocated within this basin, compensatory treatment could be considered during design, but it was not considered for this analysis, and wet detention is the recommended pond design based on the depth to SHWT.

4.2.3 Basin 300 (Sta. 1113+99.69 – Sta. 1135+86.15) / (Sta. 13+27.39 – Sta. 32+26.88)

As described in Section 4.1, Basin 300 is the first basin that begins to diverge from US 17/92. As described in Section 4.2.2, the basin is larger in the proposed condition as compared to the existing condition due to high point locations along the proposed CPP East alignment. In the proposed condition all stormwater runoff both onsite and offsite will discharge into the wetland and ultimately into the existing borrow pit just to the north. Based on the typical section border width, there should be plenty of room to maintain the discharge of offsite stormwater runoff from the west side of Basin 300 into the borrow pit on the east side of Basin 300. The only conveyance through Basin 300 in the proposed condition is a mainline and ramp bridge designated as CD-301.

There is no information on the adjacent wetland regarding normal pool or seasonal high water elevation, and no survey information on the water elevation in the borrow pit to the north. However, LiDAR data shows an elevation of 106.9-feet NAVD88 across the borrow pit. This was assumed to be the normal water level elevation. But there is no information on the borrow pit maximum water surface elevation that can be established for the pond alternatives peak tailwater condition. However, dry retention is the recommended pond design, and the bottom elevations used to develop the pond alternatives are much higher than the estimated water surface elevation in the borrow pit which would allow for a free discharge condition from each pond alternative. Because Basin 300 is part of the CPP East new alignment, compensatory treatment is not anticipated.

4.2.4 Basin 350A (Sta. 32+26.88 – Sta. 64+97.05)

Basin 350A is wholly located on US 17/92 where improvements are proposed to facilitate access to and through the CPP East alignment. Much of US 17/92 within this basin has been incorporated into the existing stormwater ponds that were permitted as part of the ECB improvements. Offsite areas contributing runoff into the R/W are minimal due to the berms on either side of the road. The only cross drain on the project is CD-106 which is included in the ECB permitted stormwater system. This cross drain will be extended in the proposed condition. As described previously

because of the berms on either side of the R/W throughout most of this basin, the proposed outfall from the proposed stormwater ponds will be into one of the cross drains located in within Basin 350B. More detail about these outfall locations is included in Section 4.2.5. Because US 17/92 is an existing roadway, compensatory treatment could be considered during design, but it was not considered for this analysis, and wet detention is the recommended pond design based on the depth to SHWT.

4.2.5 Basin 350B (Sta. 64+97.05 – Sta. 99+96.09)

Basin 350B is like Basin 350A in that it is wholly located on US 17/92 where improvements are proposed to facilitate access to and through the CPP East alignment. The proposed typical section moves the northbound and southbound lanes of US 17/92 to the outside of the CPP East mainline. This will allow offsite areas contributing stormwater runoff into the R/W to be conveyed separately from onsite runoff through the existing R/W using open or closed conveyance to CD-107, CD-108, or CD-109 which will be extended as part of the proposed improvements. There is no study information for the wetlands on either side of these cross drains with respect to normal pool or seasonal high water elevation, but LiDAR shows a contour elevation of 109.00-feet NAVD88 that generally matches the location of the wetland line shown on the drainage maps. There is also a pop-off elevation on the west side of US 17/92 that would allow cross drain discharge into a larger wetland. The pop-off elevation is 110.00-feet NAVD88 and is estimated as the peak tailwater elevation for both basins. Because US 17/92 is an existing roadway, compensatory treatment could be considered during design, but it was not considered for this analysis, and wet detention is the recommended pond design based on the depth to SHWT.

4.2.6 Basin 400A (Sta. 1135+86.15 – Sta. 1162+23.45)

Basin 400A is in the same closed basin as Basin 300. Based on the typical section border width, there should be plenty of room to maintain the discharge of offsite stormwater runoff from the west side of Basin 400A into the wetland on the east side of Basin 400A. CD-401 is a proposed bridge that will facilitate open conveyance through the alignment. There is no information on the adjacent wetland regarding normal pool or seasonal high water elevation, and no survey

information on the water elevation in the borrow pit to the north. However, LiDAR data shows an elevation of 106.9-feet NAVD88 across the borrow pit. This was assumed to be the normal water surface elevation. However, as described in Section 4.2.3, there is no information on the borrow pit maximum water surface elevation that can be established for the pond alternatives peak tailwater condition. However, dry retention is the recommended pond design for pond alternatives that discharge into the borrow pit, and the bottom elevations used to develop the pond alternatives are much higher than the estimated water surface elevation in the borrow pit which would allow for a free discharge condition between each pond alternative and the borrow pit. Because this is a closed basin, the borrow pit itself will also be evaluated as a potential wet pond alternative. Since Basin 400A is part of the CPP East new alignment, compensatory treatment is not anticipated.

4.2.7 Basin 400B (Sta. 1162+23.45 – Sta. 1176+97.64)

There is minimal offsite runoff that enters the R/W within Basin 400B other than the runoff from the existing wetland area bifurcated by the CPP East alignment. Runoff from this wetland will be conveyed underneath the mainline via CD-402 and CD-403. Beyond this wetland area there is very little offsite area contributing runoff into the CPP East R/W. The north end of one of the ECB permitted ponds will be impacted by the proposed improvements. The CPP East typical section will extend underneath the ECB bridge and will require reshaping of the permitted pond and modification of the outfall control structure which discharges to the west. The impact appears to be minimal, and reshaping or minor excavation appears possible to restore any lost storage.

There is no study information for the wetlands on either side of the proposed cross drains with respect to normal pool or seasonal high water elevation, but LiDAR shows a contour elevation of 109.00-feet NAVD88 that generally matches the location of the wetland line shown on the drainage maps. Because this wetland is basically the same wetland as the one discussed for Basin 350A and Basin 350B, a peak tailwater stage of 110.00-feet NAVD88 was assumed to be reasonable. Compensatory treatment is not anticipated, and wet detention is the recommended pond design based on the depth to SHWT.

4.2.8 Basin 450 (Sta. 20+66.14 – Sta. 35+65.28) / (Sta. 30+69.79 – Sta. 46+47.42)

Basin 450 is the ramp area that connects CPP East to US 17/92 just to the east of ECB. The ramps bifurcate a wetland area and CD-451SB and CD-451NB will convey stormwater runoff within the wetland from one side of the ramps to the other. The only offsite runoff that enters the R/W is the runoff associated with the adjacent wetland areas on either side of the ramps.

There is no study information for the wetlands on either side of the ramps with respect to normal pool or seasonal high water elevation, but LiDAR shows a contour elevation of 109.00-feet NAVD88 that generally matches the location of the wetland line shown on the drainage maps. Because this wetland is basically the same wetland as the one discussed for Basin 350A and Basin 350B, a peak tailwater stage of 110.00-feet NAVD88 was assumed to be reasonable. Compensatory treatment is not anticipated, and wet detention is the recommended pond design based on the depth to SHWT.

4.2.9 Basin 500 (Sta. 1176+97.64 – Sta. 1218+38.08) / (Sta. 35+65.28 – Sta. 59+56.21) / (Sta. 46+47.42 – Sta. 53+88.02)

Basin 500 is like Basin 400B and Basin 450 because it is located within a series of interconnected wetlands. Within the basin, the largest impacted wetland will be bridged by the CPP East alignment, and stormwater runoff will be conveyed through the basin via CD-501, the proposed bridge located in the middle of the basin. Other than this, there are several smaller upland areas that because of topography allow stormwater runoff to discharge into the proposed R/W within the basin. However, based on the typical section, this runoff can be conveyed via open swale to the proposed bridge crossing.

There is no study information for the wetlands on either side of Basin 500 with respect to normal pool or seasonal high water elevation, but with a LiDAR contour elevation of 107.00-feet NAVD88 that matches the adjacent wetland line, these wetland areas appear to be slightly lower than the wetlands surrounding Basin 450 and Basin 400B. Although there is very little information related to an expected peak tailwater stage, as the water in the wetland areas moves from west to east, there is a ridge between Basin 500 and US 17/92 which is at elevation 110.00-feet NAVD88 based

on the LiDAR data. Compensatory treatment is not anticipated, and wet detention is the recommended pond design based on the depth to SHWT.

4.2.10 Basin 600 (Sta. 1218+38.08 – Sta. 1276+09.28)

Basin 600 is like Basin 500 in that it discharges into a series of wetlands that convey water from west to east and are impacted by the CPP East alignment. CD-601 and the bridge associated with CD-602 will convey offsite areas through the basin. Most of the offsite areas discharge stormwater runoff into the adjacent wetland or lake before moving through the limits of Basin 600.

There is no study information for the wetlands on either side of Basin 600 with respect to normal pool or seasonal high water elevation, but LiDAR gives an approximate contour elevation of 103.00-feet NAVD88, that generally matches the location of the wetland lines. Aviana Resort (Permit No. 440266.16/App No. 53165) is located north of Basin 600 and is the closest development. Based on the permit information the SHWT within the wetland area on the south side of the development is 105.00-feet NAVD88. However, the existing topography drops as the wetland extends to the south and there does not appear to be a contour elevation above 105-feet NAVD88 between the Aviana Resort and the existing bridge culvert that crosses under US 17/92 near Station 132+00. Based on this information, a peak tailwater stage of 105.00-feet NAVD88 was assumed to be conservative estimate for this basin. Since this basin is part of the new CPP East alignment, compensatory treatment is not anticipated.

4.2.11 Basin 700 (Sta. 1276+09.28 – Sta. 1323+46.96) / (Sta. 158+63.61 – Sta. 183+49.66)

Basin 700 parallels US 17/92 to the east. It impacts a long linear wetland that conveys stormwater runoff to the north and east. As described previously, the overall conveyance of offsite stormwater is from west of US 17/92 to the east, underneath US 17/92 via existing cross drains and into the Basin 700 R/W. After stormwater runoff enters Basin 700, it will be conveyed through the alignment via CD-110 and CD-701. There is no information in the adjacent wetlands regarding normal pool or seasonal high water elevation. However, the FEMA base flood elevation on the east side of the alignment varies from 96.9-feet NAVD88 at the south end of the basin down to

90.4-feet NAVD88 at the north end of the basin. The ponds will discharge at the north end of the basin and without any additional information, the peak tailwater stage was assumed to be the FEMA 100-year flood elevation which is extremely conservative. Since this basin is part of the new CPP East alignment, compensatory treatment was not considered for this analysis but could be re-evaluated during design since this basin is located adjacent to US 17/92.

4.2.12 Basin 800A (Sta. 1323+46.96 – Sta. 1340+83.22) / (Sta. 100+00 – Sta. 121+27.80) / (Sta. 200+00 – Sta. 227+27.48)

Basin 800A is part of the CPP East mainline alignment and is located parallel to US 17/92 within this basin. Because the mainline is so close to US 17/92, and because the proposed pond alternatives are located between CPP East and US 17/92, the only offsite runoff comes through US 17/92 via a proposed cross drain. Offsite stormwater runoff entering Basin 800A from US 17/92 to the west will be conveyed through the basin and to the east via CD-801SB and CD-801NB.

The Fox Run subdivision permit (Permit No. 53-00323-P/App No. 160523-4) was used to help determine control elevations in the proposed pond alternatives for this basin. However, there was no tailwater information available downstream of the pond outfalls, but the 100-year flood elevation varied between 84.5-feet NAVD88 and 75.6-feet NAVD88 in a channel that flows parallel to CPP East from Poinciana Parkway to the existing subdivision pond that extends from Sta. 207+00 to Sta. 216+00 along the northbound ramp of the CPP East alignment. The FEMA established 100-year flood elevation downstream of the subdivision channel at the north end of the basin is 66.00-feet NAVD88. The peak tailwater stage will depend on the location of the proposed outfall for the preferred pond and 66.00-feet NAVD88 is considered the lowest control elevation that would be appropriate for any pond alternative. Wet detention criteria were used as a basis for the pond alternative analysis based on the SHWT and the low edge of pavement elevation which at its lowest point is lower than the adjacent US 17/92. The control elevations in each pond are above elevation 66.00-feet NAVD88 and tailwater is not expected to control the discharge from the pond. Since this basin is part of the new CPP East alignment, compensatory treatment was not considered for this analysis but could be re-evaluated during design since this

basin is located adjacent to US 17/92. It should be noted that the proposed northbound lanes will bridge over an existing pond within this subdivision. No impacts are anticipated.

4.2.13 Basin 800B (Sta. 42+00 – Sta. 80+52.49)

Basin 800B is part of US 17/92 that parallels the CPP East mainline alignment Basin 800A. It is separated from the CPP East alignment because its lowest pavement elevation is lower than the CPP East lowest pavement elevation and it would have controlled the pond evaluation. Because of this it was separated into its own basin and additional pond alternatives were developed to handle the proposed improvements. Offsite stormwater runoff enters the basin from the west and will be conveyed to CD-111 which is the main cross drain under US 17/92. Open swale conveyance will carry the runoff to the cross drain which is the same as in the existing condition. Like Basin 800A, the Fox Run subdivision permit (Permit No. 53-00323-P/App No. 160523-4) was used to help determine control elevations in the ponds. However, there was no tailwater information available downstream of the pond outfalls, but the 100-year flood elevation varied between 84.5-feet NAVD88 and 75.6-feet NAVD88 in a channel that flows parallel to CPP East from Poinciana Parkway to the existing subdivision pond that extends from Sta. 207+00 to Sta. 216+00 along the northbound ramp of the CPP East alignment. The FEMA established 100-year flood elevation is 66.00-feet NAVD88 downstream of the subdivision channel at the north end of the basin. This elevation was considered the lowest appropriate control elevation for any pond alternative.

The pond alternatives were developed using wet detention criteria based on the SHWT and the low edge of pavement elevation. The control elevations in each pond are above 66.00-feet NAVD88 and tailwater is not expected to control the discharge from the pond. Compensatory treatment was not considered for this analysis but since US 17/92 is an existing road, this could be re-evaluated during design.

4.2.14 Basin 900 (Sta. 125+73.93 – Sta.154+65.93) / (Sta. 229+19.33 – Sta. 257+81.78)

Basin 900 continues along CPP East northbound and southbound ramps that extend over the CSX railroad and connect into the Poinciana Parkway extension just south of CR 532. Most of the CPP East alignment in this basin is on bridge or wall. The longest bridge starts just south of Kissimmee Road and extends over the powerline easement and the CSX railroad to the north. Offsite areas contributing stormwater runoff to the north half of the basin will naturally flow underneath the area where the ramp bridges begin just south of Kissimmee Road. Offsite areas contributing runoff into the R/W where the proposed improvements are constructed on wall, will be conveyed parallel to the Mechanically Stabilized Earth (MSE) wall or embankment via an open swale into CD-802SB, CD-802CL, or CD-901SB. These cross drains are relatively close together and discharge offsite stormwater to the east into CD-2 which is a 10'x3' CBC underneath US 17/92. This cross drain is part of the CFX Poinciana Parkway Extension design and will replace the existing cross drain at the same location. Based on the CFX proposed design, the 50-year peak stage was determined to be at elevation 72.0-feet NAVD88. CD-2 did not include a 25-year peak stage, but the 50-year peak stage is lower than the control elevations in each of the proposed pond alternatives which were designed as wet detention systems based on the depth to SHWT. Since this basin is part of the new CPP East alignment, compensatory treatment was not considered for this analysis but could be re-evaluated during design since this basin is located adjacent to US 17/92.

4.2.15 Basin 1000 (Sta. 154+65.93 – Sta. 178+11.65) / (Sta. 257+81.78 – Sta. 280+49.87)

Basin 1000 continues the CPP East northbound and southbound ramps over the CSX railroad and connecting into the Poinciana Parkway extension just south of CR 532. The entire basin is on bridge and there is no offsite area contributing runoff into the R/W that requires a conveyance design. Part of the bridge construction will occur over the proposed CFX Poinciana Parkway extension. The proposed outfall will be in the same location as the existing condition which is just south of the ramps and underneath US 17/92 through a quadruple 6'x7' CBC proposed as part of the CFX project and identified as CD-1. Offsite area is conveyed through the basin from west to east via CD-1001SB, a quadruple 7'x6' CBC, and CD-1002NB and CD-1003SB, both of which are 18" Circular Culvert (CC).

All pond alternatives are on the west side of the alignment and the discharge for each will be into an existing wetland which is identified as TW5 in the drainage documentation for the CFX CR 532 improvements (Permit No. 49-107930-P/App. No. 220705-35054). The peak tailwater stage identified in the wetland was 84.2-feet NAVD88. The pond alternatives have been sized as if there is no compensatory treatment. However, the only available space for the ponds is on the west side of the alignment due to a proposed truck parking facility that will be constructed on the east side of Poinciana Parkway.

Due to the location of the northbound ramp and the truck parking, it may be challenging to convey stormwater runoff from the northbound ramp to the west side of the alignment into one of the pond alternatives. As part of the ELA process, coordination has occurred with CFX to find out if they can accept the stormwater runoff from the northbound ramp into one of the Poinciana Parkway Extension ponds, specifically Pond 100. The CFX project is Segment 2 of the Poinciana Parkway extension, and they are still undergoing the permitting process. However, they mentioned that Pond 100 is oversized because the ultimate outfall which is a cross drain that extends under the CSX railroad tracks downstream is undersized, however CFX has not specifically discussed upsizing the pipe with CSX. CFX has agreed to continue discussions with FTE through the design process to see if there is an opportunity to share a pond. The pond alternatives identified within this basin assumed wet detention.

5.0 Floodplain and Environmental Information

5.1 Floodplain

Project improvements will encroach into the various interconnected floodplains adjacent to the corridor. A volumetric analysis of the impacts resulting from roadway improvements and compensation for these impacts has been included in the Location Hydraulic Report (LHR), included under separate cover. The limits of Zone AE and Zone AH floodplains are presented on the pre and post development drainage maps.

The corridor includes upland areas surrounded by depressional or wetland areas as well as lakes and borrow pits. Most of the upland areas are already developed or currently under development. Where possible, floodplain compensation sites were placed in undeveloped uplands but in some cases, it was necessary to impact existing wetland areas. At least two potential floodplain compensation areas were identified within each basin. At least one of those alternatives will be the same as a pond alternative or will augment one of the pond alternatives, but not the preferred alternative. All floodplain encroachment volumes were a volumetric analysis using the published FEMA floodplain elevations. Zone A floodplain elevations were estimated from the LiDAR data.

The location of the floodplain compensation sites is included on the drainage maps provided in **Appendix A** and a table presenting the alternatives along with the preferred is included in the LHR document.

5.2 Environment

The following paragraphs briefly describe the anticipated environmental impacts for the corridor.

Wetlands

Wetlands and other surface water habitat types anticipated to be impacted by the proposed construction include natural wetlands and manmade waterways, streams, lakes, reservoirs, mixed wetland hardwoods, exotic wetland hardwoods, wetland forested mixed, wetland scrub and freshwater marshes. Basins 400B, 450 and 800 all have at least one pond alternative that is located

completely within wetland areas due to lack of undeveloped space within close proximity of the basin limits. Basin 800A and 800B each have one pond alternative that is greater than 50% within a wetland area for similar reasons. There is no wetland impact associated with any of the proposed pond alternatives for Basins 300, 350A, 350B, 400A, 900 and 1000. A total of between 70 and 80 acres of wetlands and surface waters would be impacted by the proposed improvements.

Listed Species

The corridor lies within the habitat or consultation area of numerous federal and state listed species and plants as documented in the NRE report. The anticipated effects determination for most of the federally listed species is "*No Effect*", or "*May Affect, Not Likely to Adversely Affect*". The only exception to this is the Sand Skink which has an anticipated classification of *"May Affect"*. Mitigation costs for sand skinks are included in the pond evaluation matrices. The anticipated effects determination for all state listed species is *"No Adverse Effect Anticipated"*

Cultural Resource Analysis

The only identified cultural resource impacted by the project is the Petteway Camp which is identified as an old turpentine camp. Roadway Basin 500 impacts the location of the camp, but none of the alternative pond sites cause any impact.

Contamination

Based on the information provided in the Contamination Technical Memorandum, almost all sites were assigned the "No" or "Low" designation for potential contamination. Pond Alternative A2 in Basin 800A was assigned a contamination designation of "Medium" due to its proximity to the Loughman Service Center. Pond Alternatives A, B and C within Basin 350B were assigned a designation of "Medium" due to their proximity to the R&S Insulation Plant.

6.0 Stormwater Ponds

Multiple factors were considered in deciding where each pond alternative could be located and how it should be sized. The preferred alignment alternative was used as a basis for the analysis.

Topography

Areas where the topography was higher or elevated relative to the low point in the basin were eliminated from consideration. Selecting pond alternatives in these locations would require pond liners and potentially challenging dewatering conditions during design. Elevations at the beginning and end of each basin were also evaluated to confirm that stormwater could be physically conveyed to each pond alternative.

Relocations

Impacts to developed properties were avoided or minimized where possible.

Wetlands and Species

Impacts to environmentally sensitive areas were also avoided or minimized where possible. However, in some locations where development was significant this was not possible. It should be noted that Species impacts were estimated using available online research all wetland information was taken from the National Wetland Inventory and no specific jurisdictional boundary line has been determined.

Location of roadway basin low point

Where possible, ponds were located near the low point in the proposed roadway basin to minimize the length and depth of piping required in the proposed condition to convey runoff from the low point to the pond.

Available Freeboard

For each alternative, the pond berm elevation was set at or below the lowest pavement elevation and a foot of freeboard was provided between the peak stage and the top of berm.

Tailwater

Downstream hydraulics were also considered during that alternative selection. Development permits were researched to identify previously permitted tailwater conditions and in most cases, the pond alternative control elevations were set at or above the previously permitted peak tailwater stage for at least the 25-year storm event. In some cases, the pond alternative control elevations were set above the published FEMA flood elevation in Zone AE areas where an elevation had been established. The only exception to this approach occurred as part of the pond alternative evaluation in Basins 400B, 500 and 600. There was very little information about potential downstream tailwater conditions including any existing permits or watershed modeling. In these situations, LiDAR data was used as a basis for establishing the pond alternative control elevation. The lowest LiDAR elevation at the wetland boundary, which was taken from the National Wetland Inventory (NWI) database, was used as a basis for the control elevation. Within the area of Basins 400B, 500 and 600 this was generally around elevation 9 or 10. Because of this and without additional information, these elevations were used to set the pond alternative control elevations. This control elevation was typically higher than the most conservative SHWT information taken from the Natural Resource Conservation Service (NRCS) Web-based Soil Survey and was determined to be a conservative approach to establishing tailwater conditions downstream of the pond alternatives.

Seasonal High Water Table (SHWT)

The SHWT information was taken from the NRCS web-based soil survey. In most situations, the SHWT varied as did the topography within the limits of each pond alternative. In all cases, the shallowest SHWT listed was used as the controlling elevation of each pond alternative. Where the soil type varied within the limits of a particular pond alternative, the shallowest SHWT elevation was identified for each soil type and then the average was used as the control elevation. A similar approach was utilized for alternatives where there was a significant variation in topography. The shallowest SHWT was identified at the lowest and highest topographical elevation, and the average was used as a basis for establishing control elevations.

Hydraulic Constrictions

This was also considered for each of the pond alternatives with respect to conveyance into the pond and discharge out of the pond. None of the pond alternatives are located such that hydraulic restrictions exist when conveying stormwater into the pond. The only downstream constriction occurrs in Basin 1000. The downstream cross drain beneath the CSX rail corridor is hydraulically constricted. Because of this, the pond alternatives in this location have been sized assuming closed basin criteria.

To determine pond sizes, treatment volumes were established for each basin based on one inch of rainfall over the contributing area for wet detention and one-half inch of rainfall for dry detention. The required attenuation volume was based on the 25-year/24-hour storm event for open basins and the 100-year/10-day storm event for the pond alternatives in Basin 300 and 400A which were identified as closed basins. The 100-year/10-day pre vs. post comparison is recommended in Section 9.4.6 of the FDOT Drainage Design Guide when sizing ponds in closed basins using the NRCS runoff methodology. Rainfall depths were taken from NOAA Atlas 14 using the 24-hour and 10-day duration based on open or closed basin criteria.

For this analysis, the NRCS runoff methodology was used to develop pre and post volumes based on the amount of rainfall associated with the appropriate storm event. All design criteria used in this analysis meet the requirements of the SWFWMD. The proposed basin boundaries were set based on high points along the CPP East alignment and at the proposed R/W line.

The volumetric analysis developed to size each pond generally maintained peak stages within each pond below the existing travel lane and included approximately 1-foot of freeboard to the top of bank which was typically set at the low elevation of the existing travel lane. As described in Section 4.2, because of the proposed location of the highpoint on the CPP East alignment and because of the sand mining activities adjacent to Basin 200, there is a shift in the basin divides between sub-basin 200A and 200B and between sub-basin 200B and Basin 300. Sub-basin 200B and Basin 300 are larger in the proposed condition. Sub-basin 200B is smaller in the proposed

condition. This was factored into the pond sizing calculations by adjusting the pre and post contributing areas as needed. In areas where the entire roadway was on bridge or wall, the edge of the basin was set at bridge railing or the edge of the wall. As previously discussed, there are no remnant parcels left over from previous projects that can be utilized. There may be remnant parcels available because of these proposed improvements but coordination with FTE R/W will be required to specifically identify which parcels will be considered remnant. Per Section 3.0, no meetings have been held with stormwater stakeholders to identify regional or joint use opportunities. Updates will be provided once those meetings are completed. Pond Sizing Calculations are included in **Appendix B**. **Table 6-1** presents treatment volumes required, and treatment volumes provided for each basin. Please note that sub-basins 200A and 200B have been combined and shown as Basin 200 for the purposes of pond sizing analysis. **Table 6-2** shows the SHWT information for each pond alternative. **Table 6-3** shows the low PGL within each basin as well as the elevation at either end of the basin to demonstrate that enough topographical elevation exists within each basin to convey stormwater management to each pond.

Table 6-1: Water Quality Treatment Summary

Sub-Basin	Required Treatment (ac-ft.)	Provided Treatment (ac-ft.)	Wet/Dry
Basin 100	1.86	1.86	Wet
Basin 200*	1.49	1.49	Wet
Basin 300	0.39	0.39	Dry
Basin 350A	0.51	0.51	Wet
Basin 350B	0.81	0.81	Wet
Basin 400A	0.33	0.33	Dry
Basin 400B	0.76	0.76	Wet
Basin 450	0.60	0.60	Wet
Basin 500	2.05	2.05	Wet
Basin 600	2.13	2.13	Wet
Basin 700	2.49	2.49	Wet
Basin 800A	0.79	0.79	Wet
Basin 800B	0.93	0.93	Wet
Basin 900	0.85	0.85	Wet
Basin 1000	0.39	0.39	Wet

*Note: Table information related to Basin 200 refers to sub-basin 200A. Sub-basin 200B does not have an associated pond because the post impervious is equal to or less than the pre impervious.

Table 6-2: Estimated Controlling Water Surface Elevations

Sub-Basin	Pond Alternative	Existing Ground (ft. NAVD88)	SHWT (ft. NAVD88)	Property Size Required (ac.)	Additional Easement Area (ac.)
Basin 100	Alternative A	108.00	107.50	6.41	-
	Alternative B	108.00	106.00	5.04	-
	Alternative C	108.00	106.70	5.57	-
Basin 200	Alternative A	112.00	108.50	4.05	-
	Alternative B	111.50	108.80	4.11	-
	Alternative C	110.00	108.00	5.00	-
Basin 300	Alternative A	115.00	109.00	2.78	-
	Alternative B	126.00	120.00	3.61	-
	Alternative C	122.00	116.00	3.79	-
Basin 350A	Alternative A	116.00	112.40	3.13	-
	Alternative B	115.00	111.40	2.54	-
	Alternative C	115.00	111.40	2.65	-
Basin 350B	Alternative A	115.00	109.00	4.04	-
	Alternative B	115.00	109.00	4.15	-
	Alternative C	113.00	109.40	3.96	-
Basin 400A	Alternative A	107.70	106.85	22.57	-
	Alternative B	114.00	108.00	3.47	0.99
	Alternative C	114.00	108.00	3.05	-
Basin 400B	Alternative A	109.25	108.75	3.58	-
	Alternative B	108.00	108.75	3.25	0.62
	Alternative C	109.25	108.75	3.36	-
Basin 450	Alternative A	108.00	108.00	2.45	-
	Alternative B	110.25	108.25	1.91	-
	Alternative C	110.50	108.50	2.10	-
Basin 500	Alternative A	109.50	109.00	8.50	-
	Alternative B	111.00	107.50	5.76	0.40
	Alternative C	111.00	107.50	5.48	0.28
Basin 600	Alternative A	107.00	105.00	8.73	-
	Alternative B	106.00	104.00	6.68	-
	Alternative C	106.00	104.00	6.75	-
Basin 700	Alternative A	94.00	94.00	8.57	-
	Alternative B	92.00	92.00	6.52	-
	Alternative C	92.00	92.00	7.33	-
Basin 800A	Alternative A	86.00	84.50	4.47	-
	Alternative B	77.00	75.60	1.56	-

Table 6-2: Estimated Controlling Water Surface Elevations (Cont'd)

Sub-Basin	Pond Alternative	Existing Ground (ft. NAVD88)	SHWT (ft. NAVD88)	Property Size Required (ac.)	Additional Easement Area (ac.)
Basin 800B	Alternative A	73.50	72.50	3.84	-
	Alternative B	69.00	66.00	4.39	0.55
	Alternative C	82.00	75.00	4.78	-
Basin 900	Alternative A	84.00	77.00	3.42	-
	Alternative B	81.00	75.00	4.08	-
	Alternative C	86.00	81.00	4.17	-
Basin 1000	Alternative A	83.50	78.50	3.38	0.45
	Alternative B	86.00	82.40	3.41	0.55
	Alternative C	82.00	80.50	2.32	0.34

Table 6-3: Critical Basin Roadway Elevations

Basin	Basin Length (ft.)	Low PGL Elev. (NAVD88)	PGL at Begin Basin (NAVD88)	PGL at End Basin (NAVD88)
Basin 100	5425.47	110.62	117.72	117.52
Basin 200	3546.03	111.56	117.52	149.29
Basin 300	2186.15	126.25	149.29	127.45
Basin 350A	3269.17	116.01	160.08	123.43
Basin 350B	3498.04	111.22	123.43	123.43
Basin 400A	2636.30	113.00	127.45	114.47
Basin 400B	1473.19	113.28	114.47	120.37
Basin 450	1576.63	110.52	113.18	146.15
Basin 500	4139.44	111.63	120.37	121.38
Basin 600	5770.20	107.77	121.38	136.63
Basin 700	4736.68	96.32	136.63	120.98
Basin 800A	3378.93	86.79	120.98	108.49
Basin 800B	3851.49	77.98	93.86	77.56
Basin 900	2891.00	109.52	118.32	156.87
Basin 1000	2344.72	100.52	123.64	110.41

7.0 Results

The only potential shared-use stormwater opportunities are with CFX which is planning to construct ponds to support stormwater management for the Poinciana Parkway extension (CFX Project 538-235/SR 538 Segment 2). No specific agreements were reached during the discussion, other than continued discussion during design. Discussions with other stakeholders are on-going. **Appendix C** includes the evaluation matrices for each of the proposed basins. The paragraphs under the following sub-sections discuss the alternatives selected as well as the advantages and disadvantages along with the preferred alternative.

7.1 Basin 100 (Sta. 1024+25.50 – Sta. 1078+53)

Three pond alternatives were identified for this basin. Alternative A and C are located adjacent to the southbound lanes with Alternative A located south of Horse Creek and Alternative C located north of Horse Creek. Alternative B is located at the north end of the basin adjacent to the southbound lanes. The main outfall for this basin is Horse Creek. Alternative A is the recommended preferred alternative because of its location adjacent to the outfall and there are no environmental impacts as compared to the other alternatives. It is the most expensive, but the piping that will have to be constructed under Horse Creek will be smaller diameter and less challenging compared to the larger pipe that would be required if one of the other alternatives were selected as the preferred. There is also a potential for reduced functionality during the 100-year frequency storm event. However, it is in Flood Zone A which has no established base flood elevation. Once the actual base flood elevation is estimated during design, the floodplain impact may be reduced. All the alternatives were ranked as low or no contamination impacts and the same is true with respect for cultural resource impacts.

7.2 Basin 200 (Sta. 1078+53.00 – Sta. 1113+99.69) / (Sta. 10+00 – Sta. 13+27.39)

Three pond alternatives were identified for this basin. Alternative A is located at the southern end of the basin adjacent to the northbound lanes of US 17-92. Alternative B is in the middle of the basin adjacent to the northbound lanes and is the closest alternative to the location of the low PGL elevation. Alternative C is also at the southern end of the basin adjacent to the southbound

lanes. The main outfall is the wetland area downstream of CD-103. Alternative A is the recommended preferred alternative because of its location relevant to the outfall pipe and downstream wetland. It is also the most economical compared to the other alternatives. It is not as close to the low PGL elevation as Alternative B, but it is only a few hundred feet away. Alternative A has the most significant area of potential Sand Skink impact, but no wetland impacts and no potential gopher tortoise impacts. There is also no floodplain encroachment associated with this alternative. None of the alternatives included cultural resource impacts and all of the alternatives were ranked as low with respect to contamination.

7.3 Basin 300 (Sta. 1113+99.69 – Sta. 1135+86.15) / (Sta. 13+27.39 – Sta. 32+26.88)

Three pond alternatives were identified for this basin. Alternative B and C are located adjacent to the northbound lanes south of the wetland outfall. Alternative A is located north of the wetland outfall also adjacent to the northbound lanes. The main outfall is a wetland area in the middle of the basin. This wetland area is hydraulically connected to an existing borrow lake located to the north. Alternative A is the recommended preferred alternative because of its location relevant to the outfall and it is closest to the low PGL elevation. It was also the least expensive compared to the other two alternatives. This alternative also does not encroach into the existing floodplain. None of the alternatives had any wetland or potential species impact. None of the alternatives were identified as having any cultural resource impacts and finally, every alternative was ranked as low with respect to contamination.

7.4 Basin 350A (Sta. 32+26.88 – Sta. 64+97.05)

Three pond alternatives were identified for this basin. Alternative A and B are located adjacent to the northbound lanes at the low end of the basin. Alternative C is located adjacent to the southbound lanes also at the low end of the basin. The main outfall is toward the north into one of the cross drains within Basin 350B. Alternative B is the recommended preferred alternative because of its location relevant to the outfall and it is closest to the low PGL elevation. It is also the least expensive of all the alternatives and there is no floodplain encroachment. None of the

alternatives had any associated wetland impacts and all of the alternatives had the potential for Sand Skink impacts over their entire footprint.

7.5 Basin 350B (Sta. 64+97.05 – Sta. 99+96.09)

Three pond alternatives were identified for this basin. Alternative A, B and C are located adjacent to the northbound lanes opposite the wetland outfall. The main outfall is a large wetland area located on the west side of the alignment adjacent to the southbound lanes. Alternative C is the recommended preferred alternative because it is the least expensive and has the least significant environmental impacts with respect to Sand Skinks and wetlands.

7.6 Basin 400A (Sta. 1135+86.15 – Sta. 1162+23.45)

Three pond alternatives were identified for this basin. Alternative A is the borrow lake and the required area has been augmented to include a 20-foot maintenance berm. Alternative B and C are located on the northbound side of the alignment and just south of ECB. The main outfall is a large borrow lake that appears to be a closed basin with no obvious discharge. Alternative C is the recommended preferred alternative because it is the most economical and has the least potential Sand Skinks impact. There is also no floodplain encroachment associated with this alternative.

7.7 Basin 400B (Sta. 1162+23.45– Sta. 1176+97.64)

Three pond alternatives were identified for this basin. All three alternatives are located adjacent to the northbound lanes and discharge stormwater runoff directly into the wetland. The main outfall is a large wetland area at the north end of the basin adjacent to the northbound lanes. Alternative C is the recommended preferred alternative due to its location as the closest alternative to the low PGL elevation in the basin and it is also the least expensive of all the alternatives. It is the most expensive alternative, but the cost differential is insignificant and the lack of floodplain encroachment by Alternative C more than makes up for this anticipated minor cost differential.

7.8 Basin 450 (Sta. 20+66.14 – Sta. 35+65.28) / (Sta. 30+69.79 – Sta. 46+47.42)

Three alternatives were identified for the bifurcated ramps in this basin that provide a connection between the preferred alignment and US 17-92. Alternative A is in the southwest quadrant of the intersection of the ramp and US 17-92. Alternative B is in the area between the on-ramp and off-ramp, and Alternative C is located north of the ramp approximately halfway between the main alignment and US 17-92. The main outfall is the large wetland area adjacent to the ramps on the south side. Alternative B is the recommended preferred alternative mainly because there is no R/W cost associated with the alternative. It will result in a less economical conveyance system design because of the distance between Alternative B and the low PGL elevation, but with no R/W cost it will still be the most economical. The only disadvantage is a potential loss of some functionality during the base flood event. There is no wetland impact associated with Alternative B and minimal potential Sand Skink impacts. The Sand Skink area between the ramps will likely be impacted anyway because of construction and the proposed improvements on all sides of this location.

7.9 Basin 500 (Sta. 1176+97.64 – Sta. 1218+38.08) / (Sta. 35+65.28 – Sta. 59+56.21) / (Sta. 46+47.42 – Sta. 53+88.02)

Three pond alternatives were identified for this basin. Each alternative is located on the east side of the corridor due to the proximity of the alignment to the CSX rail corridor and the lack of available space. Alternative A is located at the south end of the basin; Alternative B is located at the north end of the basin and Alternative C is in the middle of the basin near the low PGL elevation. The outfall is the wetland area located adjacent to the northbound lanes on the east side of the corridor. Alternative C is the recommended preferred alternative due to its location adjacent to the low PGL elevation which will allow a more economical conveyance system design as compared to the other alternatives at the ends of the basin. Alternative C is in the middle with respect to cost, being slightly more expensive than Alternative B and much less expensive than Alternative A. However, Alternative C has less potential Sand Skink impacts than Alternative B and only slightly more wetland impacts. It also has no floodplain encroachment. The difference in cost between the two will likely be very close due to the more economical conveyance system associated with Alternative C. Alternative C will also require an easement for maintenance access

as well as inflow piping since it is located away from the proposed R/W. Maintenance access may include a defined road due to its location on top of a wetland. A proposed pipe will be required under access road to maintain flow between wetland areas.

7.10 Basin 600 (Sta. 1218+38.08 – Sta. 1276+09.28)

Three pond alternatives were identified for this basin. Alternative A is located on the west side of the basin near the bridge within the north half of the basin. Alternatives B and C are located further south on the east side of the basin in the only two locations near the proposed R/W, where there were minimal floodplain and/or wetland impacts. Opportunities for alternative pond sites were also considered on the west side of the basin, but proximity to the east side of the CSX rail corridor did not leave much room. The main outfall for the basin is the wetland areas on either side of the corridor that are partially impacted by the proposed alignment. These wetland areas appear to be generally interconnected. Alternative A is the recommended preferred alternative due to its location close to the low PGL elevation which will result in a more economical conveyance design. It is the most expensive, but the reduced construction cost for a more economical conveyance system will likely make it equal to the other alternatives with respect to cost. Alternative A has slightly more wetland impacts than Alternative C and significantly less impacts than Alternative B. The potential for Sand Skink impacts is similar. Alternative A has slightly more impacted area than Alternative B and significantly less impacted area than Alternative C. All sites are rated low for contamination and there were no potential cultural resource impacts for any of the alternatives.

7.11 Basin 700 (Sta. 1276+09.28 – Sta. 1323+46.96) / (Sta. 158+63.61 – Sta. 183+49.66)

Three pond alternatives were identified for this basin which is located on the east side and adjacent to US 17-92. The entire basin and all the pond alternatives are almost completely located within existing wetland areas. All other locations that are near the alignment and were considered as potential pond sites were either previously developed or currently under development. Alternative A is a linear system located adjacent to the eastbound lanes, between the CPP East alignment and an existing subdivision. The north end of this alternative is close to the low PGL elevation. Alternative B is located adjacent to the southbound lanes of US 17-92. Alternative C is

located on the east side of the CPP East alignment, adjacent to the southbound lanes. It is on the same side as Alternative A, but just north of the sub-division and closer to the main wetland flow way. Alternative C is the recommended preferred alternative because of its location. It is the most expensive, but it is located on the downstream side of the alignment adjacent to the main outfall as compared to Alternative B which is located upstream of US 17-92 and would require cross drain construction on US 17-92. Currently no improvements are proposed for US 17-92. Alternative C is also a better choice than Alternative A which is located within a major wetland flow way. Alternative C has been offset from the R/W line approximately 50 feet to allow the existing ditch to be maintained in the proposed condition. Also, even though part of Alternative C appears to encroach into the base floodplain, the horizontal limits of the floodplain and the base flood elevation do not match the available LiDAR data. Alternative C has been sized assuming a conservative SHWT of approximately 92.0 which is higher than the adjacent Zone AE base flood elevation which would eliminate the potential for reduced functionality. All the alternatives are located within wetland areas but have none have been identified as having potential Sand Skink or Gopher Tortoise impacts. Further none of the sites have been identified as having any cultural resource impacts and all sites were ranked as low for potential contamination.

7.12 Basin 800A (Sta. 1323+46.96 – Sta. 1340+83.22) / (Sta. 100+00 – Sta. 121+27.80) / (Sta. 200+00 – Sta. 227+27.48)

Two pond alternatives were identified for this basin which is parallel and adjacent to US 17-92. Alternative A and part of Alternative B are linear systems located adjacent to the southbound lanes of the CPP East alignment, within the narrow space between the CPP East alignment and existing US 17-92. The remainder of Alternative B is also linear and located adjacent to the CPP East northbound lanes in the narrow area between CPP East and the adjacent sub-division. The main outfall for this basin is the wetland area to the east of the CPP East alignment. Alternative pond sites were considered to the west of US 17-92 near the adjacent Publix. However, the areas adjacent to US 17-92 in this location were already developed, will soon be developed or the topography was elevated above the roadway. Topographic elevations higher than the road present dewatering challenges during construction and the potential need for a PVC liner. Alternative pond sites to the east of the CPP East alignment were also considered, but there was

very little available space without significant wetland or residential impacts. Alternative B is the recommended preferred alternative because it is located wholly between the CPP East alignment and US 17-92. Practically speaking, during design the entire area between US 17-92 and the CPP east alignment can be used as a pond. However, for the purposes of the pond siting report two alternatives are shown.

7.13 Basin 800B (Sta. 42+00 – Sta. 80+52.49)

Three pond alternatives were identified for this basin which consists of improvements to US 17-92. The main outfall for this basin is CD-802CL which is near the north end of the basin near the low PGL elevation. Alternative A and B are located south of US 17-92 adjacent to the northbound lanes and very near the low PGL elevation. Alternative C is located north of US 17-92 adjacent to the southbound lanes. Other alternative pond sites were considered for parcels located adjacent to the US 17-92 southbound lanes, but these were already developed or would soon be developed. In some cases, the topography was elevated above the existing roadway which would have presented dewatering challenges during construction and the need for a PVC liner. No areas east of US 17-92 were considered since this area is occupied by the CPP East alignment. Alternative A is the recommended preferred alternative because it is the least expensive and the closest to the low PGL elevation and the outfall cross drain which will allow for a more economical conveyance design. It also has no wetland or species impacts. None of the alternatives were identified as having any species, contamination or cultural resource impacts and the only wetland impacts were associated with Alternative B. All the alternatives are located within the horizontal limits of the base floodplain, but the Zone AE base flood elevation is set at 66.00 and the horizontal shape doesn't match the LiDAR data. All of the pond alternatives have been sized with a conservatively estimated SHWT that is higher than the adjacent base flood elevation.

7.14 Basin 900 (Sta. 125+73.93 – Sta. 154+65.93) / (Sta. 229+19.33 – Sta. 257+81.78)

Three pond alternatives were identified for this basin. All three are located north of the ramps. Alternative A is in the middle of the basin closest to the low PGL elevation. Alternative A is located near the low PGL elevation and the outfall. Alternative B is located at the south end of the basin

and Alternative C is located at the north end of the basin. The area on the south side of the ramps was evaluated as a location for potential pond sites but discarded due to the existing power station and associated utility easements. The main outfall for this basin is CD-901 which is proposed as two separate cross drains (CD-901SB and CD-901NB) that extend under the ramps. Both cross drains are upstream and in-line with CD-2 which will be constructed as part of US 17-92 improvements associated with the CFX project located east of the alignment. Alternative A is the recommended preferred alternative. It is the closest alternative to the low point which will allow for a more economical conveyance system design. It is also the least expensive of the alternatives. However, it does have the largest potential area for Sand Skink impacts. None of the alternatives have any wetland impacts, but every alternative has potential cultural resource impacts due to their proximity to the Loughman Resource Group and/or the Loughman Cemetery. The potential for contamination was low for Alternative A and C and Alternative B had no potential for contamination.

7.15 Basin 1000 (Sta. 154+65.93 – Sta. 178+11.65) / (Sta. 257+81.78 – Sta. 280+49.87)

Three pond alternatives were identified for this basin. All three are located north of the ramps and the existing utility easement that extends parallel to the southbound ramp. The main outfall for this basin is the undersized cross drain that extends underneath the railroad tracks. The ponds have been sized using closed basin criteria to provide additional storage in case the pipe underneath the CSX railroad tracks cannot be upsized. Alternative B is the recommended preferred alternative. It is the most expensive because it is the largest site based on the existing topography and depth to SHWT, but it is also the only alternative that does not impact existing development. None of the alternatives were identified as having any wetland or cultural resource impacts and all were rated as low with respect to contamination. Alternative C was the only alternative that didn't have any environmental impacts but selecting that site as the preferred alternative would have also resulted in existing development impact. Alternative A and B were located within potential Sand Skink habitat. It is also worth noting that each of the alternatives will require an easement for maintenance access as well as inflow and discharge piping. These easements are in uplands and a defined road may not be necessary.

8.0 Conclusions

The preferred pond alternatives are summarized in **Table 8-1**. Pond cost includes the cost of R/W required, construction, easement access, wetland impacts, and potential sand skink habitat. Except for Basin 700, none of the preferred alternatives have any associated wetland impacts. All of the alternatives in Basin 700 had wetland impacts mainly because there were no available areas adjacent to or close-by the alignment within the basin that weren't previously developed or under development. Avoidance and minimization of wetland impacts have occurred to the extent possible.

Table 8-1: Preferred Pond Alternatives and Anticipated Right of Way

Basin/Pond Nomenclature	Preferred Alternative	R/W Required (Ac.)	Additional Easement Area (Ac.)	Pond Cost
Basin 100	A	6.41	-	$7,418,348
Basin 200	A	4.05	-	$792,542
Basin 300	A	2.78	-	$1,008,727
Basin 350A	B	2.54	-	$778,499
Basin 350B	C	3.96	-	$2,206,792
Basin 400A	C	3.05	-	$831,170
Basin 400B	C	3.36	-	$1,286,170
Basin 450	B	1.91	-	$306,600
Basin 500	C	5.48	0.28	$1,827,668
Basin 600	A	8.73	-	$3,749,754
Basin 700	C	7.33	-	$7,023,564
Basin 800A	B	1.56	-	$1,840,570
Basin 800B	A	3.84	-	$2,911,254
Basin 900	A	3.42	-	$2,943,536
Basin 1000	B	3.41	0.55	$2,240,088
TOTAL		61.83	0.83	$37,165,280

9.0 References

FDOT Drainage Design Guide - 2024

FDOT Drainage Manual - 2024

SWFWMD ERP Applicant's Handbooks

SWFWMD Permit Documentation

SFWMD Permit Documentation

FTE Pond Siting Report Recommended Table of Contents

LiDAR Data

National Wetland Inventory

FEMA Published FIRM information

NRCS Web Soil Survey

Appendix A: Existing and Proposed Drainage Maps

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RS&H, INC.
1715 N. WESTSHORE BLVD. SUITE 600
TAMPA, FL 33607-3999

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 1792	POLK OSCEOLA	451419-1-22-01

EXISTING DRAINAGE MAP (1)

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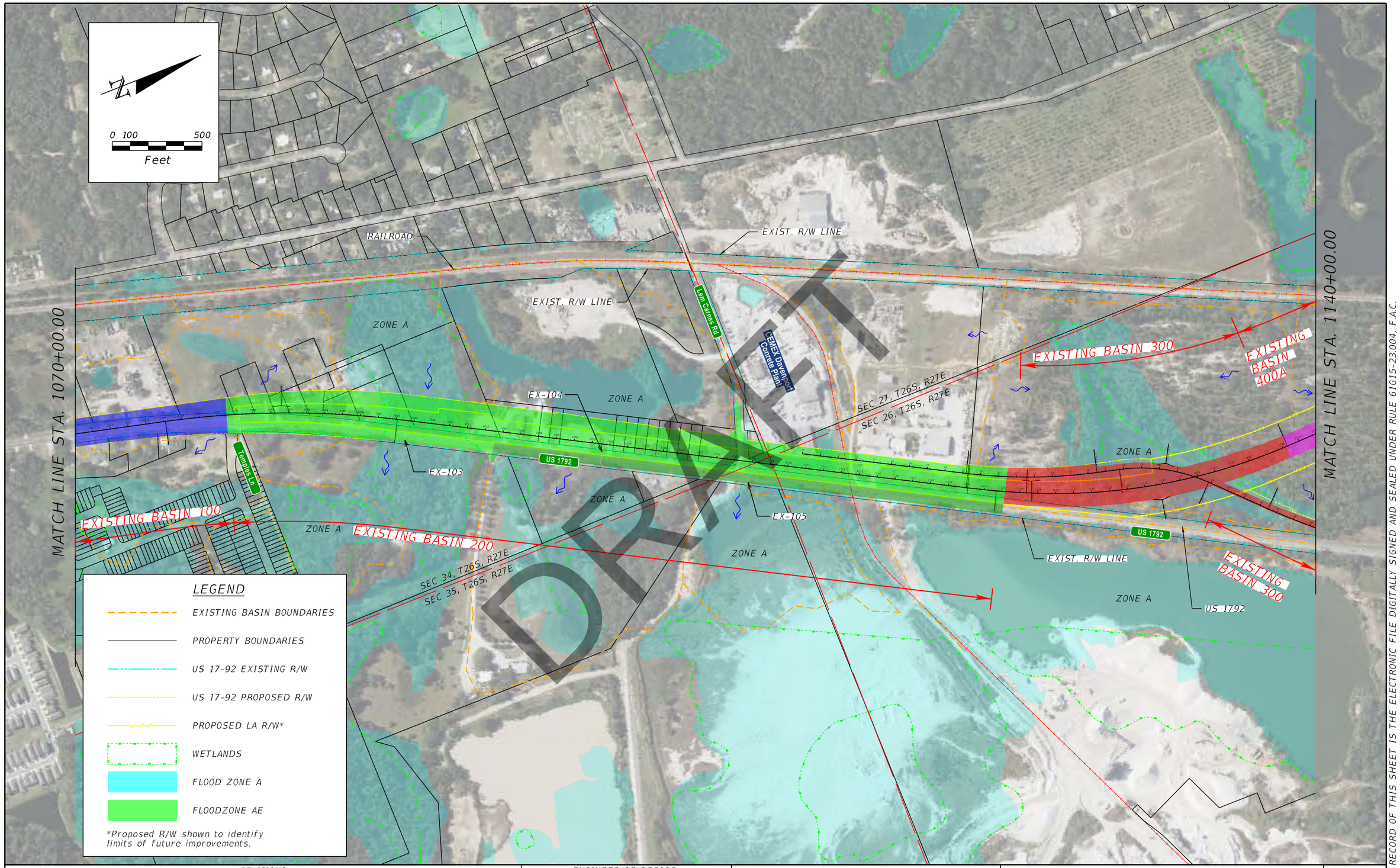

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EXISTING DRAINAGE MAP (2)

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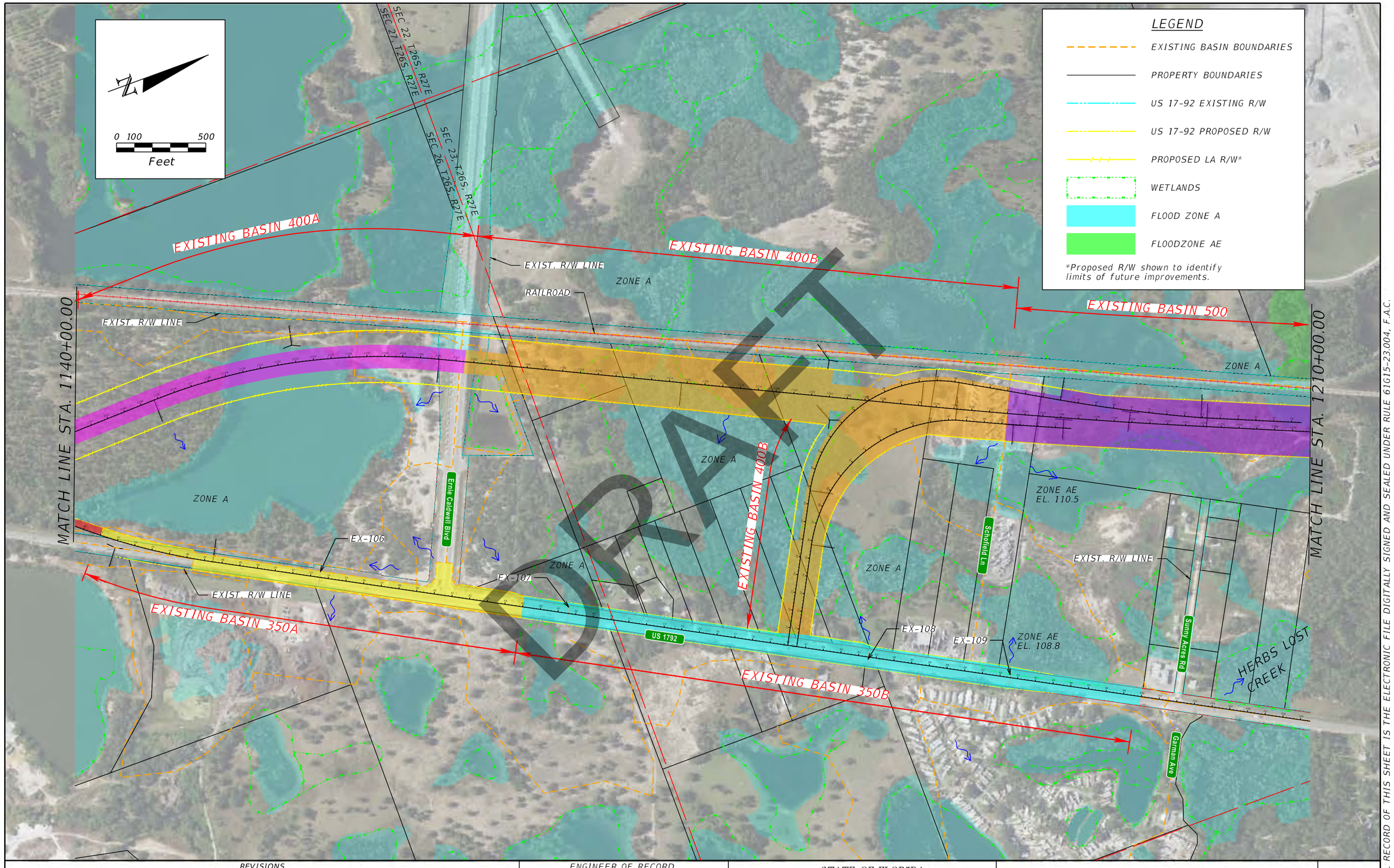

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EXISTING DRAINAGE MAP (3)

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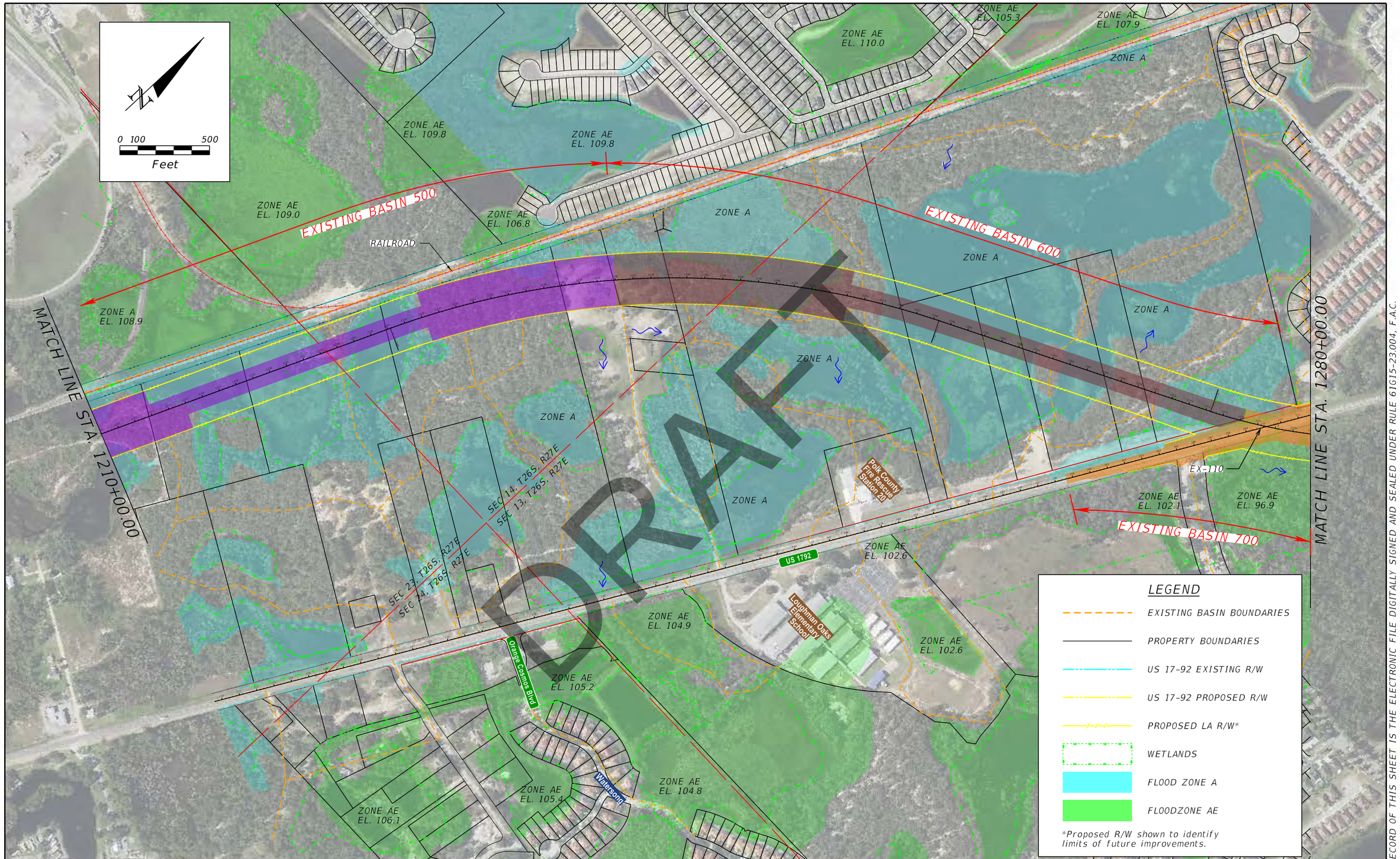

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EXISTING DRAINAGE MAP (4)

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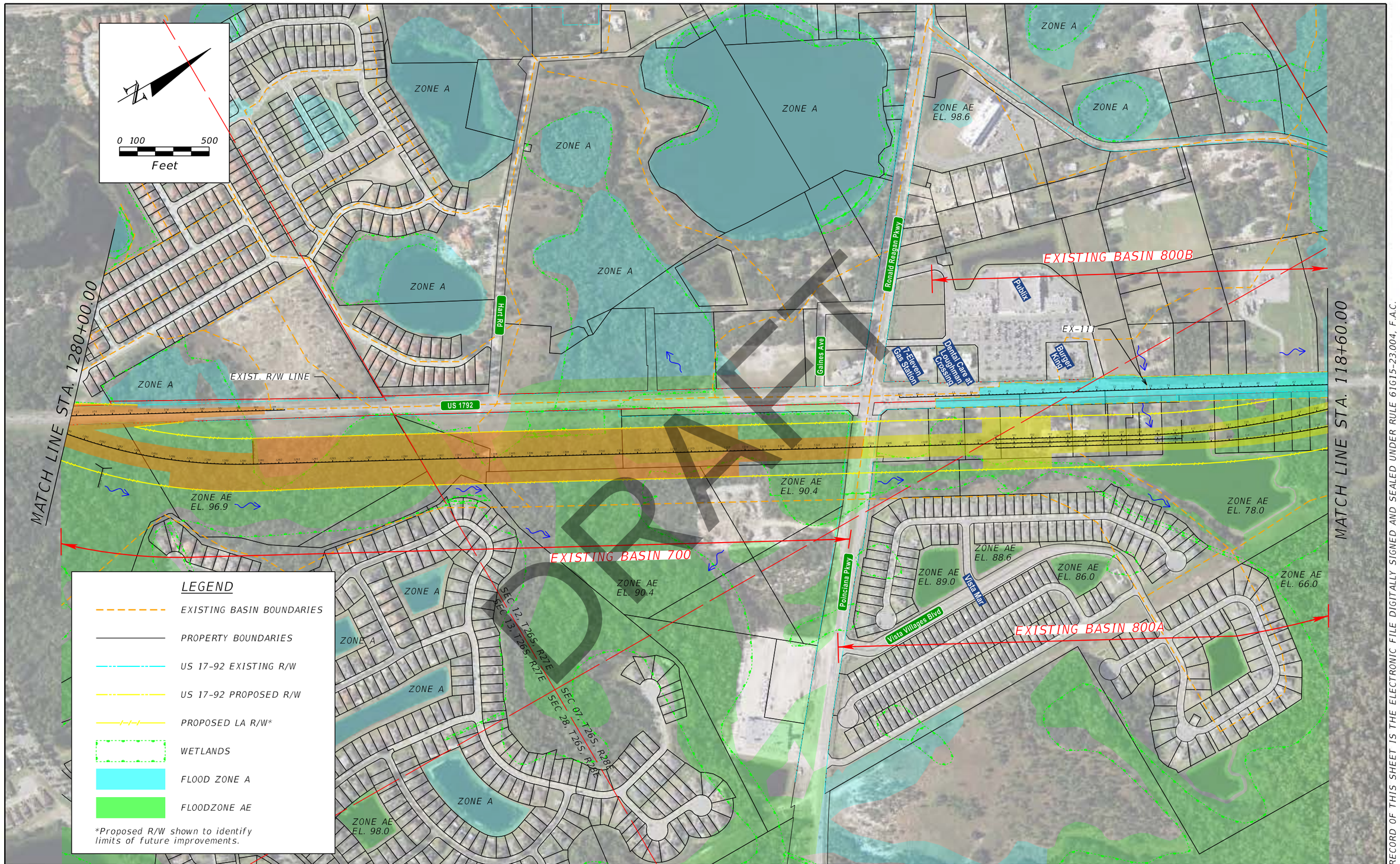

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EXISTING DRAINAGE MAP (5)

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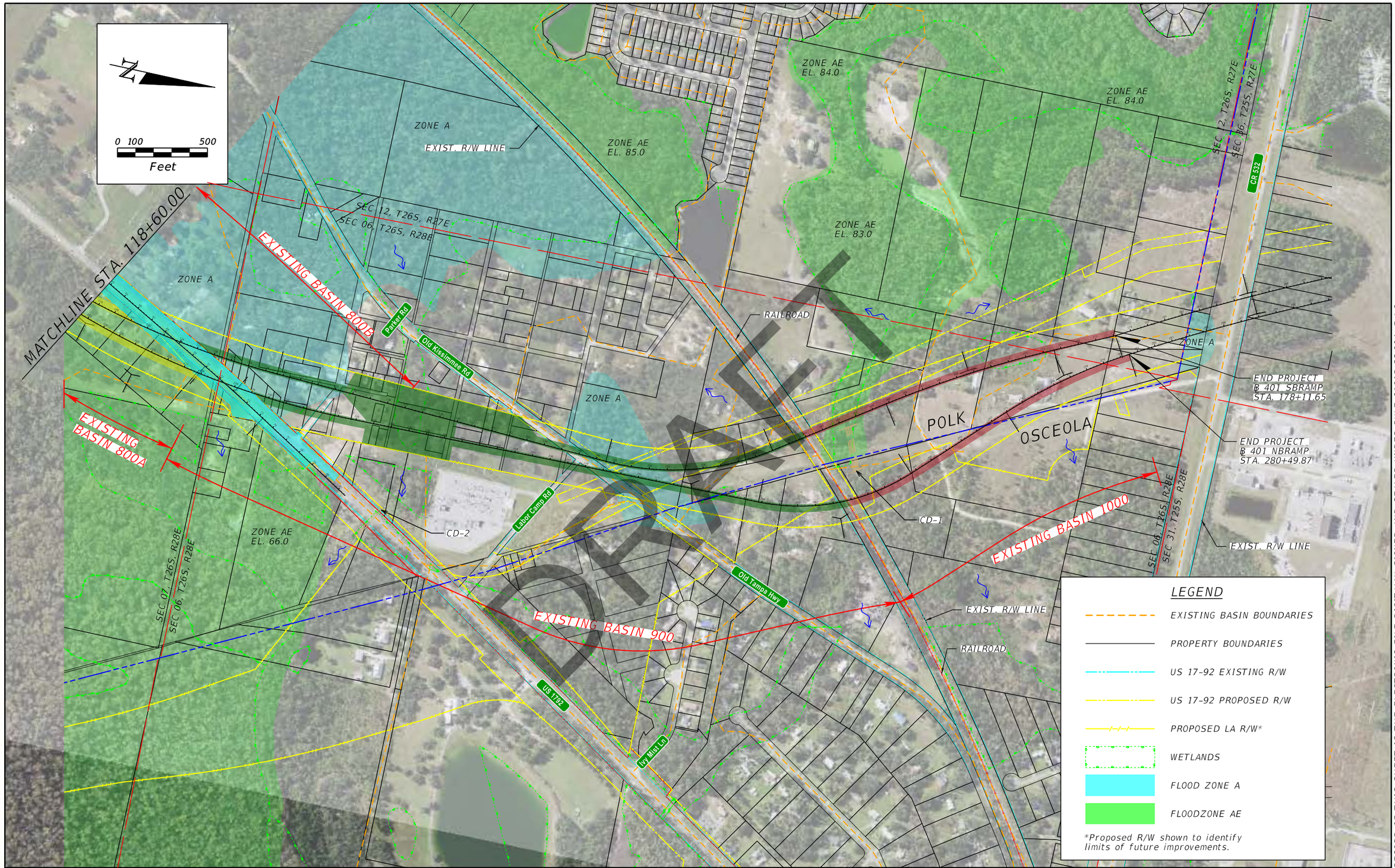

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EXISTING DRAINAGE MAP (6)

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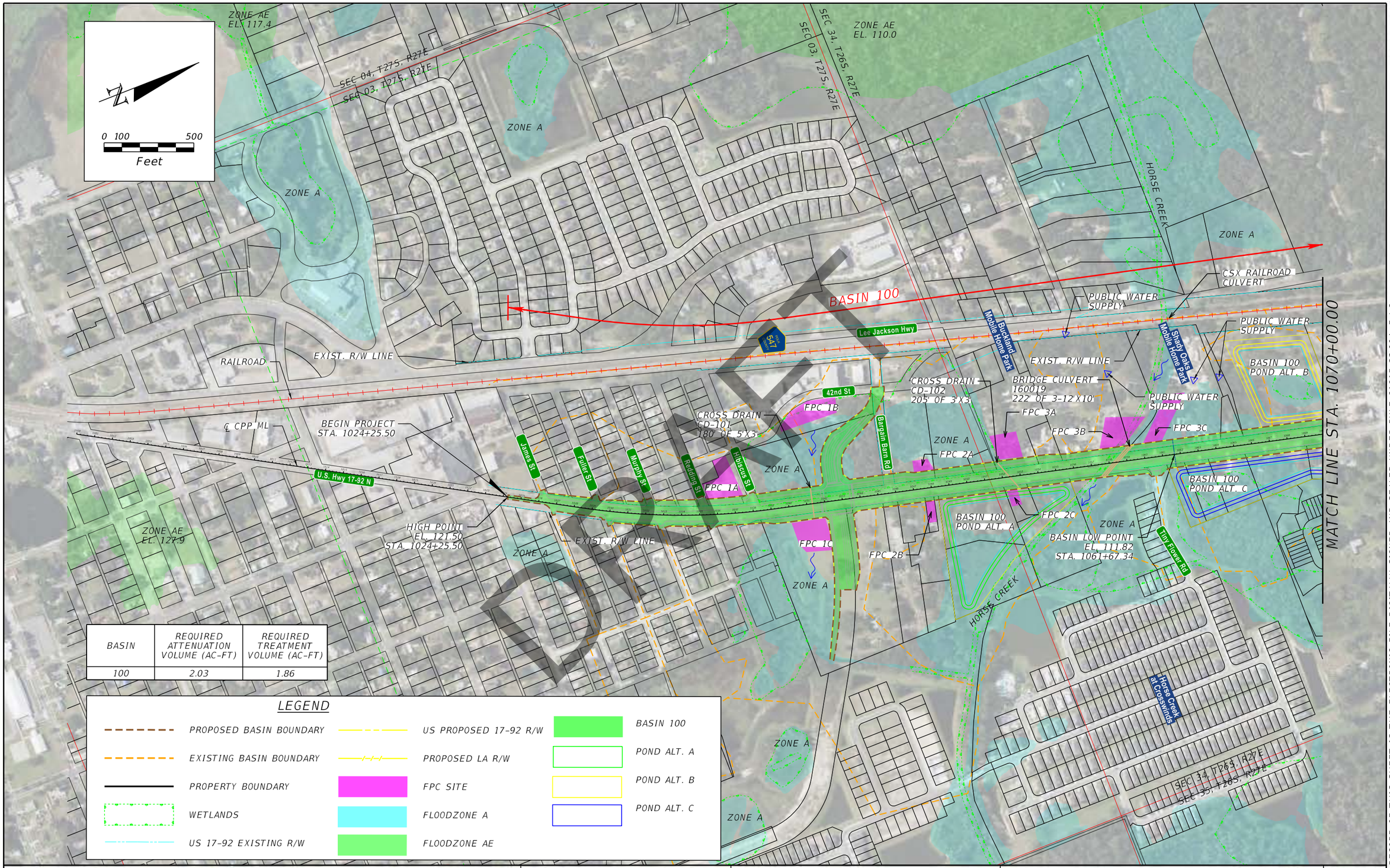

BASIN	REQUIRED ATTENUATION VOLUME (AC-FT)	REQUIRED TREATMENT VOLUME (AC-FT)
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LEGEND

- PROPOSED BASIN BOUNDARY
- EXISTING BASIN BOUNDARY
- PROPERTY BOUNDARY
- WETLANDS
- US 17-92 EXISTING R/W
- US PROPOSED 17-92 R/W
- PROPOSED LA R/W
- FPC SITE
- FLOODZONE A
- FLOODZONE AE
- BASIN 100
- POND ALT. A
- POND ALT. B
- POND ALT. C

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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 1792	POLK OSCEOLA	451419-1-22-01

PROPOSED DRAINAGE MAP (1)

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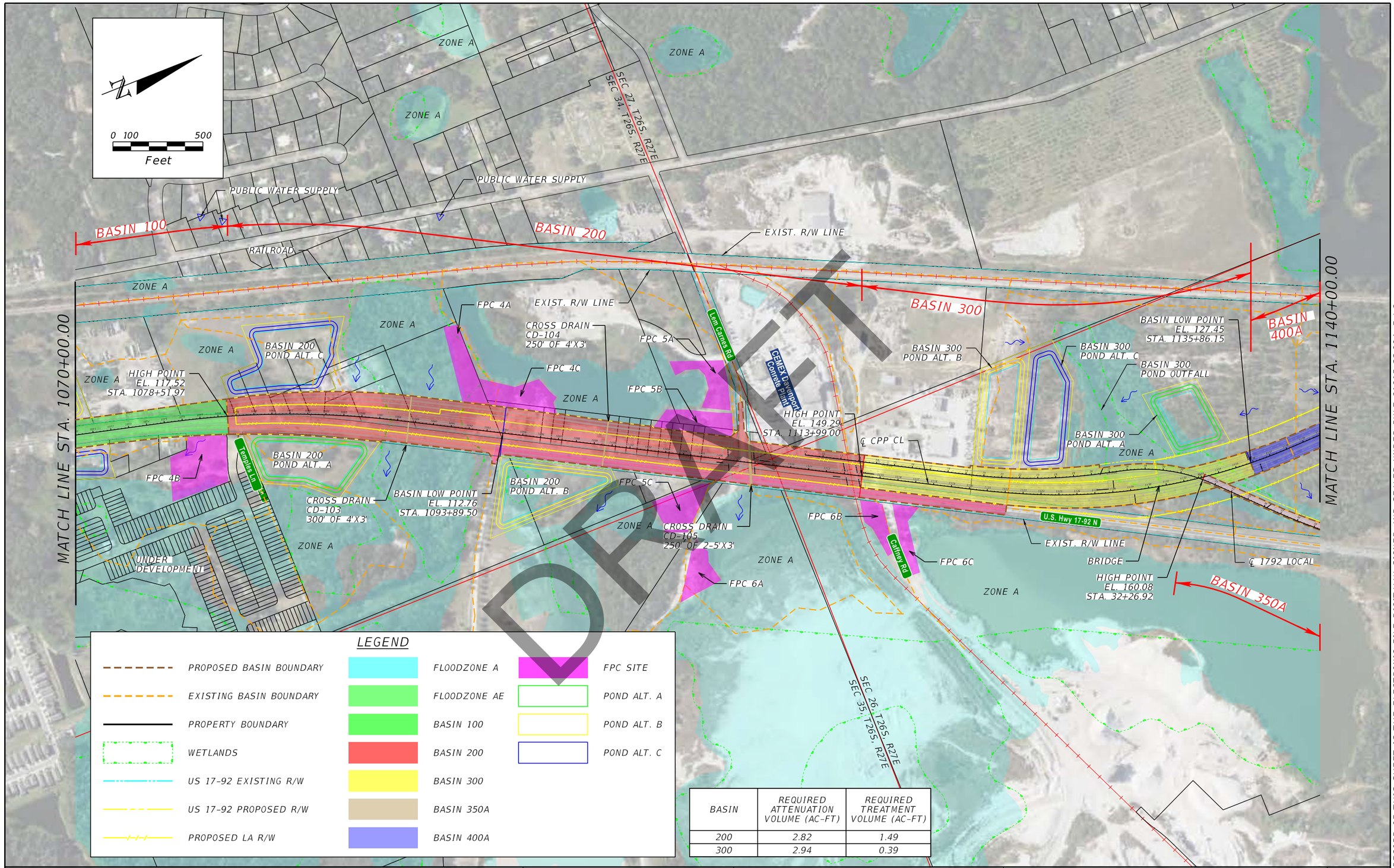

LEGEND

- PROPOSED BASIN BOUNDARY
- EXISTING BASIN BOUNDARY
- PROPERTY BOUNDARY
- WETLANDS
- US 17-92 EXISTING R/W
- US 17-92 PROPOSED R/W
- PROPOSED LA R/W
- FLOODZONE A
- FLOODZONE AE
- BASIN 100
- BASIN 200
- BASIN 300
- BASIN 350A
- BASIN 400A
- FPC SITE
- POND ALT. A
- POND ALT. B
- POND ALT. C

BASIN	REQUIRED ATTENUATION VOLUME (AC-FT)	REQUIRED TREATMENT VOLUME (AC-FT)
200	2.82	1.49
300	2.94	0.39

DRAFT

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PROPOSED DRAINAGE MAP (2)

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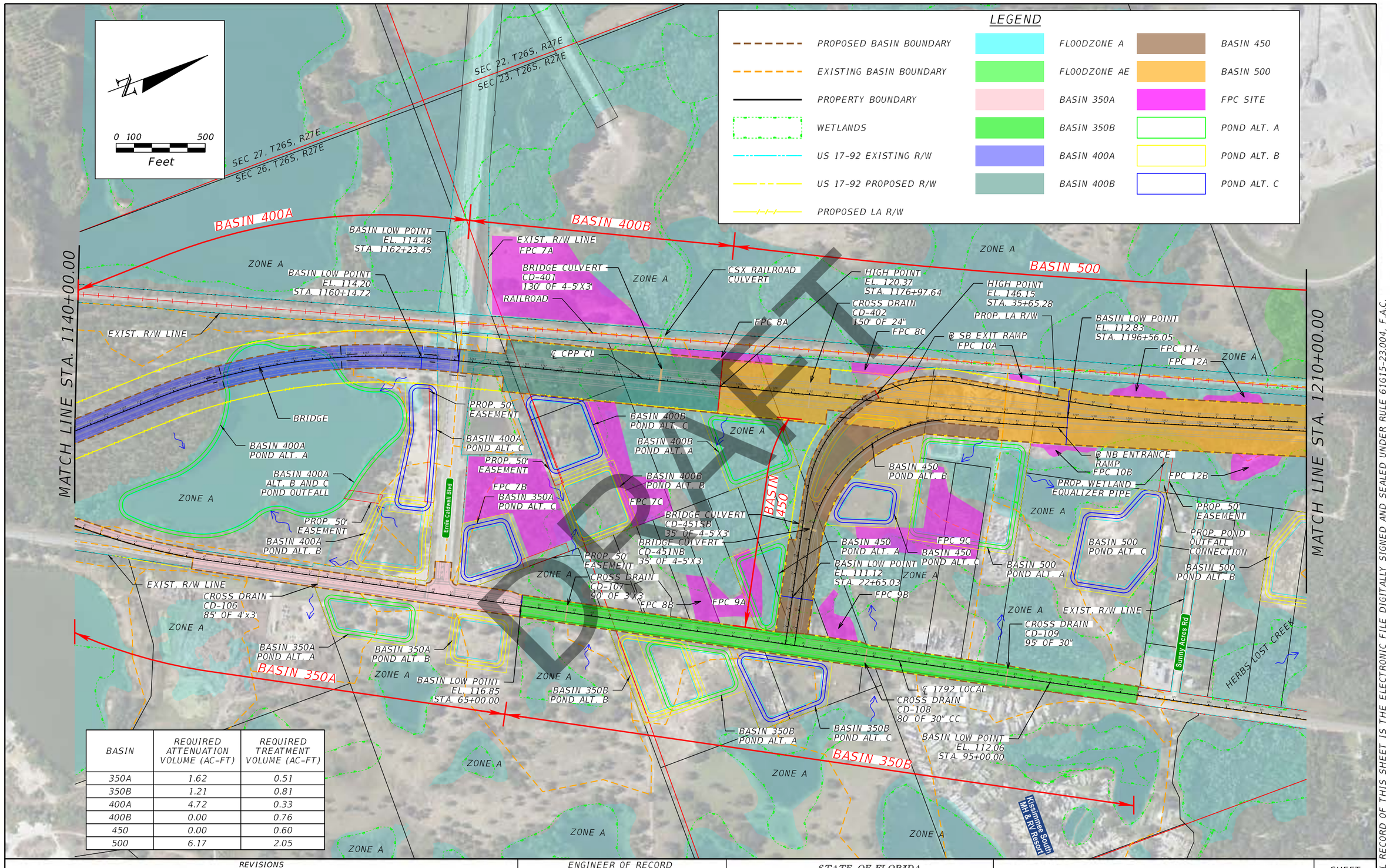

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350B	1.21	0.81
400A	4.72	0.33
400B	0.00	0.76
450	0.00	0.60
500	6.17	2.05

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PROPOSED DRAINAGE MAP (3)

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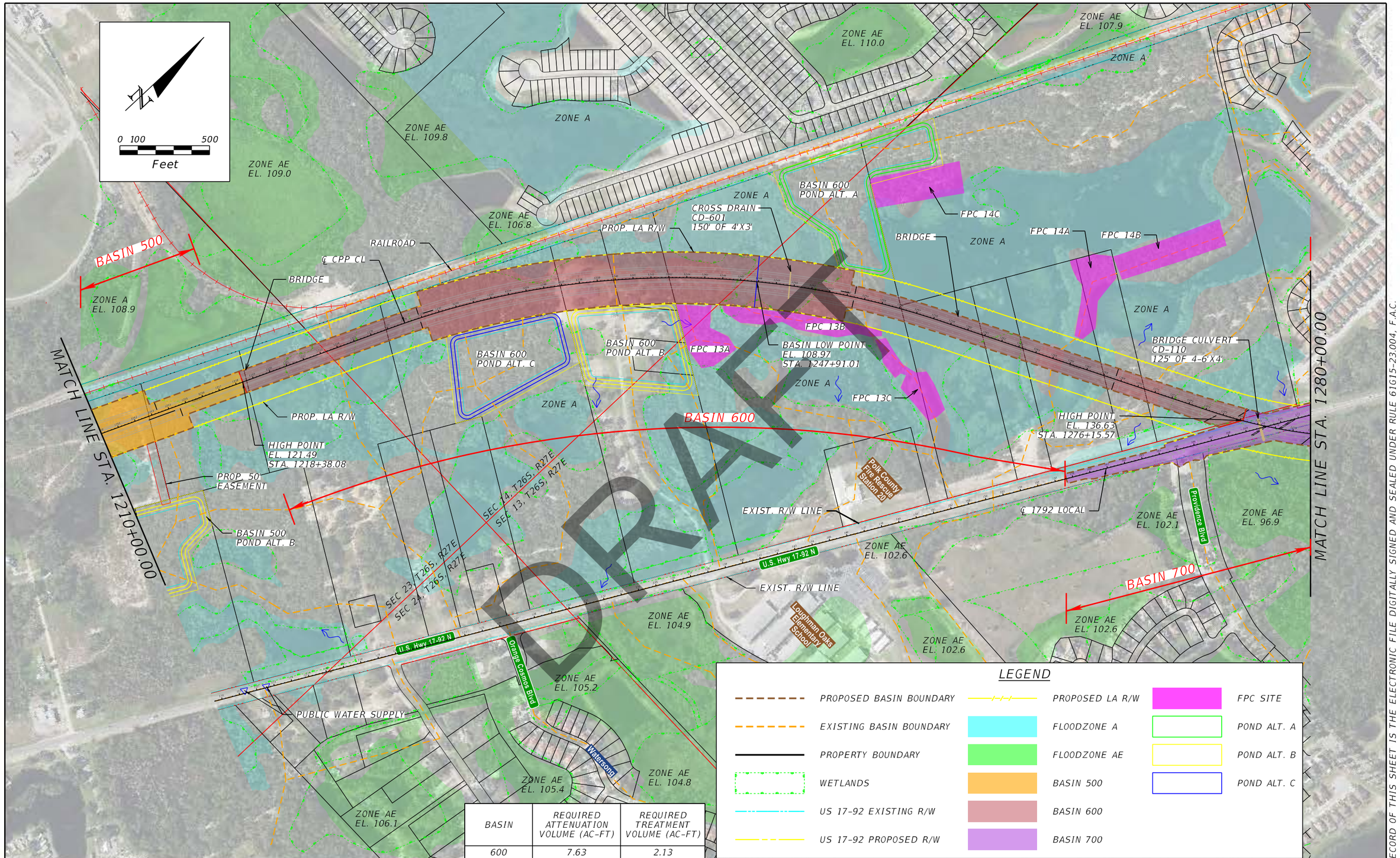

BASIN	REQUIRED ATTENUATION VOLUME (AC-FT)	REQUIRED TREATMENT VOLUME (AC-FT)
600	7.63	2.13

LEGEND

PROPOSED BASIN BOUNDARY	PROPOSED LA R/W	FPC SITE
EXISTING BASIN BOUNDARY	FLOODZONE A	POND ALT. A
PROPERTY BOUNDARY	FLOODZONE AE	POND ALT. B
WETLANDS	BASIN 500	POND ALT. C
US 17-92 EXISTING R/W	BASIN 600	
US 17-92 PROPOSED R/W	BASIN 700	

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

ROBERT GARRIGUES, P.E.
LICENSE NUMBER: 47652
RS&H, INC.
1715 N. WESTSHORE BLVD. SUITE 600
TAMPA, FL 33607-3999

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 1792	POLK OSCEOLA	451419-1-22-01

PROPOSED DRAINAGE MAP (4)

SHEET NO.

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0 100 500
Feet

MATCH LINE STA. 1280+00.00

MATCH LINE STA. 118+60.00

BASIN 700

BASIN 800B

BASIN 800A

ZONE A

ZONE AE
EL. 96.9

ZONE AE
EL. 98.0

ZONE AE
EL. 90.4

ZONE AE
EL. 89.0

ZONE AE
EL. 88.6

ZONE AE
EL. 86.0

ZONE AE
EL. 78.0

ZONE AE
EL. 66.0

PUBLIC WATER SUPPLY

EXIST. R/W LINE

PARCEL UNDER DEVELOPMENT

PARCEL DEVELOPED

℄ 1792 LOCAL

℄ CPP CL

℄ NORTH US1792

℄ 401 SB RAMP

℄ 401 NB RAMP

Hart Rd

Gaines Ave

Ronald Reagan Pkwy

Poinciana Pkwy

Vista Villages Blvd

Vista Way

Publix

7-Eleven Gas Station

Dental Care at Loughman Crossing

Burger King

U.S. Hwy 17-92 N

FPC 15A

FPC 15B

HIGH POINT
EL. 120.98
STA. 1323+46.03

BASIN 700
POND ALT. A

BASIN 700
POND ALT. B

BASIN 700
POND ALT. C

BASIN 800A
POND ALT. A1

BASIN 800A
POND ALT. A2

BASIN 800A
POND ALT. B

CROSS DRAIN
CD-701
150' OF 6'X3'

CROSS DRAIN
CD-111
140' OF 4'X3'

CROSS DRAIN
CD-801SB
55' OF 30"

CROSS DRAIN
CD-801NB
55' OF 30"

BASIN LOW POINT
EL. 97.52
STA. 1304+51.99

BASIN LOW POINT
EL. 87.99
STA. 111+19.42

SEC 12, T26S, R27E
SEC 07, T26S, R28E
SEC 13, T26S, R27E
SEC 18, T26S, R28E

BASIN	REQUIRED ATTENUATION VOLUME (AC-FT)	REQUIRED TREATMENT VOLUME (AC-FT)
700	1.62	2.49
800A	0.97	0.79
800B	1.07	0.93

LEGEND

- PROPOSED BASIN BOUNDARY
- EXISTING BASIN BOUNDARY
- PROPERTY BOUNDARY
- WETLANDS
- US 17-92 EXISTING R/W
- US 17-92 PROPOSED R/W
- PROPOSED LA R/W
- FLOODZONE A
- FLOODZONE AE
- BASIN 700
- BASIN 800A
- BASIN 800B
- FPC SITE
- POND ALT. A
- POND ALT. B
- POND ALT. C

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD
ROBERT GARRIGUES, P.E.
LICENSE NUMBER: 47652
RS&H, INC.
1715 N. WESTSHORE BLVD. SUITE 600
TAMPA, FL 33607-3999

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 1792	POLK OSCEOLA	451419-1-22-01

PROPOSED DRAINAGE MAP (5)

SHEET NO.

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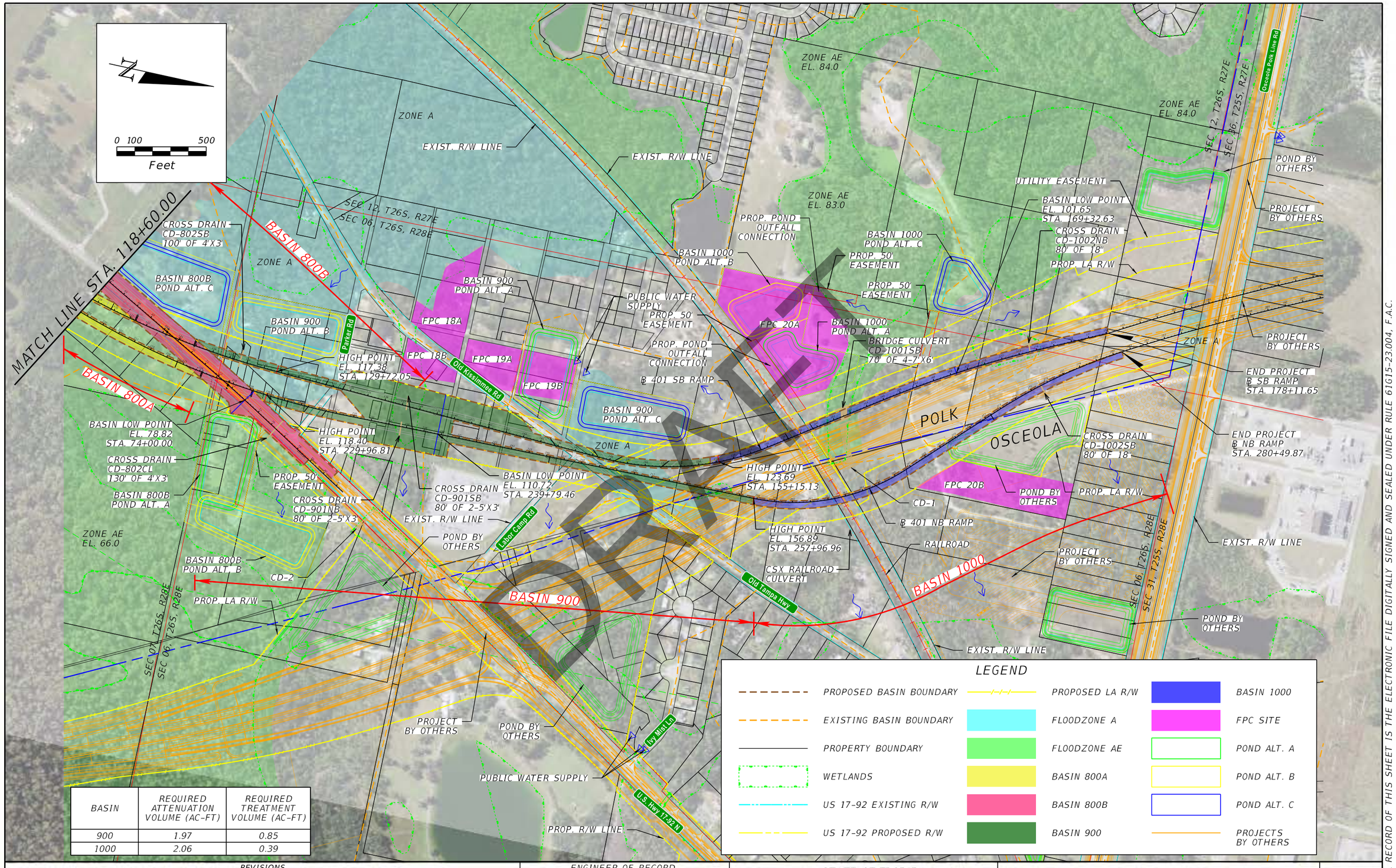

BASIN	REQUIRED ATTENUATION VOLUME (AC-FT)	REQUIRED TREATMENT VOLUME (AC-FT)
900	1.97	0.85
1000	2.06	0.39

LEGEND

PROPOSED BASIN BOUNDARY	PROPOSED LA R/W	BASIN 1000
EXISTING BASIN BOUNDARY	FLOODZONE A	FPC SITE
PROPERTY BOUNDARY	FLOODZONE AE	POND ALT. A
WETLANDS	BASIN 800A	POND ALT. B
US 17-92 EXISTING R/W	BASIN 800B	POND ALT. C
US 17-92 PROPOSED R/W	BASIN 900	PROJECTS BY OTHERS

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

ROBERT GARRIGUES, P.E.
LICENSE NUMBER: 47652
RS&H, INC.
1715 N. WESTSHORE BLVD. SUITE 600
TAMPA, FL 33607-3999

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 1792	POLK OSCEOLA	451419-1-22-01

PROPOSED DRAINAGE MAP (6)

SHEET NO.

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