STORMWATER MANAGEMENT FACILITY (SMF) SITING REPORT

Florida Department of Transportation District 7

I-275 (SR 93) Design Change Re-evaluation

Project Development and Environment Study from south of 54th Avenue South to north of 4th Street North

Pinellas County, Florida

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The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to Title 23, Section 327 of the United States Code (23 U.S.C. § 327) and a Memorandum of Understanding dated December 14, 2016, and executed by FHWA and FDOT.

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1 Introduction

1.1 Project Description

The Florida Department of Transportation (FDOT), District Seven is conducting a Design Change Reevaluation to evaluate and document proposed changes to the originally approved Type II Categorical Exclusion (CE) and subsequent Re-evaluation for I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North in Pinellas County, Florida. A Project Development and Environment (PD&E) study was conducted for the 16.3-mile corridor to analyze the need for operational improvements and evaluate the location, conceptual design, and social, economic, and environmental effects of any proposed improvements. Following a Public Hearing held on September 29, 2015, FHWA approved the Type II CE for this project on July 15, 2016.

Following approval of the Type II CE, FDOT performed a Design Change Re-evaluation in 2017 to evaluate a change to the approved Typical Section of Segment C (from Dr. MLK, Jr. Boulevard to north of 4th Street North). The 2017 Re-evaluation assessed the repurposing of one of the two approved express lanes to accommodate the provision of three general use through lanes, one auxiliary lane, and one express lane in each direction for this segment of the study corridor. The 2017 Design Change Re-evaluation was approved by FDOT on April 26, 2017.

FDOT is currently conducting another Design Change Re-evaluation to assess impacts of accommodating improvements for a second express lane in Segment C and the addition of two express lanes in Segment B from north of I-375 to south of Gandy Boulevard. These proposed improvements would tie-in with planned improvements to the Howard Frankland Bridge (FPID 422904-2 and 422904-4). This re-evaluation also analyzes replacing the I-275 ramp bridges on 4th Street North over Big Island Gap.

The current re-evaluation also analyzes replacing the I-275 ramp bridges on 4th Street North over Big Island Gap, providing trail connections from the Howard Frankland Bridge to 4th Street North and Ulmerton Road, and ramp connection modifications at the Gandy Boulevard and Gateway Expressway interchange areas. To meet drainage and stormwater requirements, pond sites will be needed to accommodate new impervious surface due to widening to accommodate express lanes. Several of these new pond site locations will be outside of the existing right of way.

1.2 Purpose and Need

The purpose of this project is to provide for operational improvements that maximize capacity within the I-275 corridor, improve lane continuity, and connect I-275 within Pinellas County to the future network of express lanes planned for the Tampa Bay Region. Improvements are needed within the I-275 corridor to help improve existing traffic congestion, enhance safety, and better accommodate future travel demands associated with projected growth in employment and population. The addition of express lanes is included in the Pinellas County Metropolitan Planning Organization (MPO) 2040 Long Range Transportation Plan (LRTP).

I-275 is a vital link in the local and regional transportation network and serves as a critical evacuation route. As a major north-south corridor through Pinellas County, I-275 links the Tampa Bay Region with the remainder of the state and the nation supporting commerce, trade, and tourism. Preserving the

operational integrity and regional functionality of I-275 is critical to the mobility and economy of the Tampa Bay Region.

1.3 Description of the Design Change

The current Design Change Re-evaluation includes a typical section change to extend two buffer separated express lanes in both directions from I-375 to north of 4th Street North, as well as a 12-ft wide outside shoulder to accommodate bus-on-shoulder operations from I-375 to Gandy Boulevard. This concept supersedes the 2017 Design Change Re-evaluation concept. The current Design Change Re-evaluation also includes trail connections from the Howard Frankland Bridge to 4th Street North and Ulmerton Road. To accommodate the new trail connection, the 4th Street North bridge over Big Island Gap will undergo either widening or reconstruction.

The Gateway Expressway interchange area will also be modified under this re-evaluation. Ramps located to the south of the Gateway area will carry drivers from northbound I-275 Express Lanes to Gateway Expressway, as well as carry drivers from the Gateway Expressway to southbound I-275 Express Lanes. In addition, access to southbound I-275 from the Gandy Boulevard interchange will be modified by connecting the westbound-to-southbound loop on ramp and the eastbound-to southbound on ramp into a frontage road system that provides one entry point onto southbound I-275. Finally, additional drainage and stormwater requirements, such as pond sites, will be needed to accommodate the new impervious surface due to the express lane widening. Several of these new pond site locations will be outside of the existing right of way.

1.4 Purpose of this Report

This Stormwater Management Facility (SMF) Siting Report has been prepared as part of the Design Change Re-evaluation to analyze stormwater treatment and attenuation requirements for the basins affected by the addition of two express lanes in Segment B from north of I-375 to south of Gandy Boulevard (Basins 11 through 20). In addition, this report includes the analysis of alternative SMF sites for basins within Segment A which required right-of-way for stormwater management (Basins 2 and 7) as determined in the Alternative Stormwater Management Facility Technical Memorandum (April 2015).

This SMF Siting Report presents potential SMF site locations for meeting applicable stormwater management criteria that are hydraulically feasible and environmentally permittable based on the best available information. Alternatives were analyzed and evaluated for the following:

- Environmental impacts including wetlands, upland habitat and protected species involvement
- Cultural resources
- Petroleum and hazardous materials contamination
- Economic factors including construction costs and estimated land costs
- Hydrologic factors such as soil types and seasonal high groundwater table (SHWT) elevations
- Floodplains
- Stormwater conveyance and hydraulic parameters

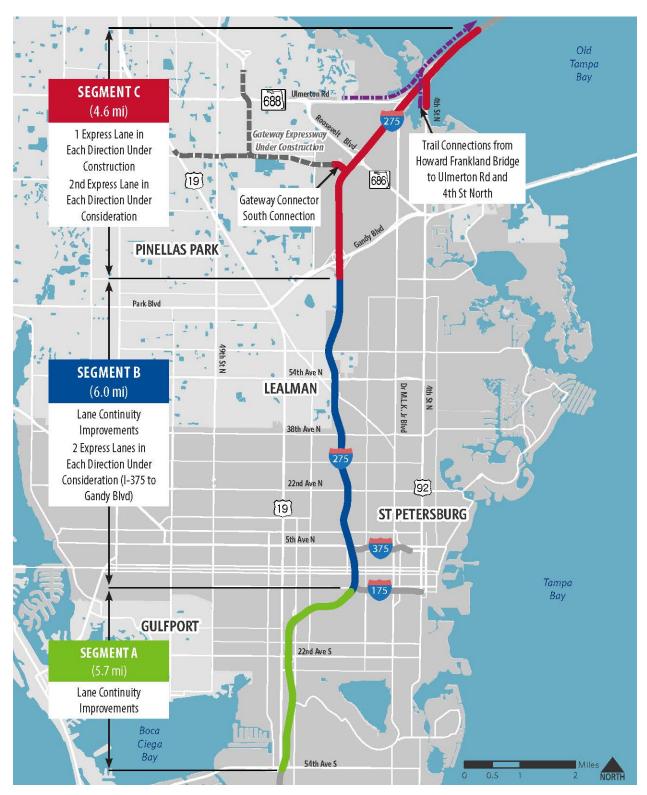


Figure 1.1. Project Location Map

2 Stormwater Management Design Criteria

The design of the stormwater management facilities (ponds) for this project is regulated by the rules and criteria set forth by the Florida Department of Transportation (FDOT), the Southwest Florida Water Management District (SWFWMD) and the Florida Department of Environmental Protection (FDEP). The requirements of each agency are discussed in the following sections.

2.1 FDOT Criteria

The design of stormwater management systems for Department projects shall comply with the water quality, rate, and quantity requirements of Section 334.044(15), F.S., Chapter 14-86, F.A.C., Rules of the Department of Transportation only in closed basins or areas subject to historical flooding.

2.1.1 Water Quality

FDOT's requirement is to meet or exceed the applicable regulatory agency criteria.

2.1.2 Water Quantity

FDOT's requirement is to meet or exceed the applicable regulatory agency criteria. There are no closed basins within the limits of this PD&E Study.

2.1.3 Stormwater Management Facilities

Based on the 2019 FDOT Drainage Manual and the 2017 FDOT Drainage Design Guide, the following criteria were used in the design of the SMF alternatives for this project.

- Stormwater management facilities shall be designed with a minimum 20' wide maintenance berm and sloped no steeper than 1:8 (vertical: horizontal) toward the SMF bottom.
- Side slopes will be no steeper than 1:4 (vertical: horizontal) out to a depth of two feet below the control elevation.
- One (1) foot of freeboard is required above the maximum design stage. The freeboard shall be measured from the inside edge of the maintenance berm.

Please refer to **Appendix E** for *Figure 5.1 Minimum Clearance Retention-Detention Ponds*, excerpted from the 2019 FDOT Drainage Manual.

2.2 SWFWMD Criteria

The design of the project stormwater management facilities will comply with the requirements of Chapter 40D-4, F.A.C., rules of the Southwest Florida Water Management District.

2.2.1 Water Quality

Dry retention systems require treatment of the first one-half inch $(^{1}/_{2}")$ of stormwater runoff from the contributing drainage area.

Wet detention systems require treatment of the first one inch (1") of stormwater runoff from the contributing drainage area.

The contributing drainage area is defined as follows:

- For off-line treatment systems and on-line treatment systems, including wet detention, which provide storage of the treatment volume off-line from the primary conveyance path of flood discharges, use the area of new pavement.
- For all other on-line treatment systems, including wet-detention, use the entire on-site directly connected impervious areas contributing to the system; directly connected impervious areas are those new and existing pavement areas connected to the treatment systems by pavement or pipe that contribute untreated runoff.

Projects discharging directly into Outstanding Florida Waters (OFW) shall be required to provide treatment for a volume 50 percent more than required for the selected treatment system.

When alterations involve extreme hardship, in order to provide direct treatment of new project area, the District will consider proposals to satisfy the overall public interest that shall include equivalent treatment of alternate existing pavement areas to achieve the required pollution abatement. For example, existing untreated contributing areas not otherwise required to be included for treatment may be included for treatment by the system in lieu of direct treatment of new project area when the pollution abatement is equivalent and benefits the same receiving waters.

Existing treatment capacity being displaced by any roadway project will require additional compensating treatment volume.

For dry retention systems, the total treatment volume shall again be available 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.

For wet detention systems, include a minimum of 35 percent littoral zone, concentrated at the outfall, for biological assimilation of pollutants. The percentage of littoral zone is based on the ratio of vegetated littoral zone to the surface area of the pond at the control elevation. The littoral zone shall be no deeper than 3.5 feet below the design overflow elevation. The treatment volume should not cause the pond level to rise more than 18 inches above the control elevation. The wet detention system's treatment volume shall be discharged in no less than 120 hours (5 days) with no more than one-half the total volume being discharged within the first 60 hours (2.5 days). Due to the detention time required for wet detention systems, only that volume which drains below the overflow elevation within 36 hours may be counted as part of the volume required for water quantity storage.

Treatment of off-site areas is not required.

2.2.2 Water Quantity

For a project or portion of a project located within an open drainage basin, the allowable discharge is:

- Historic discharge, which is the peak rate at which water leaves a parcel of land by gravity under existing site conditions, or the legally allowable discharge at the time of permit application; or
- Amounts determined in previous District permit actions.

Unless otherwise specified, off-site discharges and peak stages for the existing and developed conditions shall be computed using the Southwest Florida Water Management District's 24-hour, 25-year rainfall maps and the Natural Resources Conservation Service type II Florida Modified 24-hour rainfall distribution with an antecedent moisture condition II.

Please refer to **Appendix E** for Table D-1: Rainfall Ratios (Accumulated 24-Hour Total), excerpted from the SWFWMD Environmental Resource Permit Applicant's Handbook Volume II (June 2018), Appendix A, Part D - Project Design Aids.

2.3 FDEP Criteria

The design of the project stormwater management facilities will comply with the requirements of Chapter 62-302, F.A.C., rules of the Florida Department of Environmental Protection.

2.3.1 Impaired Waters

The freshwater segment of Joe's Creek (Waterbody Identification (WBID) 1668A) in Pinellas County is listed as an impaired water body for dissolved oxygen, nutrients, and Biochemical Oxygen Demand (BOD). A Total Maximum Daily Load (TMDL) for the freshwater segment was prepared by the U.S. Environmental Protection Agency (EPA) and released in September 2007. The TMDL indicates a target pollutant load reduction of 49% for total phosphorus and 49% for total nitrogen.

Basins 14, 15 and 16 discharge to Joe's Creek; therefore, a pre-development versus post-development pollutant loading analysis will be required for these basins. The University of Central Florida's BMPTRAINS model spreadsheet will be used to calculate pollutant loadings for this SMF Siting Report.

2.4 Permits

Permits are expected to be required from the following agencies:

- Southwest Florida Water Management District
 - o Environmental Resource Permit
- United States Army Corps of Engineers
 - Section 404, Dredge and Fill Permit
- Florida Department of Environmental Protection
 - National Pollutant Discharge Elimination System Permit

3 Drainage Description

3.1 Pinellas County Drainage Basins

The project crosses the following Pinellas County Watersheds, from south to north:

Frenchman's Creek Watershed (#48 on Figure in Appendix E)

Frenchman's Creek watershed is located in southern Pinellas County and lies entirely within the City of St. Petersburg. The basin contains approximately 2,400 acres of land, most of which is designated on the Future Land Use Map as residential urban, residential low and medium, commercial general, residential/office general, residential/office/retail, recreation/open space, preservation, and public/semi-public. Minor outfalls can be found throughout the basin, none draining more than one square mile. The terrain is gently sloping toward Boca Ciega Bay on the west basin shore.

Booker Creek Watershed (#40 on Figure in Appendix E)

Booker Creek watershed is located in southeast Pinellas County and lies entirely within the City of St. Petersburg. Of the 3,100 acres in the basin, most of the land is designated on the Future Land Use Map as residential urban but also includes a complete urban mix of residential low medium, medium and high, commercial general, residential/office general, residential /office/retail, industrial limited and general, recreation/open space, and public/semi-public. The major outfall is approximately 4.5 miles in length and outlets into Bayboro Harbor. Because of the development, an accurate estimate of the basin permeability cannot be determined. Several storage areas are either existing or under construction along the outfall channel. The basin terrain is gently sloping at its upper end and steep sloping at its lower end.

Joe's Creek Watershed (#35 on Figure in Appendix E)

Joe's Creek watershed is located in south central Pinellas County and includes parts of the Cities of Pinellas Park and St. Petersburg, and all of Kenneth City. The basin contains approximately 9,500 acres of land, much of which is designated on the Future Land Use Map as residential low and residential urban, including a complete urban mix of residential low medium, medium and high, commercial general, mixed use, industrial, recreation/open space, preservation and public/semipublic.

Most of the undeveloped area is located in the low lying northwest corner of the basin where the major outfall empties into Cross Bayou Canal. The major outfall and its tributaries generally flow east to west, and total 11.2 miles in length. Most of the soil has a medium permeability rating, and many small (1 to 3 acres) natural water storage areas are located throughout subdivisions in the basin. Terrain is gently sloping in the east, steep sloping in the middle, and practically flat in the west basin area.

The freshwater segment of Joe's Creek (Waterbody Identification (WBID) 1668A) in Pinellas County is listed as an impaired water for dissolved oxygen, nutrients, and Biochemical Oxygen Demand (BOD). A Total Maximum Daily Load (TMDL) for the freshwater segment was prepared by the U.S. Environmental Protection Agency (EPA) and released in September 2007. The TMDL indicates a target pollutant load reduction of 49% for total phosphorus and 49% for total nitrogen.

Basins 14, 15 and 16 discharge to Joe's Creek and will be required to meet pre/post pollutant loading. The wet detention ponds in these basins will provide water quality treatment benefits but will not be

sufficient to meet TMDL requirements alone. A 1.0-acre dry retention pretreatment area will be required to supplement the wet detention ponds to meet the required nutrient removal efficiencies. The dry retention area will be located in the median of Basin 15, in series with the downstream wet pond. This dry pretreatment area should meet the required nutrient removal efficiencies for all three basins.

Sawgrass Lake Watershed (#30 on Figure in Appendix E)

Sawgrass Lake watershed is located in east central Pinellas County, and parts of the Cities of Pinellas Park and St. Petersburg. The central northern portion of the basin consists of Sawgrass Lake Park (390 acres) and mostly undeveloped vacant land. Sawgrass Lake has a total surface area of 20 acres and has very little developed area along its shoreline. The herbaceous wetland around the lake provides valuable habitat for many bird and reptile species. Much of the 5,800 acre drainage area is designated on the Future Land Use Map as residential urban, including a complete urban mix of residential low, low medium, medium and high, commercial general, residential/ office/retail, industrial limited, recreation/open space, preservation and public/semi-public. The major outfall and its three tributaries total 7.6 miles in length, and outlet into Old Tampa Bay. Soil in the west half of the basin has a medium permeability rating. Terrain is fairly steep in the southern basin area, and gently sloping to flat in the remainder. Most of the eastern half of the basin is flood prone. Drainage from Sawgrass Lake flows into Riviera Bay through the Turner Creek ditch. A water control structure located on Sawgrass Park's eastern boundary controls the flow of drainage that is released into Turner Creek.

Roosevelt Watershed (#23 on Figure in Appendix E)

Roosevelt watershed is located in east central Pinellas County and contains parts of the Cities of Pinellas Park and St. Petersburg. Most of the basin's 8,000 acres is designated on the Future Land Use Map as industrial limited and transportation /utility, with lesser amounts of residential urban, low medium and medium, residential/office general, commercial recreation, recreation/open space and preservation. Three separate major outfalls, totaling 9.5 miles in length, drain 5,000 acres of the watershed and outlet into Old Tampa Bay. Soil in the basin generally has a medium permeability rating. The terrain is flat with many natural water storage areas located throughout the basin. Due to its low elevation, most of the northeast area is flood prone. Also, extensive highway construction, gravel quarrying and landfill operations have occupied a good portion of the land. Adequate culvert capacity has been provided at most of the major highways which cross the basin.

3.2 Project Drainage Basins

Basin 2

Basin 2 begins just north of 54th Avenue South (Sta. 100+00) and extends to 38th Avenue South (Sta. 146+40). The drainage area consists of the roadway right-of-way between these stations. The total basin area is 48.56 acres, with the existing impervious area equal to 15.30 acres. The estimated low edge of pavement (LEOP) elevation is 20.76 ft NGVD. The proposed improvements will generate approximately 2.72 acres of new impervious area. A wet detention pond within the existing right-of-way will be utilized to provide the required treatment and attenuation volumes. The basin drains to a cross drain at Sta. 114+15 and ultimately flows west into a canal which outfalls into Boca Ciega Bay.

Basin 7

Basin 7 begins at Sta. 245+00 and extends to the I-175 interchange (Sta. 280+00). The drainage area consists of the I-275 roadway right-of-way between Sta. 245+00 to Sta. 260+00 (NB) and between Sta. 245+00 to Sta. 280+00 (SB), as well as a portion of I-175 WB. The total basin area is 26.70 acres, with the existing impervious area equal to 9.42 acres. The estimated LEOP elevation is 63.06 ft NGVD. The proposed improvements will generate approximately 1.60 acres of new impervious area. A wet detention pond will be utilized to provide the required treatment and attenuation volumes. The basin drains to a storm drain system at Sta. 271+96 that flows north along 20th Street South and eventually into Booker Creek.

Basin 11

Basin 11 begins at 5th Avenue North (Sta. 316+50) and extends to north of 13th Avenue North (Sta. 346+85). The drainage area consists of the roadway right-of-way between these stations, as well the northernmost portion of the I-375 Interchange. The total basin area is 27.32 acres, with the existing impervious area equal to 12.08 acres. The estimated LEOP elevation is 60.66 ft NGVD. The proposed improvements will generate approximately 3.77 acres of new impervious area. A wet detention pond will be utilized to provide the required treatment and attenuation volumes. The basin drains to an existing 10'x9' concrete box culvert on the east side of I-275 and ultimately discharges into Booker Creek. Booker Creek flows south into Bayboro Harbor.

Basin 12

Basin 12 begins north of 13th Avenue North (Sta. 346+85) and extends to Sta. 391+88. The drainage area consists of the roadway right-of-way between these stations, including the 22nd Avenue North Interchange. The total basin area is 41.31 acres, with the existing impervious area equal to 16.94 acres. The estimated LEOP elevation is 57.66 ft NGVD. The proposed improvements will generate approximately 6.08 acres of new impervious area. A wet detention pond will be utilized to provide the required treatment and attenuation volumes. The basin drains to an existing concrete box culvert on the west side of I-275 at Sta. 351+00 and ultimately discharges into Booker Creek. Booker Creek flows south into Bayboro Harbor.

Basin 13

Basin 13 begins at Sta. 391+88 and extends to 30th Avenue North (Sta. 400+00). The drainage area consists of the roadway right-of-way between these stations. The total basin area is 5.70 acres, with the existing impervious area equal to 2.14 acres. The estimated LEOP elevation is 67.16 ft NGVD. The proposed improvements will generate approximately 1.65 acres of new impervious area. A wet detention pond will be utilized to provide the required treatment and attenuation volumes. The basin drains to an existing storm drain system on the west side of I-275 at Sta. 395+15. The existing storm drain flows west along 28th Avenue North and ultimately discharges into Booker Creek. Booker Creek flows south into Bayboro Harbor.

Basin 14

Basin 14 begins at 30th Avenue North (Sta. 400+00) and extends to just south of 38th Avenue North (Sta. 425+25). The drainage area consists of the roadway right-of-way between these stations and includes the southern ramps for the 38th Avenue North Interchange. The total basin area is 23.90 acres, with the existing impervious area equal to 7.84 acres. The estimated LEOP elevation is 58.86

ft NGVD. The proposed improvements will generate approximately 5.00 acres of new impervious area. A wet detention pond within the existing right-of-way will be utilized to provide the required treatment and attenuation volumes. The basin drains to an existing storm drain system on the west side of I-275 at Sta. 423+88, discharges to the 25th Street N Outfall and ultimately into Joe's Creek. Joe's Creek flows west into Cross Bayou. This basin discharges to an impaired water body, Joe's Creek. Please refer to **Section 3.1** and **Section 4.3.2** for a detailed discussion and **Appendix D** for calculations.

Basin 15

Basin 15 begins just south of 38th Avenue North (Sta. 425+25) and ends at Sta. 446+00. The drainage area consists of the roadway right-of-way between these stations and includes the 38th Avenue North Interchange. The total basin area is 23.74 acres, with the existing impervious area equal to 9.90 acres. The estimated LEOP elevation is 49.56 ft NGVD. The proposed improvements will generate approximately 1.97 acres of new impervious area. A wet detention pond will be utilized to provide the required treatment and attenuation volumes. The basin drains to an existing storm drain system at Sta. 440+00 that flows west, ultimately into Joe's Creek. Joe's Creek flows west into Cross Bayou. This basin discharges to an impaired water body, Joe's Creek. Please refer to **Section 3.1** and **Section 4.3.2** for a detailed discussion and **Appendix D** for calculations.

Basin 16

Basin 16 begins at Sta. 446+00 and ends south of 54th Avenue North at Sta. 473+50. The drainage area consists of the roadway right-of-way between these stations. The total basin area is 19.98 acres, with the existing impervious area equal to 9.73 acres. The estimated LEOP elevation is 50.56 ft NGVD. The proposed improvements will generate approximately 3.57 acres of new impervious area. A wet detention pond will be utilized to provide the required treatment and attenuation volumes. The basin drains to an existing storm drain system at Sta. 453+25 that flows west, ultimately into Joe's Creek. Joe's Creek flows west into Cross Bayou. This basin discharges to an impaired water body, Joe's Creek. Please refer to **Section 3.1** and **Section 4.3.2** for a details and **Appendix D** for calculations.

Basin 17

Basin 17 begins at south of 54th Avenue North at Sta. 473+50 and extends to Sta. 328+00 (Station Equation: 499+99.72 = 324+97.73). The drainage area consists of the roadway right-of-way between these stations and includes the 54th Avenue North Interchange. The total basin area is 36.66 acres, with the existing impervious area equal to 13.93 acres. The estimated LEOP elevation is 25.25 ft NGVD. The proposed improvements will generate approximately 4.14 acres of new impervious area. A wet detention pond within the existing right-of-way will be utilized to provide the required treatment and attenuation volumes. The basin outfalls to an existing ditch on the east side of I-275 at Sta. 325+16. This existing ditch flows north within the I-275 right-of-way, ultimately discharging into the Turner Creek ditch which flows east into Riviera Bay.

Basin 18

Basin 18 begins at Sta. 328+00 and extends to the Gandy Boulevard Interchange at Sta. 421+17 (Sta. 440+00 for I-275 NB). The drainage area consists of the roadway right-of-way between these stations and includes the southwest, southeast and northeast quadrants of the Gandy Boulevard Interchange. The total basin area is 130.02 acres, with the existing impervious area equal to 38.45 acres. The estimated LEOP elevation is 11.59 ft NGVD. The proposed improvements will generate approximately 21.95 acres of new impervious area. A wet detention pond will be utilized to provide the required

treatment and attenuation volumes. The basin outfalls to a double box culvert at Sta. 386+65 that discharges into the Turner Creek ditch which flows east into Riviera Bay.

Basin 19

Basin 19 begins at Sta. 421+17 and extends to just north of the Gandy Boulevard Interchange at Sta. 440+00. The drainage area consists of the roadway right-of-way between these stations and includes the northwest quadrant of the Gandy Boulevard Interchange. The total basin area is 73.20 acres, with the existing impervious area equal to 16.96 acres. The estimated LEOP elevation is 12.84 ft NGVD. The proposed improvements will generate approximately 2.21 acres of new impervious area. A wet detention pond within the existing right-of-way will be utilized to provide the required treatment and attenuation volumes. The basin outfalls to ditch west of the interchange via a double 24" pipe under Ramp C. This ditch flows southwest to a concrete box culvert under Gandy Boulevard and into Sawgrass Lake. Sawgrass Lake flows into Riviera Bay through the Turner Creek ditch. A water control structure located on Sawgrass Park's eastern boundary controls the flow of drainage that is released into Turner Creek.

Basin 20

Basin 20 begins just north of the Gandy Boulevard Interchange at Sta. 440+00 and ends at Sta. 491+50 (SB) and Sta. 477+00 (NB), south of the Roosevelt Boulevard Interchange. The drainage area consists of the roadway right-of-way between these stations. The total basin area is 31.20 acres, with the existing impervious area equal to 14.62 acres. The estimated LEOP elevation is 11.79 ft NGVD. The proposed improvements will generate approximately 7.46 acres of new impervious area. A wet detention pond will be utilized to provide the required treatment and attenuation volumes. The basin outfalls to a double box culvert at Sta. 466+70 that discharges into the 102nd Avenue ditch which flows east to 16th Street North and then flows north into Roosevelt Creek Tributary 2 and ultimately into Tampa Bay.

4 Stormwater Management

4.1 Methodology

In addition to the environmental considerations discussed in Section 5.0, stormwater management methodology and criteria were used to determine the SMF site alternatives.

As described in Section 1.4, this report provides alternative stormwater management facility sites for the basins affected by the addition of two express lanes in Segment B from north of I-375 to south of Gandy Boulevard (Basins 11 through 20) and for basins within Segment A which required right-of-way for stormwater management (Basins 2 and 7) as determined in the Alternative Stormwater Management Facility Technical Memorandum (April 2015). Three (3) alternative SMF sites were analyzed for the majority of the basins; however, some of the basins have fewer alternatives as detailed below:

- Basin 2 stormwater management is accomplished within the existing right-of-way (1 alternative)
- Basin 13 limited sites available within the vicinity (2 alternatives)
- Basin 14 stormwater management is accomplished within the existing right-of-way (1 alternative)
- Basin 17 stormwater management is accomplished within the existing right-of-way (1 alternative)
- Basin 18 limited sites available within the vicinity (2 alternatives)
- Basin 19 stormwater management is accomplished within the existing right-of-way (1 alternative)
- Basin 20 limited sites available within the vicinity (2 alternatives)

The provided treatment and attenuation volumes were calculated and areas for the proposed SMF site alternatives were established using these volumes and the estimated seasonal high groundwater elevation. For detailed calculations associated with the SMF siting and sizing, see **Appendix D** – Stormwater Management Calculations. The SMF site alternatives are shown in **Appendix C** – Pond Site Alternatives.

The following parameters for each site were analyzed in the selection process:

- Soil Type
- Estimated average ground elevation based on 1-foot digital contours from SWFWMD LiDAR data for Pinellas County
- Estimated Seasonal High Groundwater Table (SHWT) elevations estimated based on the NRCS soil information at the SMF site

4.2 SMF Design Alternatives

Several stormwater management facility types were considered including wet detention systems, dry detention systems, retention systems, swale systems and underground exfiltration trench systems. SWFWMD's water quantity requirements specify the peak post-development runoff rate shall not

exceed the peak pre-development runoff rate for the 25-year/24-hour design storm event. The required water quality volume is based on the type of treatment system proposed. The following is a list of design methodologies and their associated rules.

4.2.1 Wet Detention Systems

This method involves storing stormwater runoff in a wet bottom pond, above the normal water surface. The discharge rate from the wet bottom pond is controlled by an outlet structure to prevent downstream flooding and erosion. SWFWMD requires a wet detention treatment system for public roads to treat 1.0 inch of runoff from the contributing area. An additional 50% above the proposed basin treatment volume must be provided for discharge to Outstanding Florida Waters (OFW). Due to the normally high groundwater elevations along the project, long conveyance distances and depth of the storm drain system inverts, wet detention systems were selected as the most feasible method for stormwater treatment and attenuation.

4.2.2 Dry Detention Systems

This method involves storing stormwater runoff in a dry bottom pond, above the seasonal high groundwater table elevation. Filtering the stormwater runoff through the pond bottom to the groundwater table provides water quality treatment. The use of dry detention systems would be prohibitive due to the anticipated depth of the storm drain system inverts and the normally high groundwater elevations along the project. Therefore, dry detention systems were only considered as an alternative stormwater management facility for basins that do not meet nutrient removal requirements through wet detention alone.

4.2.3 Retention Systems

This concept provides storage and water quality treatment through retention. Retention systems are designed to prevent discharge of a given volume of runoff by complete on-site storage. The high water table and low permeability rates in 'D' type soils present on this project discourage the use of this method. The retention system design must assure that long-term recovery and flood protection is provided. For this project, the discharge limitation would require a pond size too large to be accommodated within the land available. Therefore, the option would be too cost-prohibitive and is not used.

4.2.4 Swale Systems

This method involves storing stormwater runoff in a dry bottom swale, above the seasonal high groundwater table elevation. Filtering of the stormwater runoff through the swale bottom to the groundwater table provides water quality treatment. The use of swales would not provide sufficient volume to attenuate and treat the proposed runoff volumes for this project.

4.2.5 Underground Exfiltration Trench Systems

This concept provides storage and water quality treatment through exfiltration into the surrounding soils. Exfiltration is accomplished using a perforated pipe laid in a rock-filled trench that allows the runoff to percolate into the surrounding ground. Exfiltration systems are costly and have high maintenance requirements due to very large pipe sizes and sediment buildup. Moreover, exfiltration systems would not provide sufficient available volume to capture and treat stormwater runoff

effectively. Exfiltration is generally used as a last resort. High ground water table normally discourages the use of this method. Therefore, exfiltration systems are not a viable solution for this project.

4.3 Proposed Stormwater Management Design

Wet detention is the selected method of stormwater management for the project. Wet detention was chosen due to the predominantly poorly drained soils, seasonal depths to groundwater ranging from 2.0 feet above to 3.5 feet below ground and storm drain system requirements. Additionally, the storm drain systems require the pond inflow structures to be below the control water level (CWL) or normal water level (NWL) of the proposed ponds.

4.3.1 SWFWMD SMF Sizing Criteria

The SWFWMD rules dictate the use of the 25-year/24-hour design storm event. The required treatment volume was calculated for each basin (1-inch over the area of new roadway impervious area). The NRCS method was used to calculate pre-development and post-development runoff volumes. The runoff volume difference between pre-development and post-development conditions was used to determine the SMF volume required for attenuation of the design storm event. The attenuation volume calculated was added to the required treatment volume to size each SMF alternative. The design analysis is strictly a Volumetric Analysis for the purposes of this report (see **Appendix D** – Stormwater Management Calculations).

4.3.2 Impaired Waters

The freshwater segment of Joe's Creek (Waterbody Identification (WBID) 1668A) in Pinellas County is listed as an impaired water body for dissolved oxygen, nutrients, and Biochemical Oxygen Demand (BOD). A Total Maximum Daily Load (TMDL) for the freshwater segment was prepared by the U.S. Environmental Protection Agency (EPA) and released in September 2007. The TMDL indicates a target pollutant load reduction of 49% for total phosphorus and 49% for total nitrogen.

Basins 14, 15 and 16 discharge to Joe's Creek. Therefore, a pre-development versus post-development pollutant loading analysis (net improvement) has been performed for these basins using the University of Central Florida's BMPTRAINS model spreadsheet. Wet detention is not sufficient to provide the required nutrient removal. Additional dry retention (in series with wet detention) was provided in these basins in order to meet nutrient removal criteria. Please refer to **Appendix D** – Stormwater Management Calculations.

4.3.3 Curve Numbers

Runoff curve numbers were obtained from the FDOT Drainage Design Guide (January 2017) – Appendix B, Table B-7 (see **Appendix E**). When soils in a dual hydrologic group, such as B/D, were encountered, curve numbers for group D soils were utilized to be consistent with adjacent existing permits. Since ground cover is good throughout the study area, Open Spaces, Good Condition was chosen for the Land Use Description. Please refer to **Appendix D** – Stormwater Management Calculations.

4.3.4 Seasonal High Groundwater Table Elevation

4.3.4.1 Soil Survey

The NRCS Soil Survey for Pinellas County was used to obtain estimated SHWT elevations. The SHWT is defined by the Natural Resource Conservation Service (NRCS) as the highest level of saturated zone in the soil in a year with normal rainfall, which persists in the soil for more than a few weeks. Along most of the project alignment, the SHWT levels are estimated to be 0 to 1.0 feet below the natural ground surface. SHWT elevations were estimated based on the NRCS soil information for the SMF site alternative.

4.3.4.2 Vertical Limitations

The maximum design stage is limited to the low edge of pavement (LEOP) elevation in the basin. For SMFs adjacent to the road, the top of the treatment volume is constrained to the low point in the road minus the base clearance. These criteria were used to establish the available depth for treatment and attenuation as illustrated below:

Available depth for treatment = LEOP – base clearance – SHWT elevation Available depth for treatment and attenuation = LEOP –SHWT elevation

4.3.5 Conclusion

In conclusion, SMF alternatives were sized based on the combination of treatment and attenuation volumes calculated based on SWFWMD requirements. The maximum volume required was determined by using the treatment requirements to establish a pollution abatement volume and the volume difference between pre-development and post-development conditions for the 25-year/24-hour storm event. The two volumes were then added together to approximate a required SMF size for the basin. The proposed SMF area was considered in the basin calculations to establish the design volumes. Alternate SMF sites have been analyzed for minimum area, outfall characteristics, land use, and environmental conditions.

Each SMF design includes:

- 20-foot maintenance berm sloped 10:1 toward the SMF bottom;
- 4:1 side slopes from the top of the bank to the SMF bottom; and
- 1-foot of freeboard measured from the inside edge of the maintenance berm
- The wet detention treatment method will be used for all SMF site alternatives.

A 10% contingency was added to each SMF alternative size to account for limited site-specific data. Please refer to **Appendix D** – Stormwater Management Calculations.

4.4 Alternative SMF Sites

The following stormwater management facility site alternatives were evaluated for this report:

Basin 2

2A is a 1.1-acre area located in the median of I-275 the centerline near Sta. 115+00 (SB). After providing the required stormwater management, SMF 2A will discharge west to the basin outfall, an offsite ditch located between the XTC Supercenter and Crystal Inn near Sta. 115+00 (SB).

Basin 7

7A is located north of and adjacent to the I-275 right-of-way near Sta. 249+00. This 1.1-acre site is located on a number of undeveloped residential lots north and south of 8th Avenue South. In addition, 4360 SF will be required for a cul-de-sac on 8th Avenue South. After providing the required stormwater management, SMF 7A will discharge into the I-275 roadside ditch and flow north to the basin outfall at Sta. 272+00 (SB).

7B is located north of and adjacent to the I-275 right-of-way near Sta. 256+00. This 1.0-acre site is located on a number of undeveloped residential lots south of 7th Avenue South. In addition, 2600 SF will be required for a cul-de-sac on 8th Avenue South. After providing the required stormwater management, SMF 7B will discharge into the I-275 roadside ditch and flow north to the basin outfall at Sta. 272+00 (SB).

7C is located south of and adjacent to the I-275 right-of-way near Sta. 257+50. This 1.0-acre site is located on a number of undeveloped residential lots east of 22nd Street South. After providing the required stormwater management, SMF 7C will discharge into the I-275 roadside ditch and flow north to the basin outfall at Sta. 272+00 (SB).

Basin 11

11A is located west of the I-275 right-of-way near Sta. 327+00. This 1.5-acre site is located on a number of developed residential lots south of 8th Avenue North. In addition, a 3600 SF easement will be required in order to provide access for the inflow and outflow pipes. After providing the required stormwater management, SMF 11A will discharge into an existing storm drain system and flow to basin outfall at Sta. 318+50 RT (NB).

11B is located west of and adjacent to the I-275 right-of-way near Sta. 331+00. This 1.4-acre site is located on a number of developed residential lots south of 9th Avenue North. After providing the required stormwater management, SMF 11B will discharge into an existing storm drain system and flow to basin outfall at Sta. 318+50 RT (NB).

11C is located east of and adjacent to the I-275 right-of-way, north of 9th Avenue North. This 7.5-acre site is owned by the City of St. Petersburg and is an existing pond. In order to provide the required stormwater management for this project, the existing pond will require expansion. Use of this pond will require coordination with the City of St. Petersburg.

Basin 12

12A is located west of the I-275 right-of-way near Sta. 355+00, between the two railroad tracks spanned by the interstate in this area. This 2.0-acre site is located on a vacant industrial parcel immediately south of Home Depot. A 10,320 SF easement will be required in order to provide access for the inflow and outflow pipes. After providing the required stormwater management, SMF 12A will discharge into an existing storm drain system and flow to the basin outfall at Sta. 351+50 LT.

12B is located east of and adjacent to the I-275 right-of-way near Sta. 355+00. This 2.0-acre site is located on several occupied industrial parcels between I-275 and 19th Street North, along to 15th Avenue North. After providing the required stormwater management, SMF 12B will discharge into an existing storm drain system and flow to the basin outfall at Sta. 351+50 LT.

12C is located east of and adjacent to the I-275 right-of-way near Sta. 357+50. This 2.2-acre site is located on a number of occupied residential lots between I-275 and 19th Street North and includes the roadway right-of-way for 16th Avenue North. After providing the required stormwater management, SMF 12B will discharge into an existing storm drain system and flow to the outfall at Sta. 351+50 LT.

Basin 13

13A is located east of and adjacent to the I-275 right-of-way near Sta. 395+00. This 1.3-acre site is located on a number of occupied residential lots north and south of 29th Avenue North and includes the roadway right-of-way for 29th Avenue North from the I-275 right-of-way east to 21st Street North. After providing the required stormwater management, SMF 13A will discharge into an existing storm drain system and flow to the basin outfall located at Sta. 395+30 LT.

13B is located west of and adjacent to the I-275 right-of-way near Sta. 395+00. This 1.3-acre site is located on a number of occupied residential lots north and south of 29th Avenue North and includes the roadway right-of-way for 28th Avenue North from the I-275 right-of-way west to 22nd Street North. After providing the required stormwater management, SMF 13B will discharge into an existing storm drain system and flow to the basin outfall located at Sta. 395+30 LT.

Basin 14

14A is a 1.9-acre area located in the median of I-275 near Sta. 418+50 (NB). After providing the required stormwater management, SMF 14A will discharge into an existing storm drain system and flow to the basin outfall located at Sta. 445+60 LT.

Basin 15

15A is located west of and adjacent to the I-275 right-of-way near Sta. 438+00 (SB). This 1.0-acre site is located on a portion of a larger commercial parcel. SMF 15A will discharge into an existing storm drain system and flow to the basin outfall located at Sta. 440+35 LT (SB).

15B is located east of and adjacent to the I-275 right-of-way near Sta. 439+00 (NB). This 1.1-acre site is located on a number of occupied residential lots between 42nd Avenue North and 41st Avenue North. In addition, 5920 SF will be required for restoring connections for existing adjacent parcels. After providing the required stormwater management, SMF 15B will discharge into an existing storm drain system and flow to the basin outfall located at Sta. 440+35 LT (SB).

15C is located west of and adjacent to the I-275 right-of-way near Sta. 442+25 (SB). This 1.2-acre site is located on a number of occupied residential lots between 42nd Avenue North and 43rd Avenue North. After providing the required stormwater management, SMF 15C will discharge into an existing storm drain system and flow to the basin outfall located at Sta. 440+35 LT (SB).

Basin 16

- **16A** is located west of the I-275 right-of-way near Sta. 456+00. This 1.2-acre site is located on a number of occupied residential lots between Xenia Street North and 24th Street North, on the north side of 46th Avenue North. An 18,425 SF easement will be required in order to provide access for the inflow and outflow pipes. After providing the required stormwater management, SMF 16A will discharge into an existing storm drain system and flow to the basin outfall located at Sta. 453+00 RT.
- **16B** is located west of the I-275 right-of-way near Sta. 456+00. This 1.2-acre site is located on a number of occupied residential lots, adjacent to Hewitt's Lake, west of Xenia Street North and north of 46th Avenue North. A 6,325 SF easement will be required in order to provide access for the inflow and outflow pipes. After providing the required stormwater management, SMF 16B will discharge into an existing storm drain system and flow to the basin outfall located at Sta. 453+00 RT.
- **16C** is located east of and adjacent to the I-275 right-of-way near Sta. 450+00. This 1.3-acre site is located on a number of occupied residential lots between 45th Avenue North and Salem Avenue North. After providing the required stormwater management, SMF 16C will discharge into an existing storm drain system and flow to the basin outfall located at 453+00 RT.

Basin 17

17A is a 1.6-acre area located in the northwest quadrant of the 54th Avenue North interchange. After providing the required stormwater management, SMF 17A will discharge into an existing storm drain system and flow to the basin outfall located at Sta. 325+20 LT.

Basin 18

- **18A** is located east of and adjacent to the I-275 right-of-way near Sta. 385+00. This 4.1-acre site is located immediately south of and adjacent to the Turner Creek Ditch on four occupied residential lots easts. After providing the required stormwater management, SMF 18A will discharge into the Turner Creek Ditch and flow east into Riviera Bay.
- **18B** is located east of and adjacent to the I-275 right-of-way near Sta. 390+00. This 5.0-acre site is located immediately north of and adjacent to the Turner Creek Ditch on a parcel owned by Pinellas County Public Schools. After providing the required stormwater management, SMF 18B will discharge into the Turner Creek Ditch and flow east into Riviera Bay.

Basin 19

19A is a 2.1-acre area located in the northwest quadrant of the Gandy Boulevard interchange. After providing the required stormwater management, SMF 19A will discharge to the west, under the SB I-275 exit ramp and flow to the basin outfall.

Basin 20

20A is located west of and adjacent to the I-275 right-of-way near Sta. 457+50. This 2.1-acre site is located on a large industrial parcel and is adjacent to an existing pond. After providing the required stormwater management, SMF 20A will discharge into the I-275 roadside ditch and flow north to the outfall ditch along 102nd Avenue North at Sta. 467+00.

20B is located west of and adjacent to the I-275 right-of-way near Sta. 442+00. This 2.1-acre site is located on a vacant industrial parcel and is immediately south of Valpak. After providing the required stormwater management, SMF 20B will discharge into the I-275 roadside ditch and flow north to the outfall ditch along 102nd Avenue North at Sta. 467+00.

4.5 Environmental Look Around

An Environmental Look Around (ELA) is currently being conducted for this section of I-275. The purpose of the ELA to coordinate with regional stakeholders to explore watershed wide stormwater needs and alternative permitting approaches. A progress meeting was held on May 22, 2019 to present the results of the preliminary analysis and provide a progress update on the ELA investigations. Below is a summary of the information presented at the meeting:

- The preliminary analysis indicates that all PD&E preferred offsite ponds could potentially be replaced with ELAs within Pinellas County and City of St. Petersburg proposed Regional Pond Sites.
- The intent is to pursue agreements with other governmental agencies that achieve win-win solutions for both while minimizing impacts to the community and reducing right-of-way takes.
- Meetings will be scheduled with Pinellas County, City of St. Petersburg and SWFWMD as soon as possible to obtain stakeholder buy-in on the ELA approach.
- The preliminary analyses, as well as the follow-up stakeholder correspondence, will be compiled into an ELA Memorandum and submitted to FDOT.
- The PD&E SMFSR and community meetings will continue to show the PD&E SMFSR
 Preferred Pond Sites along with general discussions regarding ELAs being investigated. The
 intent is to present the current right-of-way needs during PD&E with the goal of reducing the
 proposed right-of-way footprint during design.

In addition, a meeting was held with SWFWMD on April 9, 2019 to confirm the applicability, if any, of the Old Tampa Bay (OTB) water quality credits to Tampa Bay Next (TBN) program. The limits of this PD&E Study are known as TBN Section 2. Meeting notes and exhibits from this meeting are included in Appendix F.

5 Environmental Clearances

The environmental clearances described in the sections below are also summarized in **Table 6-1**: Stormwater Management Facility Site Evaluation Matrix.

5.1 Wetlands and Surface Waters

Based on the results of the preliminary data collection and field reviews, it has been determined that 5 of the 25 evaluated alternative pond sites involve wetlands or surface water impacts. Alternative pond sites with a 'moderate' ranking for wetland involvement include: 2A, 11C, 18A, and 18B. Alternative pond site 20B was determined to have a ranking of 'Low'.

Final impact acreages to jurisdictional wetlands can only be determined following the establishment of agency approved wetlands limits and upon completion of final pond design. This includes maintenance of hydrology and provisions for adequate wetland buffering (15-foot minimum and 25-foot average set back from wetlands) to minimize secondary impacts. Where feasible, measures to avoid or minimize wetland and water quality impacts will be implemented during final pond site design.

5.2 Protected Species

Based on results of preliminary data collection and field reviews, it has been determined that 21 of the 25 evaluated alternative pond sites have a 'low' potential for impacting protected species.

The potential involvement with protected species and their habitat is 'moderate' for 16A and 18A. Suitable habitat is present within these sites.

11C, an existing City pond, has a 'high' potential for impacting protected species. A wood stork was observed during the field review. 18B, an existing permitted wetland mitigation area, also has a 'high' ranking.

5.3 Cultural Resources

As a result of the preliminary study, one previously recorded archaeological site is recorded within two of the proposed pond sites (18A and 18B). The lithic scatter type site (8Pl01212) has not been evaluated by the State Historic Preservation Officer (SHPO) but the recorders did not consider it significant. Background research indicated that 49 historic resources were previously recorded within or immediately adjacent to twelve of the proposed pond sites. Of these, the Kenwood Historic District (8Pl11176) and 21 contributing resources to the historic district are located within or adjacent to proposed pond sites 11A and 11B. The Kenwood Historic District (8Pl11176) was listed in the NRHP in 2003 and the building at 2105 7th Avenue North (8Pl07410) is considered NRHP-eligible as a contributing resource to the Kenwood Historic District, both are located with pond 11A. Pond 11B is adjacent to the Kenwood Historic District except for 2118 9th Avenue (8Pl7588), located within a portion of Pond 11B and is considered a contributing resource but has not been evaluated by the SHPO. Background research also included a review of the Pinellas County Property Appraisers website, which indicated the potential for 45 historic buildings (50 years of age or older) within or immediately adjacent to eleven of the proposed pond sites (Twitty 2019).

As a result of the preliminary probability pond analysis, proposed pond sites 11A and 11B should be avoided for this project. Following the selection of preferred pond sites, systematic archaeological field survey is recommended in accordance with the guidelines and standards promulgated by the Florida Department of Transportation (FDOT) and Florida Division of Historical Resources (FDHR). The selected pond sites considered to have a low potential also should be surveyed and judgmentally tested. Historical/architectural field survey is also recommended.

In 2016 ACI also prepared an associated Pond Technical Memorandum (FDHR Survey #22781). Based on the results of these reports, ten historic resources (8PI11652, 8PI12273, 8PI12341, 8PI12343, 8PI12345, 8PI12418, 8PI12723, 8PI12724, 8PI12354, and 8PI12433) were previously recorded within or immediately adjacent to twelve of the proposed pond sites (Table 3; Figures 2-5). These include one linear resource, the Orange Belt Railway (8PI12273), two building complexes (8PI12724 & 8PI12354), five Frame Vernacular style buildings (8PI11652, 8PI12341, 8PI12343, 8PI12723, and 8PI12433), one Mission style building (8PI12345), and one Masonry Vernacular style building (8PI12418). Of these, eight (8PI12341, 8PI12343, 8PI12345, 8PI12418, 8PI12723, 8PI12724, and 8PI12433) were evaluated as ineligible for listing in the NRHP by the SHPO. The Orange Belt Railway is located adjacent to pond 12A and was determined to have insufficient information by the SHPO in 2015.

A review of relevant quadrangle maps, historic aerial photographs, and Pinellas County property appraiser's website data revealed the potential for 13 new historic resources 50 years of age or older (constructed 1969 or earlier) within the APE (Twitty 2019). In addition, several 1973 buildings, part of the Meadow Lawn Pinellas Addition Subdivision developed in 1971, were noted south of proposed pond site 18A.

Please refer to **Appendix G** for the Preliminary Cultural Resource Assessment Probability Analysis Technical Memorandum and to the Cultural Resource Assessment Survey Proposed Pond Site Alternatives and Re-evaluation Technical Memorandum (under separate cover).

5.4 Contamination and Hazardous Materials

A total of twelve (12) preferred pond sites were evaluated and resulted in the following risk rankings: two (2) "Medium" risk rankings, five (5) "Low" risk rankings and five (5) "No" risk rankings for potential contamination and hazardous material impacts.

The pond alternatives with a "medium" risk ranking are:

- 11C This pond site was observed as an existing stormwater drainage pond located adjacent east of I-275 ROW.
 - Concerns: Railroad tracks are located adjacent east of this pond site. Historically, railroads used arsenic based pesticides and/or herbicides for vegetation and weed control along its corridors. In addition, petroleum-based and creosote compounds were often used to preserve railroad ties. Therefore, the railroad tracks located adjacent east are considered a contamination concern to Pond 11C.
 - Risk Rating: Due to the railroad tracks located adjacent east, this pond site is assigned a risk rating of Medium.

- 12A Please note that a locked gate prevented access to this pond site during the site reconnaissance. According to Google Earth aerial photography, this pond site is composed of a vacant concrete lot located 120 feet northwest of existing I-275 ROW.
 - Concerns: Railroad tracks are located adjacent east and west of this pond site. Historically, railroads used arsenic based pesticides and/or herbicides for vegetation and weed control along its corridors. In addition, petroleum-based and creosote compounds were often used to preserve railroad ties. Therefore, the railroad tracks located adjacent east and west are considered a contamination concern to Pond 12A.
 - Risk Rating: Due to the railroad tracks located adjacent east and west, this pond site is assigned a risk rating of Medium.

For sites ranked "No" or "Low", no additional work is recommended at this time. Should a facility's permitting or regulatory status change between now and the time acquisitions are initiated, additional screening should be conducted.

For the two sites with risk rankings of "Medium", a Level 2 field screening is recommended to determine if environmental impacts exist at the proposed pond sites. All pond sites selected for final design, regardless of risk ranking, will require limited field screening in accordance with the Department Contamination Impact Coordinator requirements outlined in the scope of work. This will include, at a minimum, soil screening for arsenic concentrations and potential buried debris.

6 Results

6.1 SMF Site Evaluation Matrix

An evaluation matrix was developed to present the alternatives in each basin with respect to the environmental clearances discussed in Section 5.0 and the right-of-way cost estimate discussed in Section 6.2. **Table 6-1** shows all of the evaluated pond sites and the recommended ranking.

SMF sizes and configurations in this report are based on preliminary assumptions and calculations. Final SMF sizes and configurations will be determined in the design phase and could be different from those used in this report and presented in the following tables as more detailed information on seasonal high groundwater table, wetland normal pool elevations, final roadway design, geotechnical data, etc. becomes available.

6.2 Right-of-Way Cost Estimate

A right-of-way cost estimate, dated January 22, 2019, was prepared for each SMF alternative.

Please see **Appendix H** for the right-of-way cost estimate.

TABLE 6-1
STORMWATER MANAGEMENT FACILITY SITE EVALUATION MATRIX

SMF Site Alternative	Size (acres)	Easement Size (feet²)	Wetland and Surface Waters Ranking	Wetland or Surface Water Type	Impact Estimate (acres)	Mitigation Assumption	¹ Protected Species Ranking	Potential Species	Contamination and Hazardous Material Rating	Cultural Resource Potential	² Wetland Mitigation Cost Estimate	Right-of-Way Cost Estimate	SMF Site Ranking
2A	0.7	-	Moderate	SW (Forested)	0.22	Section 373.4137, F.S.	Low	Least Tern (GIS), EIS (historic)	No	Low	\$0	\$0	1
7A	1.1	4,360	None	N/A	0	N/A	Low	Gopher tortoise	Low	Low	\$0	\$565,300	2
7B	1.0	2,600	None	N/A	0	N/A	Low	Gopher tortoise	Low	Low	\$0	\$537,600	1
7C	1.0	-	None	N/A	0	N/A	Low	Gopher tortoise	Low	Moderate	\$0	\$2,090,900	3
11A	1.5	3,600	None	N/A	0	N/A	Low		Low	High	\$0	\$5,156,500	3
11B	1.4	-	None	N/A	0	N/A	Low		Low	High	\$0	\$4,044,000	2
11C	7.5	-	Moderate	SW (herbaceous)	4.6 (lake) 0.96 (SFH)	Section 373.4137, F.S.	⁶ High	Wood stork observed (SFH); other wading bird foraging expected	Medium	Low	\$115,623.36	\$469,700	1
12A	2.0	-	None	N/A	0	N/A	Low		Medium	Low	\$0	\$2,653,600	1
12B	2.0	-	None	N/A	0	N/A	Low		Low	High	\$0	\$4,380,100	2
12C	2.2	-	None	N/A	0	N/A	Low		Low	High	\$0	\$4,916,400	3
13A	1.3	-	None	N/A	0	N/A	Low		No	High	\$0	\$2,490,400	2
13B	1.0	-	None	N/A	0	N/A	Low		Low	Low	\$0	\$1,329,700	1
14A	1.9	-	None	N/A	0	N/A	Low		No	Low	\$0	\$0	1
15A	1.0	-	None	N/A	0	N/A	Low		Low	Low	\$0	\$1,187,200	1
15B	1.1	5,920	None	N/A	0	N/A	Low		No	High	\$0	\$2,658,600	3
15C	1.2	-	None	N/A	0	N/A	Low		No	High	\$0	\$2,352,000	2
16A	1. 2	18,425	None	N/A	0	N/A	Moderate	Wood stork; other wading bird (roosting)	No	Low	\$0	\$2,644,800	1
16B	1.2	6,325	None	N/A	0	N/A	Low		No	High	\$0	\$3,449,500	3

TABLE 6-1
STORMWATER MANAGEMENT FACILITY SITE EVALUATION MATRIX

SMF Site Alternative	Size (acres)	Easement Size (feet²)	Wetland and Surface Waters Ranking	Wetland or Surface Water Type	Impact Estimate (acres)	Mitigation Assumption	¹ Protected Species Ranking	Potential Species	Contamination and Hazardous Material Rating	Cultural Resource Potential	² Wetland Mitigation Cost Estimate	Right-of-Way Cost Estimate	SMF Site Ranking
16C	1.3	-	None	N/A	0	N/A	Low		No	High	\$0	\$3,407,900	2
17A	1.6	-	None	N/A	0	N/A	Low	Wood stork; other wading birds	Low	Low	\$0	\$0	1
18A	4.1	-	Moderate	WL – Forested	1.21	Section 373.4137, F.S.	Low	Wood stork, other wading birds; EIS	No	Moderate	\$145,733.61	\$2,826,200	1
18B	5.0	-	³ Moderate	WL – Forested	4 4.54	Section 373.4137, F.S.	High	Wood stork, other wading birds; least tern; EIS	No	Moderate	\$0	\$613,200	2
19A	2.1	-	None	N/A	0	N/A	Low	Wood stork; other wading birds	Low	Low	\$0	\$0	1
20A	2.1	-	None	N/A	0	N/A	Low	Gopher tortoise; EIS	No	Low	\$0	\$802,100	1
20B	2.1	-	Low	⁵ SW	Deminimis	N/A	Low	Gopher tortoise; EIS; wood stork; wading birds; least tern	Medium	Low	\$0	\$1,371,500	2

¹ Low (L) - Little or no suitable habitat; Moderate (M) – Suitable habitat present within the project limits or species record of occurrence (based on FNAI, GIS, literature review) within or adjacent the project ROW; High (H) – Suitable habitat present within the project limits and species observed within or adjacent the project ROW.

² Estimated wetland mitigation: FDOT Mitigation Program 2019/2020 cost/acre = \$120,441.

³ Pinellas School Board Mitigation Area

⁴ Permitted wetland mitigation

⁵ Pond may be adjusted to avoid ditch (SW) impact

⁶ Within the wood stork 15-mile Core Foraging Area.

7 Conclusions and Recommendations

A preferred alternative for each basin was recommended based on their ranking of critical site selection parameters. The ranking was based on: environmental impacts, including wetlands and surface waters, protected species, cultural resources and contamination; hydrologic factors such as estimated seasonal high groundwater table elevations and soil types; and economic factors based on estimated land costs. The preferred SMF site for each basin is shown in **Table 7-1** below.

TABLE 7-1: PREFERRED SMF SITES

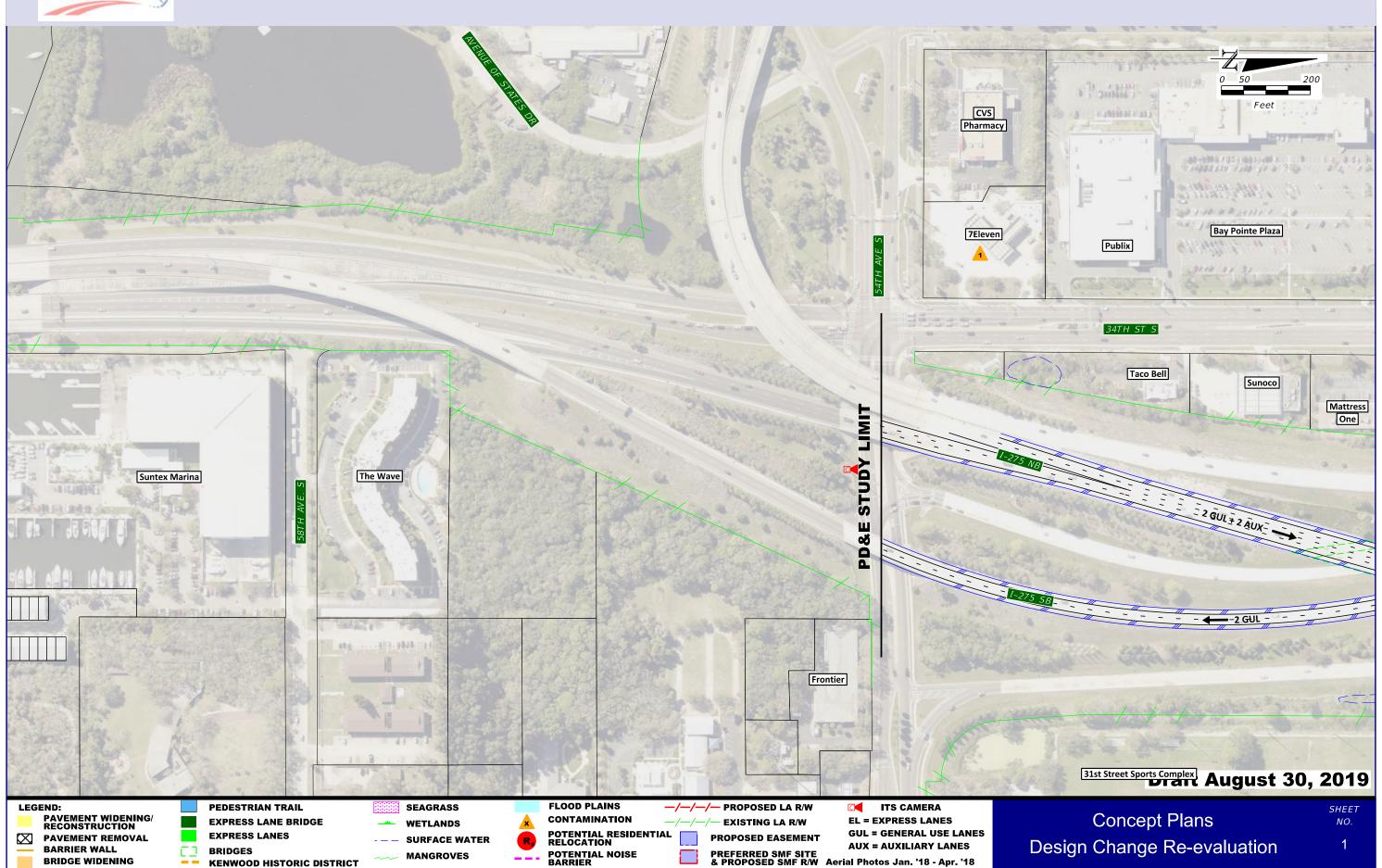
Basin	Preferred SMF Site	SMF Size (acres)
2	2A *	0.7
7	7B	1.0
11	11C	7.5 **
12	12A	2.0
13	13B	1.0
14	14A *	1.9
15	15A	1.0
16	16A	1.2
17	17A *	1.6
18	18A	4.1
19	19A *	2.1
20	20A	2.1

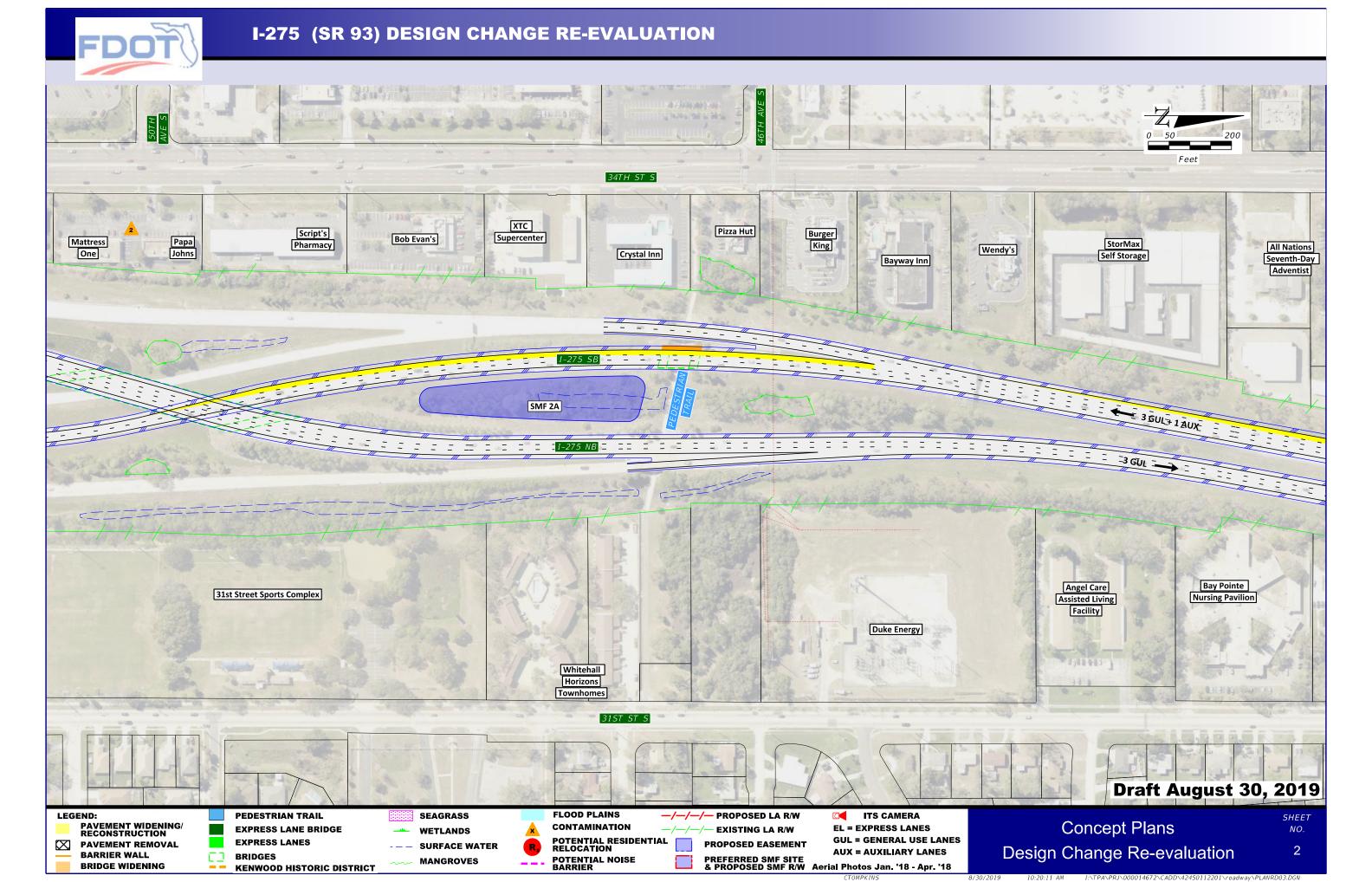
^{*} Within the existing right-of-way.

^{**} Easement over existing City stormwater facility.

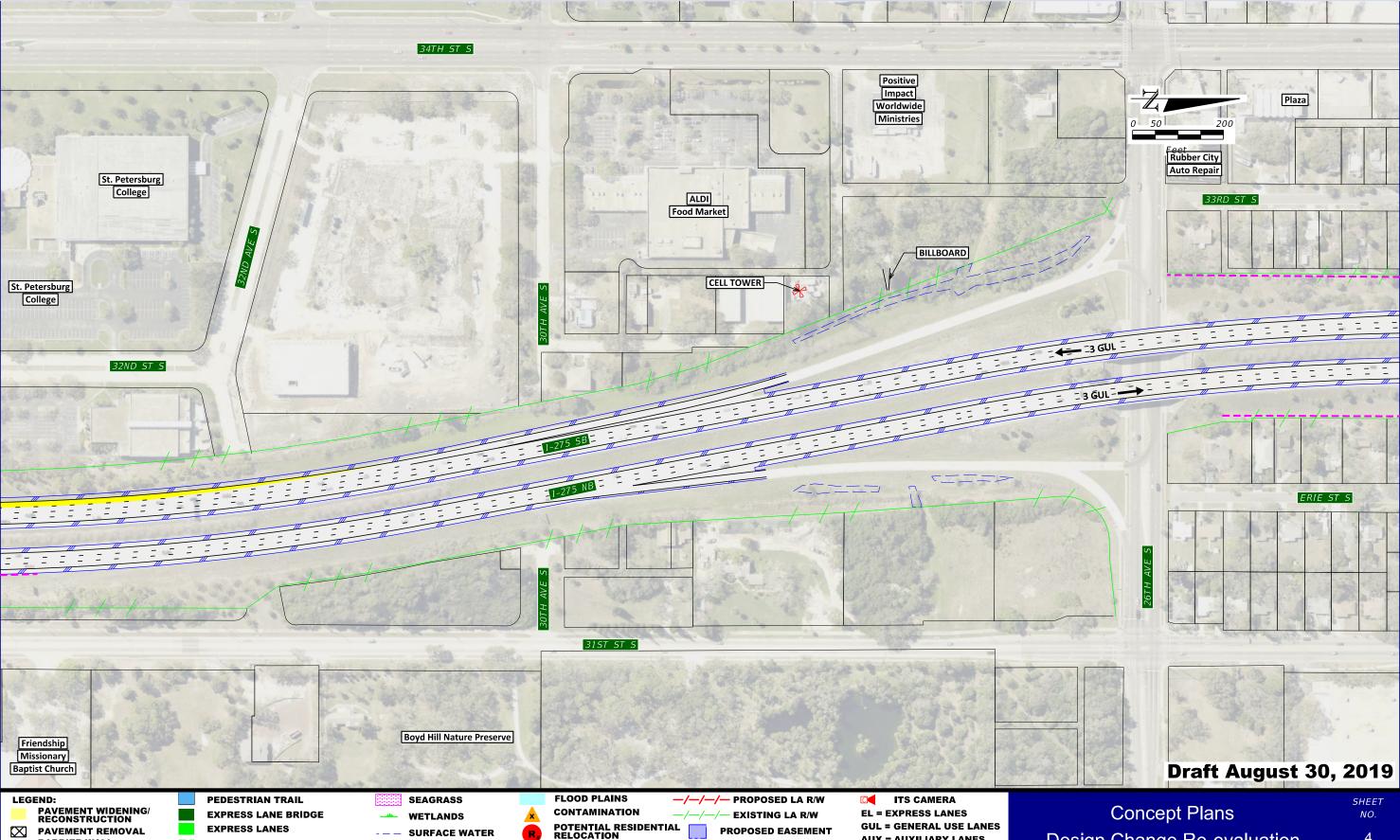
Appendix A. Concept Plans







I-275 (SR 93) DESIGN CHANGE RE-EVALUATION Skyway Diner All Nations Car Wash Pinch A Penny Seventh-Day Adventist CORA Rehab Clinic Hide Away Storage St. Petersburg College BILLBOARD Grand Villa Senior Community Florida National Guard St. Petersburg City Theatre Kingdom Hall of Jehovah's Witnesses Friendship Missionary **Baptist Church** Draft August 30, 2019 LEGEND: PEDESTRIAN TRAIL **FLOOD PLAINS SEAGRASS** ITS CAMERA —/—/— PROPOSED LA R/W SHEET Concept Plans PAVEMENT WIDENING/ RECONSTRUCTION CONTAMINATION EL = EXPRESS LANES **EXPRESS LANE BRIDGE** EXISTING LA R/W **WETLANDS** POTENTIAL RESIDENTIAL RELOCATION GUL = GENERAL USE LANES **EXPRESS LANES PAVEMENT REMOVAL** PROPOSED EASEMENT **SURFACE WATER** Design Change Re-evaluation AUX = AUXILIARY LANES **BARRIER WALL BRIDGES** POTENTIAL NOISE BARRIER PREFERRED SMF SITE & PROPOSED SMF R/W Aerial Photos Jan. '18 - Apr. '18 **BRIDGE WIDENING** KENWOOD HISTORIC DISTRICT



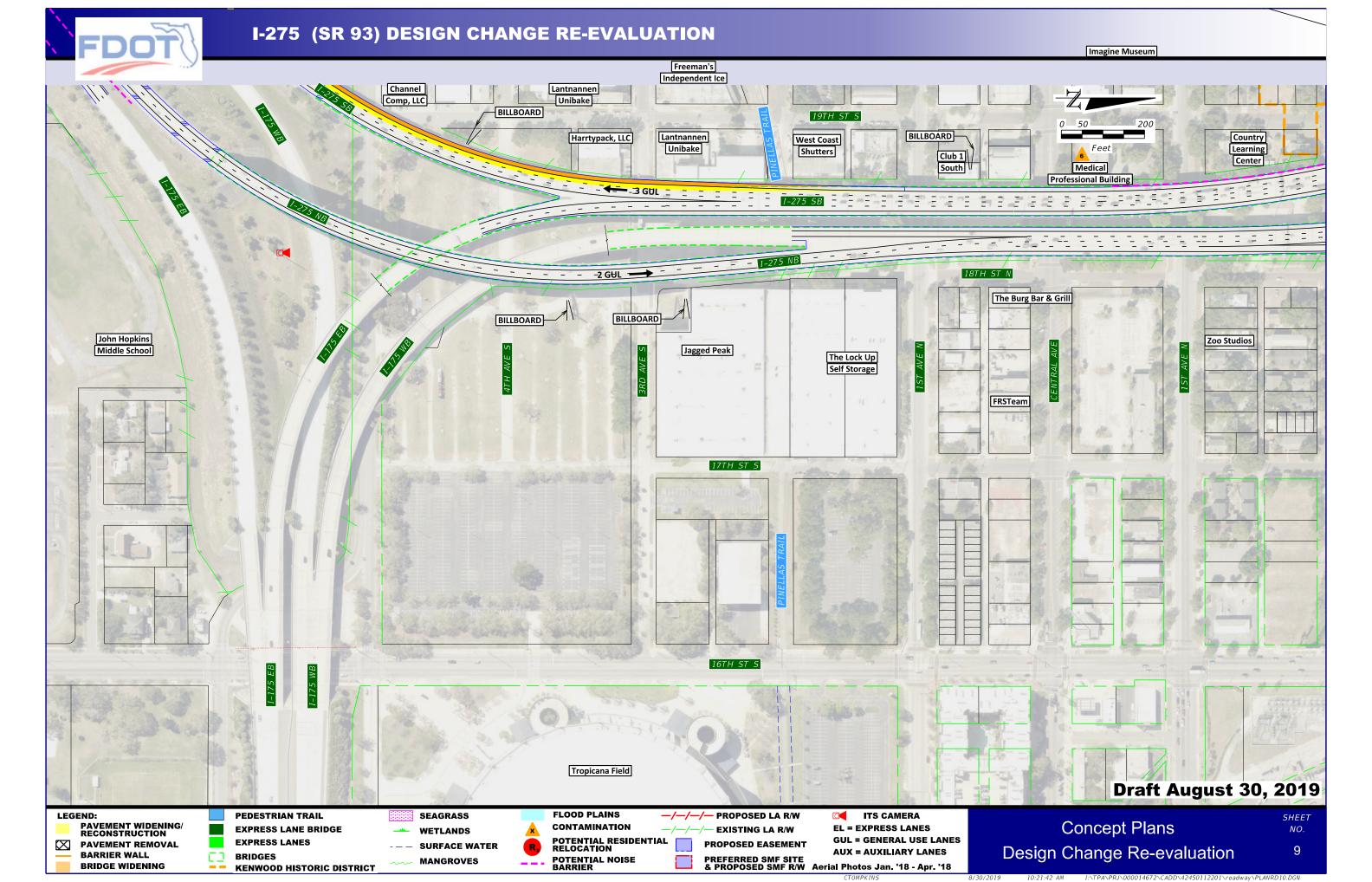
POTENTIAL RESIDENTIAL RELOCATION Design Change Re-evaluation AUX = AUXILIARY LANES **BARRIER WALL BRIDGES** POTENTIAL NOISE BARRIER PREFERRED SMF SITE & PROPOSED SMF R/W Aerial Photos Jan. '18 - Apr. '18 **BRIDGE WIDENING KENWOOD HISTORIC DISTRICT**

I-275 (SR 93) DESIGN CHANGE RE-EVALUATION Rental Brake Pet Pal Towing & KFC Eddie's Alma Skyview Motel Kings Fried Chicken World Hall Plaza Twin Brooks Veterinary Shell Chevron Trasport Body Shop Ingram Clinic BILLBOARD VMS-Draft August 30, 2019 **FLOOD PLAINS** LEGEND: PEDESTRIAN TRAIL SEAGRASS —/—/— PROPOSED LA R/W ITS CAMERA SHEET **Concept Plans** PAVEMENT WIDENING/ RECONSTRUCTION CONTAMINATION EL = EXPRESS LANES **EXPRESS LANE BRIDGE** -/-/- EXISTING LA R/W NO. **WETLANDS** POTENTIAL RESIDENTIAL RELOCATION GUL = GENERAL USE LANES **EXPRESS LANES** PROPOSED EASEMENT **SURFACE WATER** Design Change Re-evaluation AUX = AUXILIARY LANES **BARRIER WALL BRIDGES** POTENTIAL NOISE BARRIER PREFERRED SMF SITE & PROPOSED SMF R/W Aerial Photos Jan. '18 - Apr. '18 **MANGROVES BRIDGE WIDENING** KENWOOD HISTORIC DISTRICT

I-275 (SR 93) DESIGN CHANGE RE-EVALUATION Driftwood Motel Sundaze Motel Bad to Public Storage the Bone Auto Accessories New Mount Sinai Missionary Gibbs High School 31ST ST S BILLBOARD Argos Ready Mix Draft August 30, 2019 PEDESTRIAN TRAIL **FLOOD PLAINS** —/—/— PROPOSED LA R/W **SEAGRASS** ITS CAMERA **Concept Plans** PAVEMENT WIDENING/ RECONSTRUCTION CONTAMINATION EL = EXPRESS LANES **EXPRESS LANE BRIDGE** -/-/- EXISTING LA R/W **WETLANDS** POTENTIAL RESIDENTIAL RELOCATION GUL = GENERAL USE LANES **EXPRESS LANES PAVEMENT REMOVAL** PROPOSED EASEMENT **SURFACE WATER** Design Change Re-evaluation AUX = AUXILIARY LANES **BARRIER WALL BRIDGES** POTENTIAL NOISE BARRIER PREFERRED SMF SITE & PROPOSED SMF R/W Aerial Photos Jan. '18 - Apr. '18 **MANGROVES BRIDGE WIDENING KENWOOD HISTORIC DISTRICT**

I-275 (SR 93) DESIGN CHANGE RE-EVALUATION BILLBOARD Angelo's Recycled Materials Bama Sea Products, Inc. Cemex BILLBOARD Juvenile Justice Department BILLBOARD Word of Life **Baptist Church** New Faith Methodist Jordan Park Elementary School Wildwood Park Draft August 30, 2019 LEGEND: PEDESTRIAN TRAIL **FLOOD PLAINS** ITS CAMERA SEAGRASS - PROPOSED LA R/W **Concept Plans** PAVEMENT WIDENING/ RECONSTRUCTION CONTAMINATION EL = EXPRESS LANES **EXPRESS LANE BRIDGE** —/—/— EXISTING LA R/W **WETLANDS** POTENTIAL RESIDENTIAL RELOCATION GUL = GENERAL USE LANES **EXPRESS LANES PAVEMENT REMOVAL** PROPOSED EASEMENT **SURFACE WATER** Design Change Re-evaluation AUX = AUXILIARY LANES **BARRIER WALL BRIDGES** POTENTIAL NOISE BARRIER PREFERRED SMF SITE & PROPOSED SMF R/W Aerial Photos Jan. '18 - Apr. '18 **MANGROVES BRIDGE WIDENING** KENWOOD HISTORIC DISTRICT

I-275 (SR 93) DESIGN CHANGE RE-EVALUATION **Pinellas County** Job Corps Center Exceeding Grace THIS STORMWATER MANAGEMENT POND MAY POTENTIALLY BE REDUCED IN SIZE OR ELIMINATED, PENDING COMPLETION OF A FDOT LED ENVIRONMENTAL LOOK AROUND (ELA) FEASIBILITY Manhattan Casino STUDY AND EXECUTION OF MULTI-AGENCY AGREEMENTS. SMF 7B Jordan Park Elementary John Hopkins Middle School School BILLBOARD Creole Cafe History Museum Draft August 30, 2019 South City Grocery LEGEND: PEDESTRIAN TRAIL **FLOOD PLAINS SEAGRASS** - PROPOSED LA R/W ITS CAMERA **Concept Plans** PAVEMENT WIDENING/ RECONSTRUCTION CONTAMINATION EL = EXPRESS LANES **EXPRESS LANE BRIDGE** —/—/— EXISTING LA R/W WETLANDS POTENTIAL RESIDENTIAL RELOCATION GUL = GENERAL USE LANES PAVEMENT REMOVAL **EXPRESS LANES** PROPOSED EASEMENT **SURFACE WATER** Design Change Re-evaluation AUX = AUXILIARY LANES **BARRIER WALL BRIDGES** POTENTIAL NOISE BARRIER PREFERRED SMF SITE & PROPOSED SMF R/W Aerial Photos Jan. '18 - Apr. '18 **MANGROVES** BRIDGE WIDENING **KENWOOD HISTORIC DISTRICT**



POTENTIAL NOISE BARRIER

BARRIER WALL

BRIDGE WIDENING

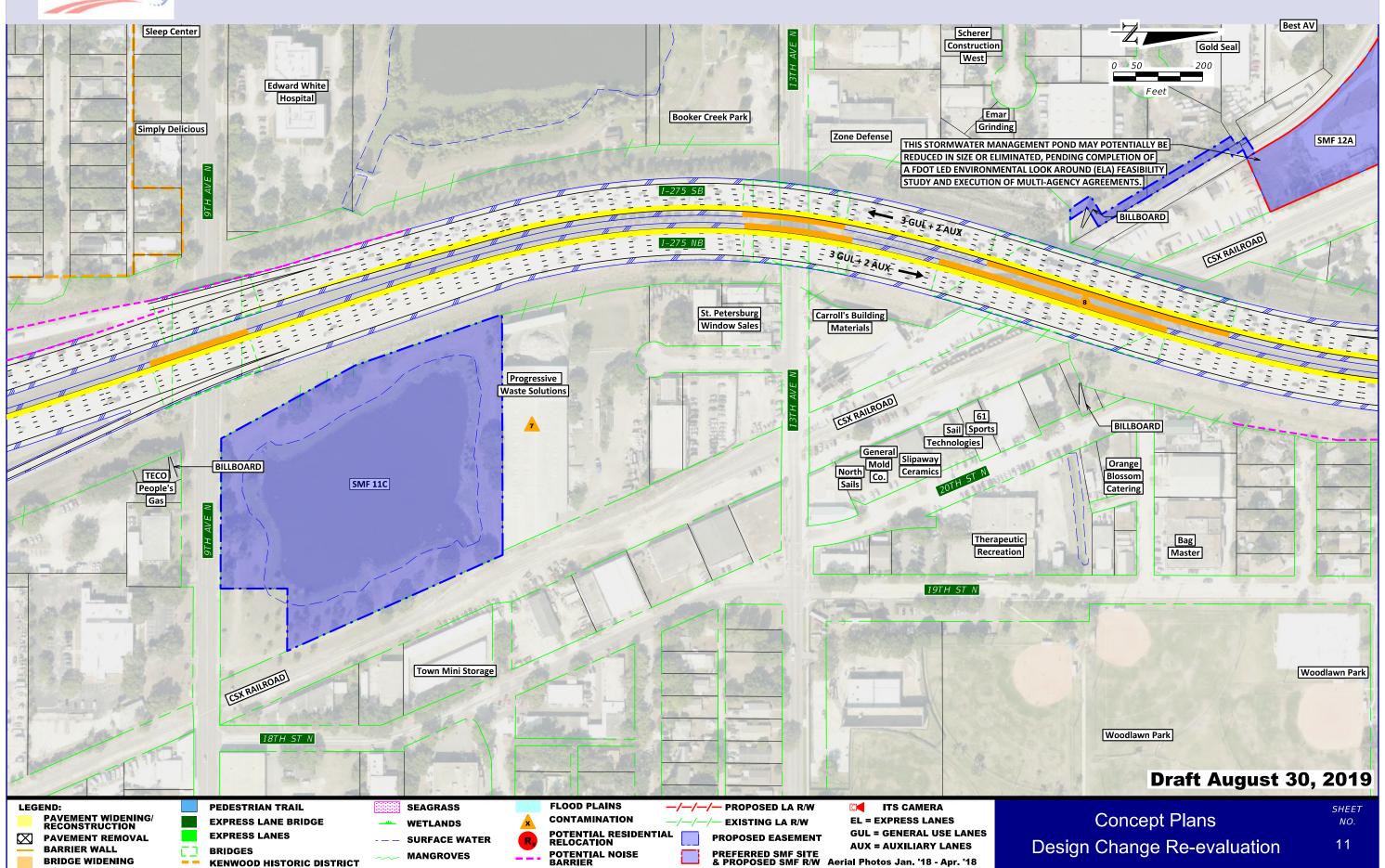
BRIDGES

KENWOOD HISTORIC DISTRICT

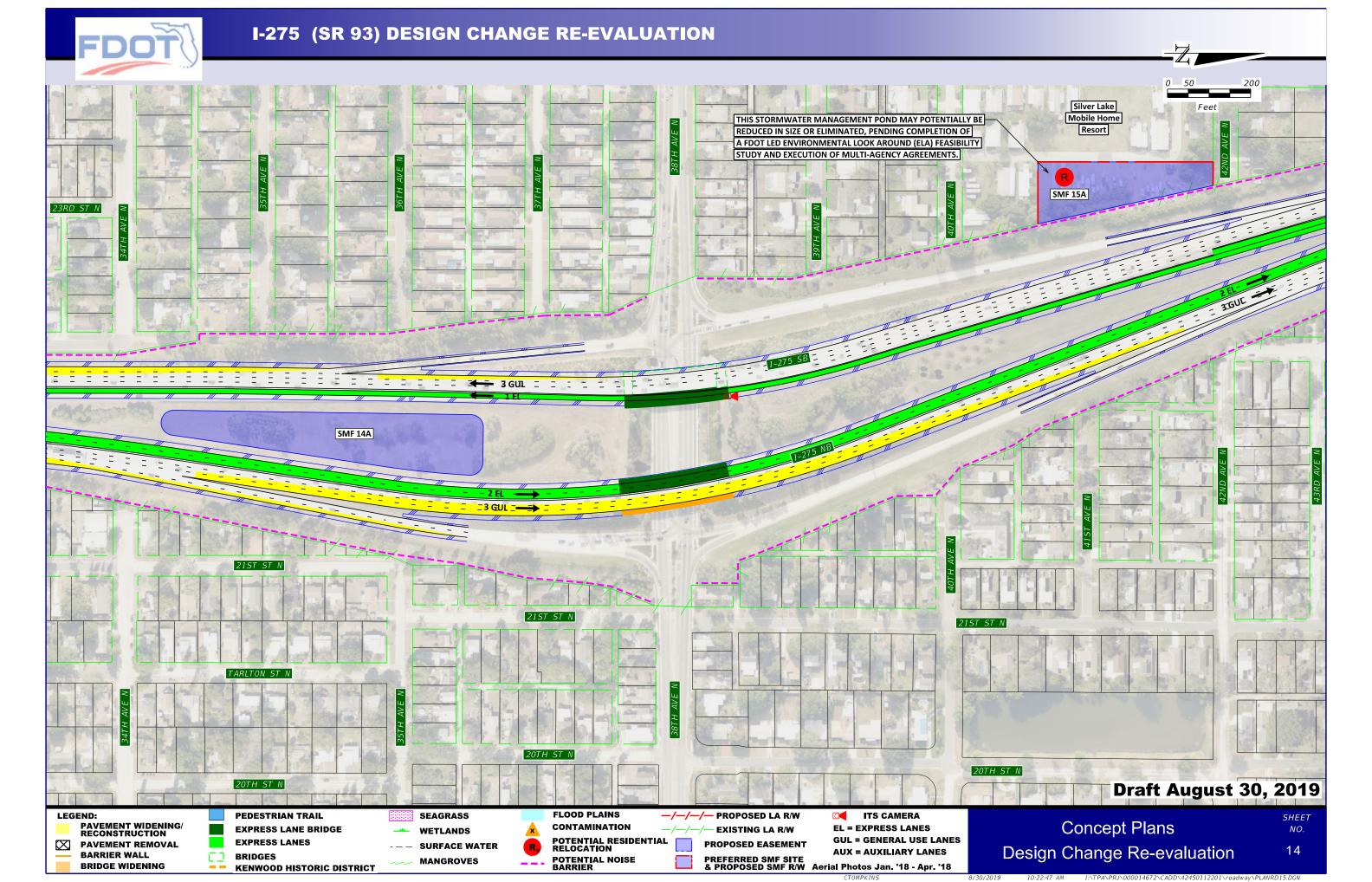
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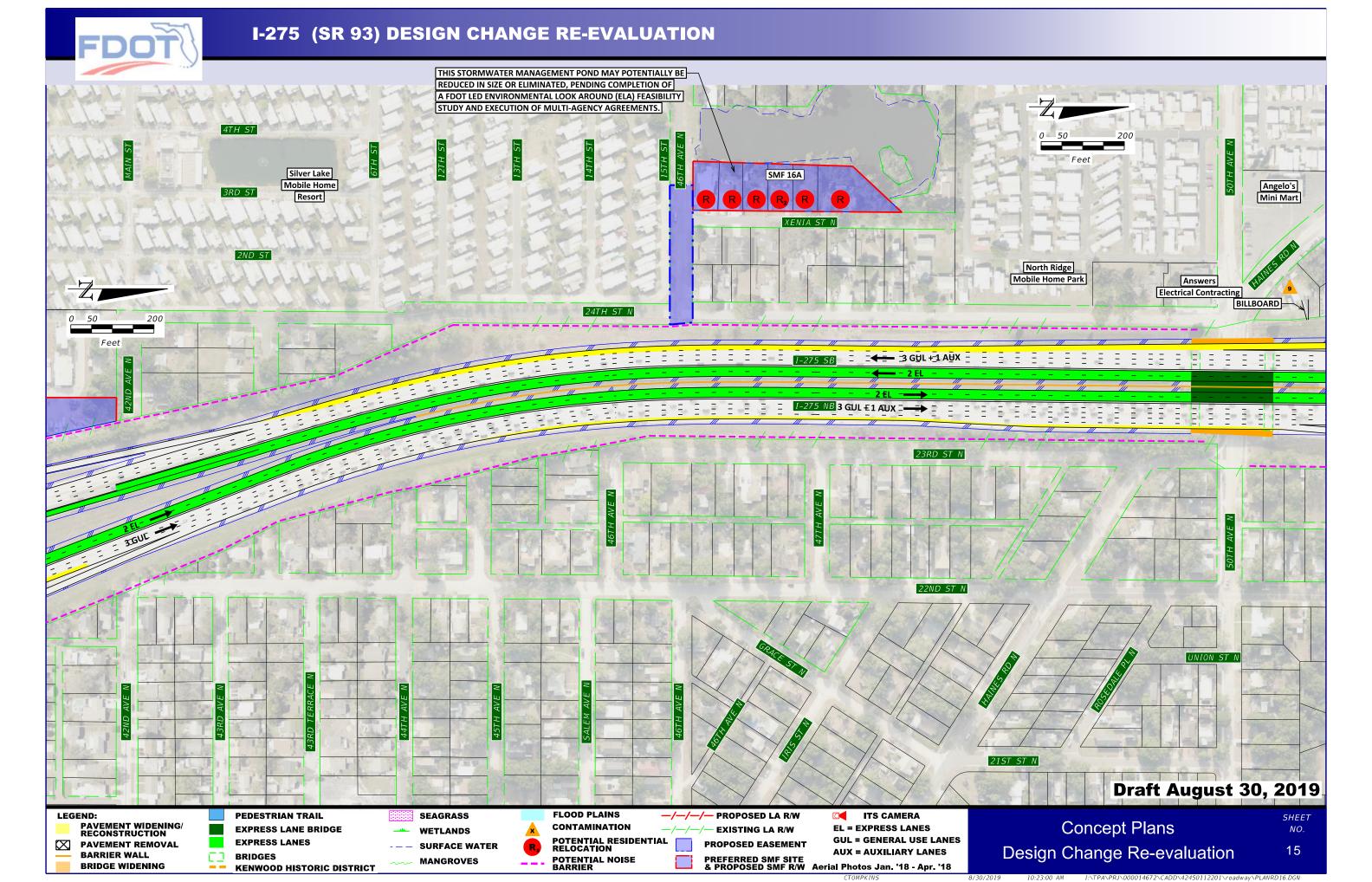
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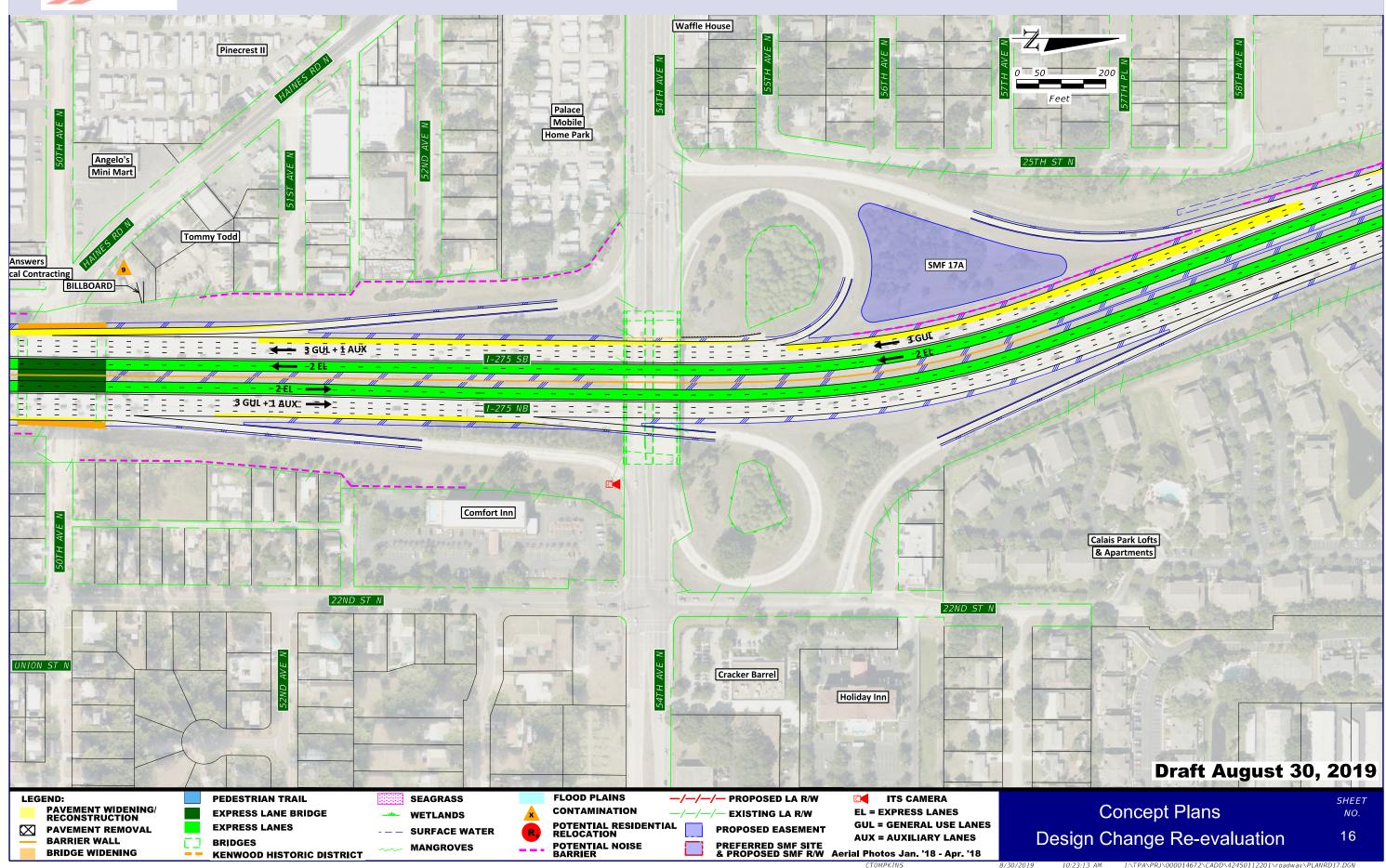


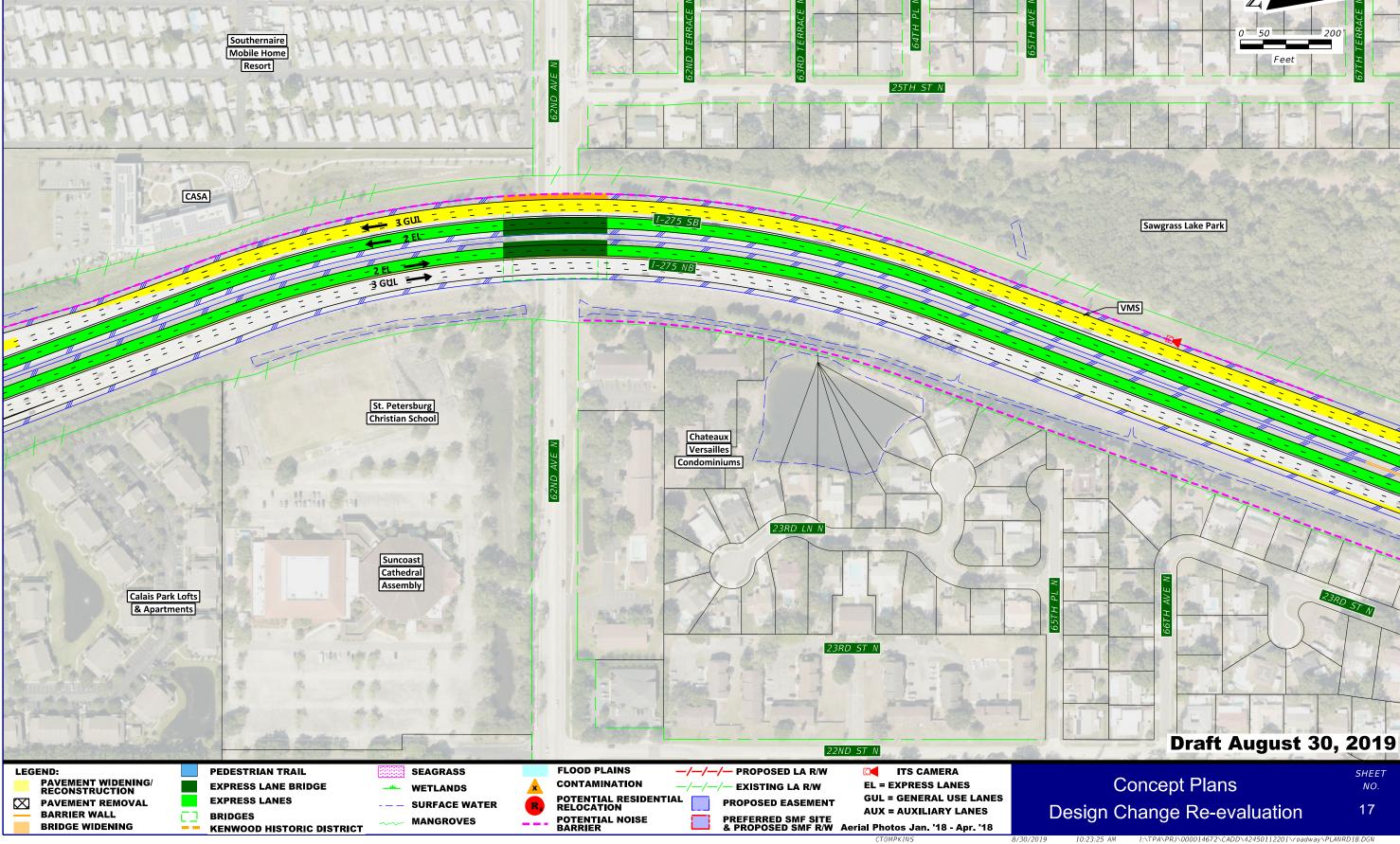
I-275 (SR 93) DESIGN CHANGE RE-EVALUATION Best AV Former Norwood **Home Depot** Secondary School SMF 12A THIS STORMWATER MANAGEMENT POND MAY POTENTIALLY BE REDUCED IN SIZE OR ELIMINATED, PENDING COMPLETION OF A FDOT LED ENVIRONMENTAL LOOK AROUND (ELA) FEASIBILITY STUDY AND EXECUTION OF MULTI-AGENCY AGREEMENTS. CELL TOWER Kenny's Landscape **₹** 3 GUL + 1 AUX = 3 GUL ₹ 2 AUX= -=> Woodlawn Park Draft August 30, 2019 LEGEND: PEDESTRIAN TRAIL **FLOOD PLAINS SEAGRASS** - PROPOSED LA R/W ITS CAMERA **Concept Plans** PAVEMENT WIDENING/ RECONSTRUCTION CONTAMINATION EL = EXPRESS LANES **EXPRESS LANE BRIDGE** EXISTING LA R/W **WETLANDS** POTENTIAL RESIDENTIAL RELOCATION GUL = GENERAL USE LANES **EXPRESS LANES** PROPOSED EASEMENT **SURFACE WATER** Design Change Re-evaluation 12 AUX = AUXILIARY LANES **BARRIER WALL BRIDGES** POTENTIAL NOISE BARRIER PREFERRED SMF SITE & PROPOSED SMF R/W Aerial Photos Jan. '18 - Apr. '18 **MANGROVES BRIDGE WIDENING KENWOOD HISTORIC DISTRICT**









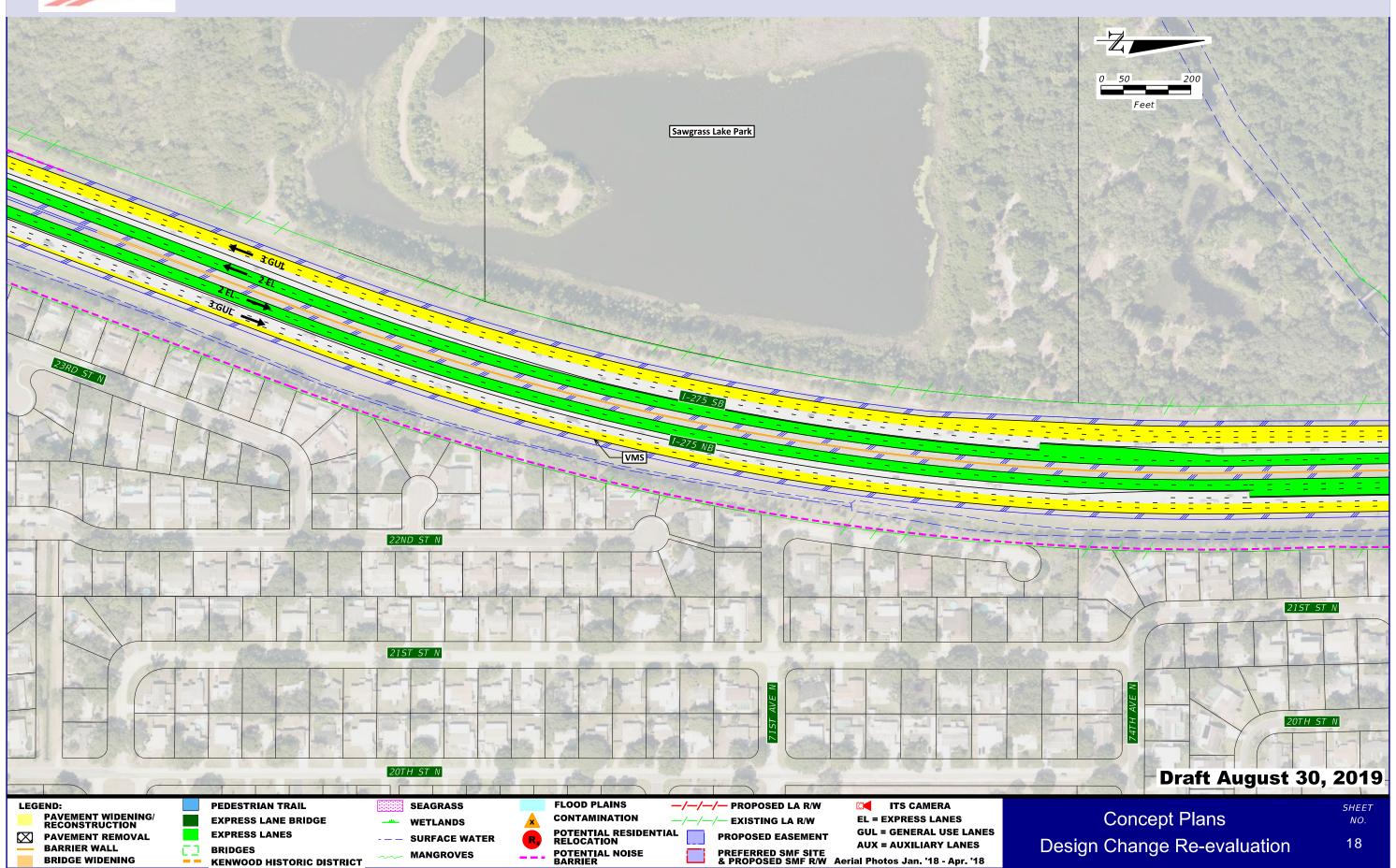


MANGROVES

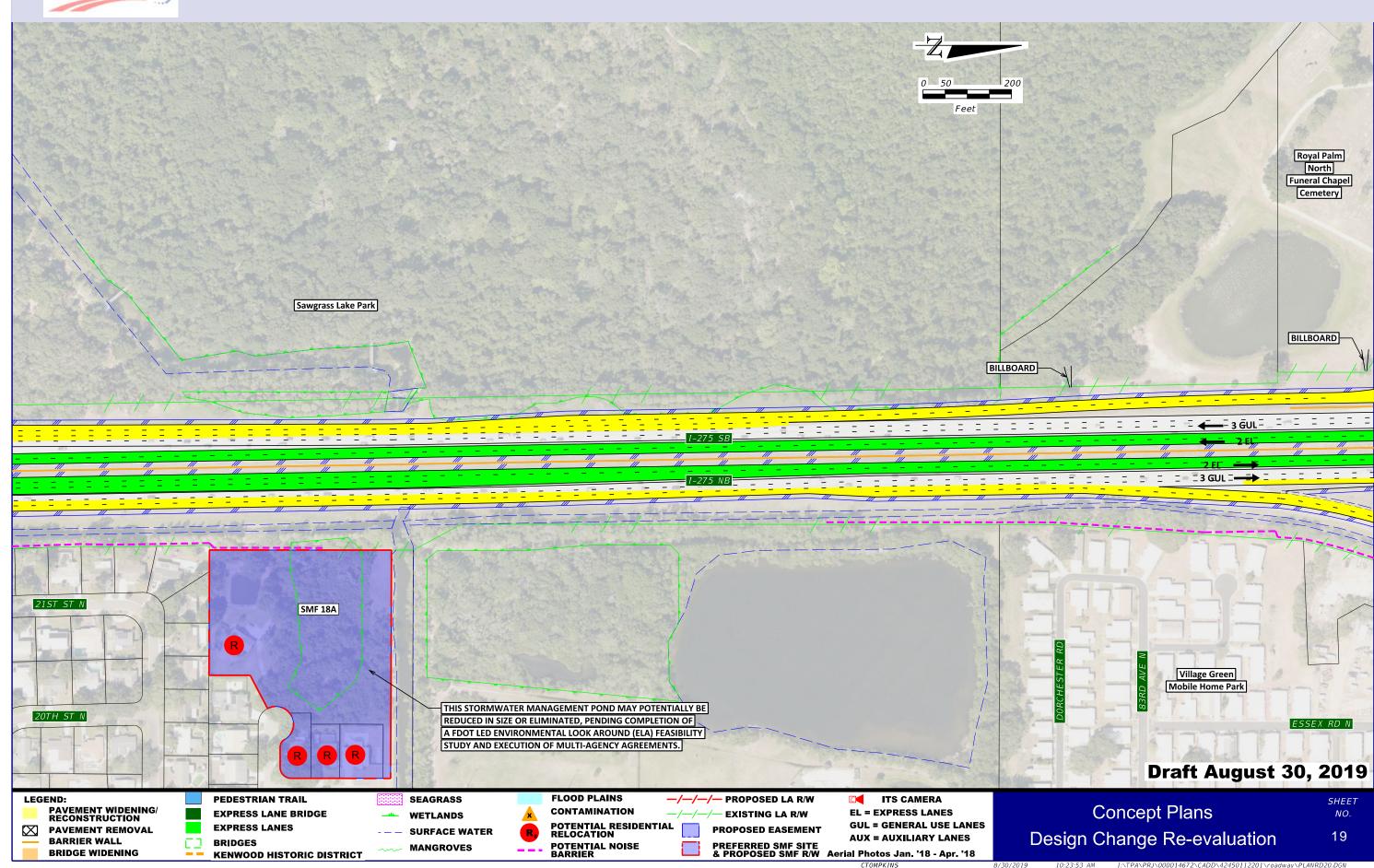
KENWOOD HISTORIC DISTRICT



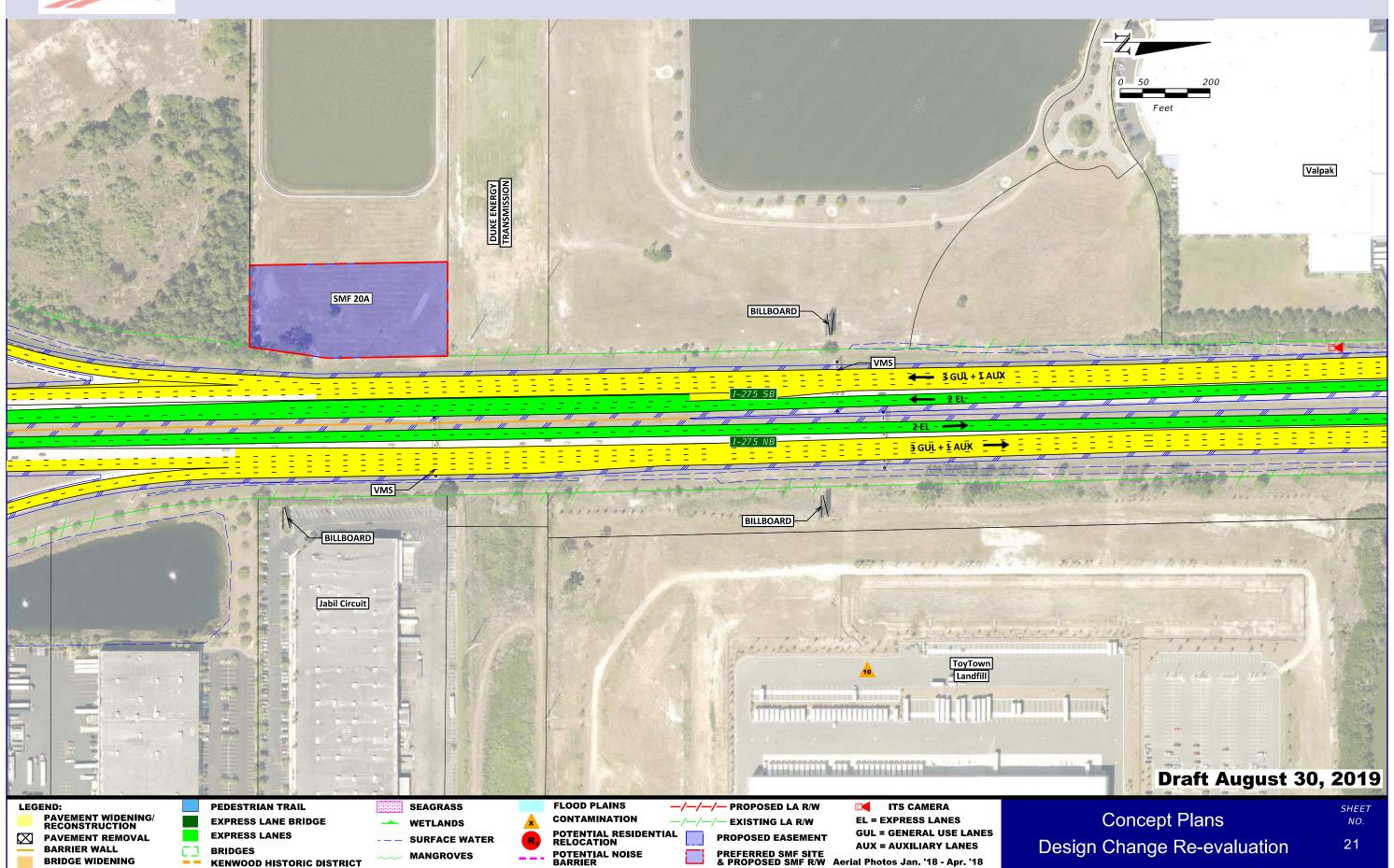
BRIDGE WIDENING







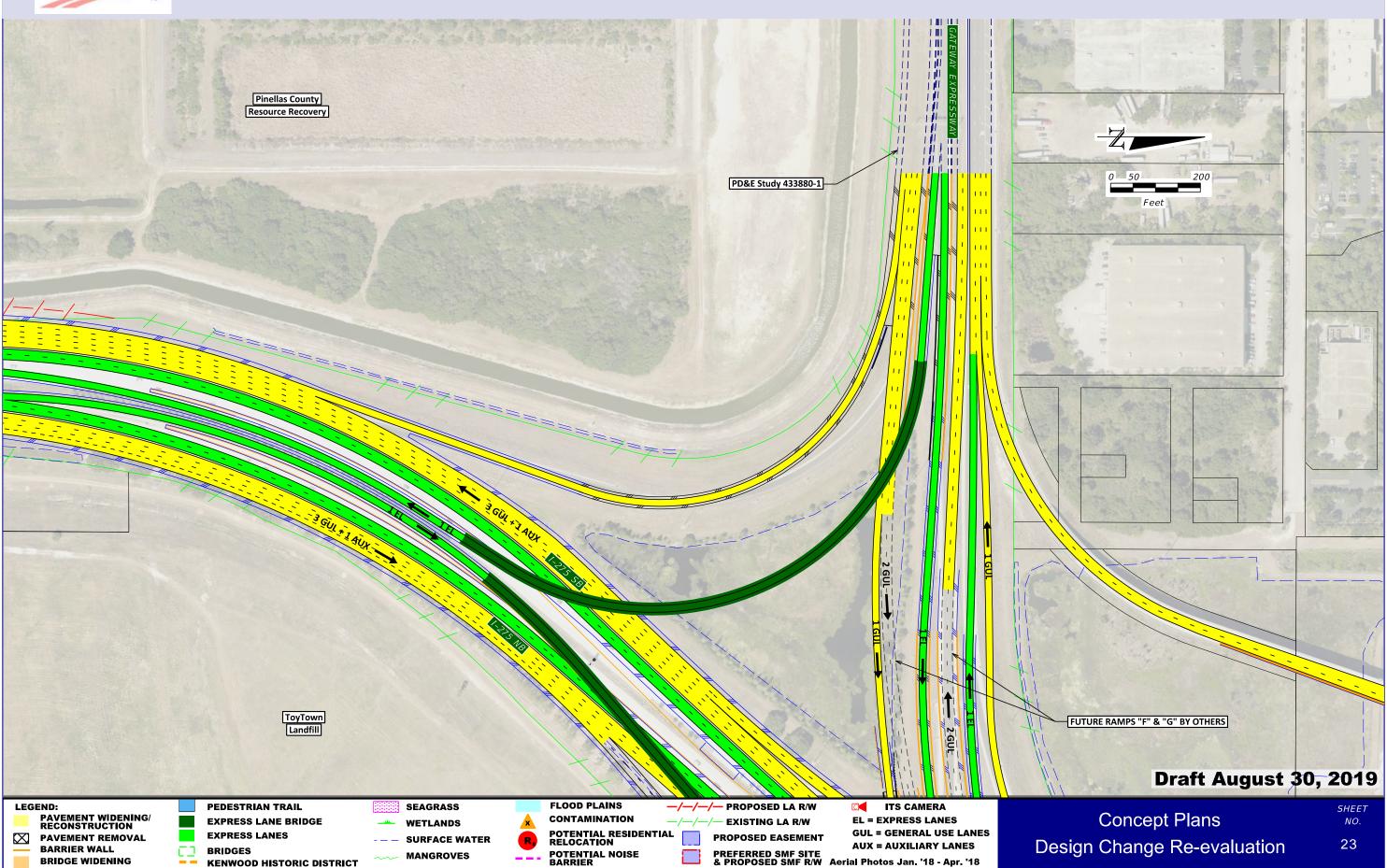


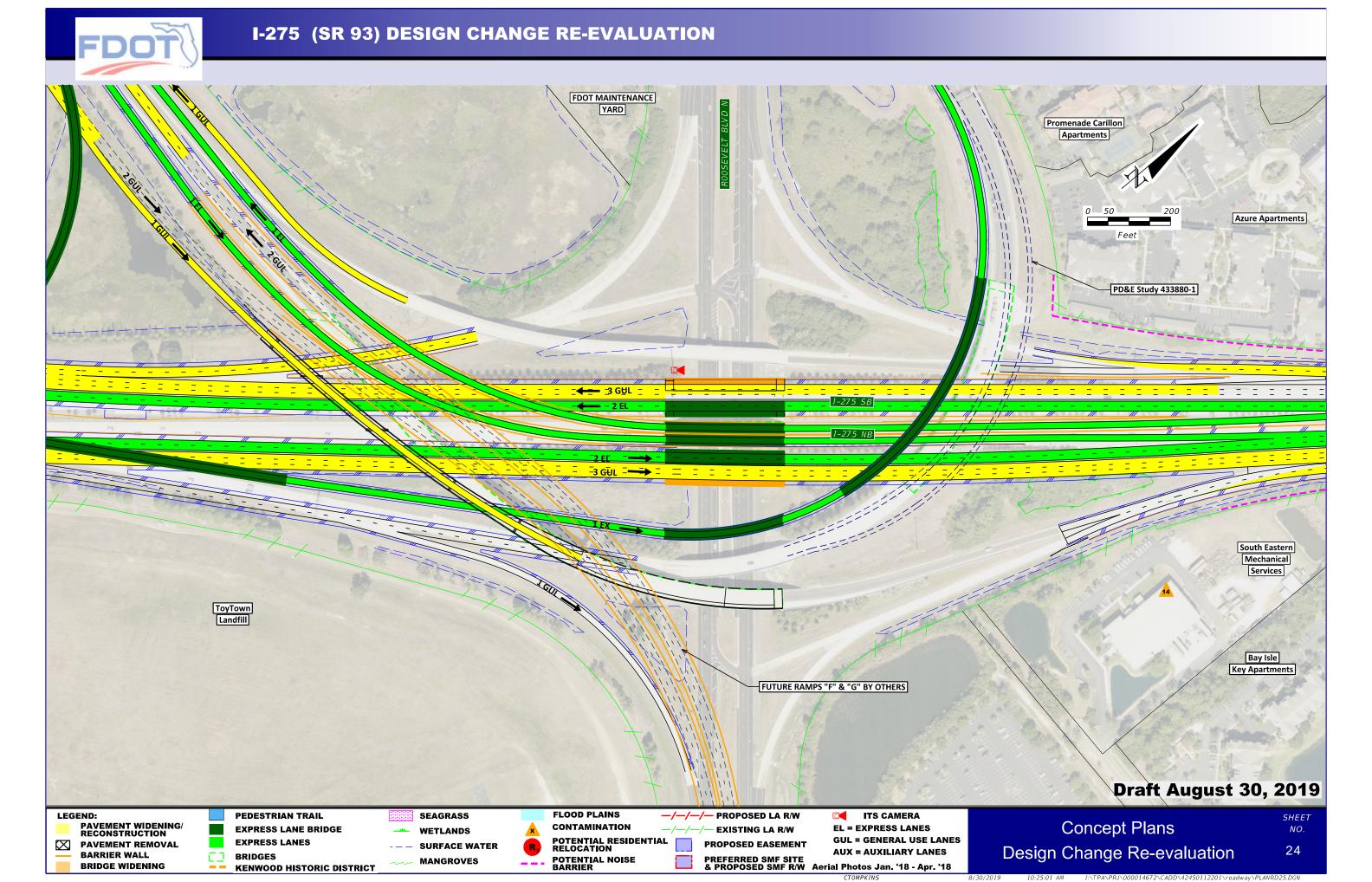




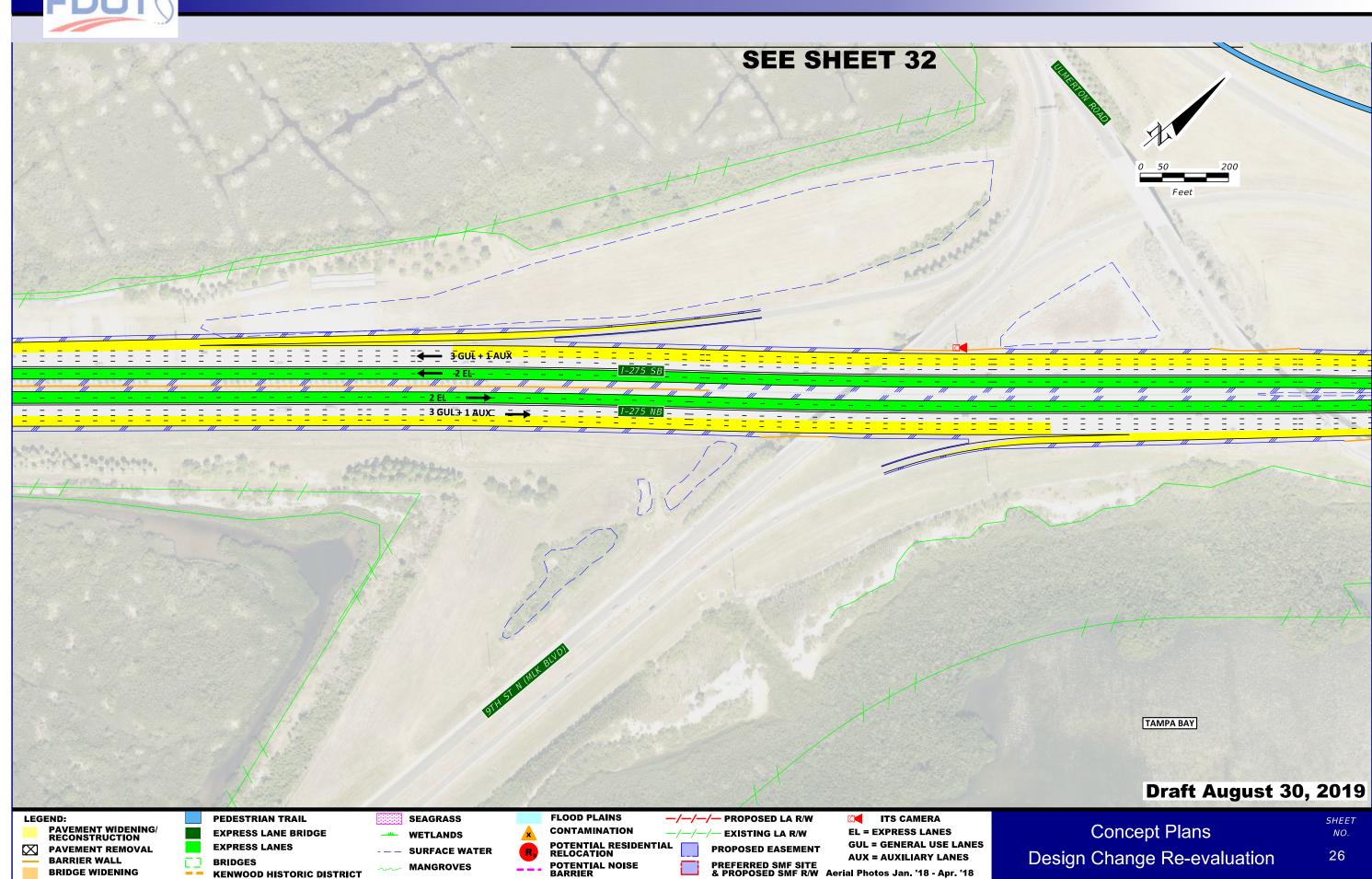
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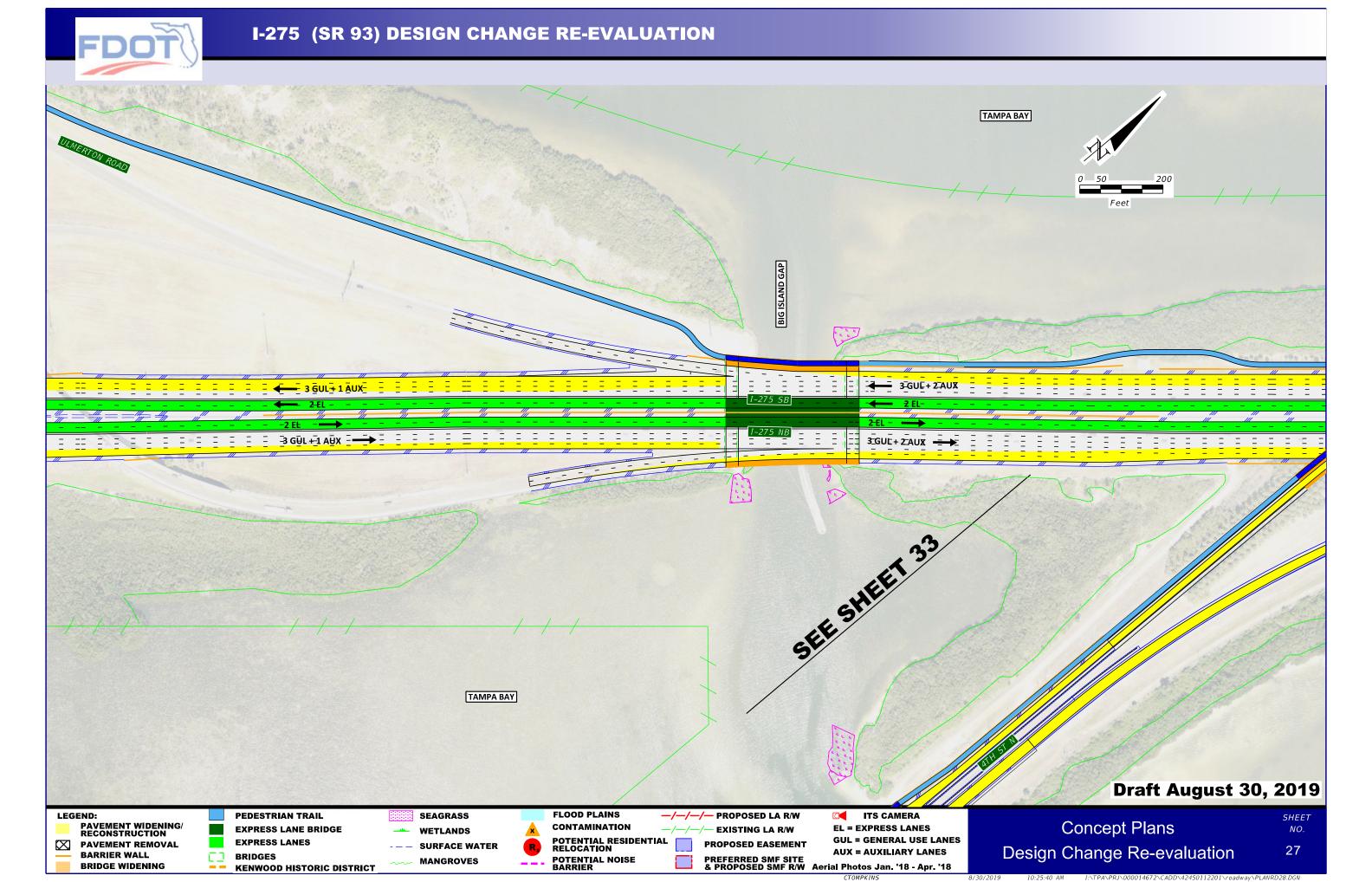
KENWOOD HISTORIC DISTRICT

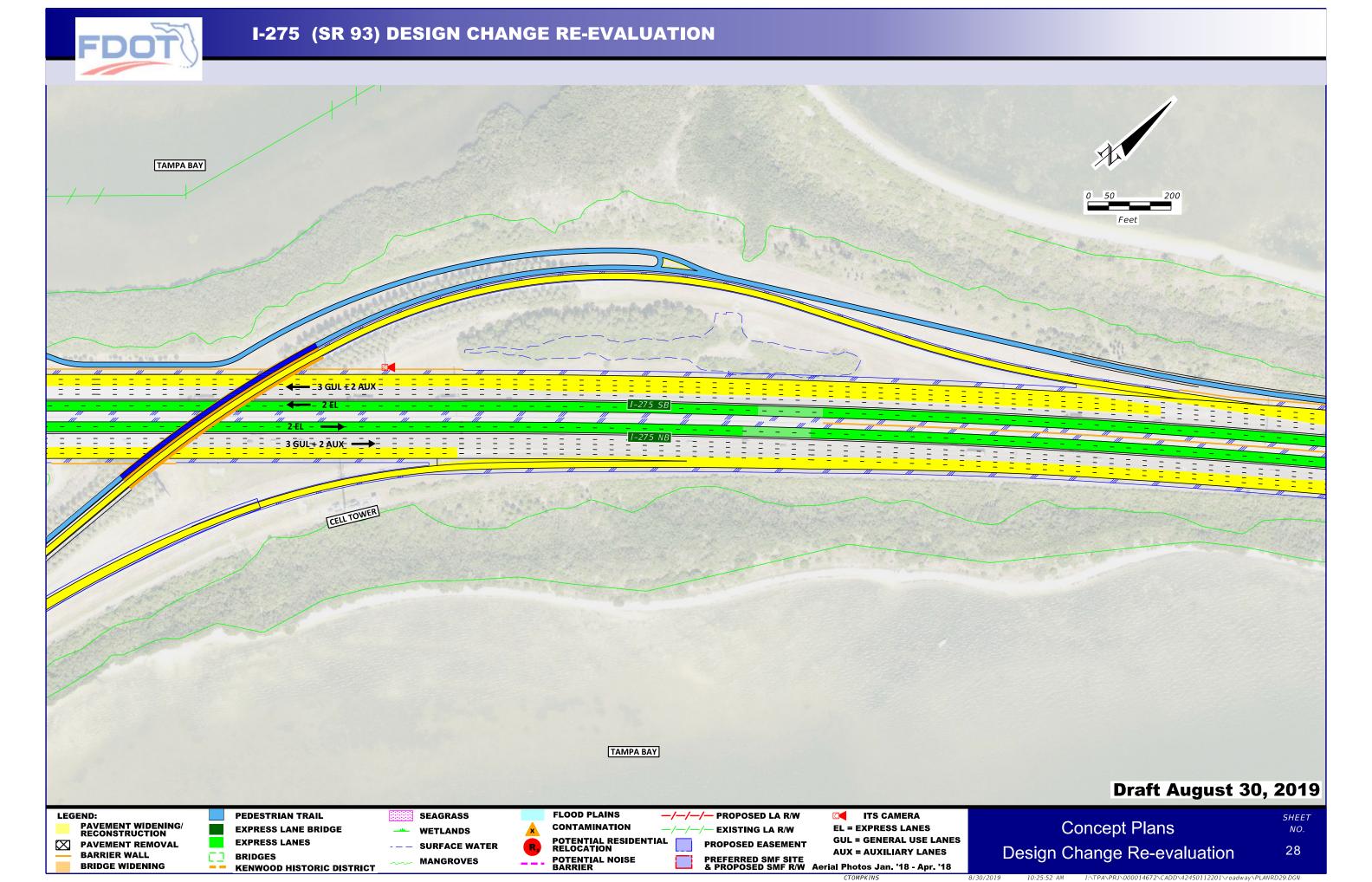


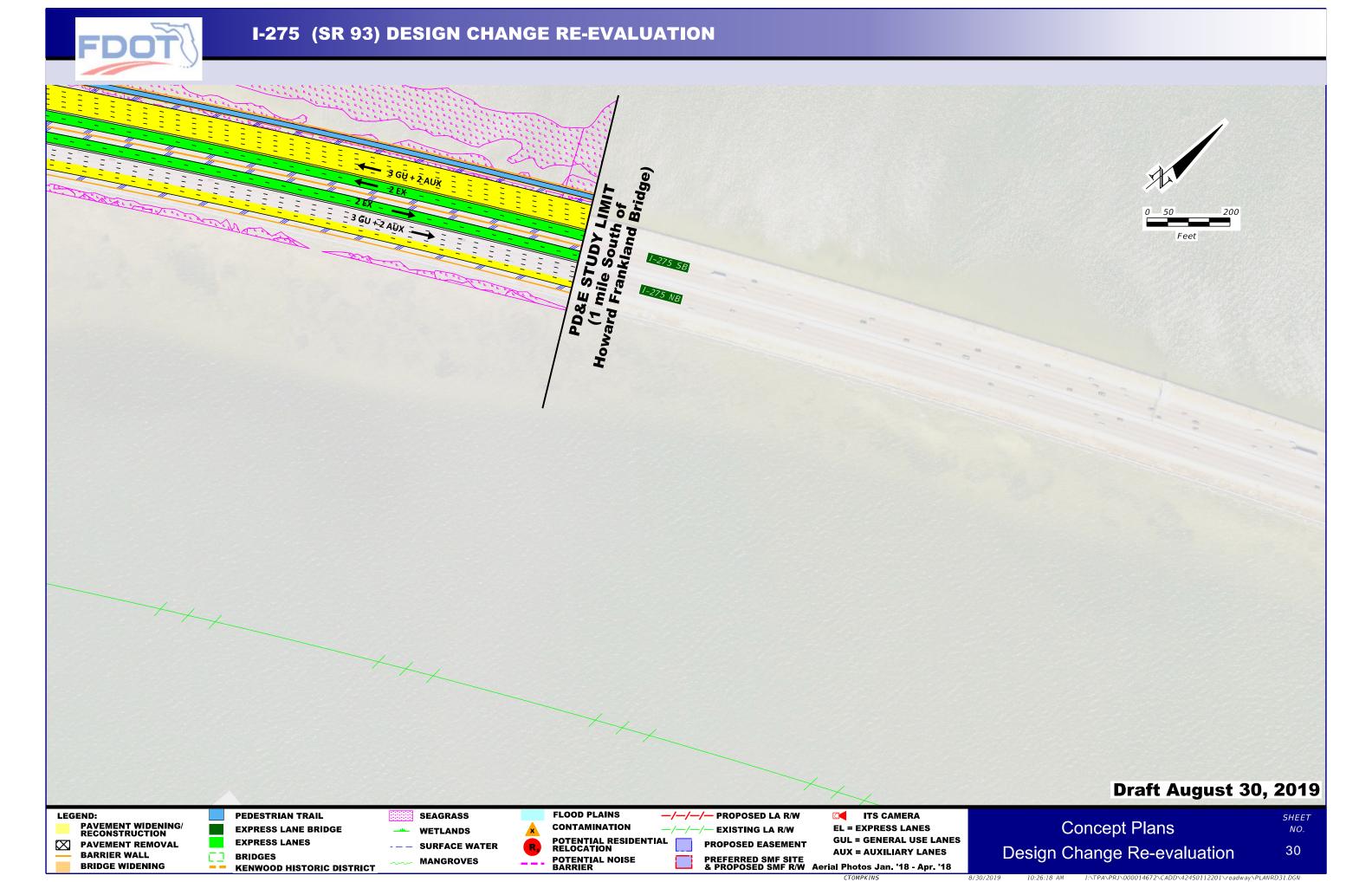


I-275 (SR 93) DESIGN CHANGE RE-EVALUATION The Villas of Carillon Azure Apartments - 3-GUE+1-AUX South Eastern Mechanical Services Bay Isle Key Apartments Draft August 30, 2019 PEDESTRIAN TRAIL **FLOOD PLAINS** ITS CAMERA **SEAGRASS** —/—/— PROPOSED LA R/W SHEET **Concept Plans** PAVEMENT WIDENING/ RECONSTRUCTION CONTAMINATION EL = EXPRESS LANES **EXPRESS LANE BRIDGE** —/—/— EXISTING LA R/W NO. **WETLANDS** POTENTIAL RESIDENTIAL RELOCATION GUL = GENERAL USE LANES **EXPRESS LANES** PROPOSED EASEMENT **PAVEMENT REMOVAL SURFACE WATER** Design Change Re-evaluation 25 AUX = AUXILIARY LANES **BARRIER WALL BRIDGES** POTENTIAL NOISE BARRIER PREFERRED SMF SITE & PROPOSED SMF R/W Aerial Photos Jan. '18 - Apr. '18 **MANGROVES BRIDGE WIDENING** KENWOOD HISTORIC DISTRICT









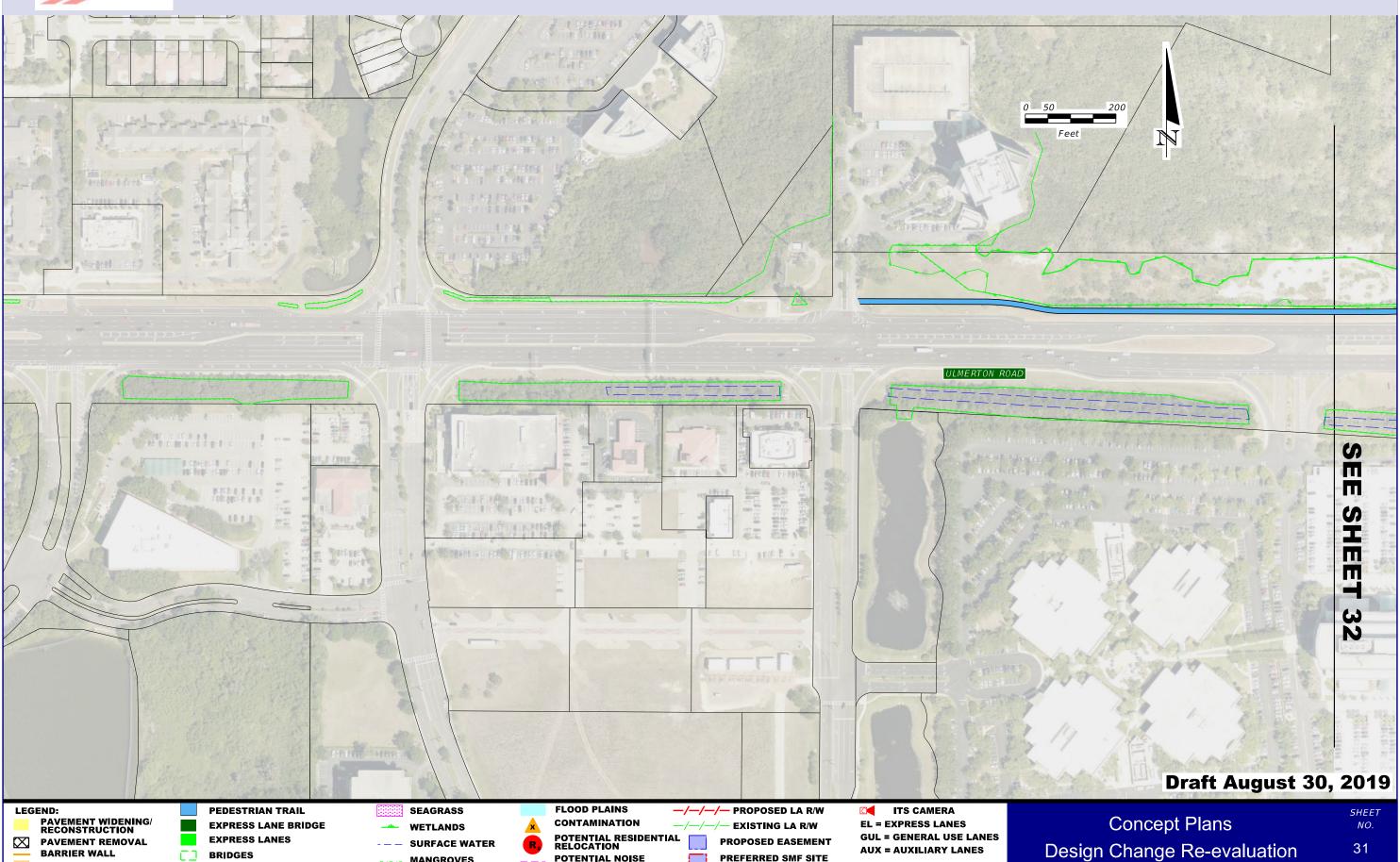


BARRIER WALL

BRIDGE WIDENING

BRIDGES

KENWOOD HISTORIC DISTRICT



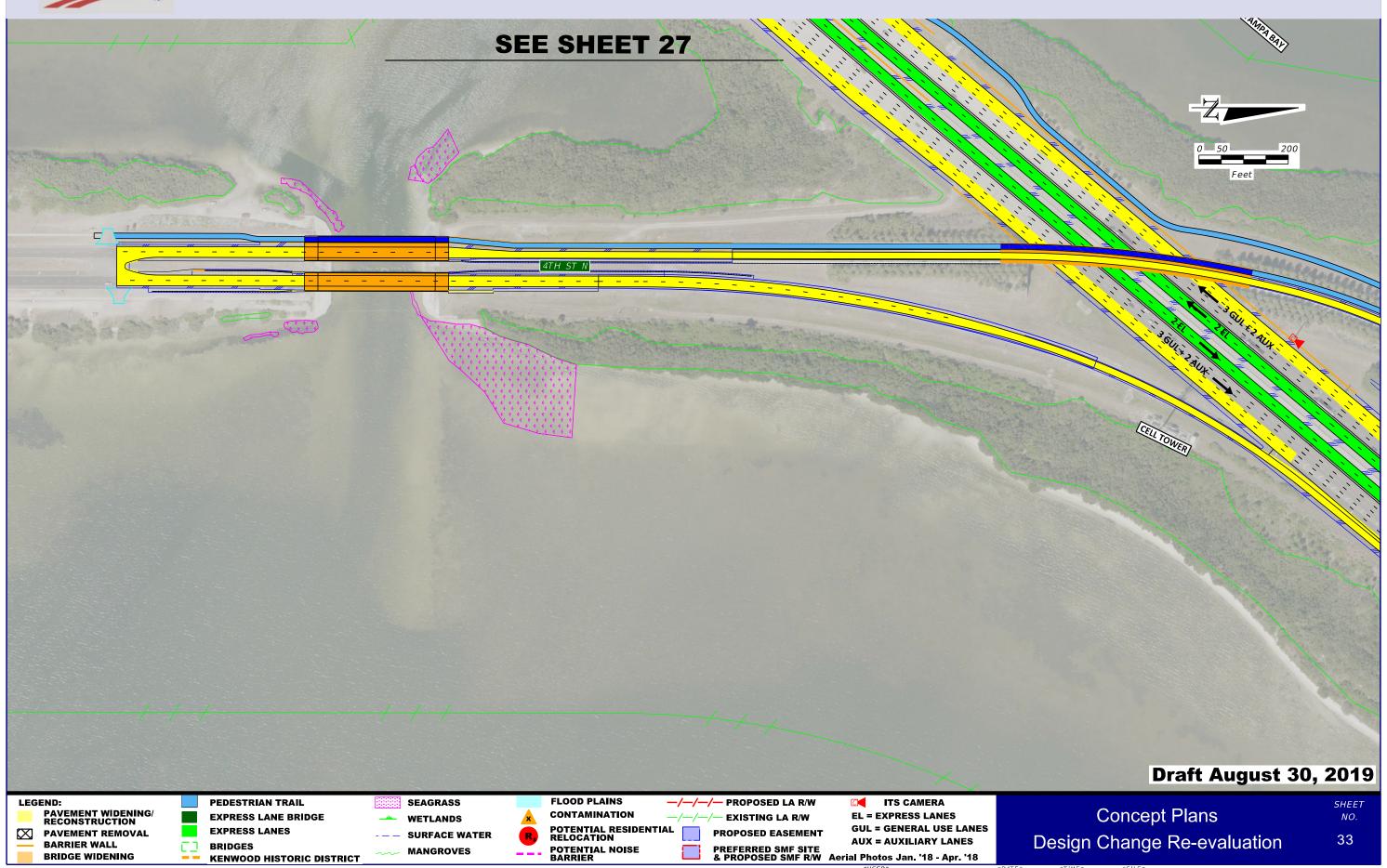
POTENTIAL NOISE BARRIER

MANGROVES

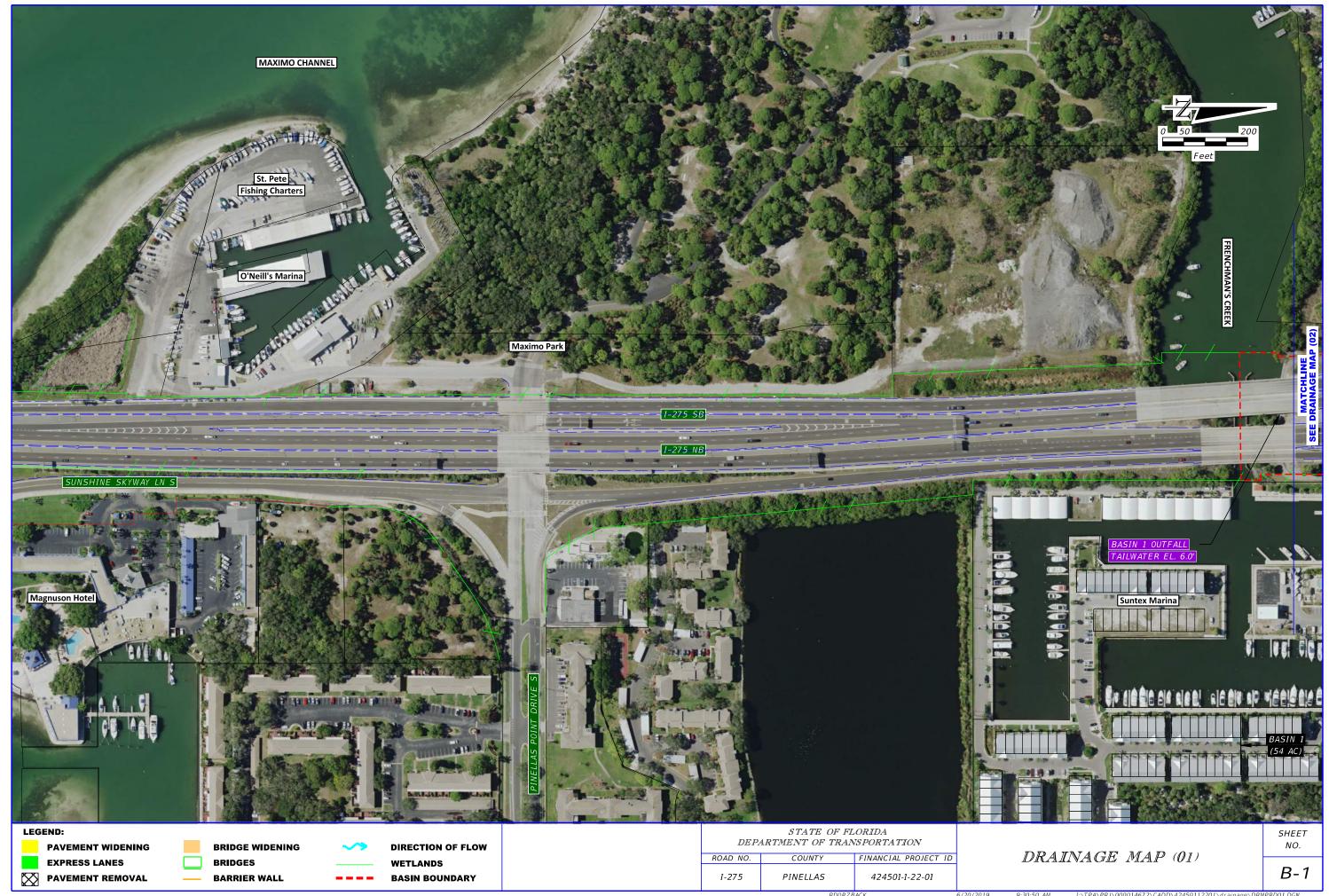
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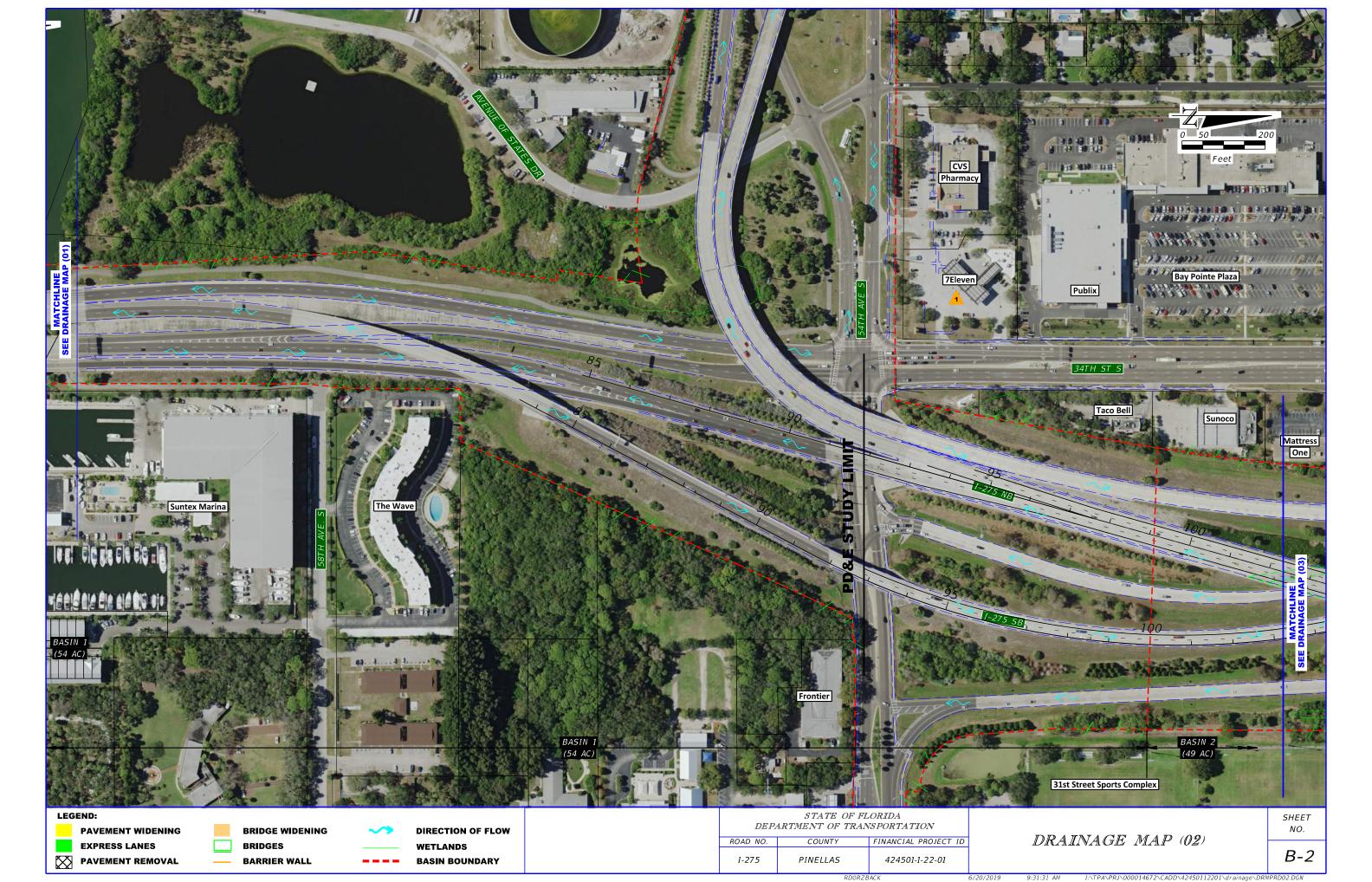
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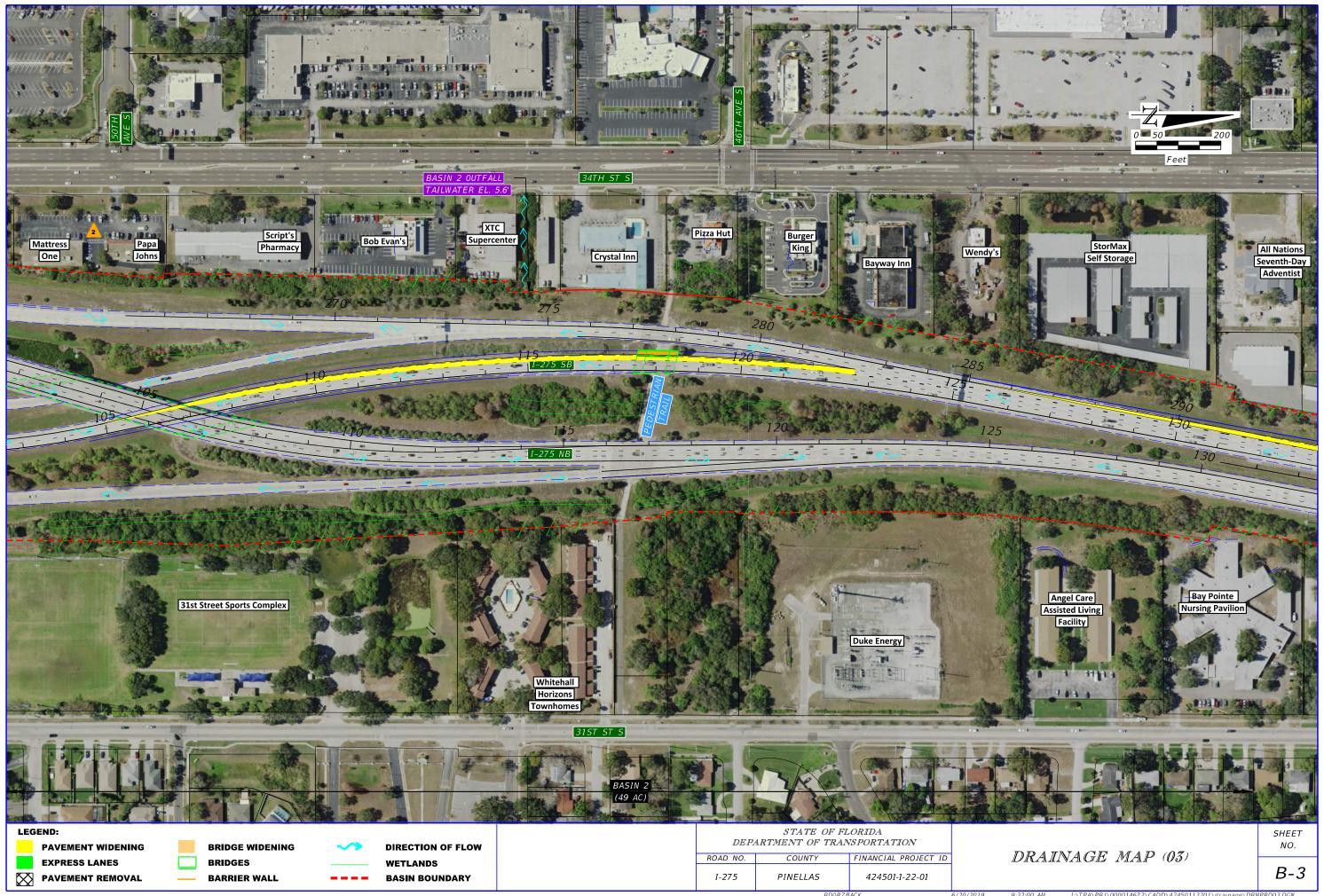


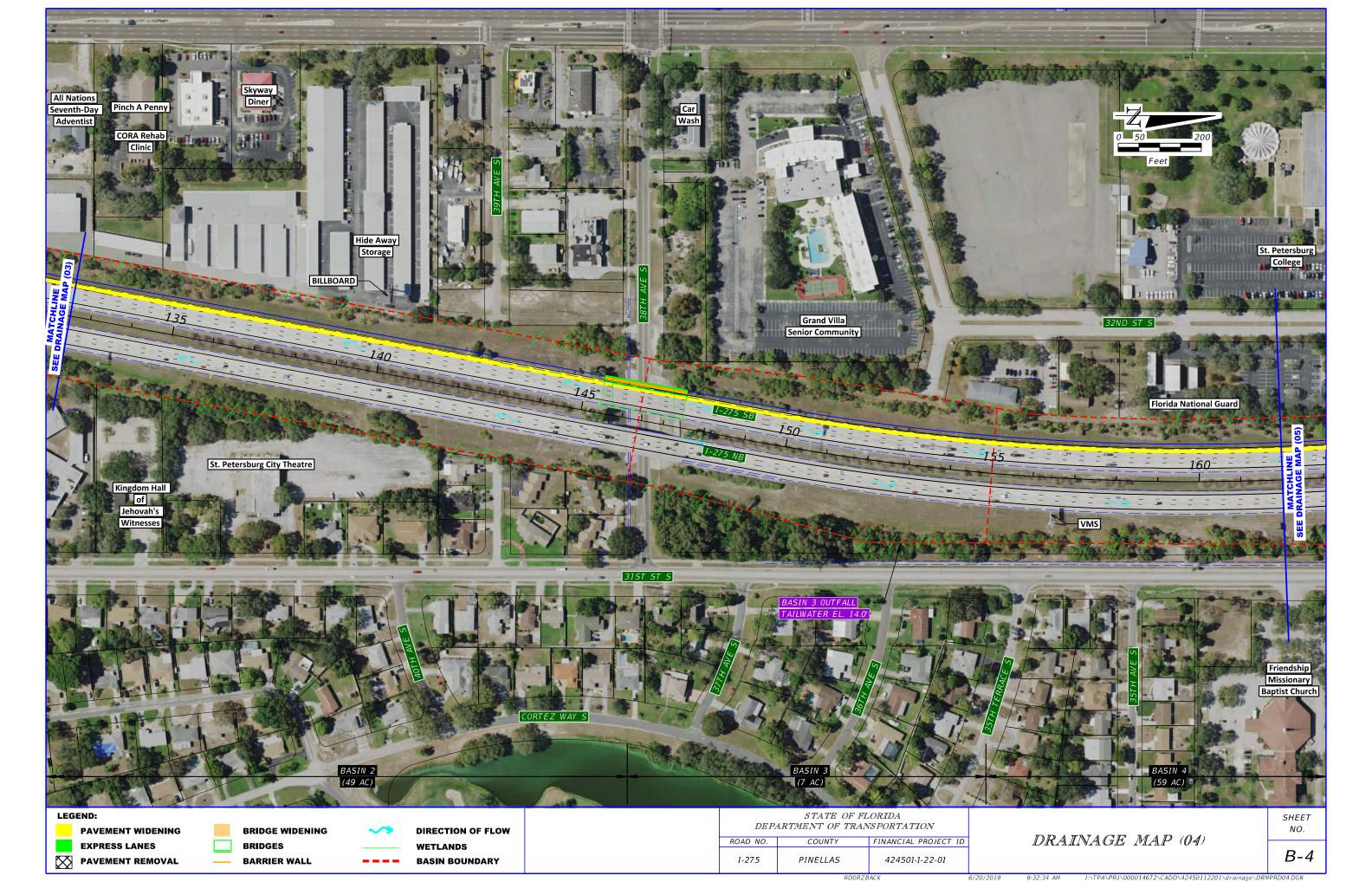


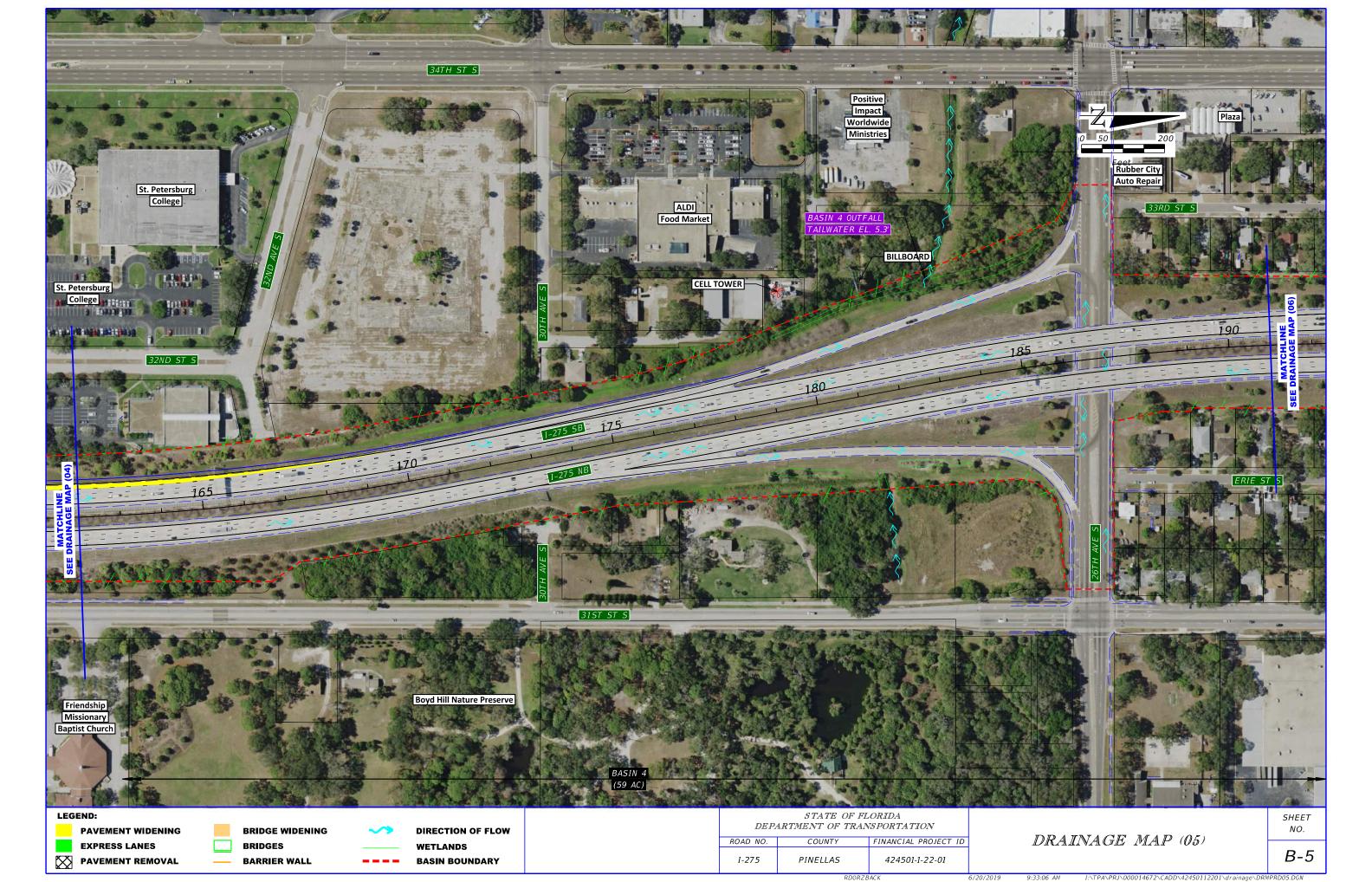
Appendix B. Drainage Maps

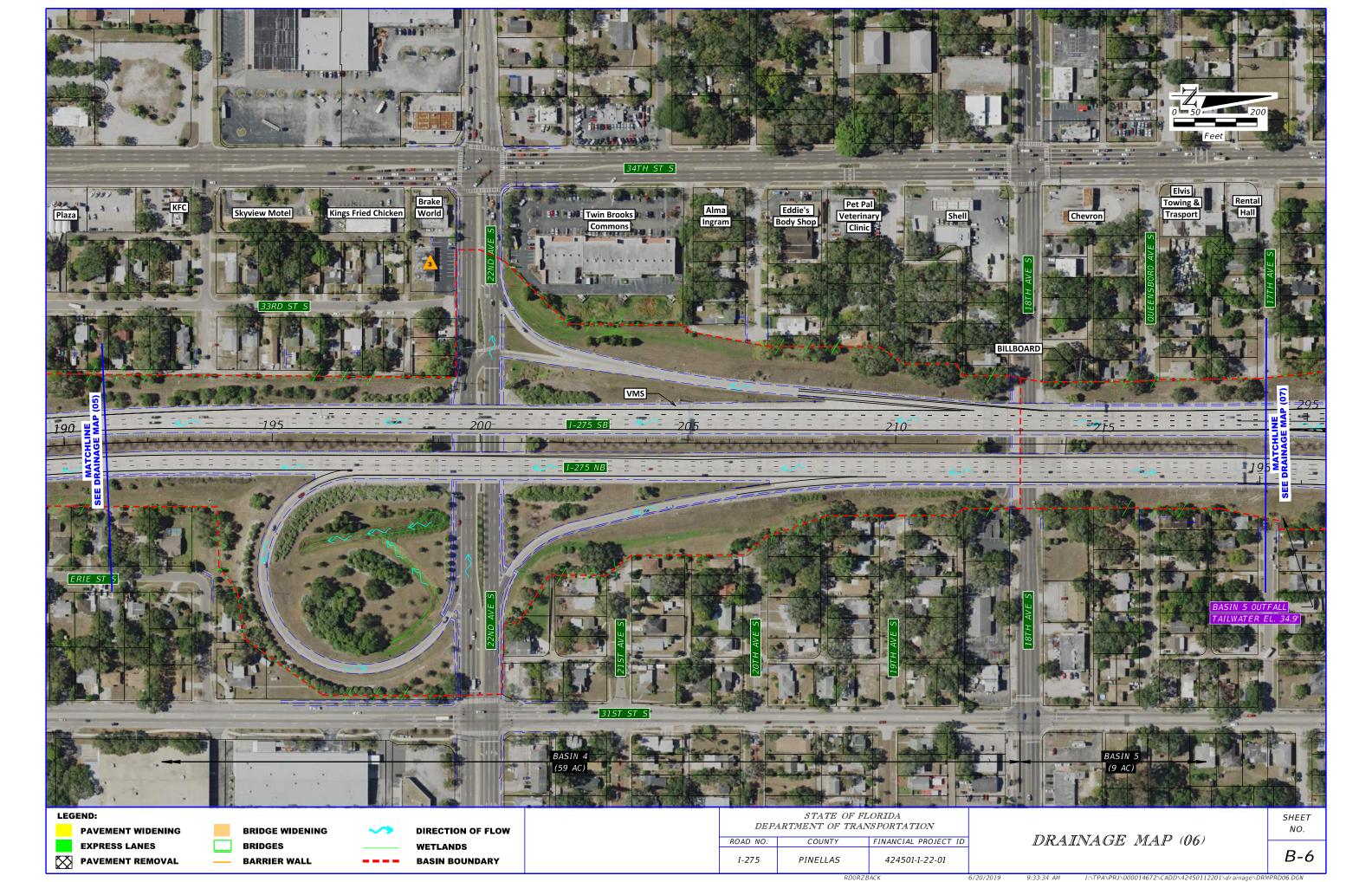


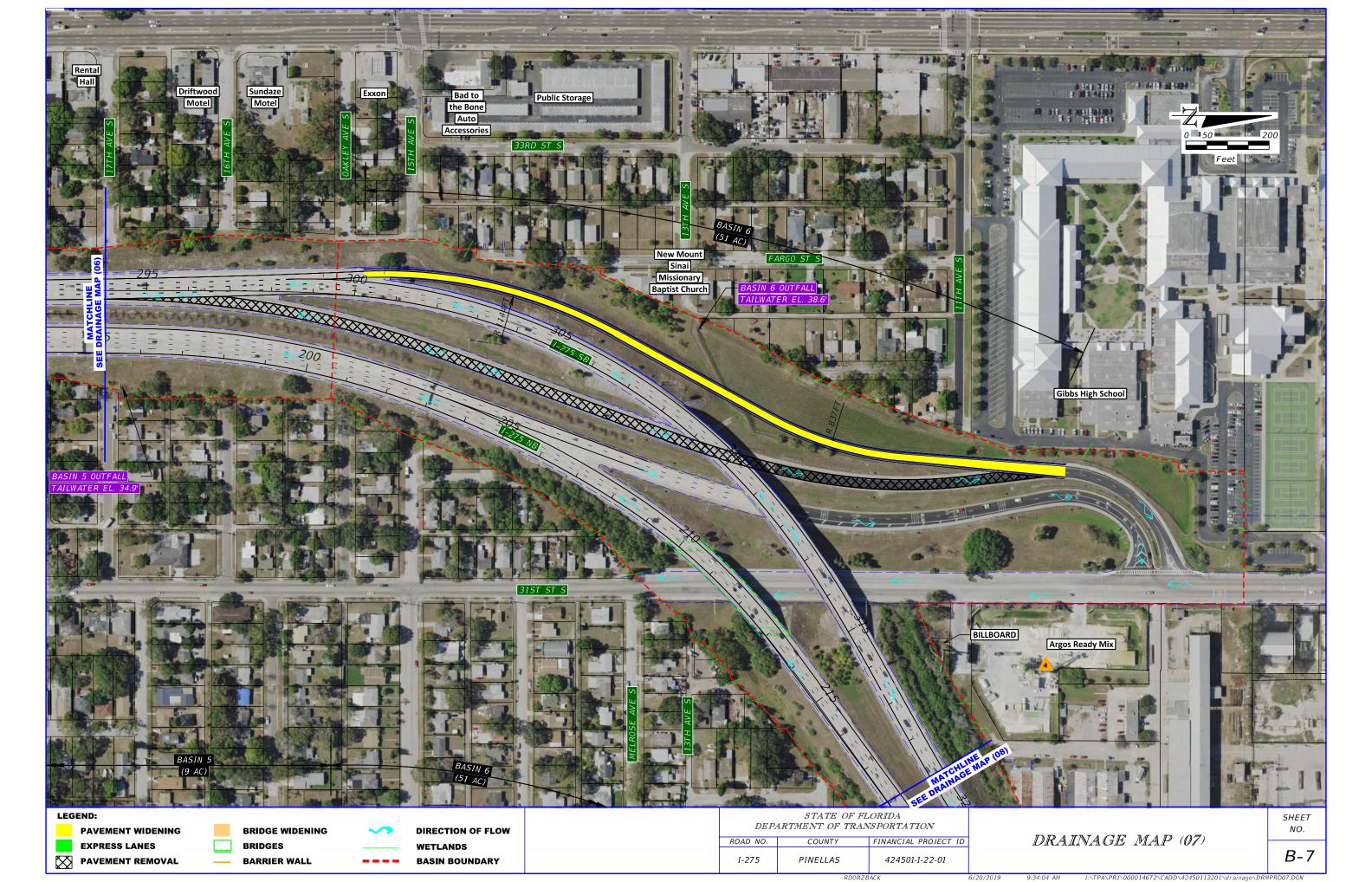


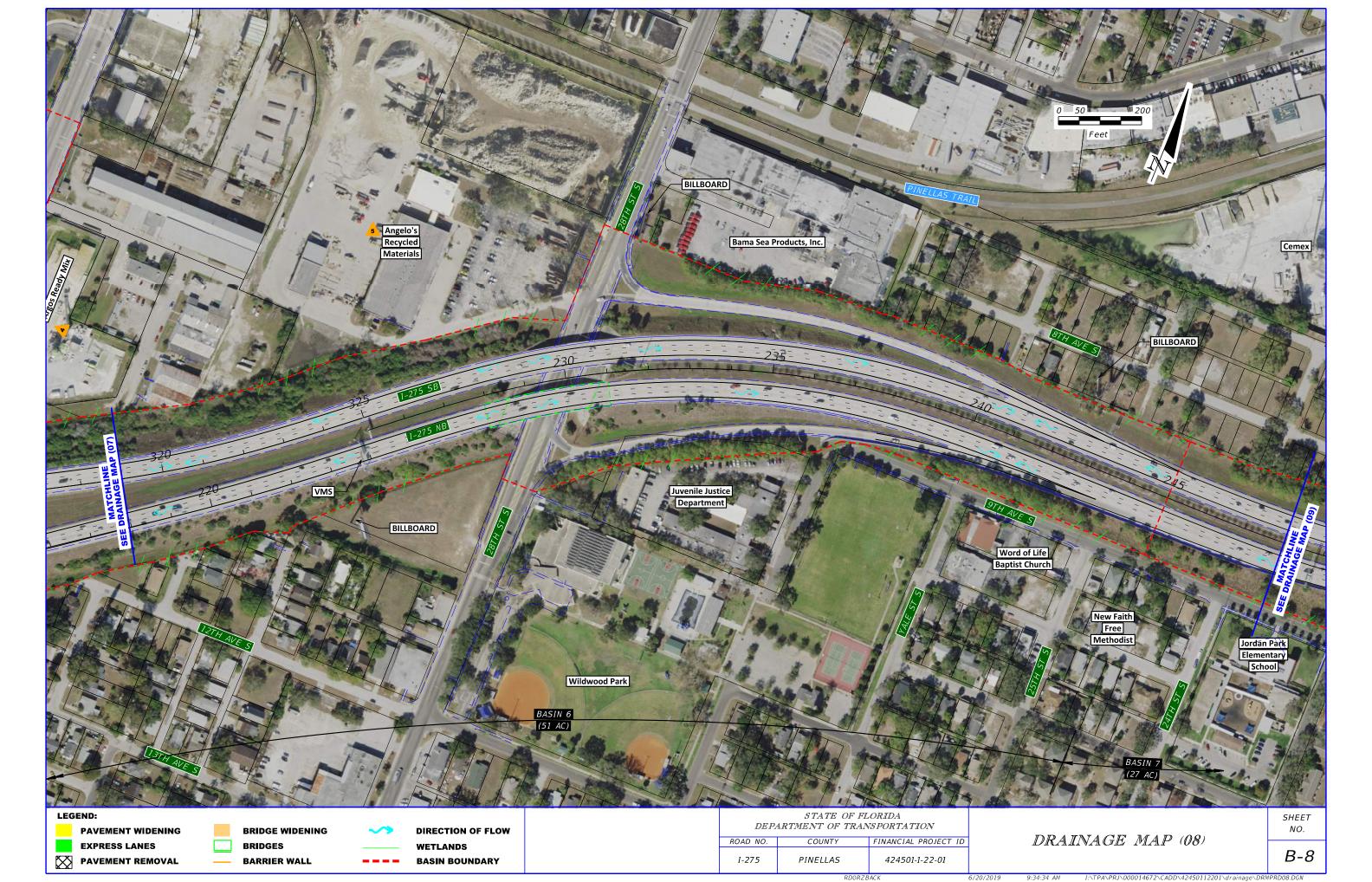


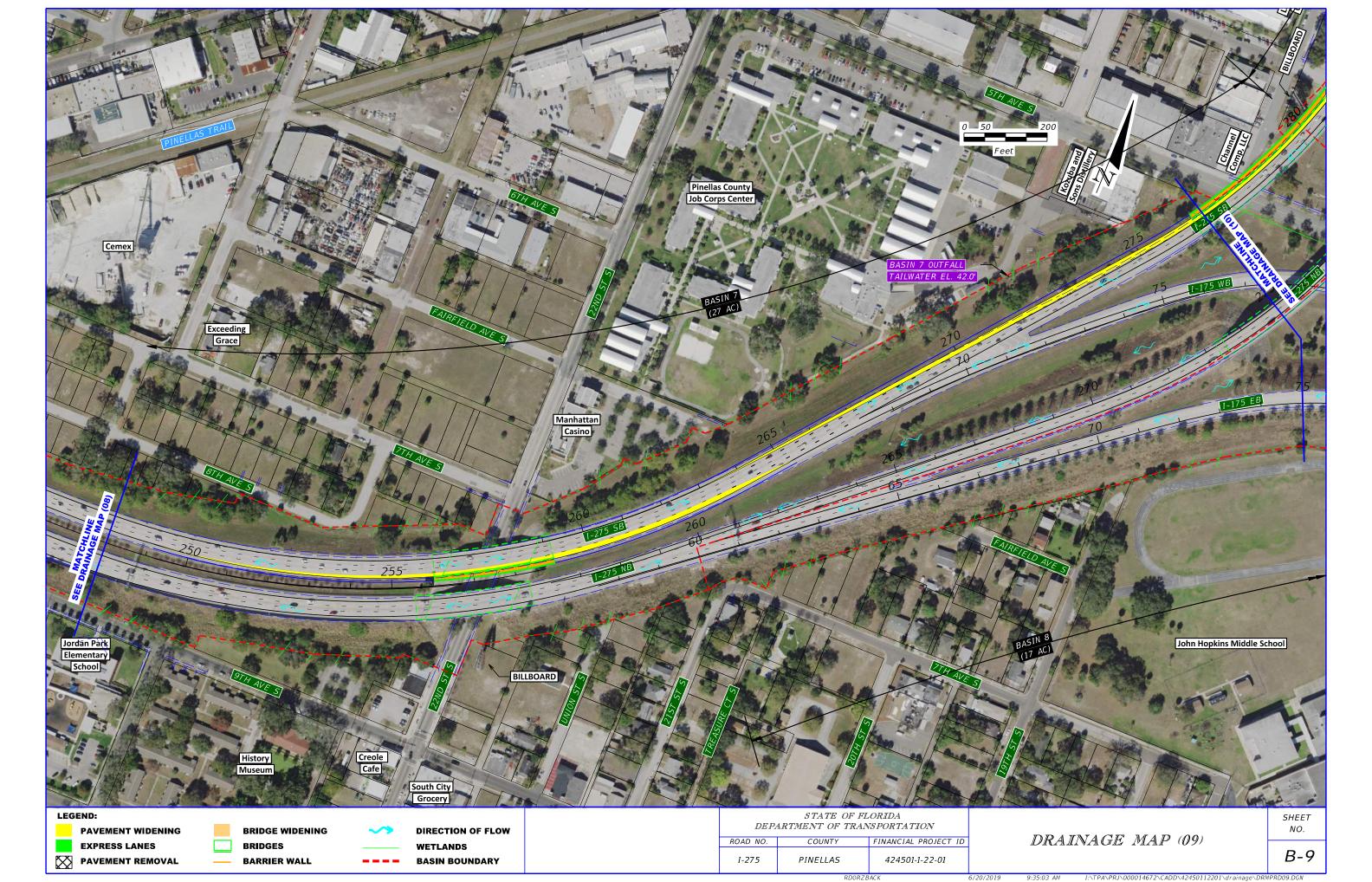


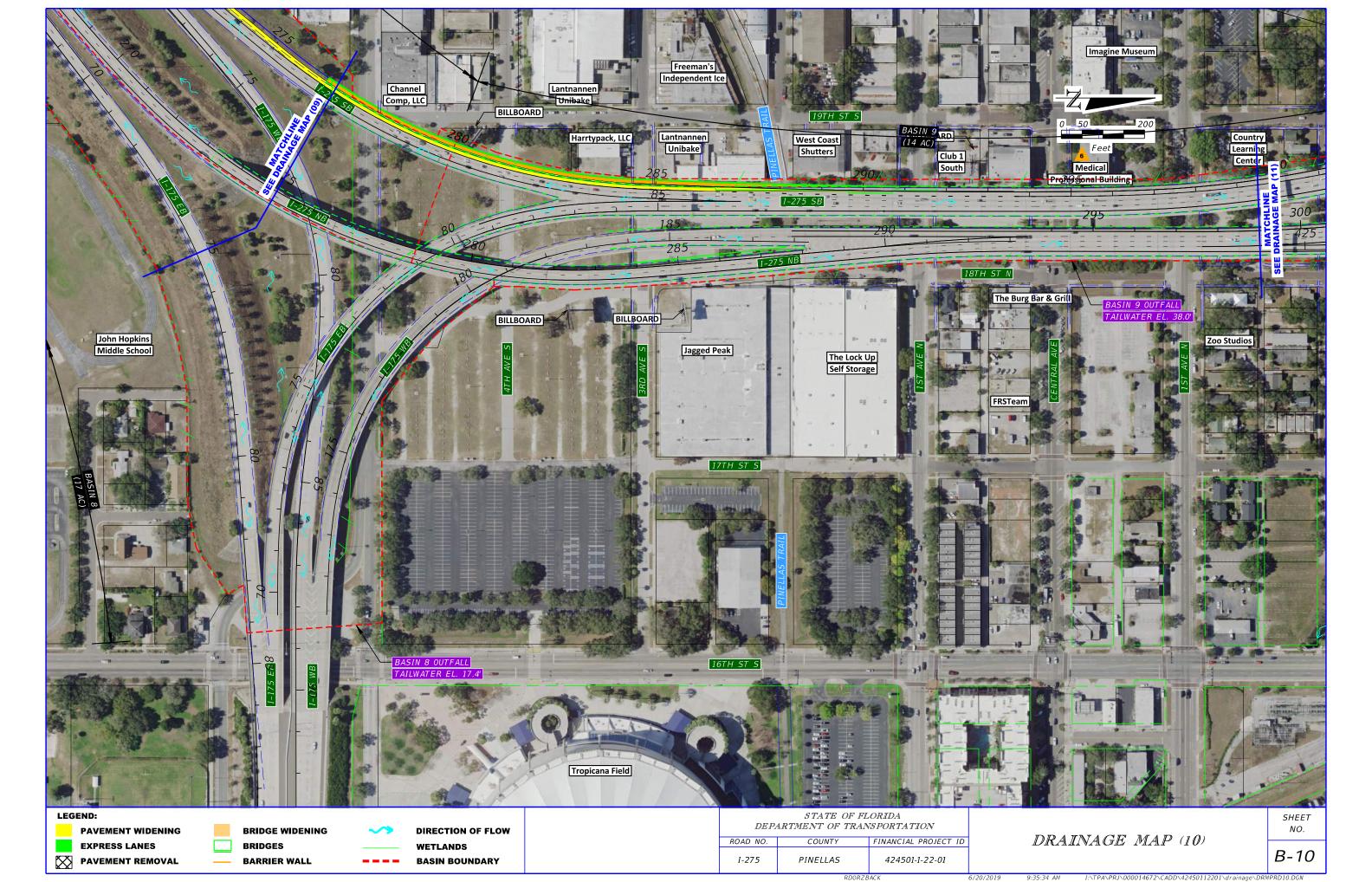


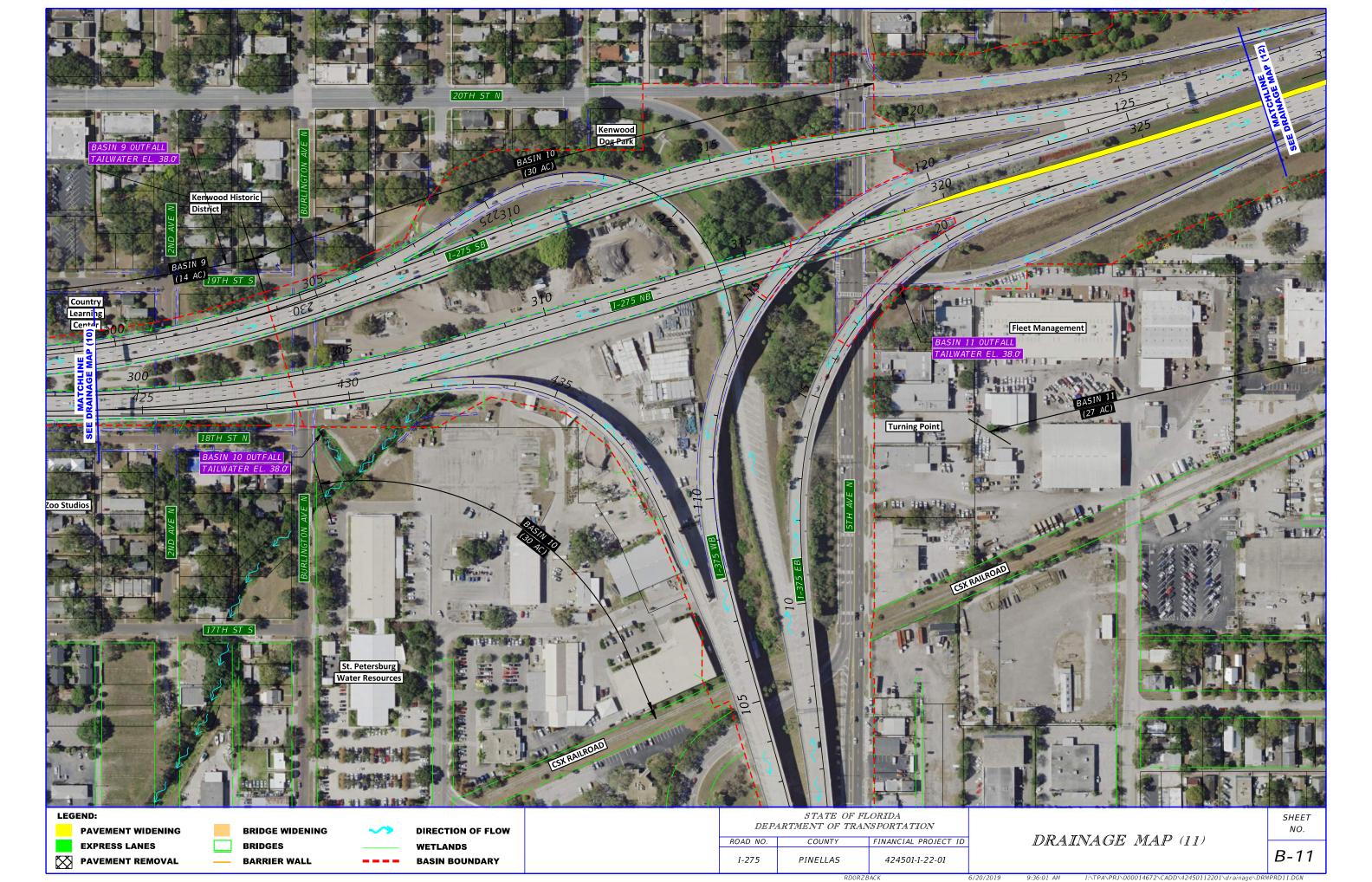


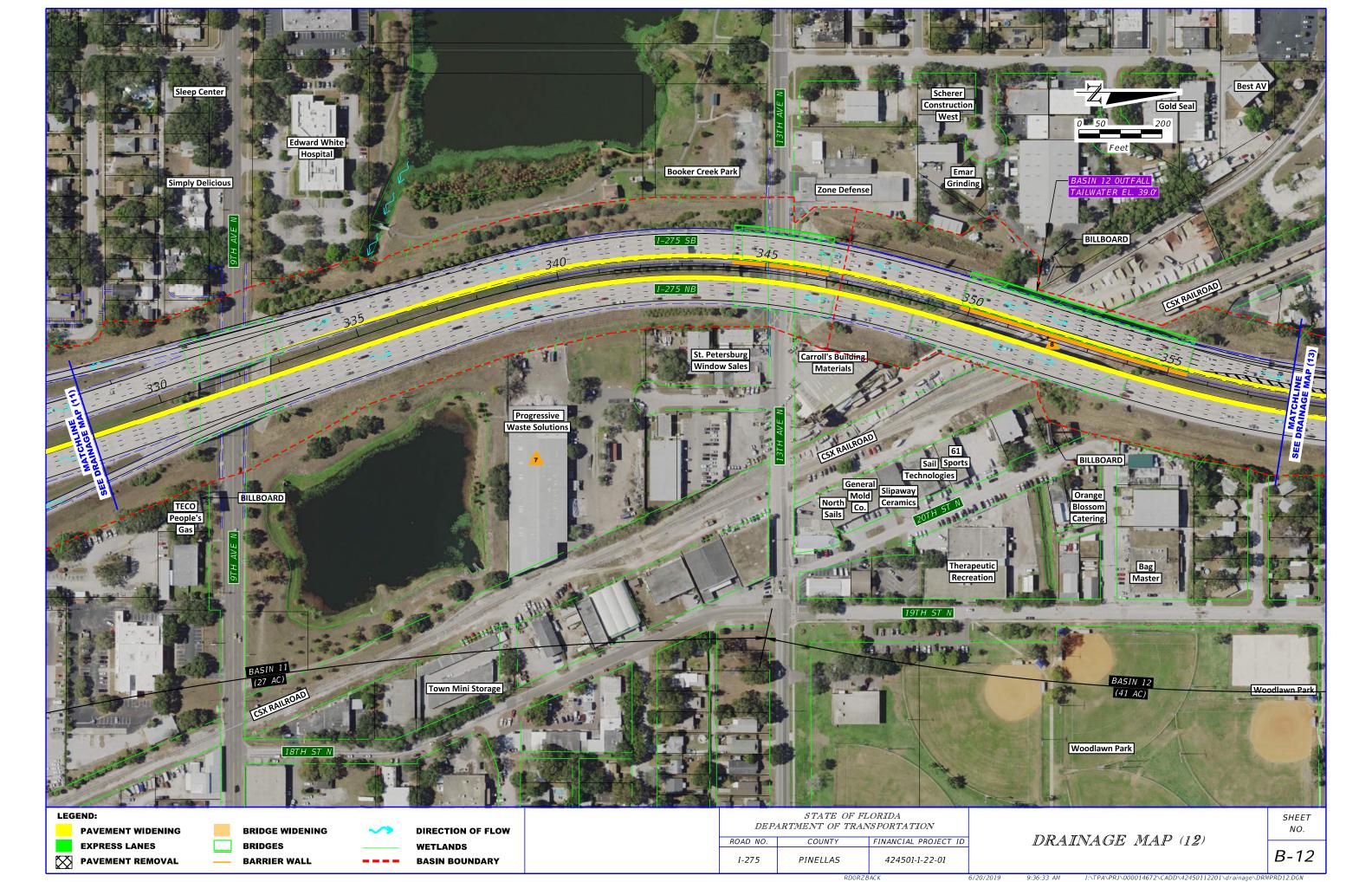


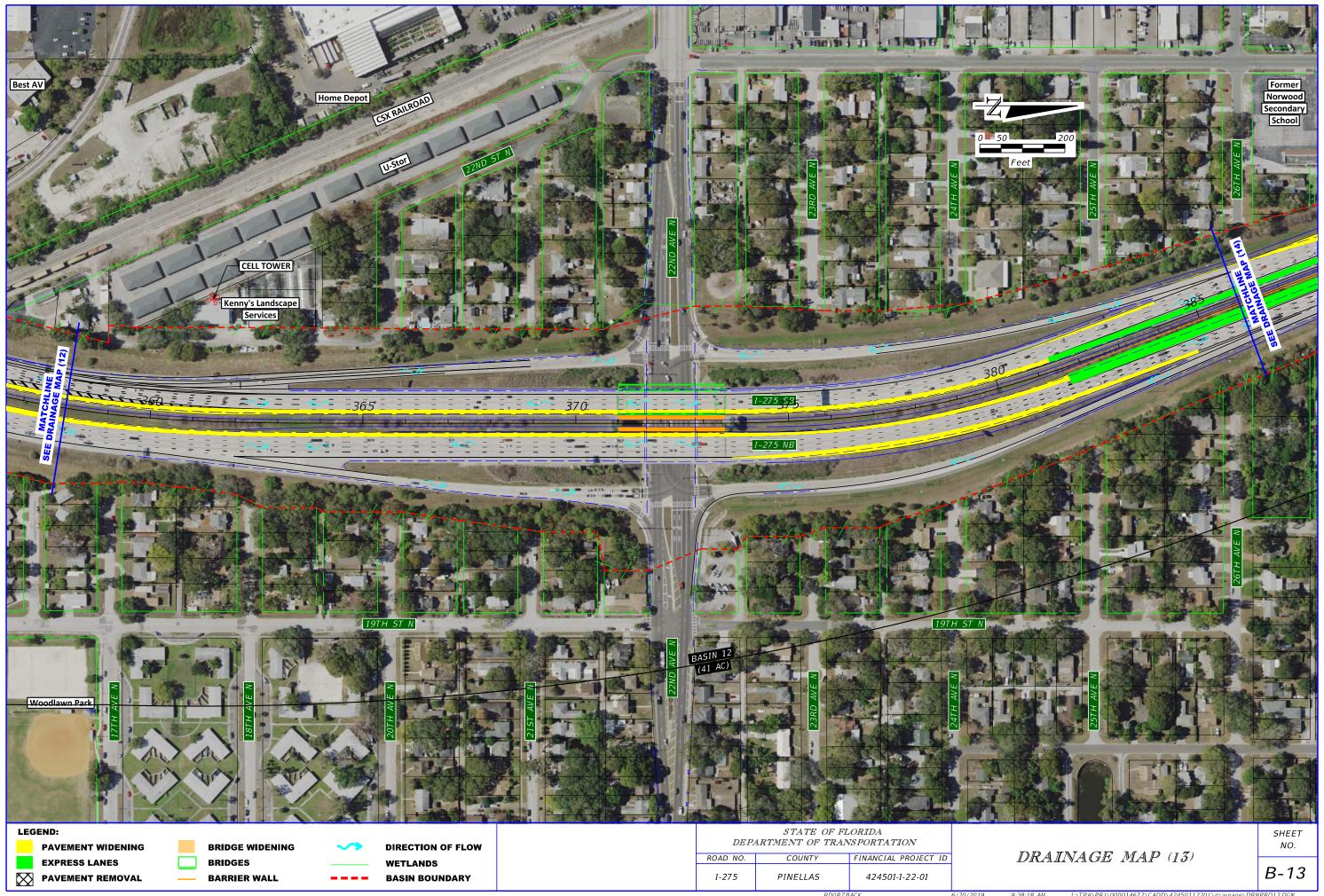


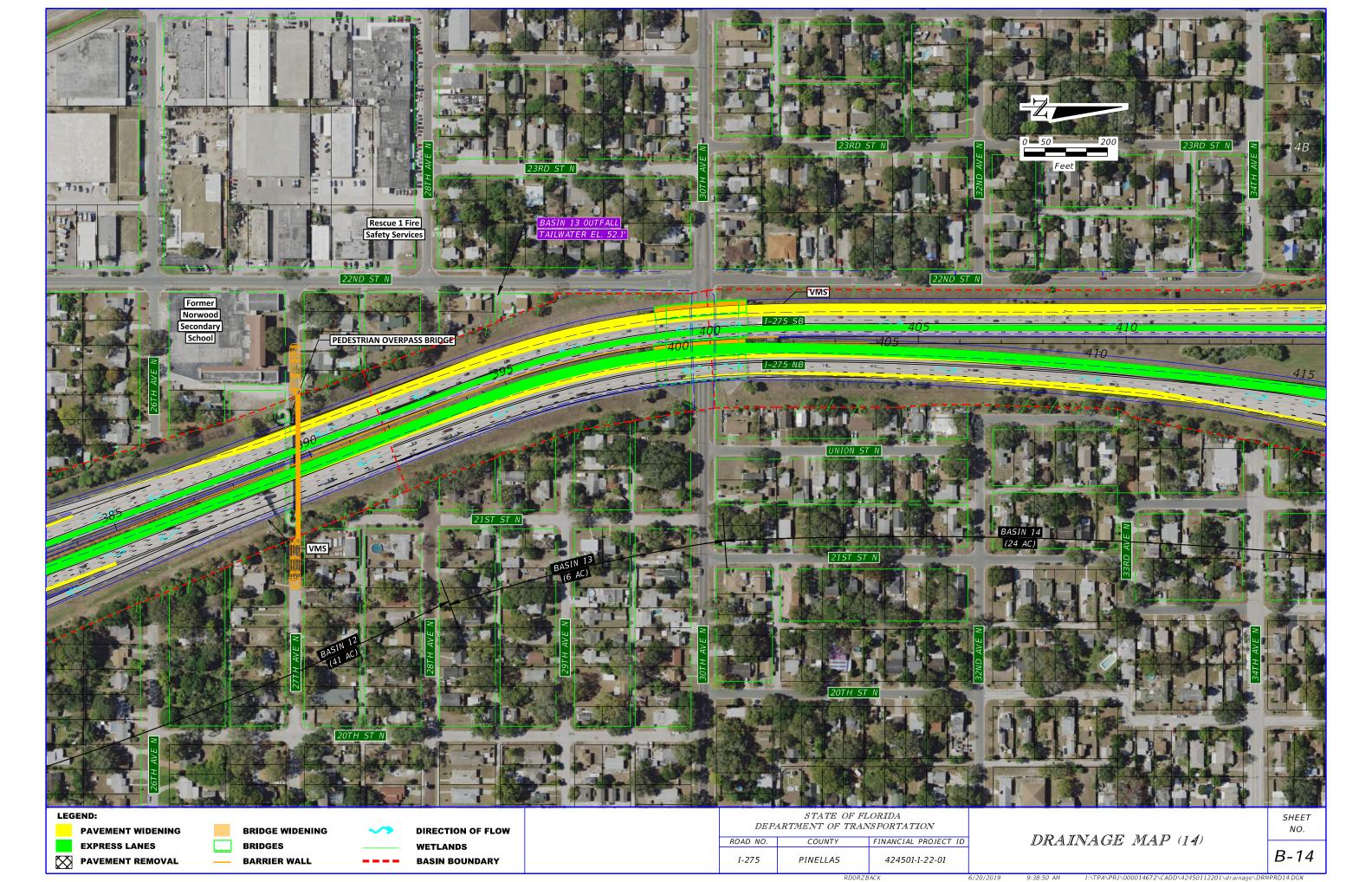


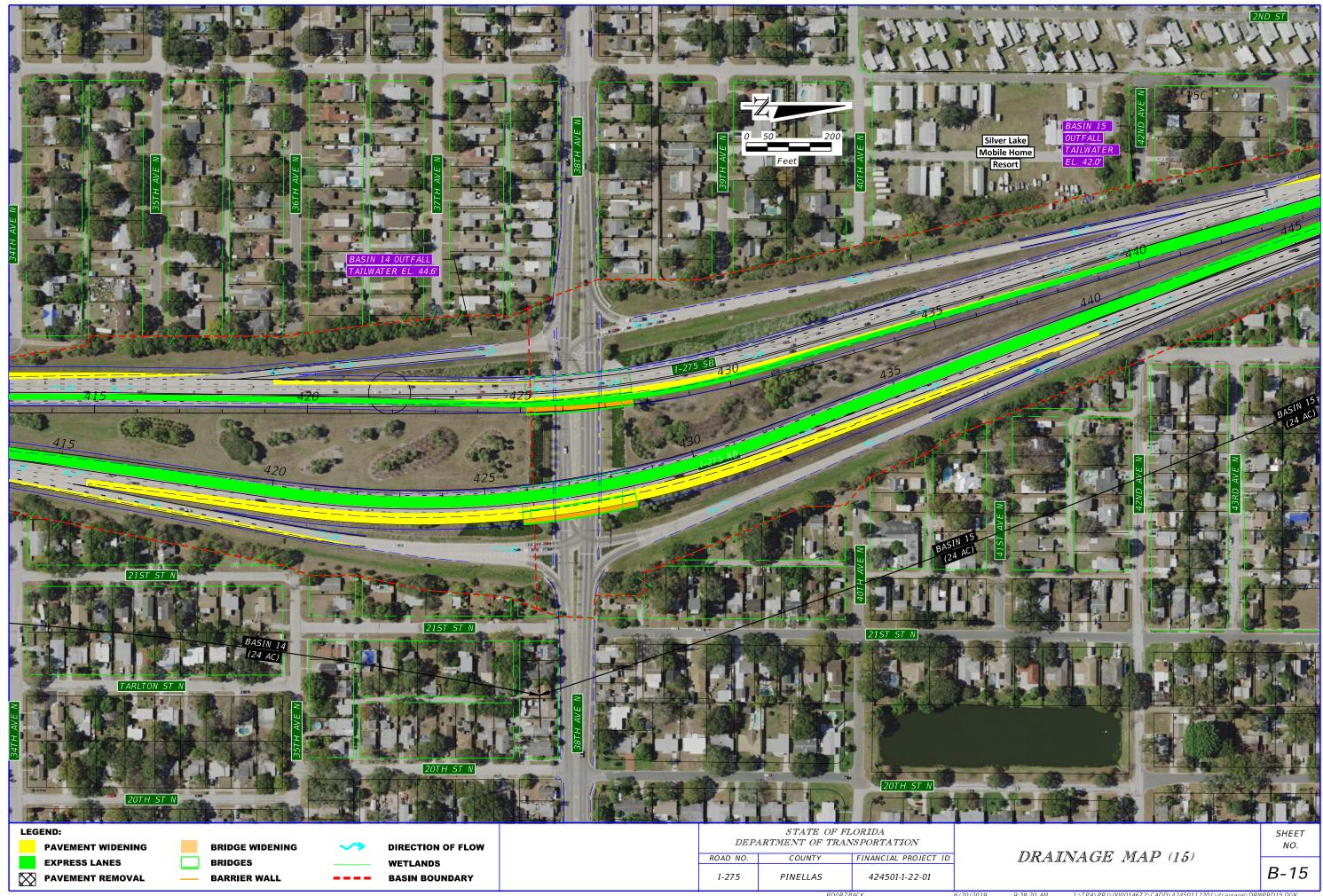


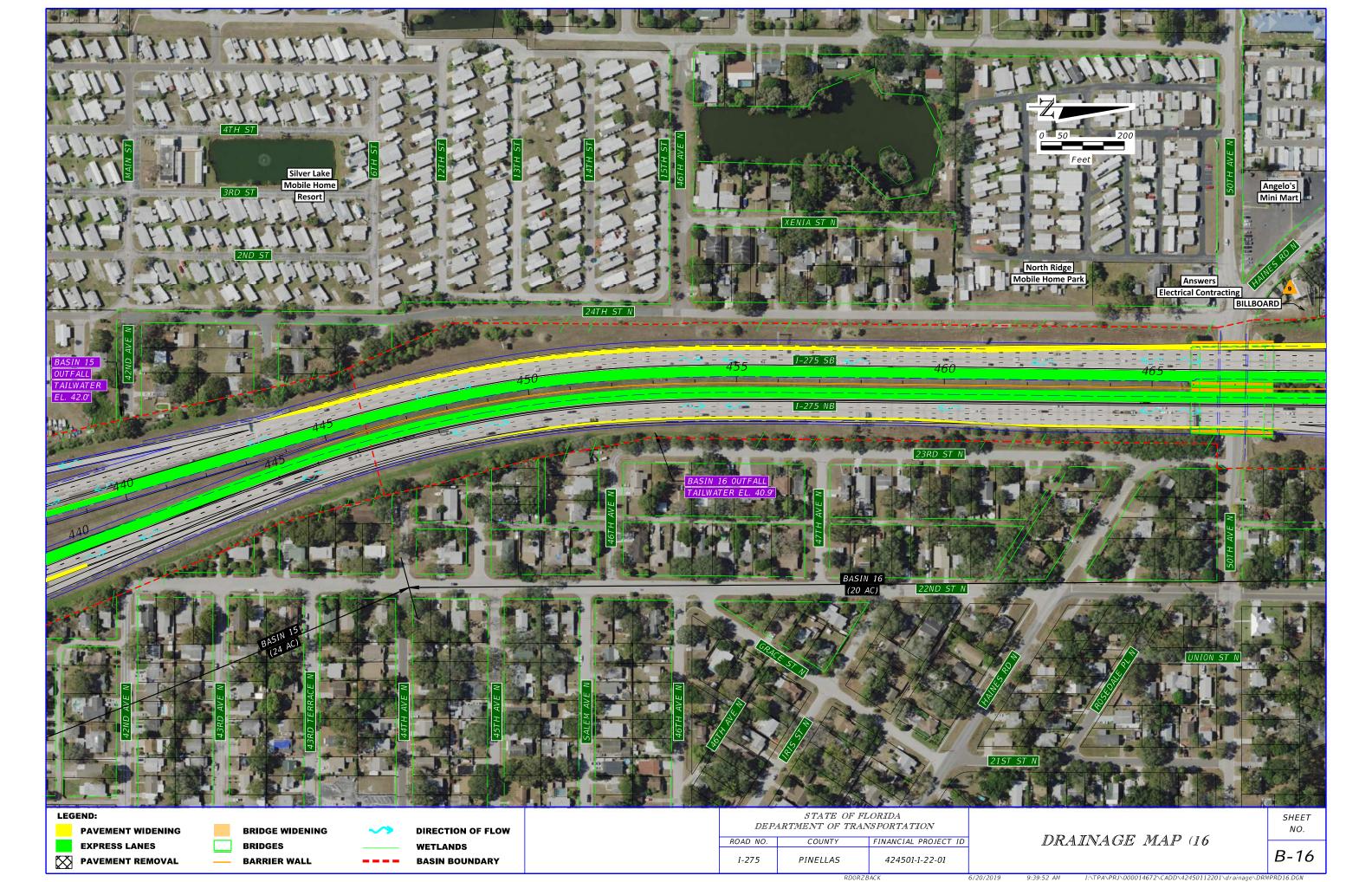


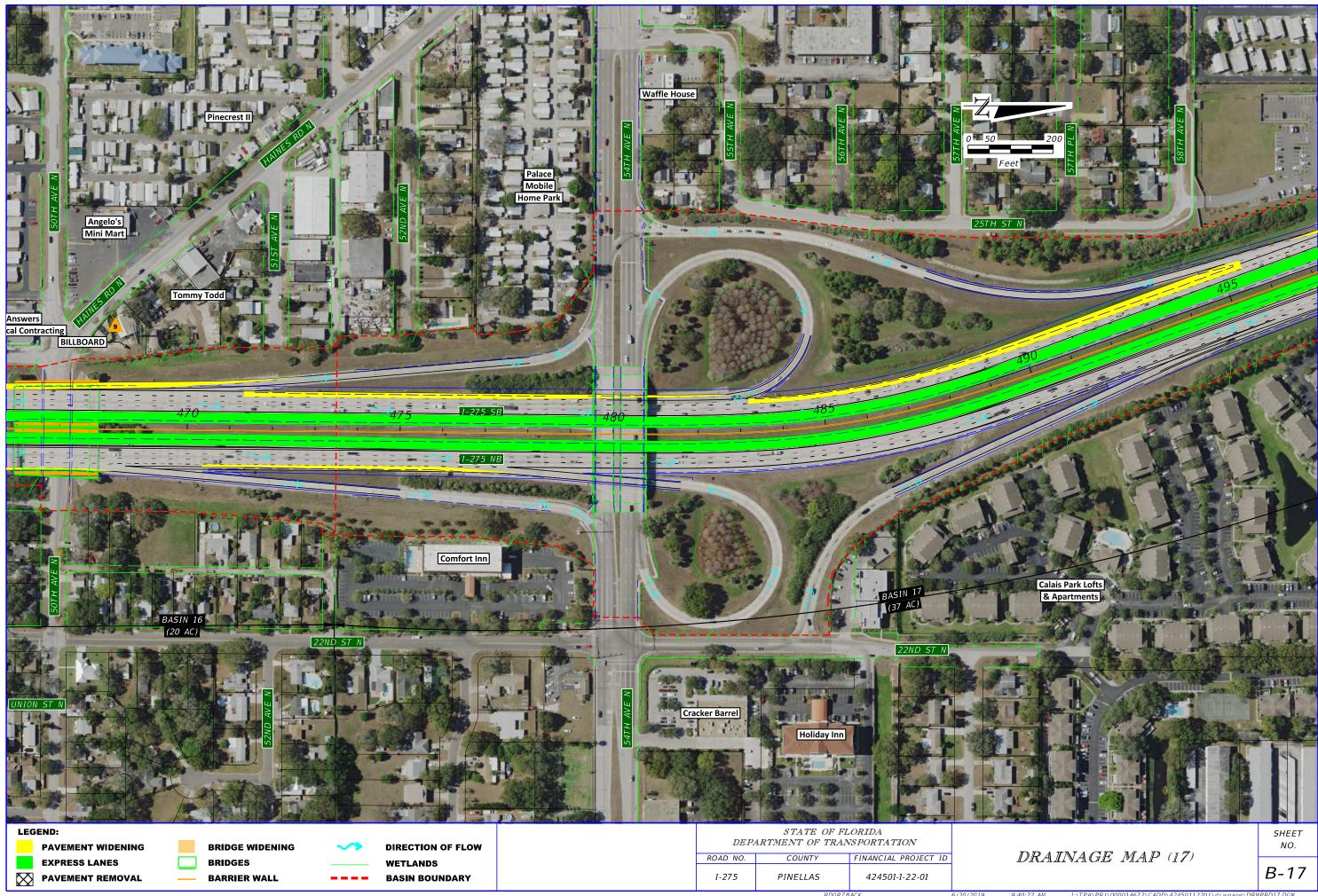


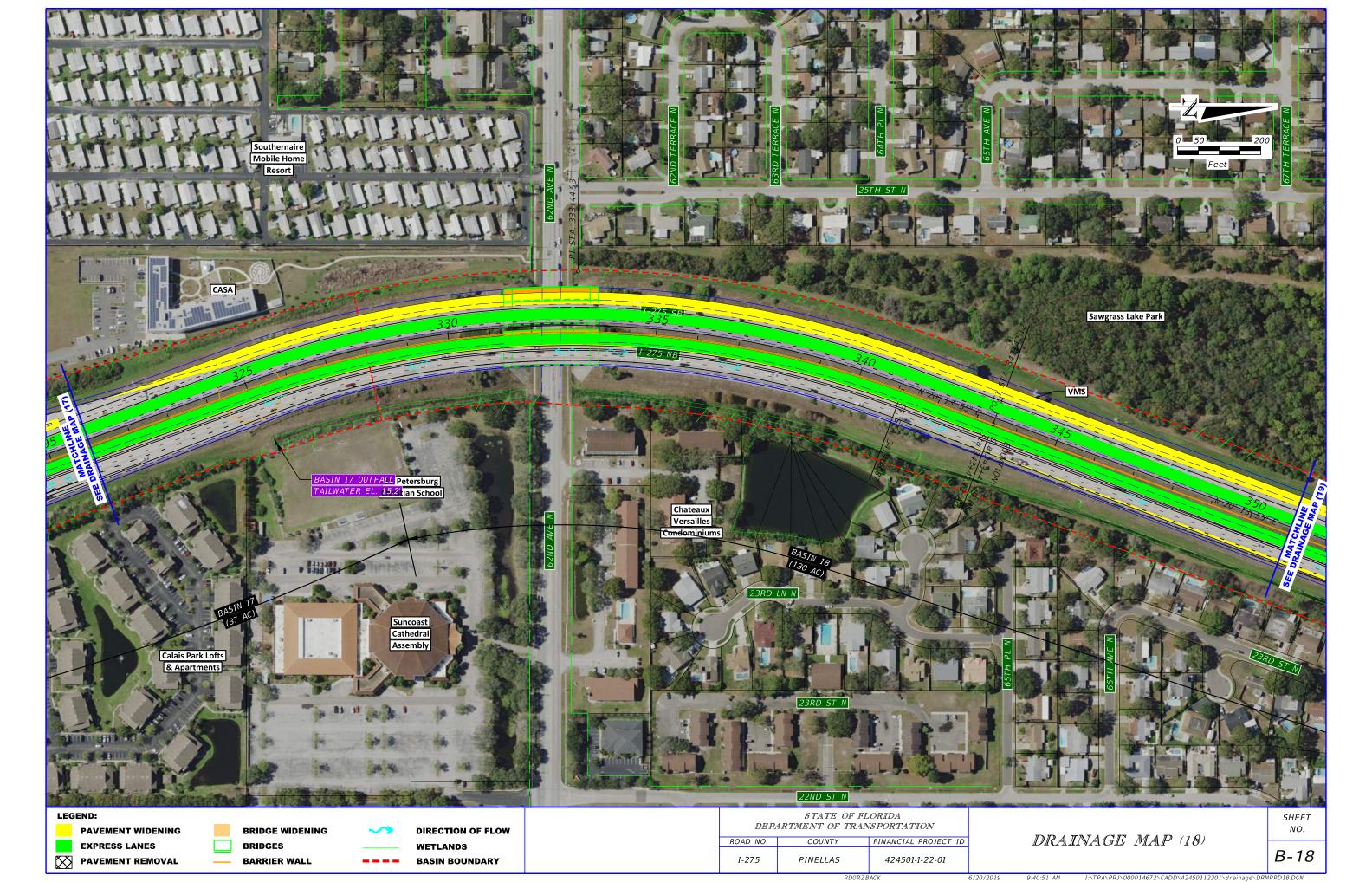


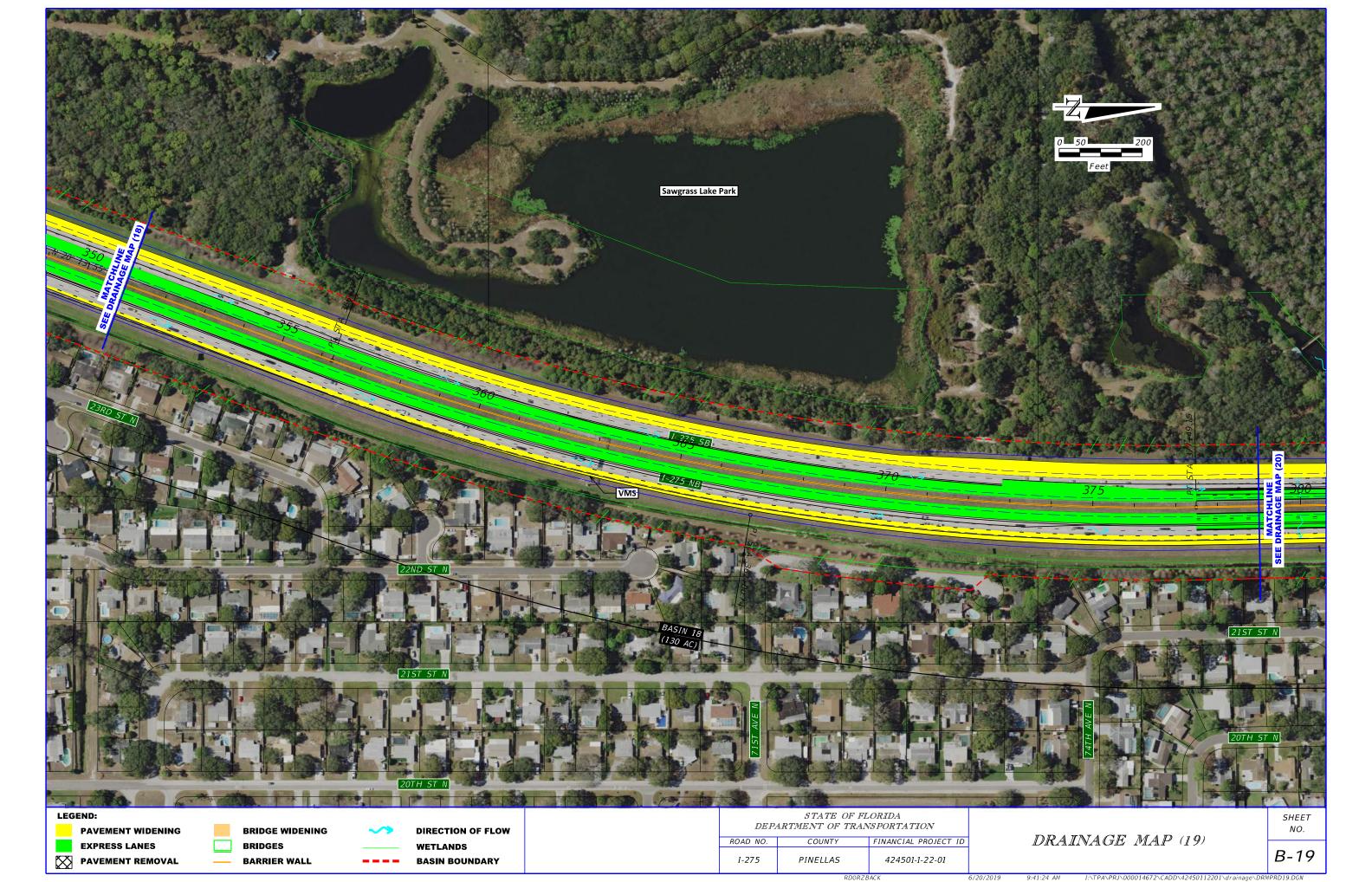


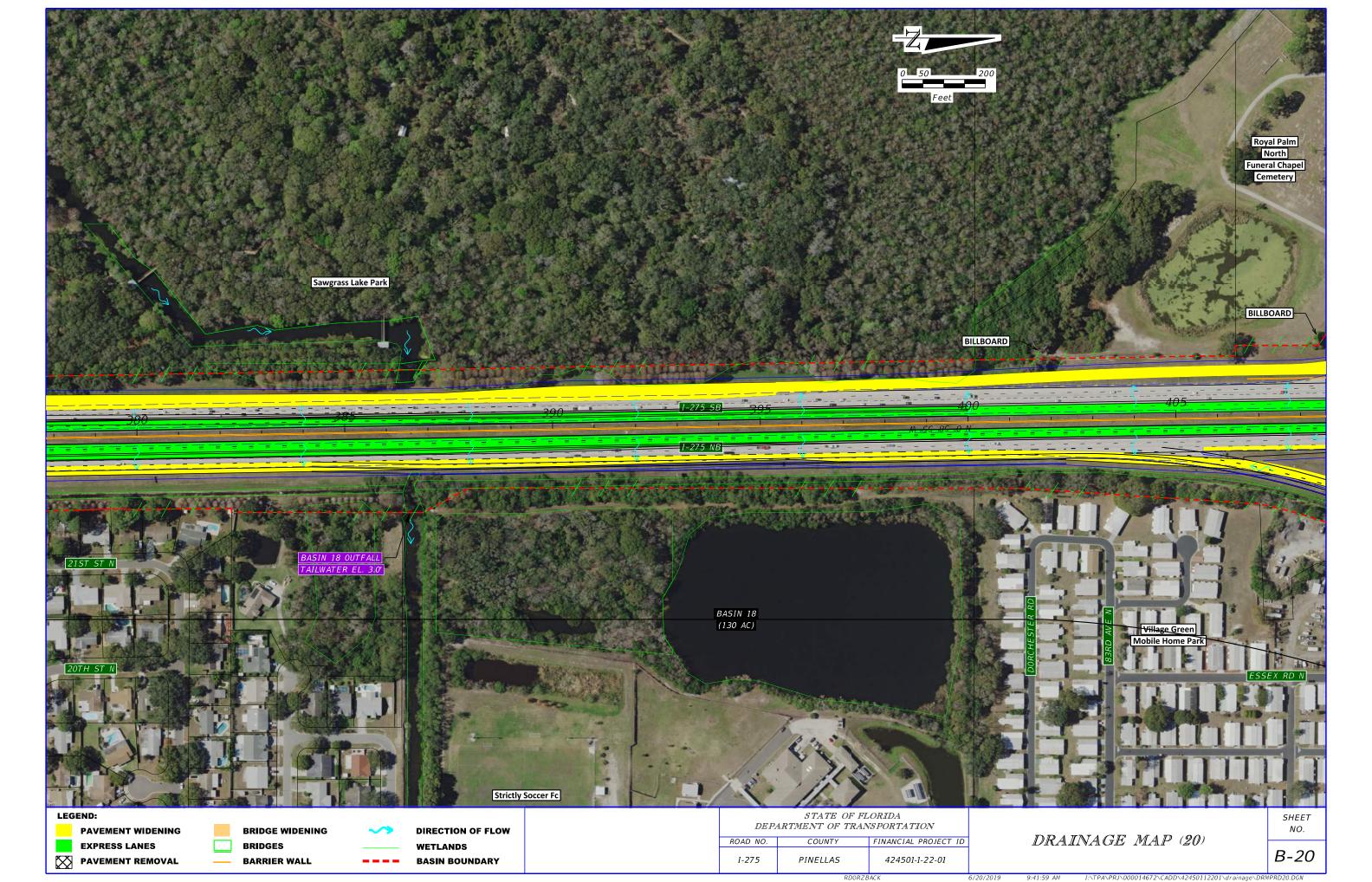


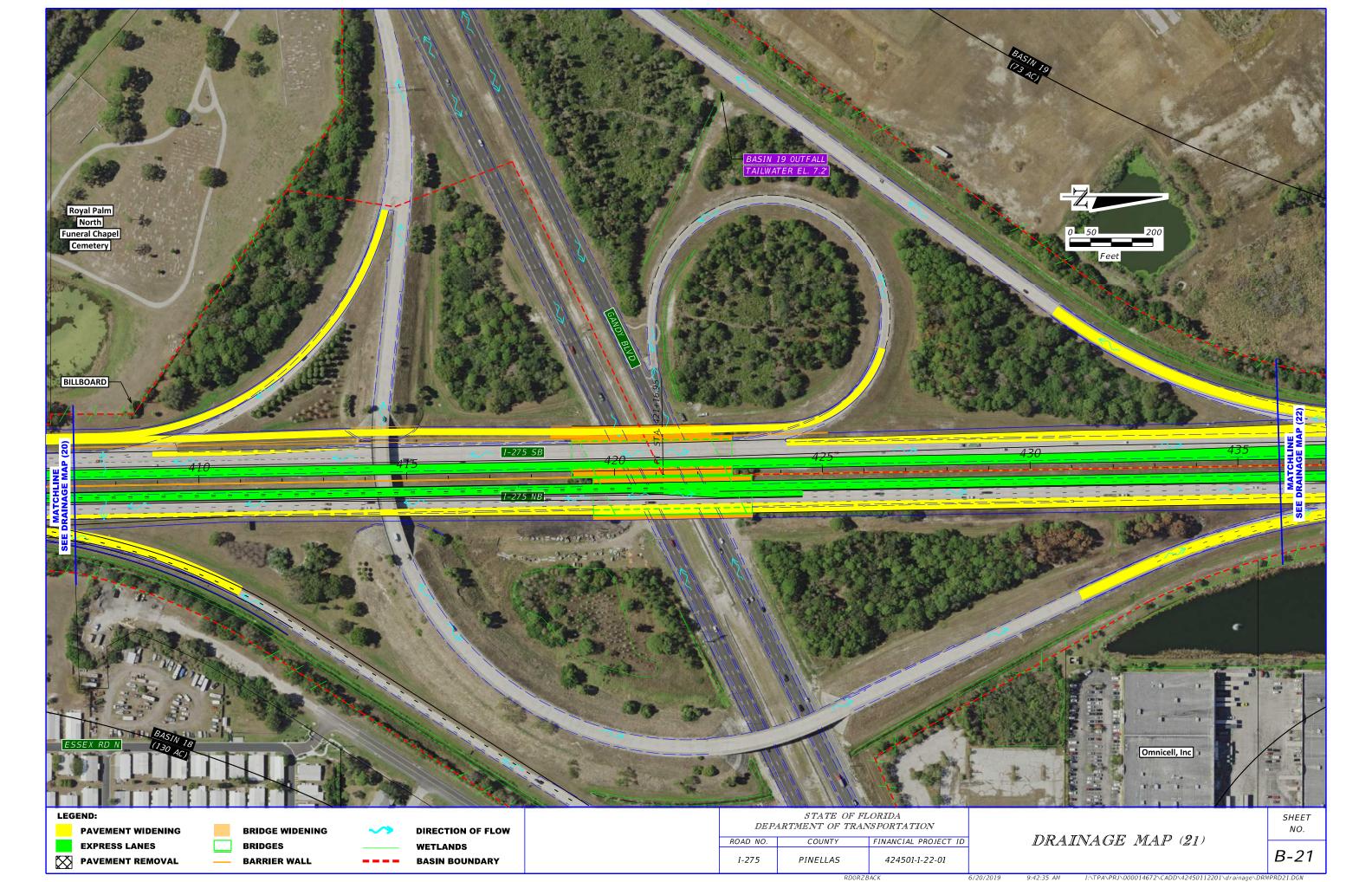


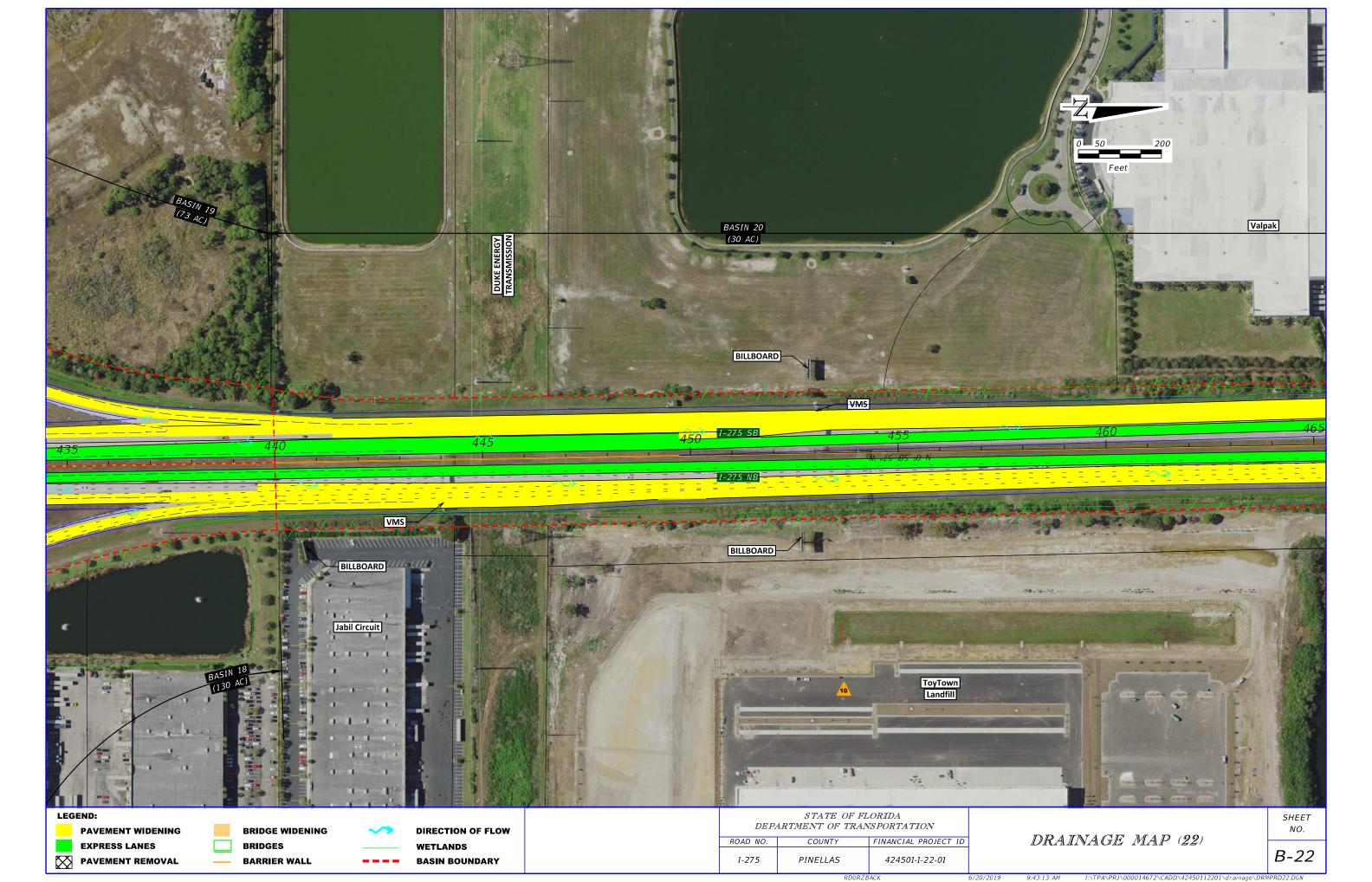


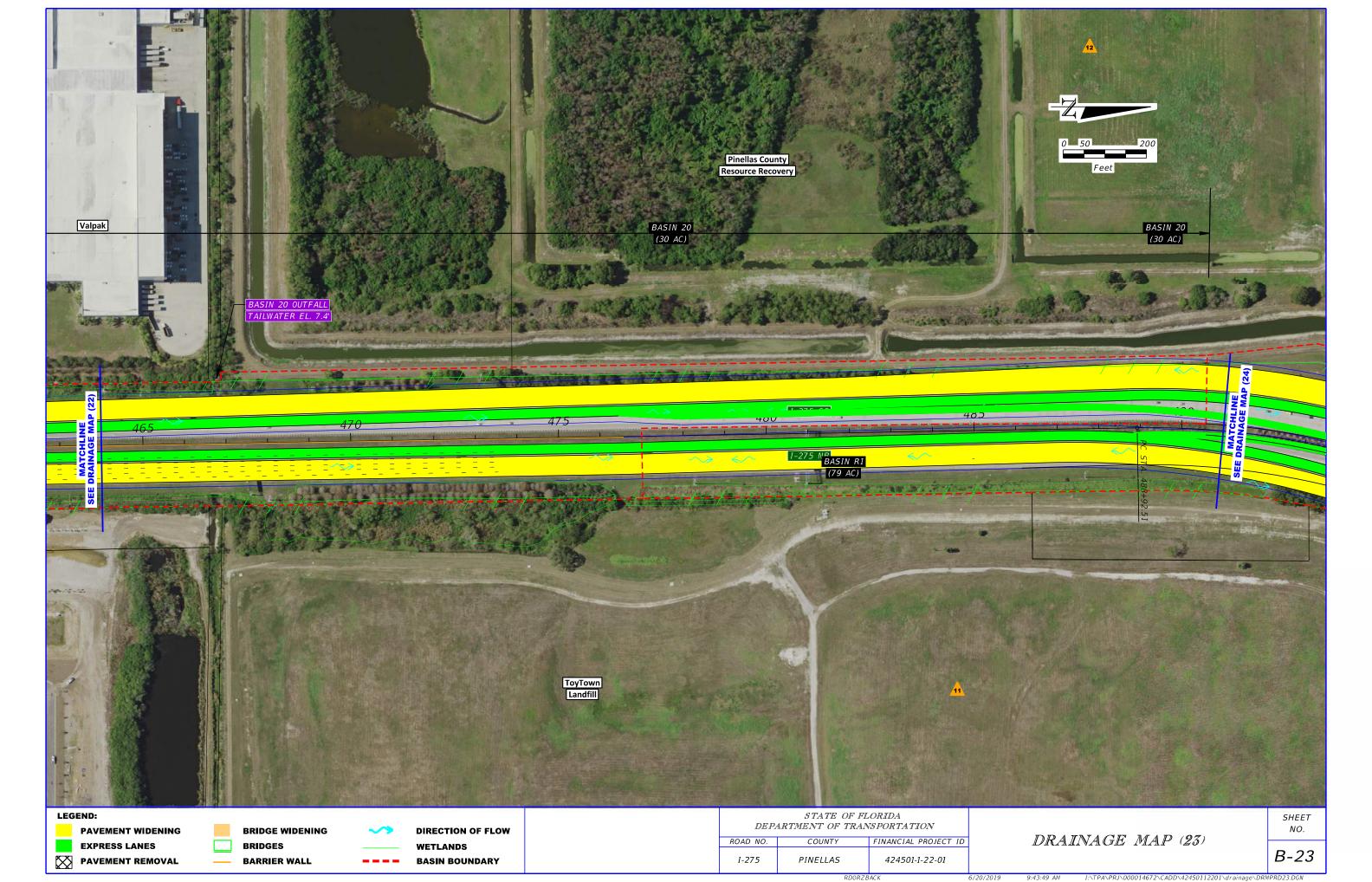


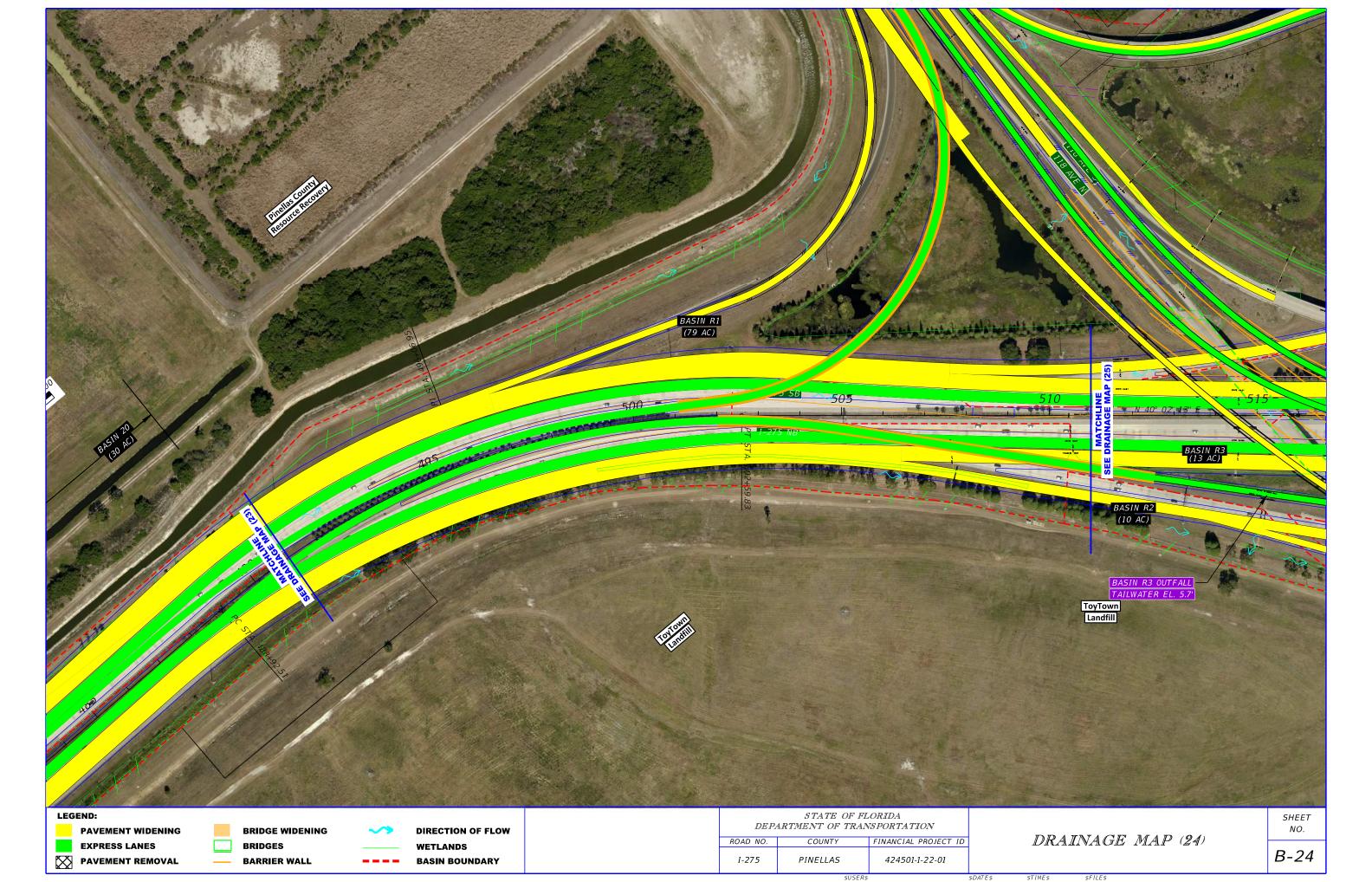


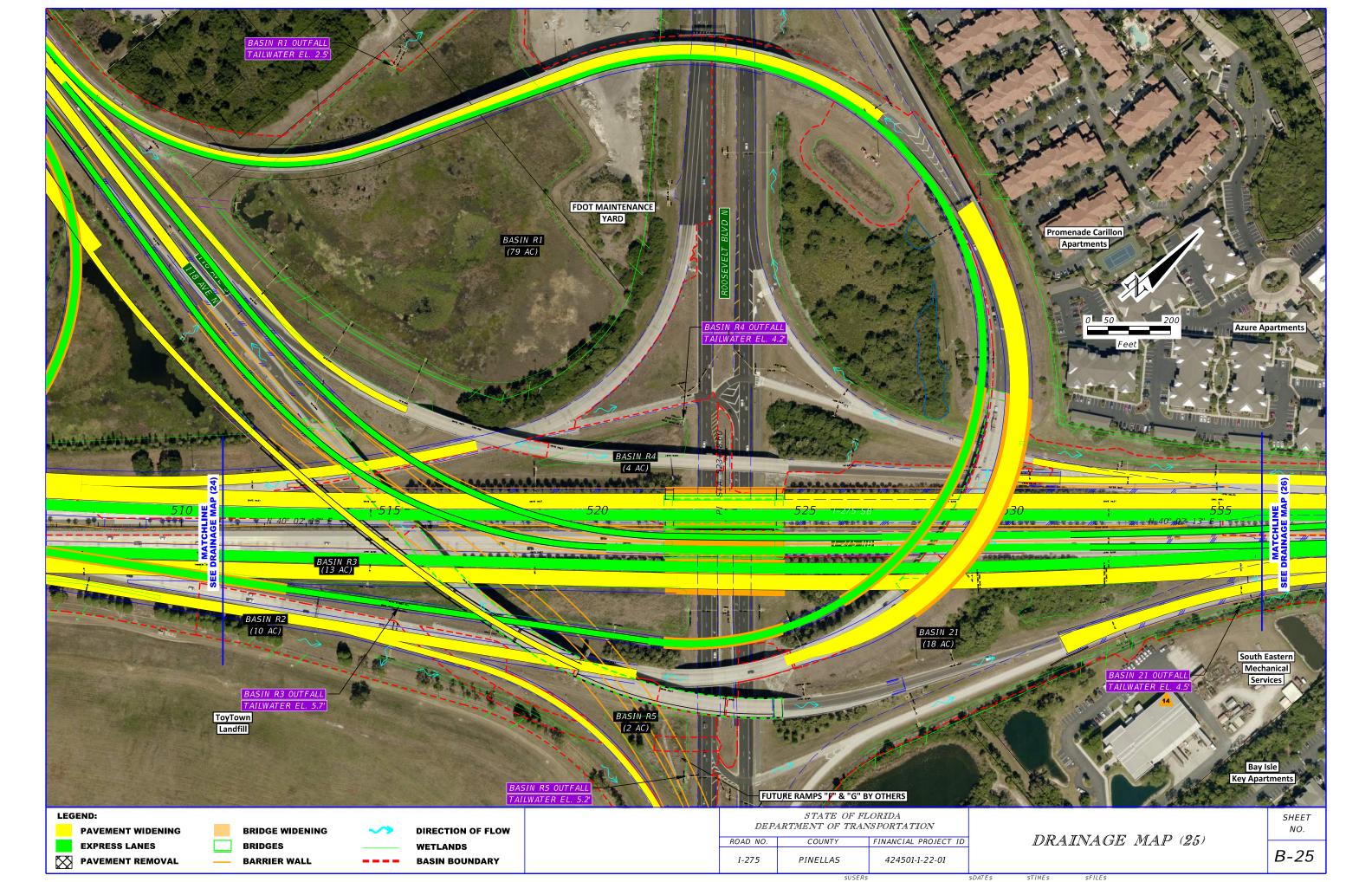


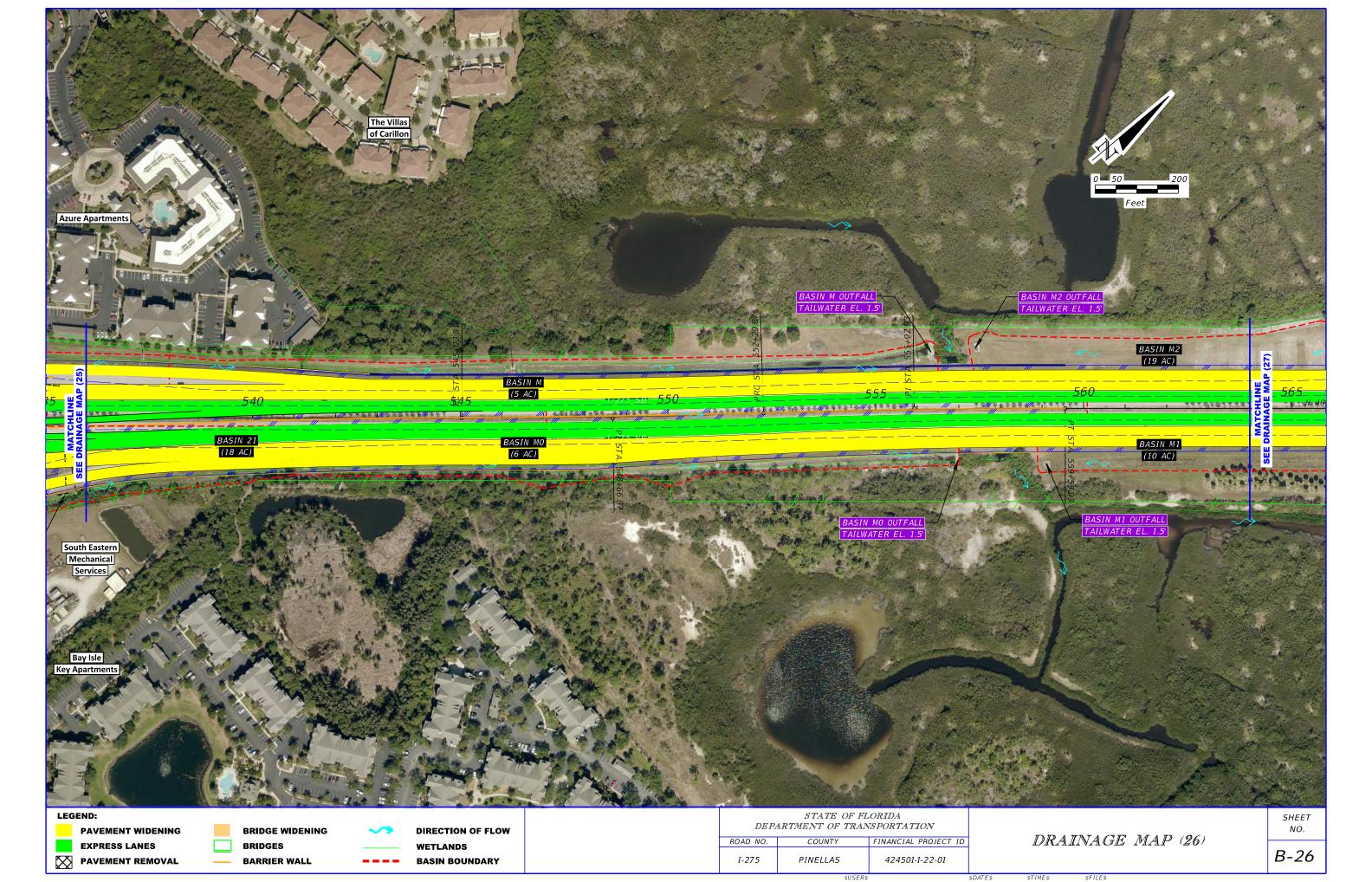


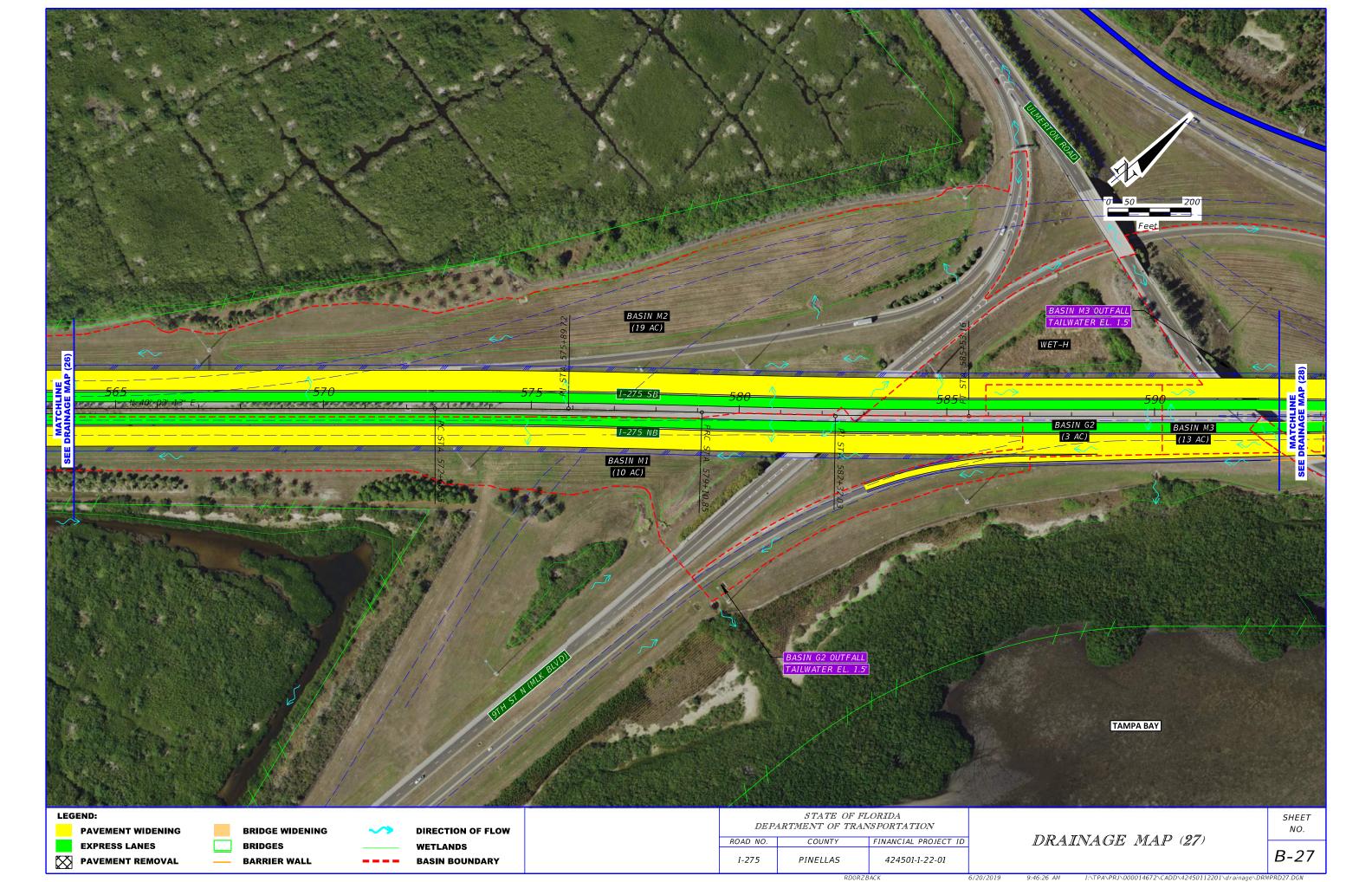


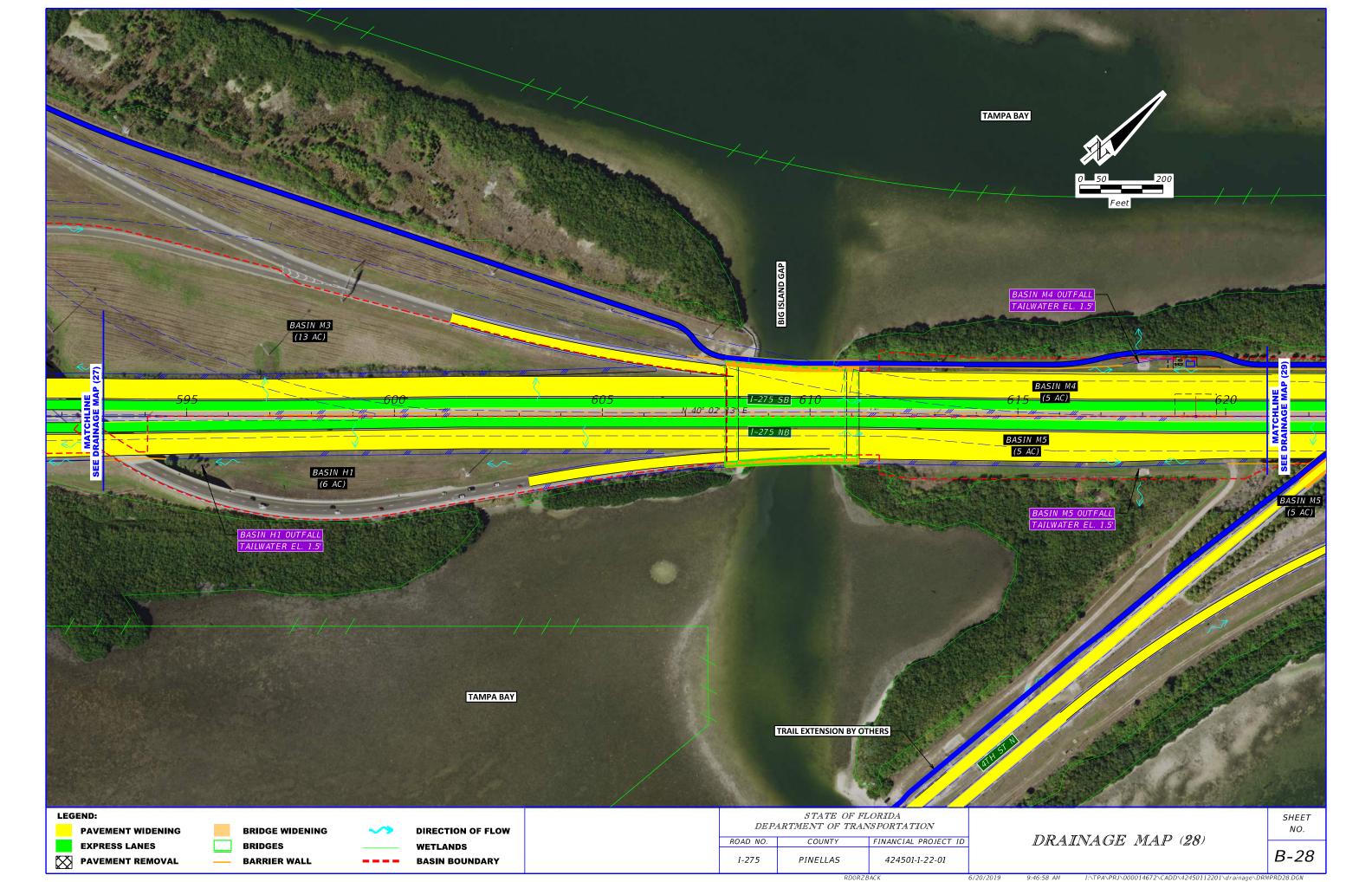


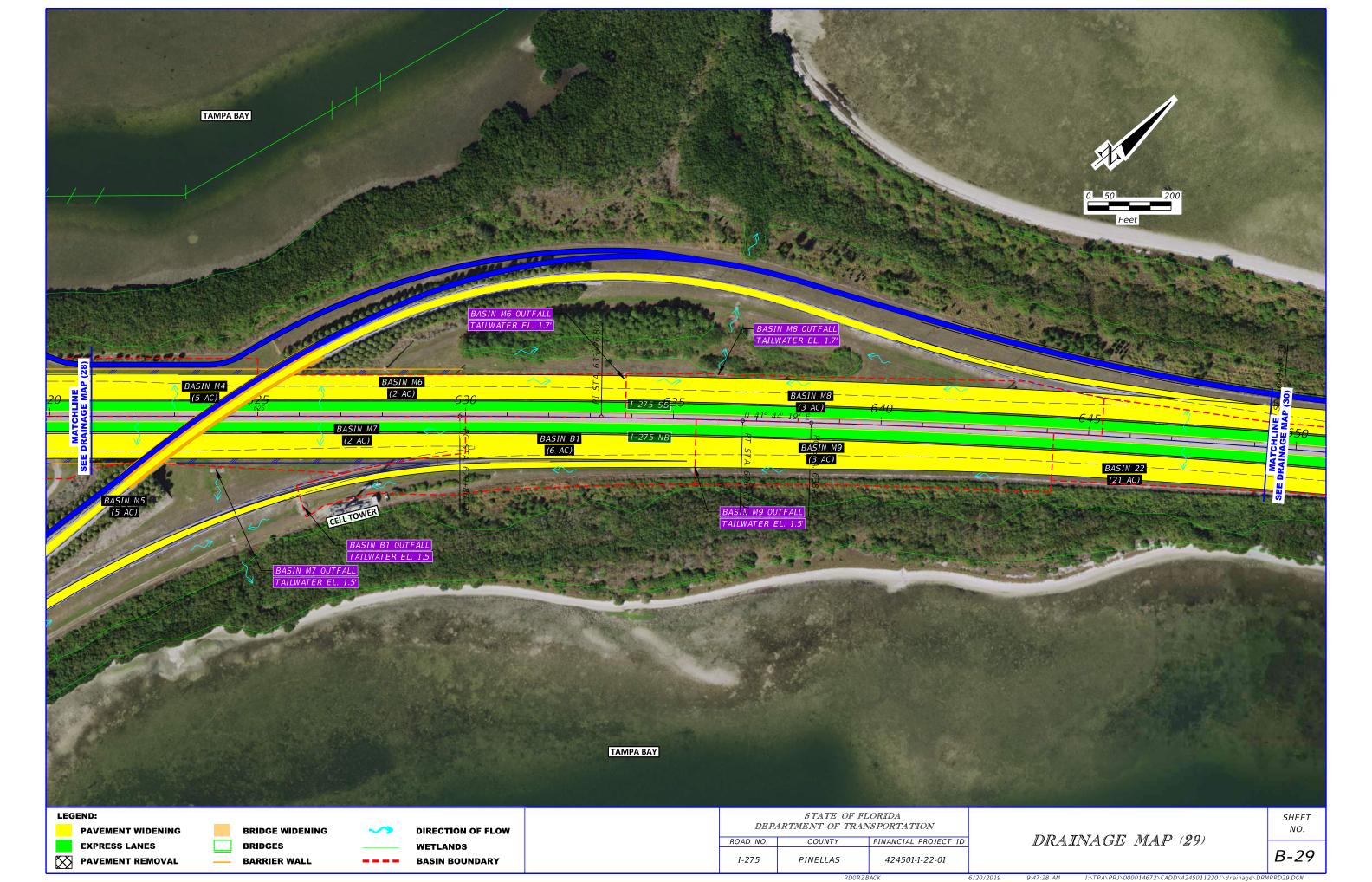


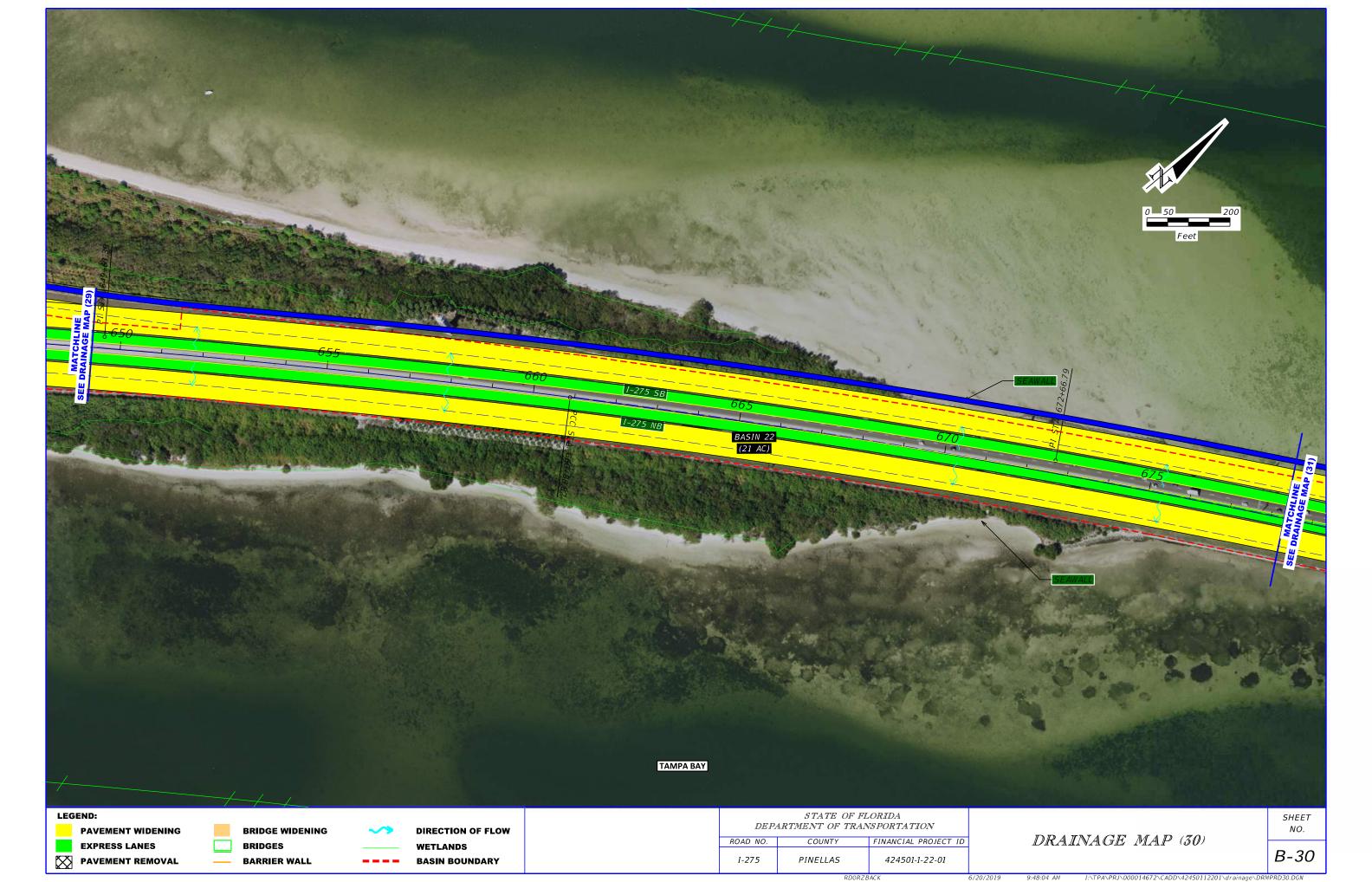


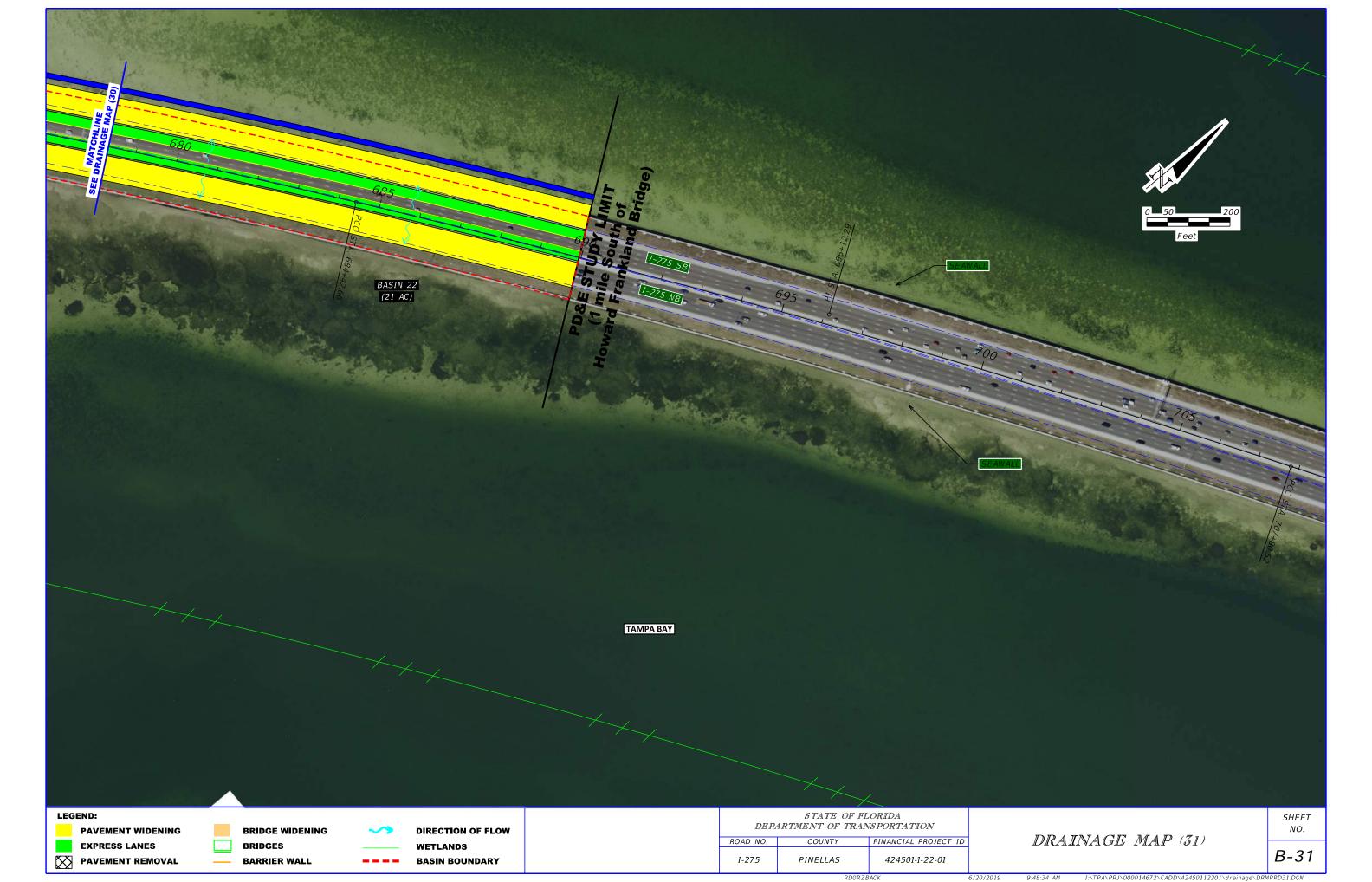


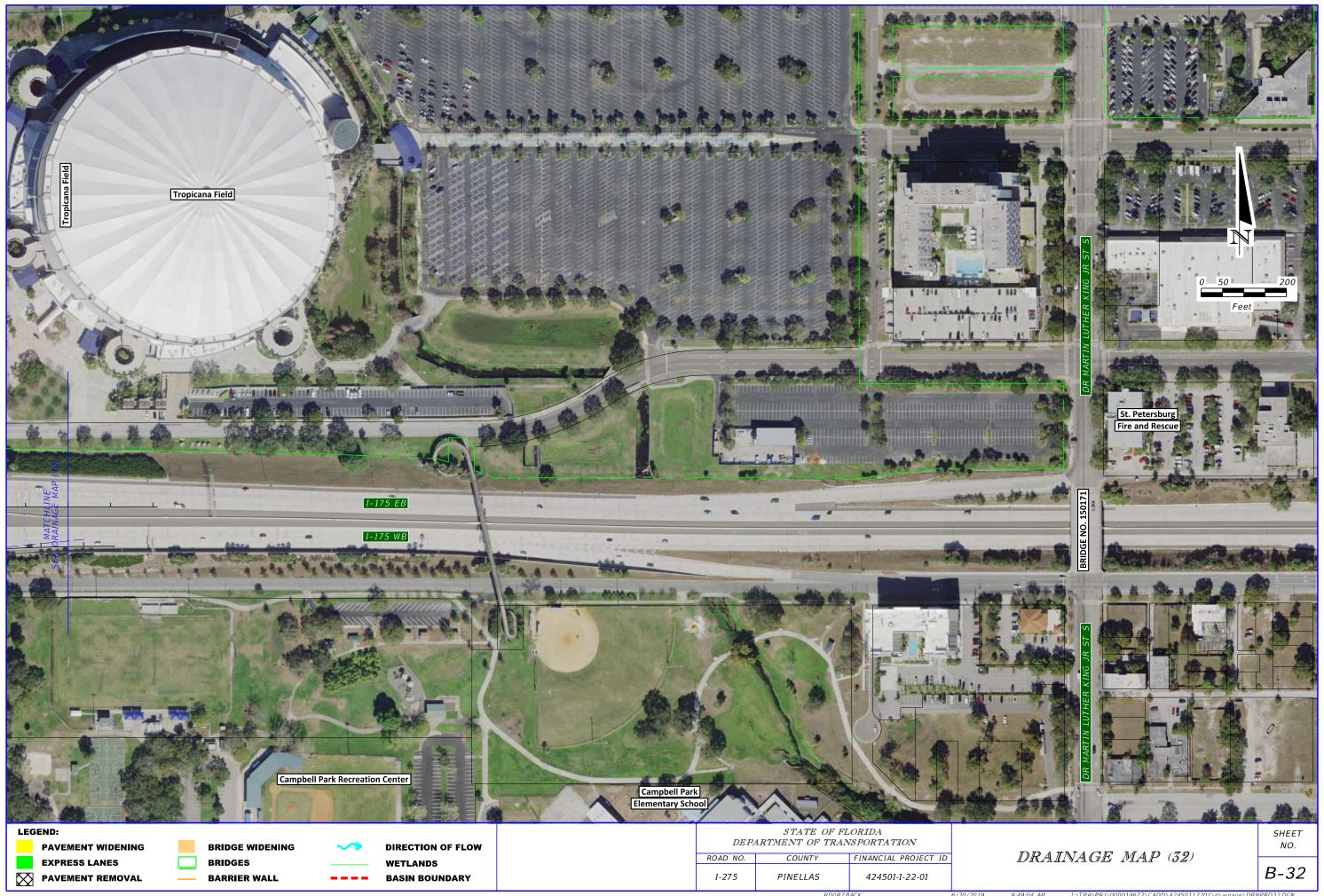






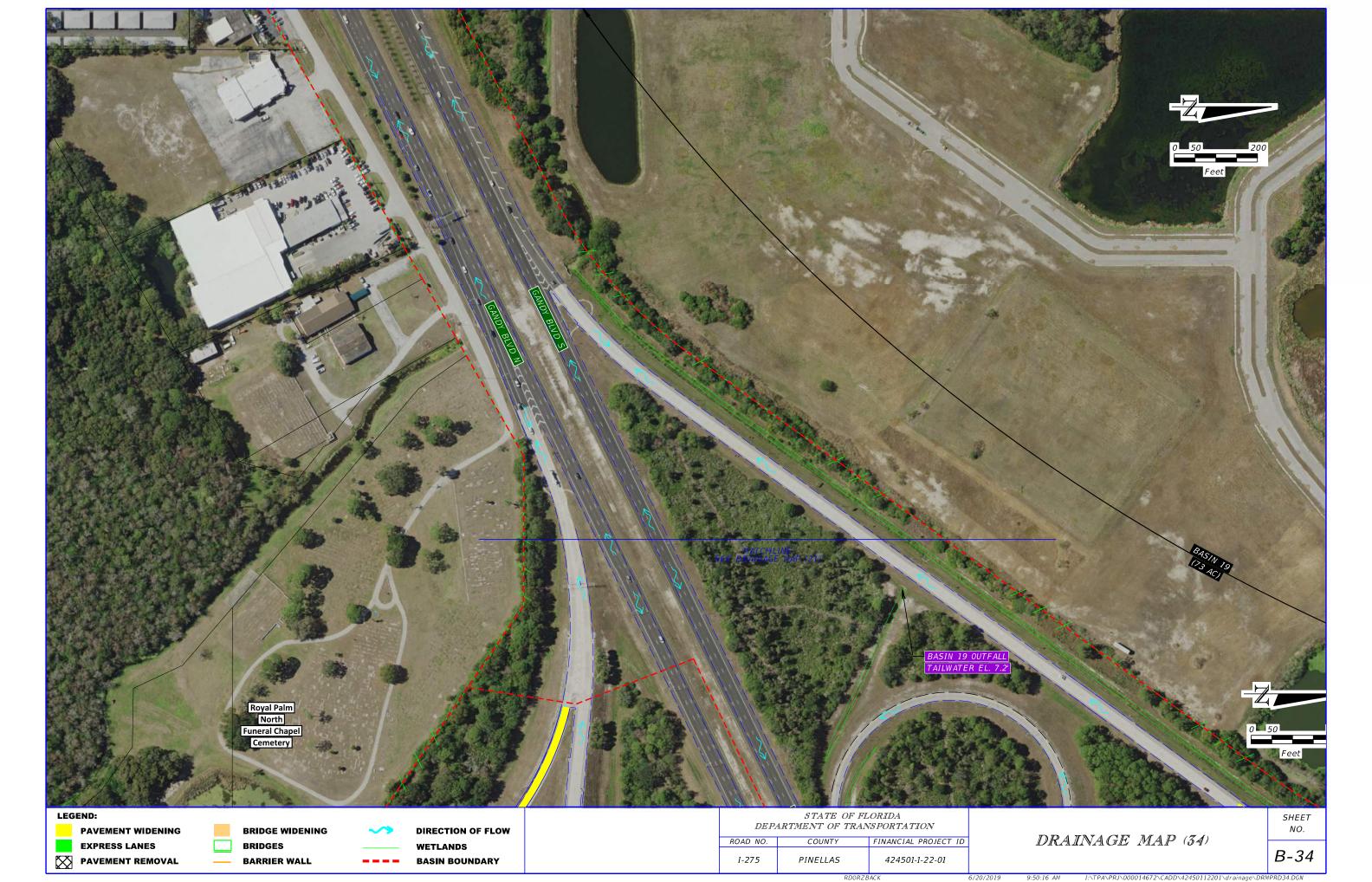


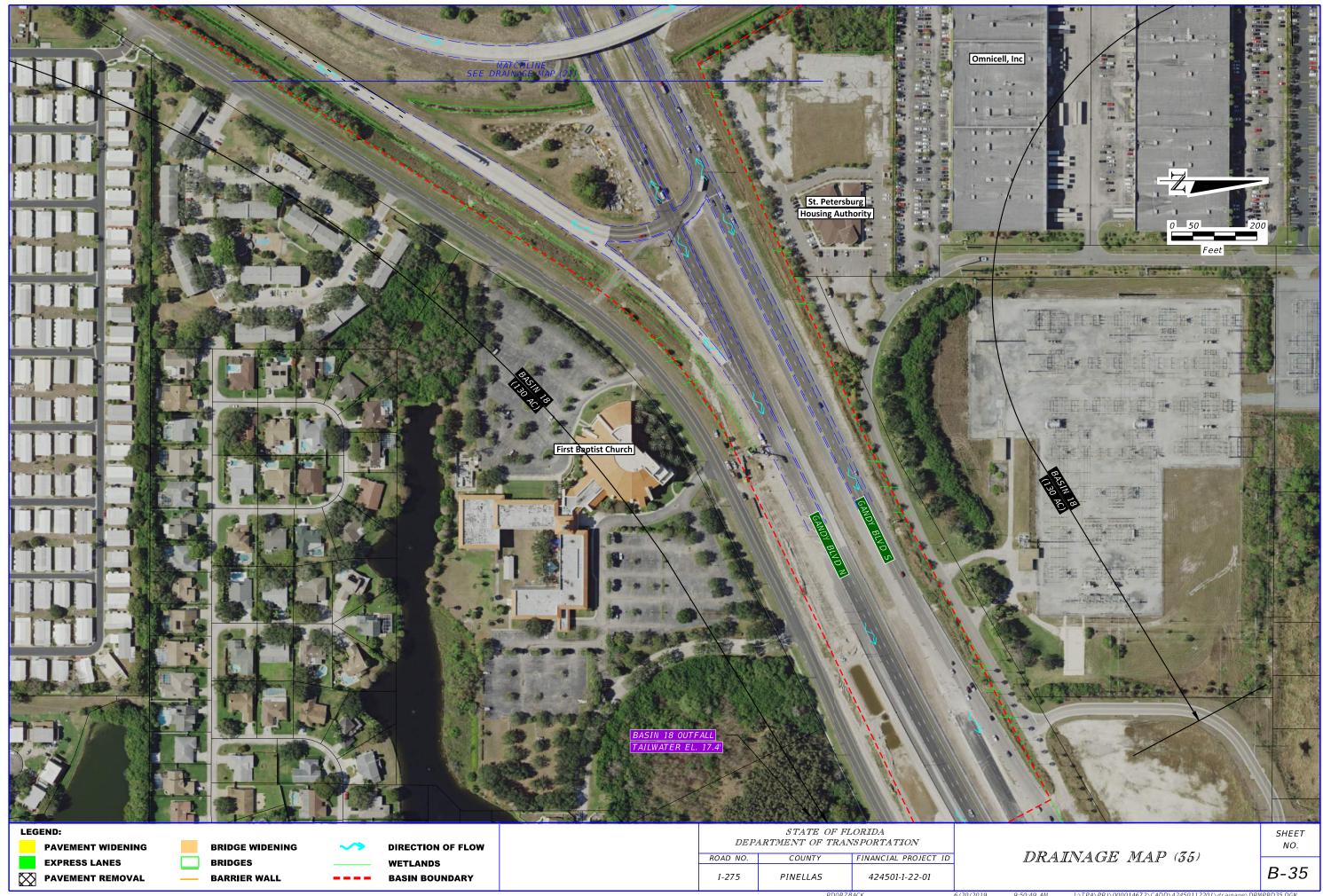




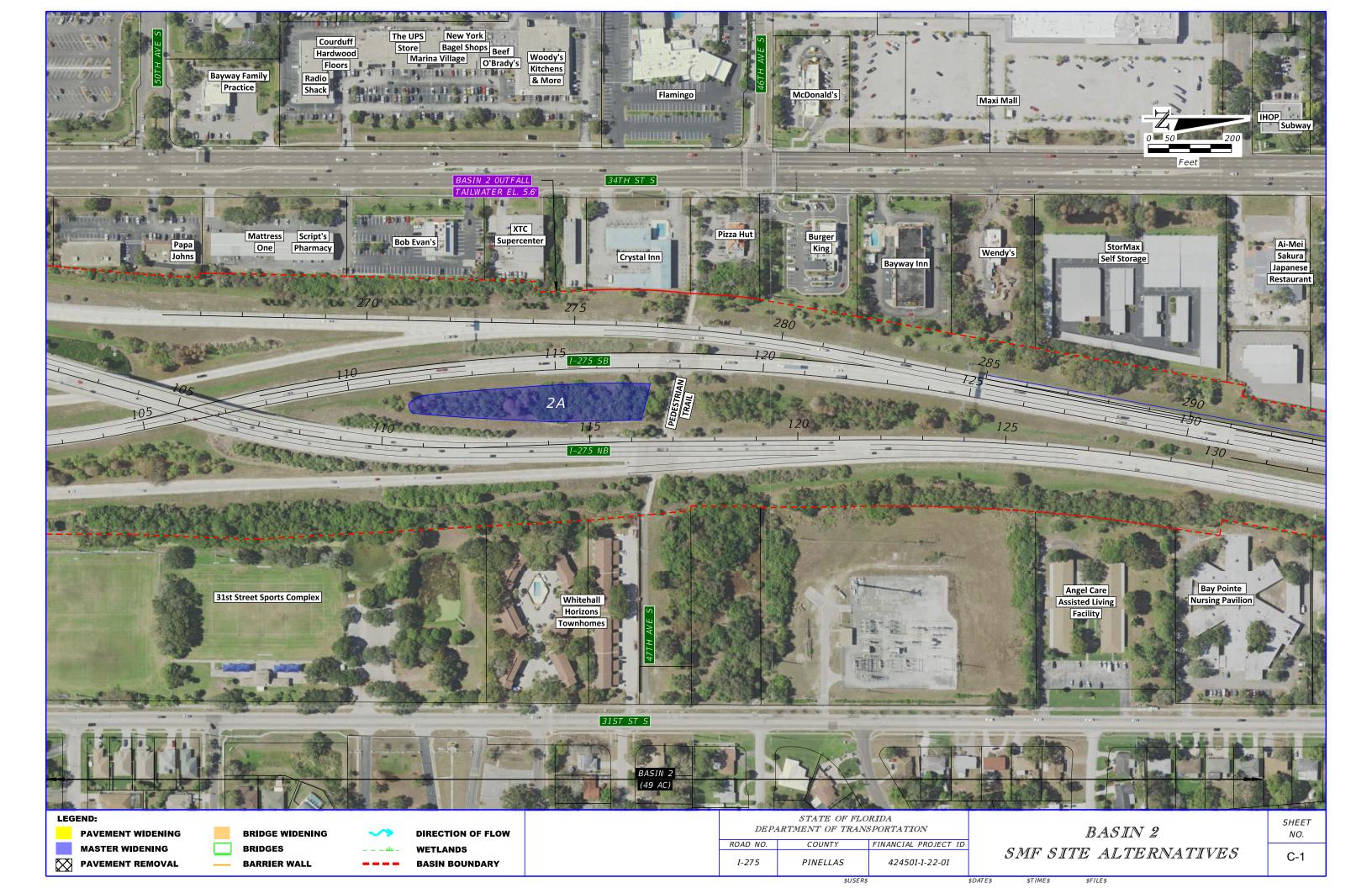


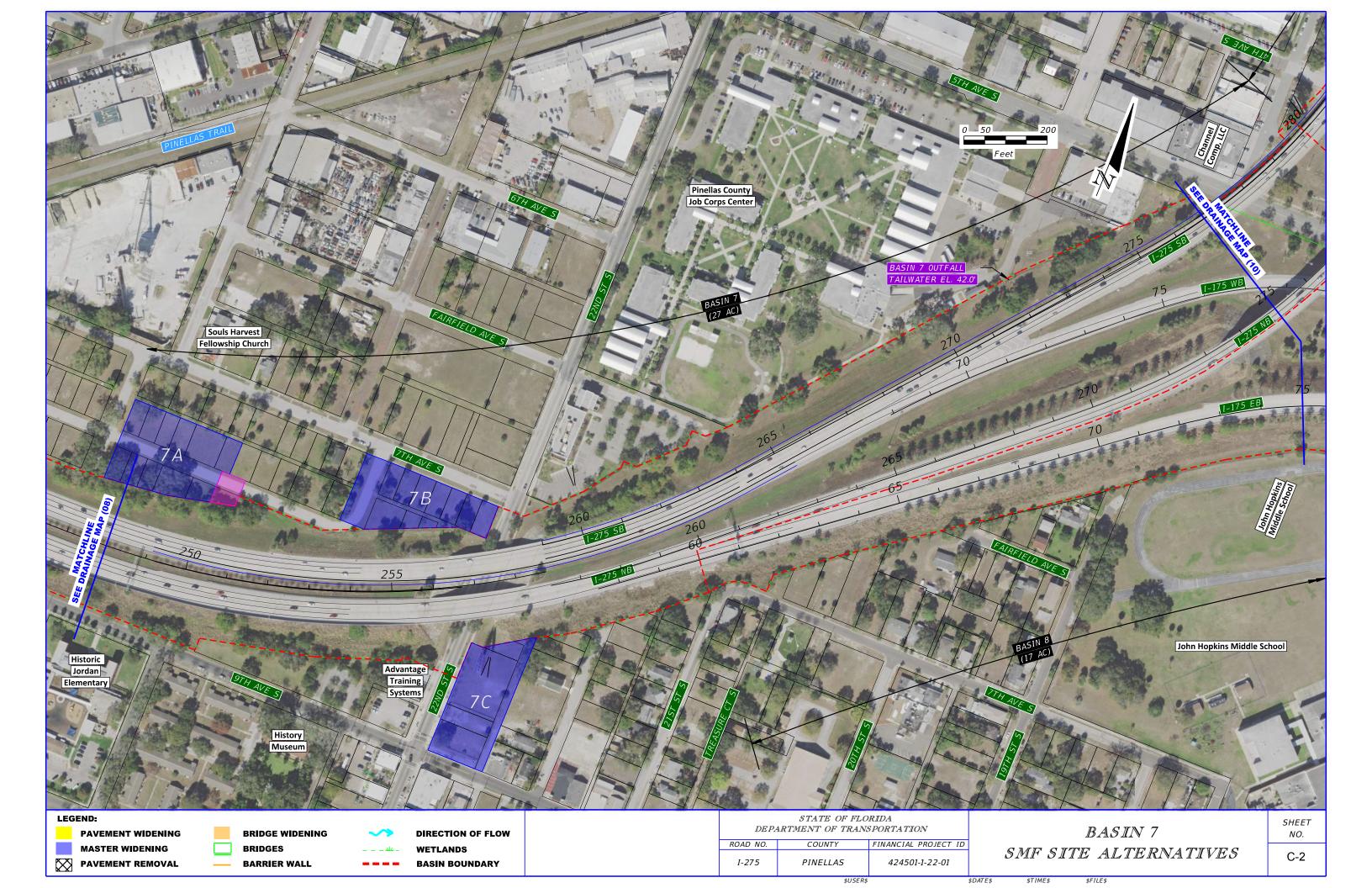
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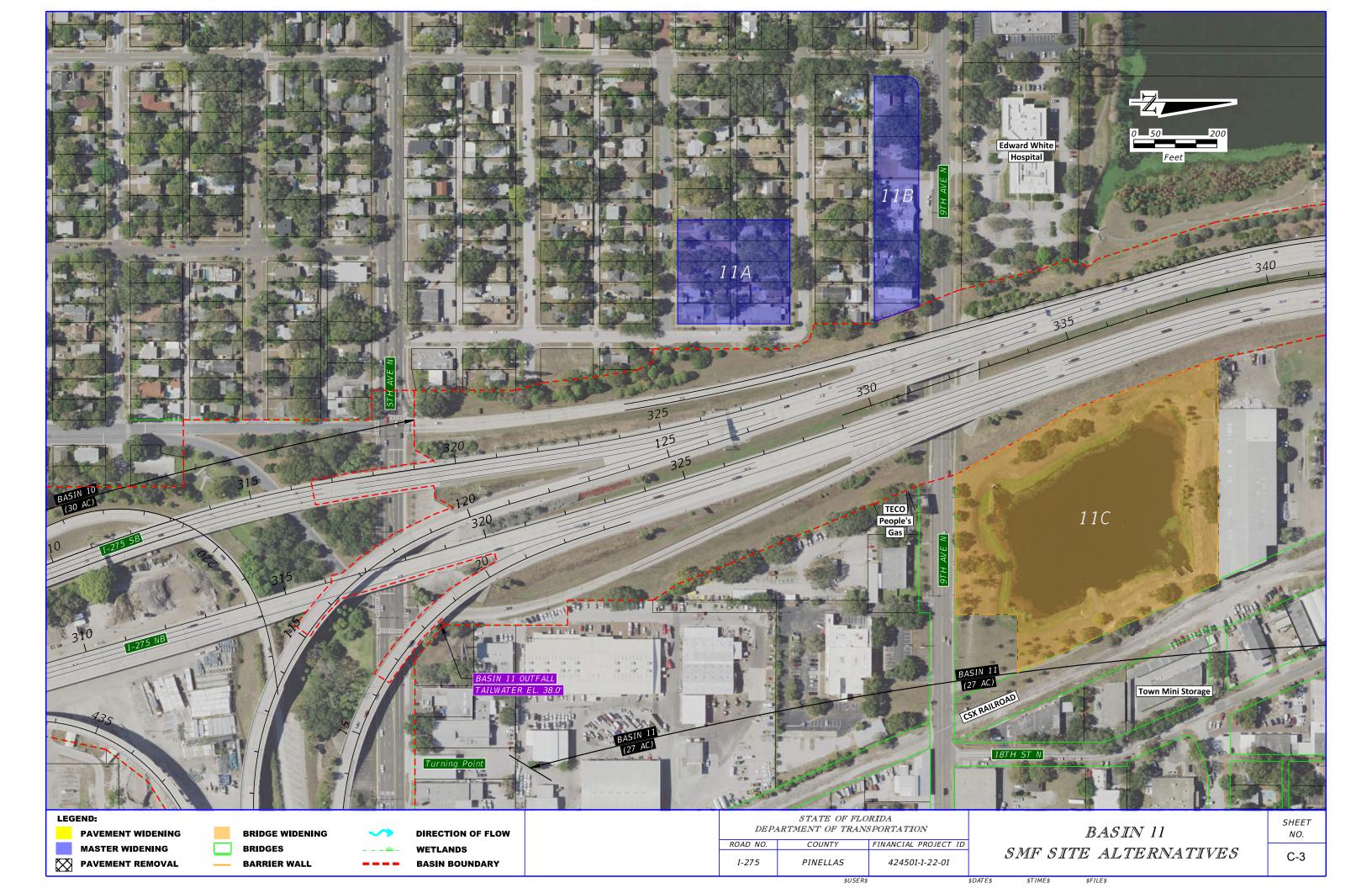


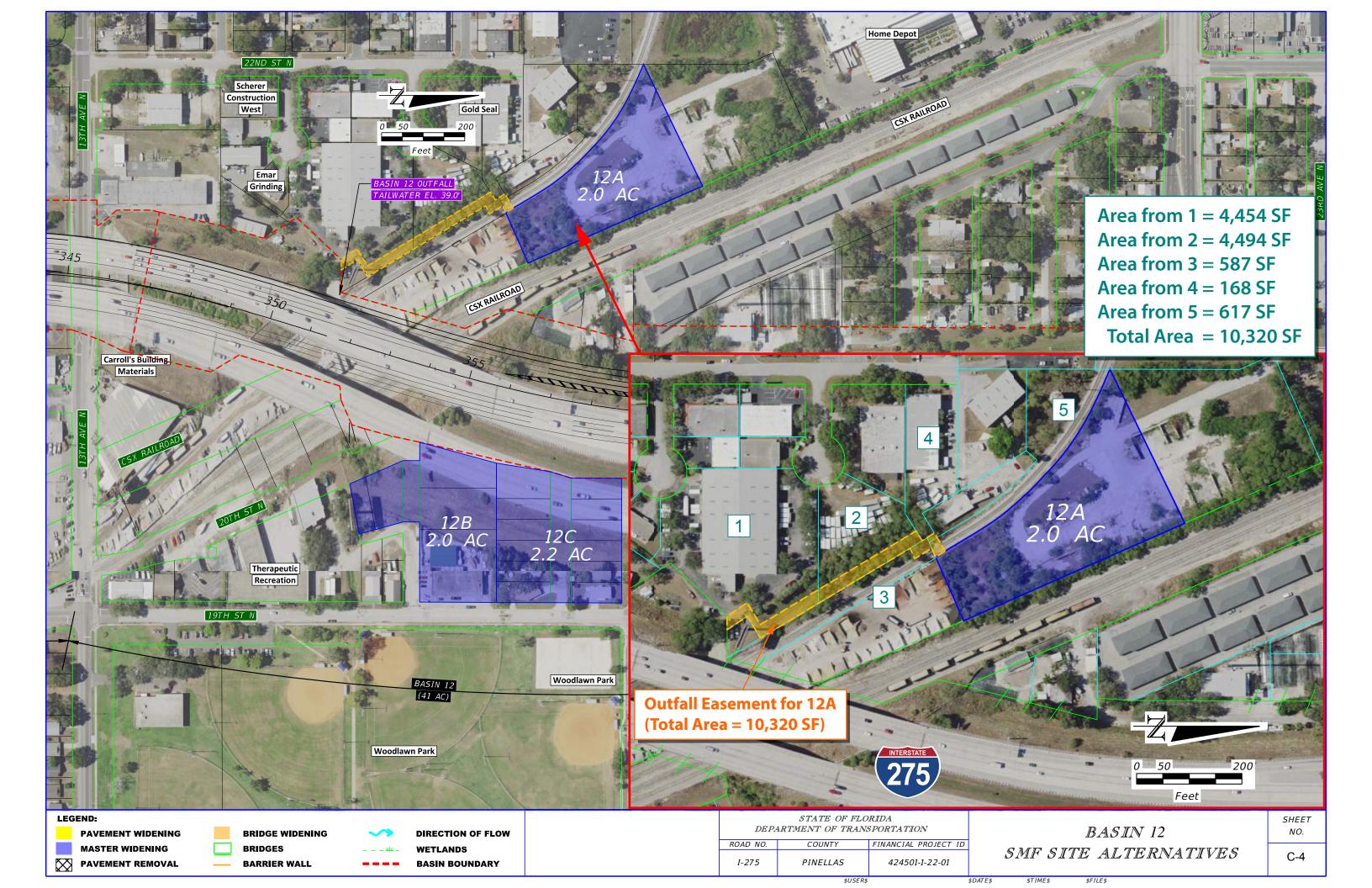


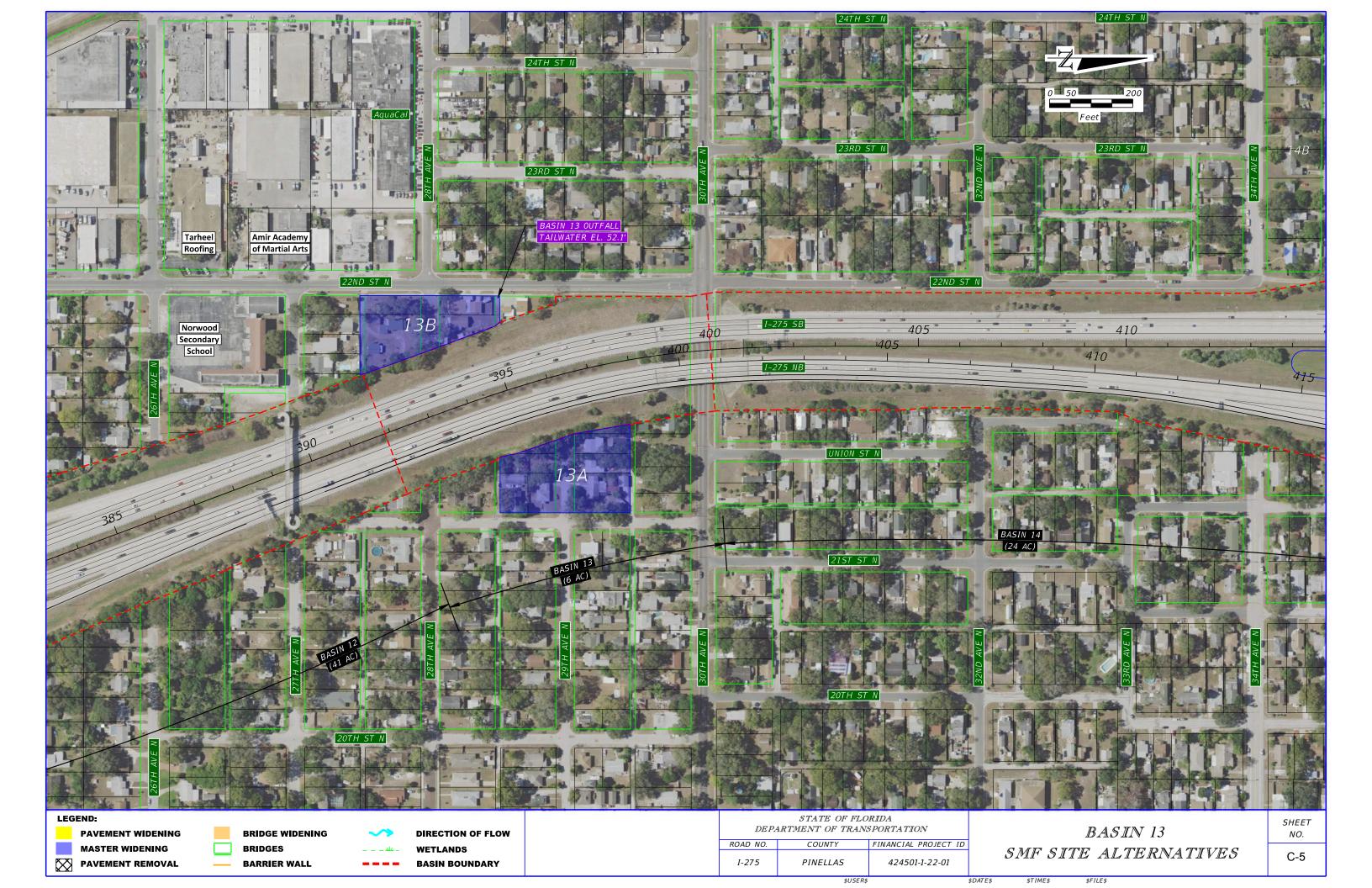
Appendix C. Pond Site Alternatives

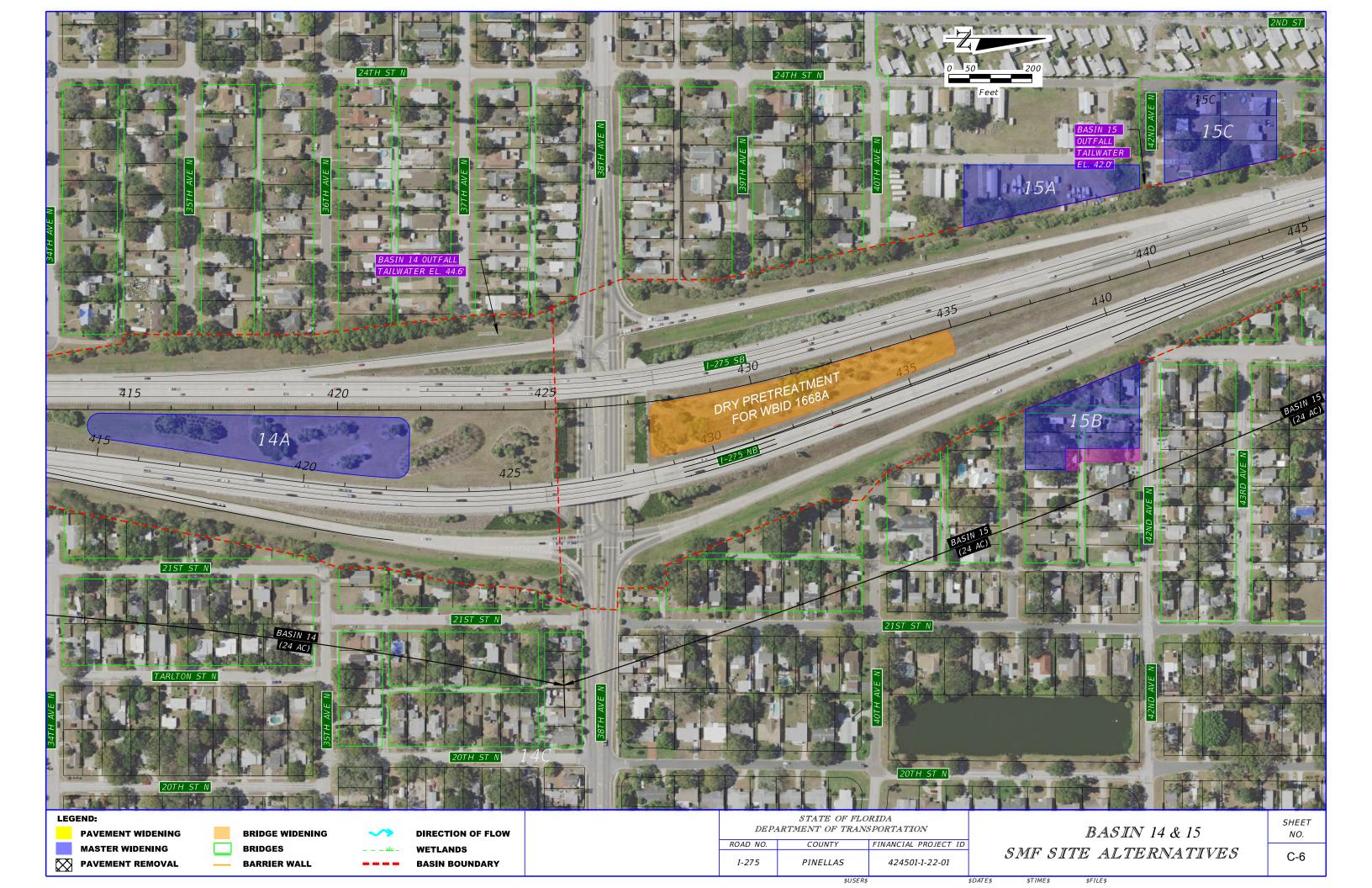


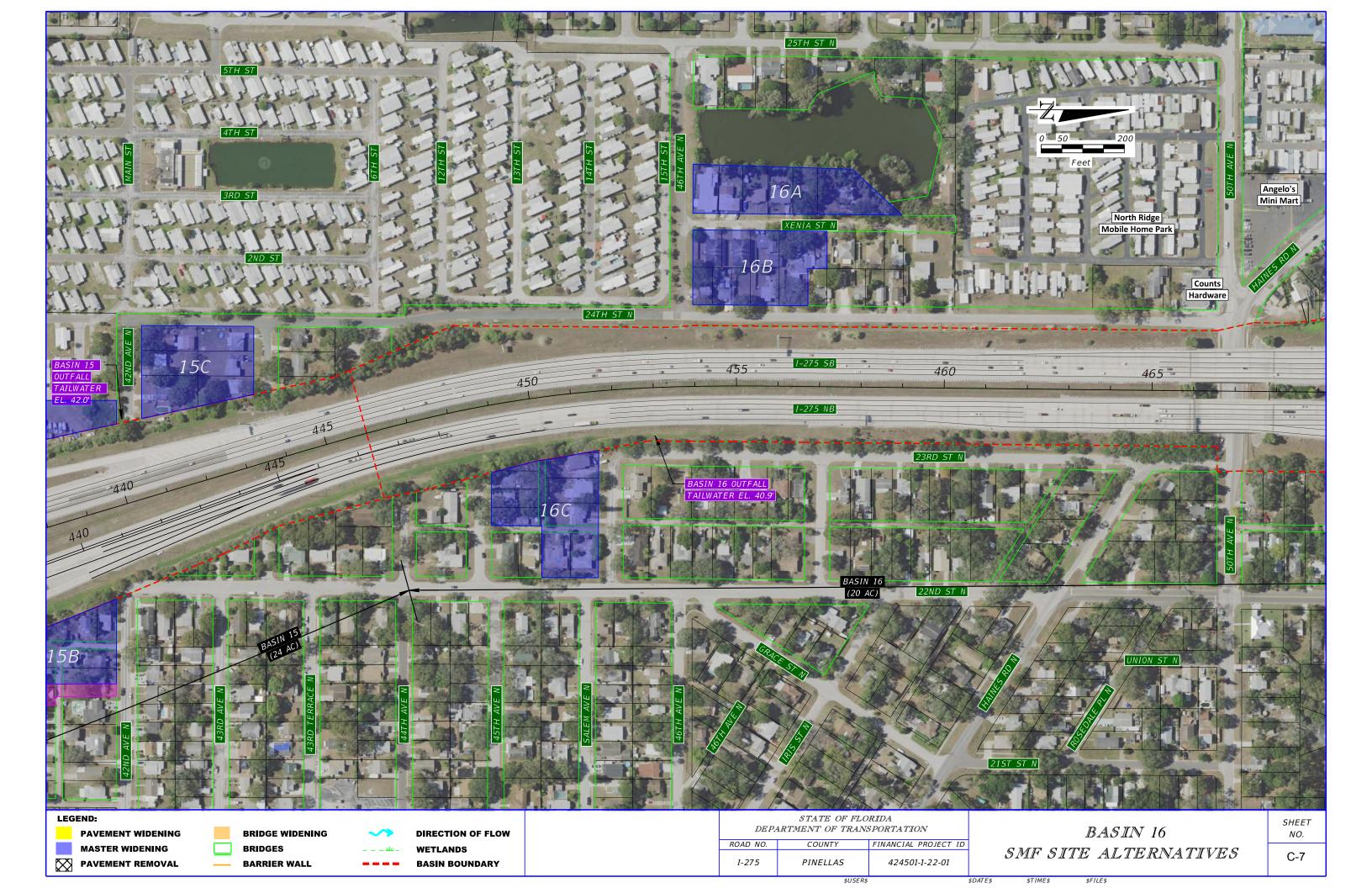


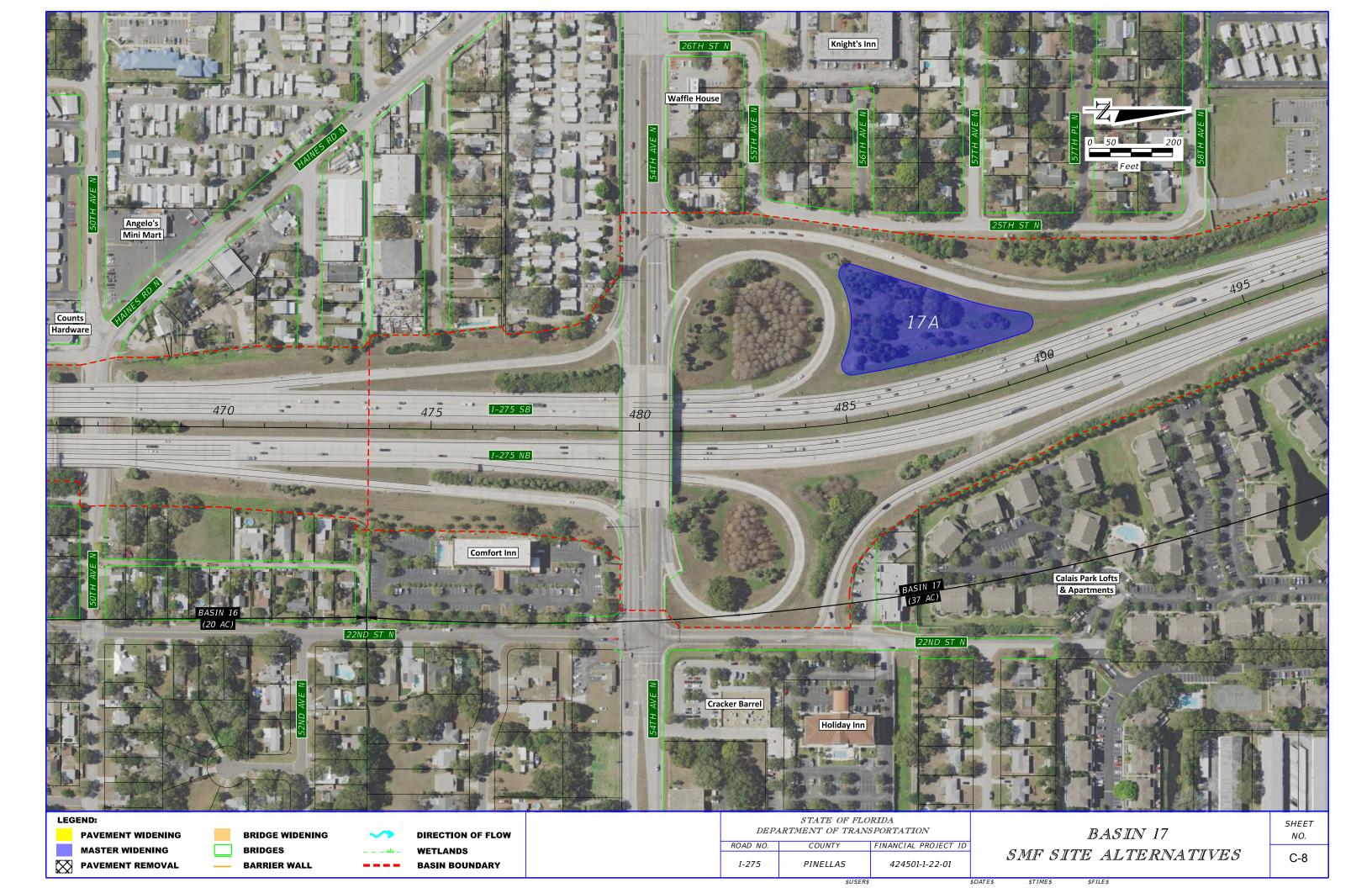


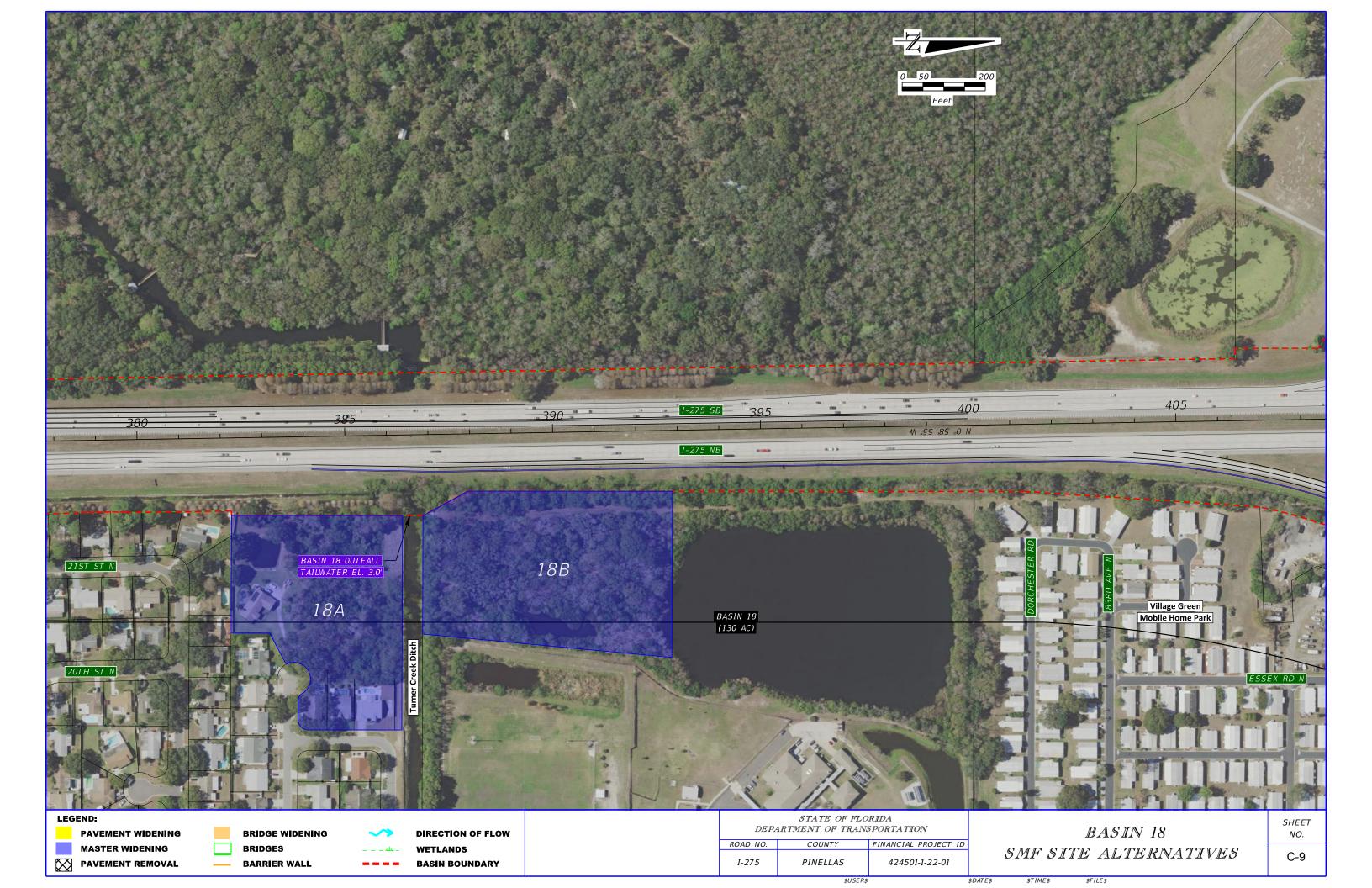


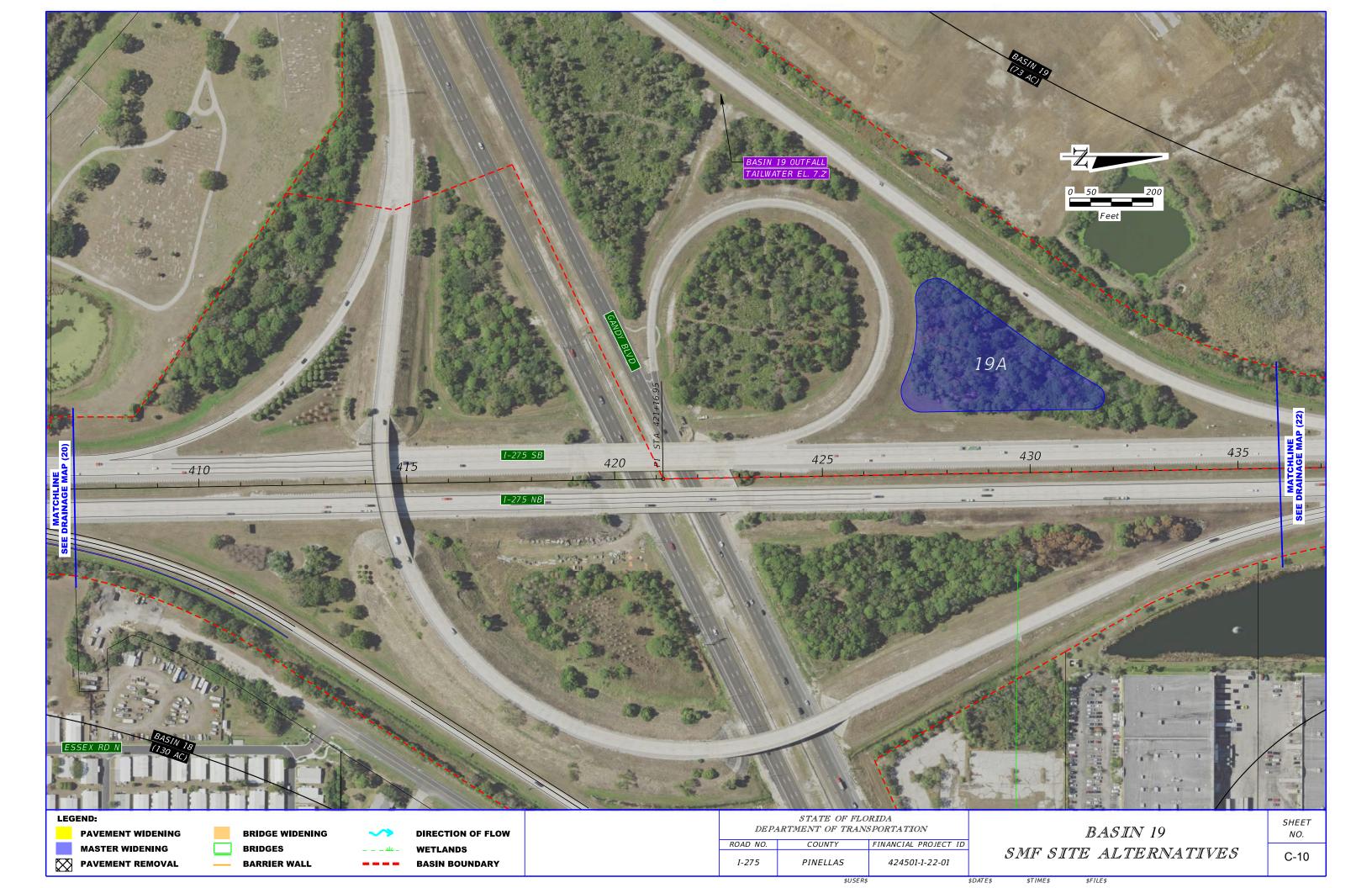


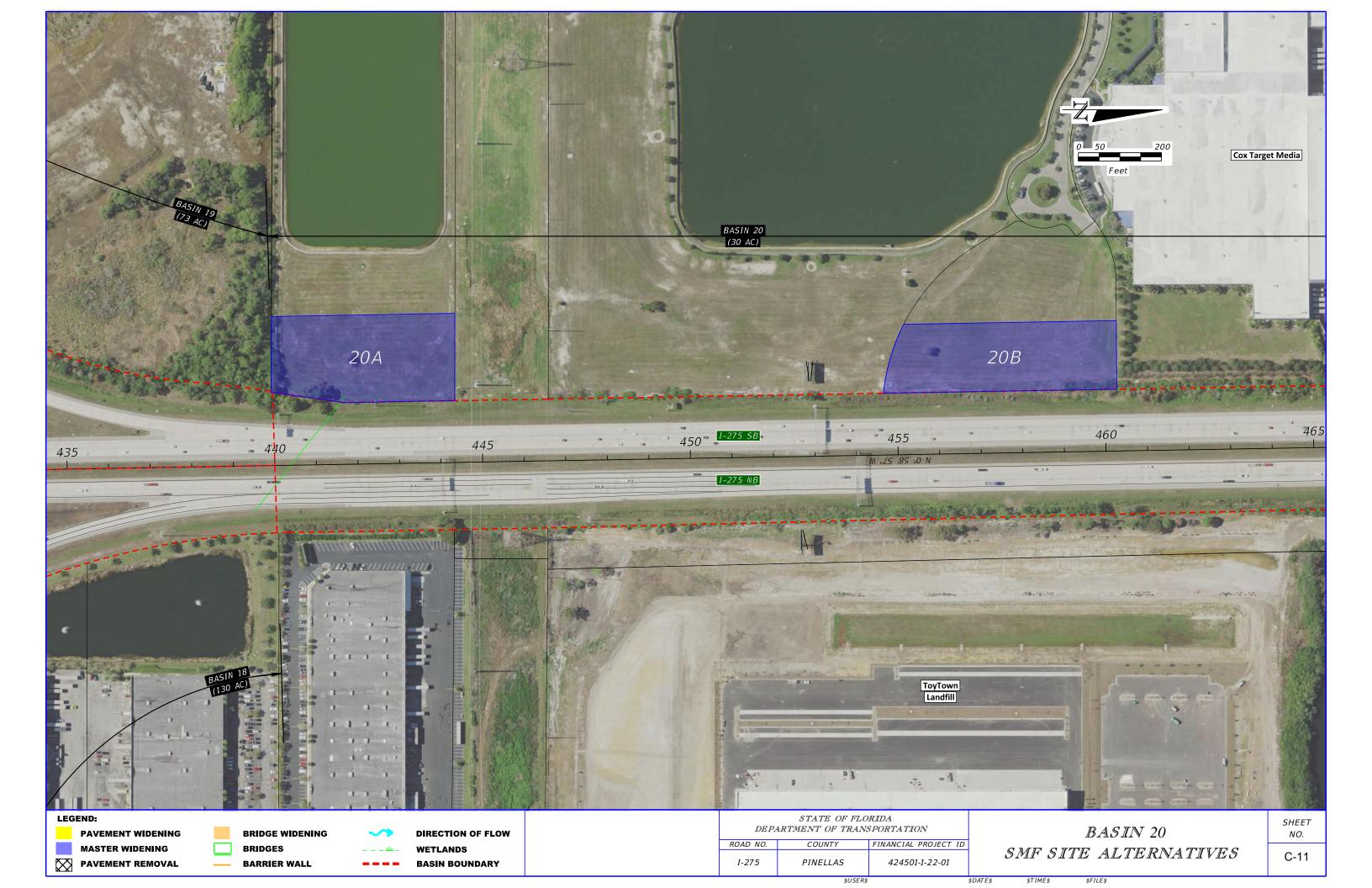












Appendix D. Stormwater Management Calculations

BASIN 2

Curve Number and Runoff Volume Calculation (SWFWMD 25YR/24HR)

Pre-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	,	Area	CN	Product
Impervious Roadway			15.30	acres	98	1499
Sod/Grass	17	В	33.26	acres	80	2661
		Subtotal:	48.56	acres		
Pond Site	17	В	0.90	acres	80	72
		Totals:	49.46	acres		4232

Pre-Condition Composite Curve Number: 85.6

Pre-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN = 85.6

Drainage Area (A) = 49.46 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 = <u>1.69</u> IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) = \underline{7.25}$ IN

Pre-Condition Runoff Volume (V_{PRE}) = A x Q = 29.89 AC-FT

Post-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	Α	rea	CN	Product
Impervious Roadway			15.30	acres	98	1499
New Impervious Roadway			2.72	acres	98	267
Sod/Grass	17	В	30.54	acres	80	2443
		Subtotal:	48.56	acres		
Pond Impervious			0.23	acres	100	23
Pond Pervious	17	В	0.67	acres	80	54

Totals: 49.46 acres 4286

Post-Condition Composite Curve Number: 86.7

Post-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN = 86.7

CN = 86.7Drainage Area (A) = 49.46 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 = <u>1.54</u> IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) = \frac{7.38}{Post-Condition Runoff Volume}$ IN Post-Condition Runoff Volume (V_{POST}) = A x Q = 30.43 AC-FT

Required Attenuation Volume = $V_{POST} - V_{PRE} = 0.55$ AC-FT

BASIN 2 (POND A)

TREATMENT VOLUME CALCULATION

BASIN 2 R/W AREA= 48.56 ACRES

BASIN 2 EXIST. IMPERVIOUS AREA= 15.30 ACRES

BASIN 2 NEW IMPERVIOUS AREA = 2.72 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 2.72 acres = **0.23** AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 16 - Matlacha and St. Augustine

NRCS HIGH WATER DEPTH: 2.0-3.0 FT (FROM PINELLAS COUNTY SOIL SURVEY)

VERTICAL LIMITATIONS:

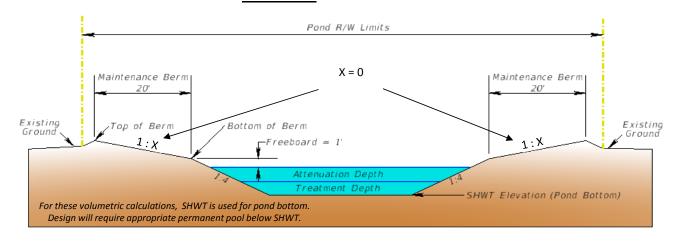
AT POND SITE:

AVERAGE NATURAL GROUND EL = 6.0 FT

SHWT EL = 4.0 FT

AT ROADWAY:

LOW EOP EL = 20.8 F



Conveyance loss to pond = 0.9 FT

Conveyance loss to outfall = 0.2 FT

Available depth for treatment and attenuation = 14.8 FT = 177.12 in

Treatment Depth = 14 in

Attenuation Depth = 25 in

Approx. low edge of pavement elevation (LEOP) = 20.8 FT

Approx. Proposed Top of Berm elevation = 8.4 FT

Average Ground at Pond Site = 6.0 FT

Actual Depth of Treatment and Attenuation = 3.3 FT

Pond Bottom Elevation = 4.0 FT

BASIN 2 (POND A)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.24	AC-FT
Square dimension at bottom of treatment depth	90.0	FT
Square dimension at top of treatment depth	99.3	FT
Square dimension at top of attenuation depth	116.0	FT
Attenuation Volume provided by attenuation depth	0.56	AC-FT
Square dimension at top of freeboard	124.0	FT
Square dimension at top berm	164.0	FT
Outside pond dimensions (including tie-down)	183.2	FT

Minimum Total Area Required:

0.93 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 2A STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 4.00 ft

Estimated Low Edge of Pavement = 20.76 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
4.00	8100.0	0.19	0.0	0.0	0.00	
5.17	9867.1	0.23	10480.8	10480.8	0.24	TV
7.25	13456.0	0.31	24294.9	34775.7	0.80	AV
8.25	15376.0	0.35	14416.0	49191.7	1.13	
8.25	26896.0	0.62	0.0	49191.7	1.13	Top of Berm
6.00	40610.3	0.93				

Required Treatment Volume = 0.23 ac-ft

Provided Treatment Volume = 0.24 ac-ft ✓

Required Attenuation Volume = 0.55 ac-ft

Provided Attenuation Volume = 0.56 ac-ft ✓

BASIN 7

Curve Number and Runoff Volume Calculation (SWFWMD 25YR/24HR)

Pre-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	,	Area	CN	Product
Impervious Roadway			9.42	acres	98	923
Sod/Grass	17	С	17.28	acres	80	1382
		Subtotal:	26.70	acres		
Pond Site	17	С	1.04	acres	80	83
		Totals:	27.74	acres		2389

mus Nivesham OC 1

Pre-Condition Composite Curve Number: 86.1

Pre-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN = 86.1

Drainage Area (A) = ____27.74 ___ AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 = <u>1.61</u> IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) = 7.32$ IN Pre-Condition Runoff Volume (V_{PRE}) = A x Q = 16.92 AC-FT

Post-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	Area		CN	Product
Impervious Roadway			9.42	acres	98	923
New Impervious Roadway			1.60	acres	98	157
Sod/Grass	17	С	15.68	acres	80	1254
		Subtotal:	26.70	acres		
Pond Impervious			0.28	acres	100	28
Pond Pervious	17	С	0.76	acres	80	61

Totals: 27.74 acres 2423

Post-Condition Composite Curve Number: 87.4

Post-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN = 87.4

Drainage Area (A) = $\frac{67.4}{27.74}$ AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 = 1.45 IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) = \frac{7.47}{IN}$ Post-Condition Runoff Volume (V_{POST}) = A x Q = $\frac{17.27}{IN}$ AC-FT

Required Attenuation Volume = $V_{POST} - V_{PRE}$ = 0.35 AC-FT

BASIN 7 (POND A)

TREATMENT VOLUME CALCULATION

BASIN 2 R/W AREA= 26.70 ACRES

BASIN 2 EXIST. IMPERVIOUS AREA= 9.42 ACRES

BASIN 2 NEW IMPERVIOUS AREA = 1.60 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 1.60 acres = **0.13** AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 17 - Myakka

NRCS HIGH WATER DEPTH: 0.5-1.5 FT (FROM PINELLAS COUNTY SOIL SURVEY)

VERTICAL LIMITATIONS:

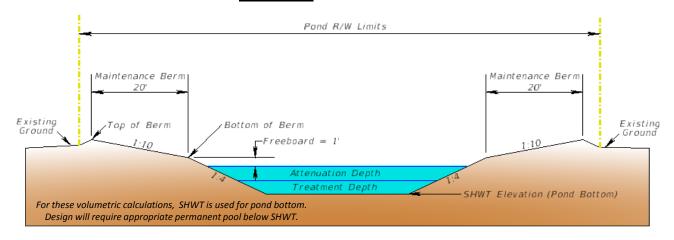
AT POND SITE:

AVERAGE NATURAL GROUND EL = 50.0 FT

SHWT EL = 49.0 FT

AT ROADWAY:

LOW EOP EL = 63.1 F7



Conveyance loss to pond = 0.7 FT

Conveyance loss to outfall = 0.4 FT

Available depth for treatment and attenuation = 12.0 FT = 144.12 in

FT

Treatment Depth = 7 in

Attenuation Depth = 18 in

Approx. low edge of pavement elevation (LEOP) = 63.1 FT

Approx. Proposed Top of Berm elevation = 52.4 FT

Average Ground at Pond Site = 50.0 FT

Actual Depth of Treatment and Attenuation = 2.1

Pond Bottom Elevation = 49.0 FT

BASIN 7 (POND A)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.15	AC-FT
Square dimension at bottom of treatment depth	105.0	FT
Square dimension at top of treatment depth	109.7	FT
Square dimension at top of attenuation depth	121.7	FT
Attenuation Volume provided by attenuation depth	0.47	AC-FT
Attenuation volume provided by attenuation depth	0.47	AC-FI
Square dimension at top of freeboard	129.7	FT

Minimum Total Area Required:

0.99 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 7A STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 49.00 ft

Estimated Low Edge of Pavement = 63.06 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
49.00	11025.0	0.25	0.0	0.0	0.00	
49.58	12026.8	0.28	6723.4	6723.4	0.15	TV
51.08	14802.8	0.34	20122.2	26845.6	0.62	AV
52.08	16813.4	0.39	15808.1	42653.7	0.98	
52.08	28786.8	0.66	0.0	42653.7	0.98	Top of Berm
50.00	43283.4	0.99				

Required Treatment Volume = 0.13 ac-ft

Provided Treatment Volume = 0.15 ac-ft ✓

Required Attenuation Volume = 0.35 ac-ft

Provided Attenuation Volume = 0.47 ac-ft ✓

BASIN 7 (POND B)

TREATMENT VOLUME CALCULATION

BASIN 2 R/W AREA= 26.70 ACRES

BASIN 2 EXIST. IMPERVIOUS AREA= 9.42 ACRES

BASIN 2 NEW IMPERVIOUS AREA = 1.60 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 1.60 acres = 0.13 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 17 - Myakka

NRCS HIGH WATER DEPTH: 0.5-1.5 FT (FROM PINELLAS COUNTY SOIL SURVEY)

VERTICAL LIMITATIONS:

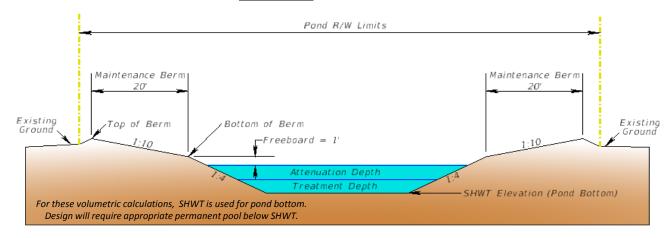
AT POND SITE:

AVERAGE NATURAL GROUND EL = 50.0 FT

SHWT EL = 49.0 FT

AT ROADWAY:

LOW EOP EL = 63.1 FT



Conveyance loss to pond = 0.5 FT

Conveyance loss to outfall = 0.9 FT

Available depth for treatment and attenuation = 11.7 FT = 140.52 in

Treatment Depth = 7 in

Attenuation Depth = 18 in

Approx. low edge of pavement elevation (LEOP) = 63.1 FT

Approx. Proposed Top of Berm elevation = 52.9 FT

Average Ground at Pond Site = 50.0 FT

Actual Depth of Treatment and Attenuation = 2.1 FT

Pond Bottom Elevation = 49.0 FT

BASIN 7 (POND B)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.14	AC-FT
Treatment volume provided by treatment depth	0.14	AC-I I
Square dimension at bottom of treatment depth	100.0	FT
Square dimension at top of treatment depth	104.7	FT
Square dimension at top of attenuation depth	116.7	FT
Attenuation Volume provided by attenuation depth	0.42	AC-FT
Square dimension at top of freeboard	124.7	FT
Square dimension at top berm	164.7	FT
Outside pond dimensions (including tie-down)	188.1	FT

Minimum Total Area Required:

0.98 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 7B STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 49.00 ft
Estimated Low Edge of Pavement = 63.06 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
49.00	10000.0	0.23	0.0	0.0	0.00	
49.58	10955.1	0.25	6111.9	6111.9	0.14	TV
51.08	13611.1	0.31	18424.7	24536.6	0.56	AV
52.08	15541.8	0.36	14576.4	39113.0	0.90	
52.08	27115.1	0.62	0.0	39113.0	0.90	Top of Berm
50.00	42826.9	0.98				

Required Treatment Volume = 0.13 ac-ft

Provided Treatment Volume = 0.14 ac-ft ✓

Required Attenuation Volume = 0.35 ac-ft

Provided Attenuation Volume = 0.42 ac-ft ✓

BASIN 7 (POND C)

TREATMENT VOLUME CALCULATION

BASIN 2 R/W AREA= 26.70 ACRES

BASIN 2 EXIST. IMPERVIOUS AREA= 9.42 ACRES

BASIN 2 NEW IMPERVIOUS AREA = 1.60 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 1.60 acres = **0.13** AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 17 - Myakka

NRCS HIGH WATER DEPTH: 0.5-1.5 FT (FROM PINELLAS COUNTY SOIL SURVEY)

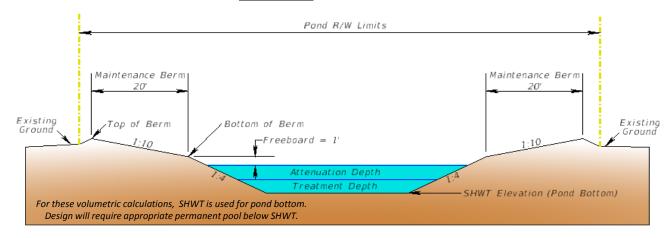
VERTICAL LIMITATIONS:

AT POND SITE:

AVERAGE NATURAL GROUND EL = 50.0 FT SHWT EL = 49.0 FT

AT ROADWAY:

LOW EOP EL = 63.1 FT



Conveyance loss to pond = 0.6 FT

Conveyance loss to outfall = 0.9 FT

Available depth for treatment and attenuation = 11.6 FT = 138.72 in

Treatment Depth = 7 in

Attenuation Depth = 18 in

Approx. low edge of pavement elevation (LEOP) = 63.1 FT

Approx. Proposed Top of Berm elevation = 53.0 FT

Average Ground at Pond Site = 50.0 FT

Actual Depth of Treatment and Attenuation = 2.1 FT

Pond Bottom Elevation = 49.0 FT

BASIN 7 (POND C)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.15	AC-FT
Square dimension at bottom of treatment depth	105.0	FT
Square dimension at top of treatment depth	109.7	FT
Square dimension at top of attenuation depth	121.7	FT
Attenuation Volume provided by attenuation depth	0.47	AC-FT
Square dimension at top of freeboard	129.7	FT
Square dimension at top berm	169.7	FT
Outside pond dimensions (including tie-down)	193.3	FT

Minimum Total Area Required:

1.04 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 7C STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 49.00 ft
Estimated Low Edge of Pavement = 63.06 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
49.00	11025.0	0.25	0.0	0.0	0.00	
49.58	12026.8	0.28	6723.4	6723.4	0.15	TV
51.08	14802.8	0.34	20122.2	26845.6	0.62	AV
52.08	16813.4	0.39	15808.1	42653.7	0.98	
52.08	28786.8	0.66	0.0	42653.7	0.98	Top of Berm
50.00	45227.1	1.04				

Required Treatment Volume = 0.13 ac-ft

Provided Treatment Volume = 0.15 ac-ft ✓

Required Attenuation Volume = 0.35 ac-ft

Provided Attenuation Volume = 0.47 ac-ft ✓

BASIN 11

Curve Number and Runoff Volume Calculation (SWFWMD 25YR/24HR)

Pre-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	ļ	Area	CN	Product
Impervious Roadway			12.08	acres	98	1184
Sod/Grass	17	С	15.24	acres	80	1219
		Subtotal:	27.32	acres		
Pond Site	17	С	1.52	acres	80	122
		Totals:	28.84	acres		2525

Pre-Condition Composite Curve Number: 87.5

Pre-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN = 87.5

Drainage Area (A) = 28.84 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 = <u>1.42</u> IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) = \frac{7.49}{}$ IN

Pre-Condition Runoff Volume (V_{PRE}) = A x Q = 18.01 AC-FT

Post-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	Å	Area	CN	Product
Impervious Roadway			12.08	acres	98	1184
New Impervious Roadway			3.77	acres	98	369
Sod/Grass	17	С	11.47	acres	80	918
		Subtotal:	27.32	acres		
Pond Impervious			0.66	acres	100	66
Pond Pervious	17	С	0.86	acres	80	69

Totals: 28.84 acres 2606

Post-Condition Composite Curve Number: 90.4

Post-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN = 90.4

Drainage Area (A) = 28.84 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 = 1.07 IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) = \frac{7.83}{1.00}$ IN

Post-Condition Runoff Volume (V_{POST}) = A x Q = 18.83 AC-FT

Required Attenuation Volume = $V_{POST} - V_{PRE}$ = 0.82 AC-FT

BASIN 11 (POND A)

TREATMENT VOLUME CALCULATION

BASIN 11 R/W AREA= 27.32 **ACRES**

BASIN 11 EXIST. IMPERVIOUS AREA= 12.08 **ACRES**

BASIN 11 NEW IMPERVIOUS AREA = 3.77 **ACRES**

TREATMENT VOLUME REQUIRED:

1 inch x 3.77 acres = 0.31 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 4 - Astatula Soils

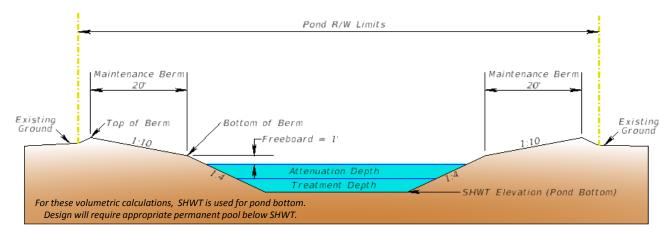
NRCS HIGH WATER DEPTH: (FROM PINELLAS COUNTY SOIL SURVEY) 6.0 FT

VERTICAL LIMITATIONS:

AT POND SITE:

AVERAGE NATURAL GROUND EL = 46.0 FT SHWT EL = 40.0 AT ROADWAY:

LOW EOP EL = 60.7



FT Conveyance loss to pond = 0.4

Conveyance loss to outfall = 8.0 FT

Available depth for treatment and attenuation = 18.5 FT = 222.42 in

FT

Treatment Depth = 8 in

Attenuation Depth = 18 in

Approx. low edge of pavement elevation (LEOP) = 60.7 FT

Approx. Proposed Top of Berm elevation = FT 43.9

> Average Ground at Pond Site = FT 46.0

Actual Depth of Treatment and Attenuation = 2.2 Pond Bottom Elevation = 40.0 FT

BASIN 11 (POND A)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.33	AC-FT
Square dimension at bottom of treatment depth	145.0	FT
Square dimension at top of treatment depth	150.3	FT
Square dimension at top of attenuation depth	162.3	FT
Attenuation Volume provided by attenuation depth	0.85	AC-FT
Square dimension at top of freeboard	170.3	FT
Square dimension at top berm	210.3	FT
Outside pond dimensions (including tie-down)	193.7	FT

Minimum Total Area Required:

1.04 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 11A STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 40.00 ft
Estimated Low Edge of Pavement = 60.66 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
40.00	21025.0	0.48	0.0	0.0	0.00	
40.67	22600.1	0.52	14541.7	14541.7	0.33	TV
42.17	26352.1	0.60	36714.2	51255.9	1.18	AV
43.17	29013.4	0.67	27682.8	78938.6	1.81	
43.17	44240.1	1.02	0.0	78938.6	1.81	Top of Berm
46.00	45383.2	1.04				

Required Treatment Volume = 0.31 ac-ft

Provided Treatment Volume = 0.33 ac-ft ✓

Required Attenuation Volume = 0.82 ac-ft

Provided Attenuation Volume = 0.85 ac-ft ✓

BASIN 11 (POND B)

TREATMENT VOLUME CALCULATION

BASIN 11 R/W AREA= 27.32 ACRES

BASIN 11 EXIST. IMPERVIOUS AREA= 12.08 ACRES

BASIN 11 NEW IMPERVIOUS AREA = 3.77 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 3.77 acres = 0.31 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 17 - Myakka

NRCS HIGH WATER DEPTH: 0.5-1.5 FT (FROM PINELLAS COUNTY SOIL SURVEY)

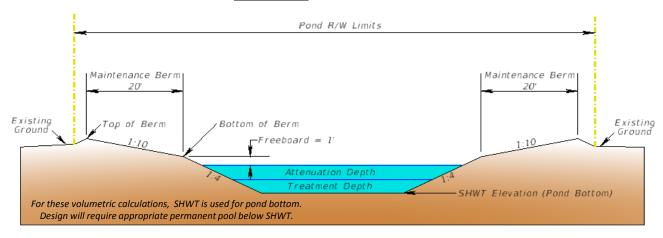
VERTICAL LIMITATIONS:

AT POND SITE:

AVERAGE NATURAL GROUND EL = $\frac{40.0}{\text{SHWT EL}} = \frac{39.0}{\text{FT}}$

AT ROADWAY:

LOW EOP EL = 60.7 FT



Conveyance loss to pond = 0.1 FT

Conveyance loss to outfall = 0.8 FT

Available depth for treatment and attenuation = 19.7 FT = 236.94 in

Treatment Depth = 8 in

Attenuation Depth = 18 in

Approx. low edge of pavement elevation (LEOP) = 60.7 FT

Approx. Proposed Top of Berm elevation = 42.9 FT

Average Ground at Pond Site = 40.0 FT

Actual Depth of Treatment and Attenuation = 2.2 FT

Pond Bottom Elevation = 39.0 FT

BASIN 11 (POND B)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.33	AC-FT
Square dimension at bottom of treatment depth	145.0	FT
Square dimension at top of treatment depth	150.3	FT
Square dimension at top of attenuation depth	162.3	FT
Attenuation Volume provided by attenuation depth	0.85	AC-FT
Square dimension at top of freeboard	170.3	FT
Square dimension at top berm	210.3	FT
Outside pond dimensions (including tie-down)	233.9	FT

Minimum Total Area Required:

1.52 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 11B STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 39.00 ft

Estimated Low Edge of Pavement = 60.66 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
39.00	21025.0	0.48	0.0	0.0	0.00	
39.67	22600.1	0.52	14541.7	14541.7	0.33	TV
41.17	26352.1	0.60	36714.2	51255.9	1.18	AV
42.17	29013.4	0.67	27682.8	78938.6	1.81	
42.17	44240.1	1.02	0.0	78938.6	1.81	Top of Berm
40.00	66179.3	1.52				

Required Treatment Volume = 0.31 ac-ft

Provided Treatment Volume = 0.33 ac-ft ✓

Required Attenuation Volume = 0.82 ac-ft

Provided Attenuation Volume = 0.85 ac-ft ✓

BASIN 11 (POND C)

TREATMENT VOLUME CALCULATION

BASIN 11 R/W AREA= 27.32 ACRES

BASIN 11 EXIST. IMPERVIOUS AREA= 12.08 ACRES

BASIN 11 NEW IMPERVIOUS AREA = 3.77 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 3.77 acres = 0.31 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 16 - Matlacha and St. Augustine soils

NRCS HIGH WATER DEPTH: 2.0-3.0 FT (FROM PINELLAS COUNTY SOIL SURVEY)

VERTICAL LIMITATIONS:

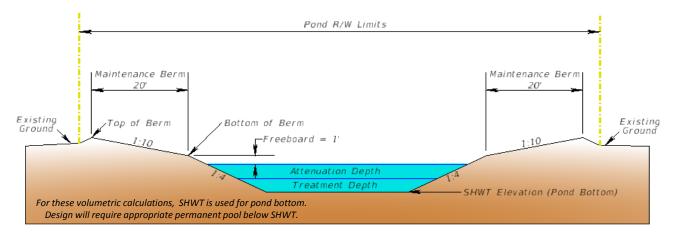
AT POND SITE:

AVERAGE NATURAL GROUND EL = 44.0 FT

SHWT EL = 41.5 FT

AT ROADWAY:

LOW EOP EL = 60.7 FT



Conveyance loss to pond = 0.5 FT

Conveyance loss to outfall = 0.4 FT

Available depth for treatment and attenuation = 17.2 FT = 206.67 in

FT

Treatment Depth = 9 in

Attenuation Depth = 20 in

Approx. low edge of pavement elevation (LEOP) = 60.7 FT

Approx. Proposed Top of Berm elevation = 45.3 FT

Average Ground at Pond Site = 44.0 FT

Actual Depth of Treatment and Attenuation = 2.4

Pond Bottom Elevation = 41.5 FT

BASIN 11 (POND C)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.32	AC-FT
Square dimension at bottom of treatment depth	134.0	FT
Square dimension at top of treatment depth	140.0	FT
Square dimension at top of attenuation depth	153.3	FT
Attenuation Volume provided by attenuation depth	0.83	AC-FT
Square dimension at top of freeboard	161.3	FT
Square dimension at top berm	201.3	FT
Outside pond dimensions (including tie-down)	212.1	FT

Minimum Total Area Required:

|--|

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 11C STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 41.50 ft

Estimated Low Edge of Pavement = 60.66 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
41.50	17956.0	0.41	0.0	0.0	0.00	
42.25	19600.0	0.45	14083.5	14083.5	0.32	TV
43.92	23511.1	0.54	35925.9	50009.4	1.15	AV
44.92	26028.4	0.60	24769.8	74779.2	1.72	
44.92	40535.1	0.93	0.0	74779.2	1.72	Top of Berm
44.00	54416.4	1.25				

Required Treatment Volume = 0.31 ac-ft

Provided Treatment Volume = 0.32 ac-ft ✓

Required Attenuation Volume = 0.82 ac-ft

Provided Attenuation Volume = 0.83 ac-ft ✓

BASIN 12

Curve Number and Runoff Volume Calculation (SWFWMD 25YR/24HR)

Pre-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	,	Area	CN	Product
Impervious Roadway			16.94	acres	98	1660
Sod/Grass	16, 17, 30	B/D	24.37	acres	80	1950
		Subtotal:	41.31	acres		
Pond Site	17	B/D	2.03	acres	80	162
		Totals:	43.34	acres		3772

Pre-Condition Composite Curve Number: 87.0

Pre-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = $\begin{array}{ccc} 9.00 & \text{IN} \\ \text{CN} = & 87.0 \\ \end{array}$

Drainage Area (A) = <u>43.34</u> AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 = <u>1.49</u> IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) = 7.43$ IN Pre-Condition Runoff Volume (V_{PRE}) = A x Q = 26.84 AC-FT

Post-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	A	Area	CN	Product
Impervious Roadway			16.94	acres	98	1660
New Impervious Roadway			6.08	acres	98	596
Sod/Grass	16, 17, 30	B/D	18.29	acres	80	1463
		Subtotal:	41.31	acres		
Pond Impervious			0.75	acres	100	75
Pond Pervious	17	B/D	1.28	acres	80	102

Totals: 43.34 acres 3897

Post-Condition Composite Curve Number: 89.9

Post-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN = 89.9

Drainage Area (A) = 43.34 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 = 1.12 IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) = \frac{7.78}{1N}$ IN Post-Condition Runoff Volume (V_{POST}) = A x Q = 28.10 AC-FT

(1001)

Required Attenuation Volume = $V_{POST} - V_{PRE}$ = 1.26 AC-FT

BASIN 12 (POND A)

TREATMENT VOLUME CALCULATION

BASIN 12 R/W AREA= 41.31 ACRES

BASIN 12 EXIST. IMPERVIOUS AREA= 16.94 ACRES

BASIN 12 NEW IMPERVIOUS AREA = 6.08 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 6.08 acres = 0.51 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 17 - Myakka (Urban Land)

NRCS HIGH WATER DEPTH: 0.5-1.5 FT (FROM PINELLAS COUNTY SOIL SURVEY)

VERTICAL LIMITATIONS:

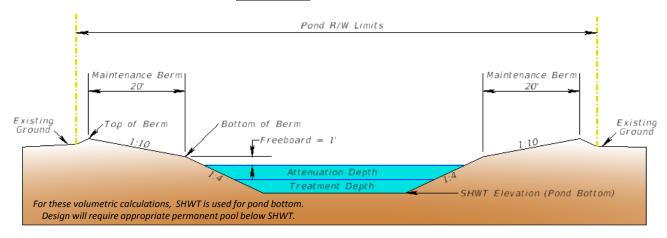
AT POND SITE:

AVERAGE NATURAL GROUND EL = 48.0 FT

SHWT EL = 47.0 FT

AT ROADWAY:

LOW EOP EL = <u>57.7</u> FT



Conveyance loss to pond = 1.0 FT

Conveyance loss to outfall = 0.6 FT

Available depth for treatment and attenuation = 8.0 FT = 96.42 in

Treatment Depth = 9 in

Attenuation Depth = 19 in

Approx. low edge of pavement elevation (LEOP) = 57.7 FT

Approx. Proposed Top of Berm elevation = 51.0 FT

Average Ground at Pond Site = 48.0 FT

Actual Depth of Treatment and Attenuation = 2.3 FT

Pond Bottom Elevation = 47.0 FT

BASIN 12 (POND A)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.55	AC-FT
Square dimension at bottom of treatment depth	175.0	FT
Square dimension at top of treatment depth	181.0	FT
Square dimension at top of attenuation depth	193.7	FT
Attenuation Volume provided by attenuation depth	1.27	AC-FT
Square dimension at top of freeboard	201.7	FT
Square dimension at top berm	241.7	FT
Outside pond dimensions (including tie-down)	265.4	FT

Minimum Total Area Required:

1.96 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 12A STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 47.00 ft

Estimated Low Edge of Pavement = 57.67 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
47.00	30625.0	0.70	0.0	0.0	0.00	
47.75	32761.0	0.75	23769.8	23769.8	0.55	TV
49.33	37506.8	0.86	55628.7	79398.4	1.82	AV
50.33	40669.4	0.93	39088.1	118486.5	2.72	
50.33	58402.8	1.34	0.0	118486.5	2.72	Top of Berm
48.00	85237.5	1.96				

Required Treatment Volume = 0.51 ac-ft

Provided Treatment Volume = 0.55 ac-ft ✓

Required Attenuation Volume = 1.26 ac-ft

Provided Attenuation Volume = 1.27 ac-ft ✓

BASIN 12 (POND B)

TREATMENT VOLUME CALCULATION

BASIN 12 R/W AREA= 41.31 ACRES

BASIN 12 EXIST. IMPERVIOUS AREA= 16.94 ACRES

BASIN 12 NEW IMPERVIOUS AREA = 6.08 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 6.08 acres = 0.51 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 17 - Myakka (Urban Land)

NRCS HIGH WATER DEPTH: 0.5-1.5 FT (FROM PINELLAS COUNTY SOIL SURVEY)

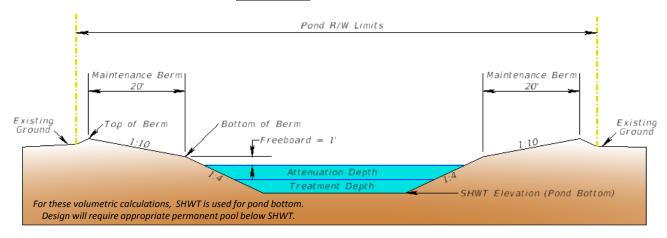
VERTICAL LIMITATIONS:

AT POND SITE:

AVERAGE NATURAL GROUND EL = 42.0 FT SHWT EL = 41.0 FT

AT ROADWAY:

LOW EOP EL = <u>57.7</u> FT



Conveyance loss to pond = 1.3 FT

Conveyance loss to outfall = 1.2 FT

Available depth for treatment and attenuation = 13.2 FT = 158.46 in

FT

Treatment Depth = 9 in

Attenuation Depth = 20 in

Approx. low edge of pavement elevation (LEOP) = 57.7 FT

Approx. Proposed Top of Berm elevation = 45.6 FT

Average Ground at Pond Site = 42.0 FT

Actual Depth of Treatment and Attenuation = 2.4

Pond Bottom Elevation = 41.0 FT

BASIN 12 (POND B)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.52	AC-FT
Square dimension at bottom of treatment depth	170.0	FT
Square dimension at top of treatment depth	176.0	FT
Square dimension at top of attenuation depth	189.3	FT
Attenuation Volume provided by attenuation depth	1.27	AC-FT
Square dimension at top of freeboard	197.3	FT
Square dimension at top berm	237.3	FT
Outside pond dimensions (including tie-down)	266.4	FT

Minimum Total Area Required:

1.97 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 12B STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 41.00 ft

Estimated Low Edge of Pavement = 57.67 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
41.00	28900.0	0.66	0.0	0.0	0.00	
41.75	30976.0	0.71	22453.5	22453.5	0.52	TV
43.42	35847.1	0.82	55685.9	78139.4	1.79	AV
44.42	38940.4	0.89	37393.8	115533.2	2.65	
44.42	56327.1	1.29	0.0	115533.2	2.65	Top of Berm
42.00	85863.8	1.97				

Required Treatment Volume = 0.51 ac-ft

Provided Treatment Volume = 0.52 ac-ft ✓

Required Attenuation Volume = 1.26 ac-ft

Provided Attenuation Volume = 1.27 ac-ft ✓

BASIN 12 (POND C)

TREATMENT VOLUME CALCULATION

BASIN 12 R/W AREA= 41.31 ACRES

BASIN 12 EXIST. IMPERVIOUS AREA= 16.94 ACRES

BASIN 12 NEW IMPERVIOUS AREA = 6.08 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 6.08 acres = 0.51 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 17 - Myakka

NRCS HIGH WATER DEPTH: 0.5-1.5 FT (FROM PINELLAS COUNTY SOIL SURVEY)

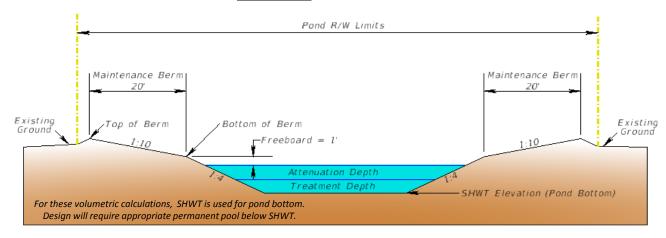
VERTICAL LIMITATIONS:

AT POND SITE:

AVERAGE NATURAL GROUND EL = 44.0 FT SHWT EL = 43.0 FT

AT ROADWAY:

LOW EOP EL = 57.7 FT



Conveyance loss to pond = 1.7 FT

Conveyance loss to outfall = 0.2 FT

Available depth for treatment and attenuation = 11.8 FT = 141.24 in

Treatment Depth = 8 in

Attenuation Depth = 18 in

Approx. low edge of pavement elevation (LEOP) = 57.7 FT

Approx. Proposed Top of Berm elevation = 46.4 FT

Average Ground at Pond Site = 44.0 FT

Actual Depth of Treatment and Attenuation = 2.2 FT

Pond Bottom Elevation = 43.0 FT

BASIN 12 (POND C)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.57	AC-FT
Square dimension at bottom of treatment depth	190.0	FT
Square dimension at top of treatment depth	195.3	FT
Square dimension at top of attenuation depth	207.3	FT
Attenuation Volume provided by attenuation depth	1.40	AC-FT
Square dimension at top of freeboard	215.3	FT
Square dimension at top berm	255.3	FT
Outside pond dimensions (including tie-down)	274.4	FT

Minimum Total Area Required:

2.09	ACRES
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THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 12C STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 43.00 ft

Estimated Low Edge of Pavement = 57.67 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
43.00	36100.0	0.83	0.0	0.0	0.00	
43.67	38155.1	0.88	24751.7	24751.7	0.57	TV
45.17	42987.1	0.99	60856.7	85608.4	1.97	AV
46.17	46368.4	1.06	44677.8	130286.1	2.99	
46.17	65195.1	1.50	0.0	130286.1	2.99	Top of Berm
44.00	91125.1	2.09				

Required Treatment Volume = 0.51 ac-ft

Provided Treatment Volume = 0.57 ac-ft ✓

Required Attenuation Volume = 1.26 ac-ft

Provided Attenuation Volume = 1.40 ac-ft ✓

BASIN 13

Curve Number and Runoff Volume Calculation (SWFWMD 25YR/24HR)

Pre-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group		Area	CN	Product
Impervious Roadway			2.14	acres	98	210
Sod/Grass	17	B/D	3.56	acres	80	285
		Subtotal:	5.70	acres		
Pond Site	17	B/D	0.92	acres	80	74
		Totals:	6.62	acres		568

Pre-Condition Composite Curve Number: 85.8

Pre-Condition Runoff Volume Calculation

Post-Condition Curve Number Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN = 85.8

> Drainage Area (A) = 6.62 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 =1.65 IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) =$ 7.28 IN Pre-Condition Runoff Volume $(V_{PRE}) = A \times Q =$ 4.02 AC-FT

Land Use Description	Soil Map Unit	Hydrologic Group		Area	CN	Product
Impervious Roadway			2.14	acres	98	210
New Impervious Roadway			1.65	acres	98	162
Sod/Grass	17	B/D	1.76	acres	80	141
		Subtotal:	5.55	acres		
Pond Impervious			0.30	acres	100	30
Pond Pervious	17	B/D	0.62	acres	80	50
		Totals:	6.47	acres		592

Totals: 6.47 acres

Post-Condition Composite Curve Number: 91.5

Post-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN = 91.5

Drainage Area (A) = 6.47 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 =0.93 IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) =$ 7.97 IN

Post-Condition Runoff Volume $(V_{POST}) = A \times Q =$ AC-FT 4.30

Required Attenuation Volume = V_{POST} - V_{PRE} = 0.28 AC-FT

BASIN 13 (POND A)

TREATMENT VOLUME CALCULATION

BASIN 13 R/W AREA= 5.70 ACRES

BASIN 13 EXIST. IMPERVIOUS AREA= 2.14 ACRES

BASIN 13 NEW IMPERVIOUS AREA = 1.65 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 1.65 acres = **0.14 AC-FT**

POND SIZE ESTIMATION

NRCS SOILS AT POND: 17 - Myakka

NRCS HIGH WATER DEPTH: 0.5-1.5 FT (FROM PINELLAS COUNTY SOIL SURVEY)

VERTICAL LIMITATIONS:

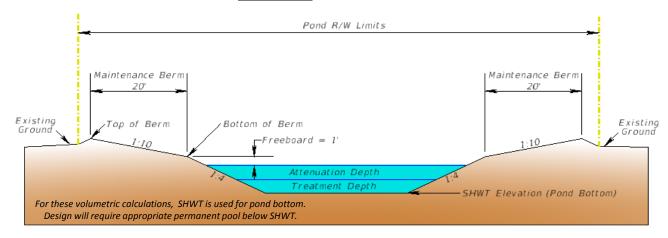
AT POND SITE:

AVERAGE NATURAL GROUND EL = 58.0 FT

SHWT EL = 57.0 FT

AT ROADWAY:

LOW EOP EL = 67.2 FT



Conveyance loss to pond = 0.2 FT

Conveyance loss to outfall = 0.2 FT

Available depth for treatment and attenuation = 8.8 FT = 105.00 in

Treatment Depth = 8 in

Attenuation Depth = 16 in

Approx. low edge of pavement elevation (LEOP) = 67.2 FT

Approx. Proposed Top of Berm elevation = 60.2 FT

Average Ground at Pond Site = 58.0 FT

Actual Depth of Treatment and Attenuation = 2.0 FT

Pond Bottom Elevation = 57.0 FT

BASIN 13 (POND A)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.16	AC-FT
Treatment volume provided by treatment depth	0.10	AC-FT
Square dimension at bottom of treatment depth	100.0	FT
Square dimension at top of treatment depth	105.3	FT
Square dimension at top of attenuation depth	116.0	FT
Attenuation Volume provided by attenuation depth	0.38	AC-FT
Square dimension at top of freeboard	124.0	FT
Square dimension at top berm	164.0	FT
Outside pond dimensions (including tie-down)	181.8	FT

Minimum Total Area Required:

0.92 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 13A STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 57.00 ft

Estimated Low Edge of Pavement = 67.16 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
57.00	10000.0	0.23	0.0	0.0	0.00	
57.67	11095.1	0.25	7031.7	7031.7	0.16	TV
59.00	13456.0	0.31	16367.4	23399.1	0.54	AV
60.00	15376.0	0.35	14416.0	37815.1	0.87	
60.00	26896.0	0.62	0.0	37815.1	0.87	Top of Berm
58.00	40009.6	0.92				

Required Treatment Volume = 0.14 ac-ft

Provided Treatment Volume = 0.16 ac-ft ✓

Required Attenuation Volume = 0.28 ac-ft

Provided Attenuation Volume = 0.38 ac-ft ✓

BASIN 13 (POND B)

TREATMENT VOLUME CALCULATION

BASIN 13 R/W AREA= 5.70 **ACRES**

BASIN 13 EXIST. IMPERVIOUS AREA= 2.14 **ACRES**

BASIN 13 NEW IMPERVIOUS AREA = ___ 1.65 **ACRES**

TREATMENT VOLUME REQUIRED:

1 inch x 1.65 acres = 0.14 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 17 - Myakka

NRCS HIGH WATER DEPTH: 0.5-1.5 FT (FROM PINELLAS COUNTY SOIL SURVEY)

VERTICAL LIMITATIONS:

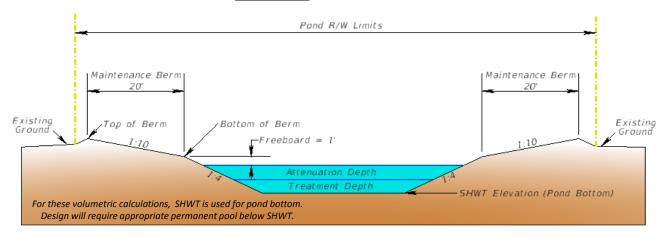
AT POND SITE:

AVERAGE NATURAL GROUND EL = 58.0 FT

SHWT EL = 57.0

AT ROADWAY:

LOW EOP EL = 67.2



FT Conveyance loss to pond = 0.2

Conveyance loss to outfall = 0.0 FT

Available depth for treatment and attenuation = 9.0 FT = 107.46 in

FT

Treatment Depth = 6 in

Attenuation Depth = 12 in

Approx. low edge of pavement elevation (LEOP) = 67.2 FT

> Approx. Proposed Top of Berm elevation = FT 59.5

> > Average Ground at Pond Site = FT 58.0

Actual Depth of Treatment and Attenuation = 1.5

Pond Bottom Elevation = 57.0 FT

BASIN 13 (POND B)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.14	AC-FT
Square dimension at bottom of treatment depth	110.0	FT
Square dimension at top of treatment depth	114.0	FT
Square dimension at top of attenuation depth	122.0	FT
Attenuation Volume provided by attenuation depth	0.32	AC-FT
Square dimension at top of freeboard	130.0	FT
Square dimension at top berm	170.0	FT
Outside pond dimensions (including tie-down)	182.2	FT

Minimum Total Area Required:

0.92 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 13B STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 57.00 ft

Estimated Low Edge of Pavement = 67.16 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
57.00	12100.0	0.28	0.0	0.0	0.00	
57.50	12996.0	0.30	6274.0	6274.0	0.14	TV
58.50	14884.0	0.34	13940.0	20214.0	0.46	AV
59.50	16900.0	0.39	15892.0	36106.0	0.83	
59.50	28900.0	0.66	0.0	36106.0	0.83	Top of Berm
58.00	40168.2	0.92				

Required Treatment Volume = 0.14 ac-ft

Provided Treatment Volume = 0.14 ac-ft ✓

Required Attenuation Volume = 0.28 ac-ft

Provided Attenuation Volume = 0.32 ac-ft ✓

BASIN 14

Curve Number and Runoff Volume Calculation (SWFWMD 25YR/24HR)

Pre-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	,	Area	CN	Product
Impervious Roadway			7.84	acres	98	768
Sod/Grass	17	B/D	16.06	acres	80	1285
		Subtotal:	23.90	acres		
Pond Site	17	B/D	0.00	acres	80	0
		Totals:	23.90	acres		2053

Pre-Condition Composite Curve Number: 85.9

Pre-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = $\begin{array}{cc} 9.00 \\ \text{CN} = \\ \hline \end{array}$ IN

Drainage Area (A) = _____ AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 = <u>1.64</u> IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) = \frac{7.29}{}$ IN

Pre-Condition Runoff Volume (V_{PRE}) = A x Q = 14.52 AC-FT

Post-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	A	Area	CN	Product
Impervious Roadway			7.84	acres	98	768
New Impervious Roadway			5.00	acres	98	490
Sod/Grass	17	B/D	9.31	acres	80	745
		Subtotal:	22.15	acres		
Pond Impervious			0.67	acres	100	67
Pond Pervious	17	B/D	1.08	acres	80	86

Totals: 23.90 acres 2157

Post-Condition Composite Curve Number: 90.2

Post-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN = 90.2

Drainage Area (A) = 23.90 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 = 1.08 IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) = \frac{7.82}{1.00}$ IN

Post-Condition Runoff Volume (V_{POST}) = A x Q = 15.57 AC-FT

Required Attenuation Volume = $V_{POST} - V_{PRE}$ = 1.05 AC-FT

BASIN 14 (POND A)

TREATMENT VOLUME CALCULATION

BASIN 14 R/W AREA= 23.90 **ACRES**

BASIN 14 EXIST. IMPERVIOUS AREA= 7.84 **ACRES**

BASIN 14 NEW IMPERVIOUS AREA = 5.00 **ACRES**

TREATMENT VOLUME REQUIRED:

1 inch x 5.00 acres = 0.42 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 17 - Myakka

NRCS HIGH WATER DEPTH: 0.5-1.5 FT (FROM PINELLAS COUNTY SOIL SURVEY)

VERTICAL LIMITATIONS:

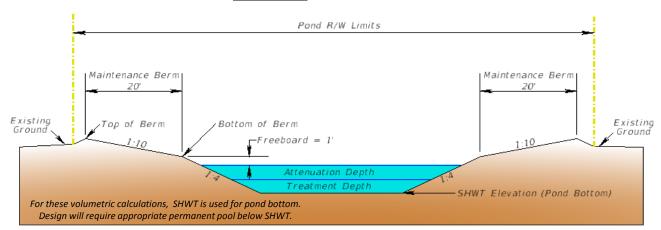
AT POND SITE:

AVERAGE NATURAL GROUND EL = 56.0 FT

SHWT EL = 55.0

AT ROADWAY:

LOW EOP EL = 58.9



FT Conveyance loss to pond = 0.1

Conveyance loss to outfall = 0.4 FT

Available depth for treatment and attenuation = 2.4 FT = 29.22 in

> Treatment Depth = 8 in

Attenuation Depth = 18 in

Approx. low edge of pavement elevation (LEOP) = 58.9 FT

> Approx. Proposed Top of Berm elevation = FT 58.5

> > Average Ground at Pond Site = FT 56.0

Actual Depth of Treatment and Attenuation = 2.2 FT

> Pond Bottom Elevation = 55.0 FT

BASIN 14 (POND A)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.43	AC-FT
Treatment volume provided by treatment depth	0.43	AC-I I
Square dimension at bottom of treatment depth	165.0	FT
Square dimension at top of treatment depth	170.3	FT
Square dimension at top of attenuation depth	182.3	FT
Attenuation Volume provided by attenuation depth	1.07	AC-FT
Square dimension at top of freeboard	190.3	FT
Square dimension at top berm	230.3	FT
Outside pond dimensions (including tie-down)	250.7	FT

Minimum Total Area Required:

1.75 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 14A STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 55.00 ft
Estimated Low Edge of Pavement = 58.86 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
55.00	27225.0	0.63	0.0	0.0	0.00	
55.67	29013.4	0.67	18746.1	18746.1	0.43	TV
57.17	33245.4	0.76	46694.2	65440.3	1.50	AV
58.17	36226.8	0.83	34736.1	100176.4	2.30	
58.17	53053.4	1.22	0.0	100176.4	2.30	Top of Berm
56.00	76028.9	1.75				

Required Treatment Volume = 0.42 ac-ft

Provided Treatment Volume = 0.43 ac-ft ✓

Required Attenuation Volume = 1.05 ac-ft

Provided Attenuation Volume = 1.07 ac-ft ✓

BASIN 15

Curve Number and Runoff Volume Calculation (SWFWMD 25YR/24HR)

Pre-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	ļ	Area	CN	Product
Impervious Roadway			9.90	acres	98	970
Sod/Grass	17	B/D	13.84	acres	80	1107
·		Subtotal:	23.74	acres		
Pond Site	17	B/D	0.99	acres	80	79
		Totals:	24.73	acres		2157

Totals: 24.73

Pre-Condition Composite Curve Number: 87.2

Pre-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN =

> Drainage Area (A) = 24.73 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 =1.47 IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) =$ 7.45 IN

Pre-Condition Runoff Volume (V_{PRE}) = A x Q = 15.36 AC-FT

Post-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	Area		CN	Product
Impervious Roadway			9.90	acres	98	970
New Impervious Roadway			1.97	acres	98	193
Sod/Grass	17	B/D	11.87	acres	80	950
		Subtotal:	23.74	acres		
Pond Impervious			0.26	acres	100	26
Pond Pervious	17	B/D	0.73	acres	80	58

2197 Totals: 24.73 acres

Post-Condition Composite Curve Number: 8.88

Post-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN

CN = 88.88

Drainage Area (A) = 24.73 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 =1.25 IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) =$ 7.65 IN

Post-Condition Runoff Volume $(V_{POST}) = A \times Q =$ AC-FT 15.77

Required Attenuation Volume = V_{POST} - V_{PRE} = 0.41 AC-FT

BASIN 15 (POND A)

TREATMENT VOLUME CALCULATION

BASIN 15 R/W AREA= 23.74 ACRES

BASIN 15 EXIST. IMPERVIOUS AREA= 9.90 ACRES

BASIN 15 NEW IMPERVIOUS AREA = 1.97 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 1.97 acres = **0.16 AC-FT**

POND SIZE ESTIMATION

NRCS SOILS AT POND: 17 - Myakka

NRCS HIGH WATER DEPTH: 0.5-1.5 FT (FROM PINELLAS COUNTY SOIL SURVEY)

VERTICAL LIMITATIONS:

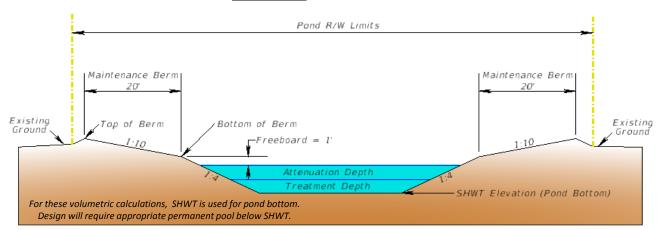
AT POND SITE:

AVERAGE NATURAL GROUND EL = 43.0 FT

SHWT EL = 42.0 F1

AT ROADWAY:

LOW EOP EL = 49.6 FT



Conveyance loss to pond = 0.1 FT

Conveyance loss to outfall = 0.0 FT

Available depth for treatment and attenuation = 6.5 FT = 77.52 in

Treatment Depth = 10 in

Attenuation Depth = 20 in

Approx. low edge of pavement elevation (LEOP) = 49.6 FT

Approx. Proposed Top of Berm elevation = 45.5 FT

Average Ground at Pond Site = 43.0 FT

Actual Depth of Treatment and Attenuation = 2.5 FT

Pond Bottom Elevation = 42.0 FT

BASIN 15 (POND A)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.20	AC-FT
Square dimension at bottom of treatment depth	100.0	FT
Square dimension at top of treatment depth	106.7	FT
Square dimension at top of attenuation depth	120.0	FT
Attenuation Volume provided by attenuation depth	0.50	AC-FT
Square dimension at top of freeboard	128.0	FT
Square dimension at top berm	168.0	FT
Outside pond dimensions (including tie-down)	188.2	FT

Minimum Total Area Required:

0.98 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 15A STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 42.00 ft

Estimated Low Edge of Pavement = 49.56 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
42.00	10000.0	0.23	0.0	0.0	0.00	
42.83	11377.8	0.26	8907.4	8907.4	0.20	TV
44.50	14400.0	0.33	21481.5	30388.9	0.70	AV
45.50	16384.0	0.38	15392.0	45780.9	1.05	
45.50	28224.0	0.65	0.0	45780.9	1.05	Top of Berm
43.00	42857.3	0.98				

Required Treatment Volume = 0.16 ac-ft

Provided Treatment Volume = 0.20 ac-ft ✓

Required Attenuation Volume = 0.41 ac-ft

Provided Attenuation Volume = 0.50 ac-ft ✓

BASIN 15 (POND B)

TREATMENT VOLUME CALCULATION

BASIN 15 R/W AREA= 23.74 ACRES

BASIN 15 EXIST. IMPERVIOUS AREA= 9.90 ACRES

BASIN 15 NEW IMPERVIOUS AREA = 1.97 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 1.97 acres = **0.16 AC-FT**

POND SIZE ESTIMATION

NRCS SOILS AT POND: 17 - Myakka

NRCS HIGH WATER DEPTH: 0.5-1.5 FT (FROM PINELLAS COUNTY SOIL SURVEY)

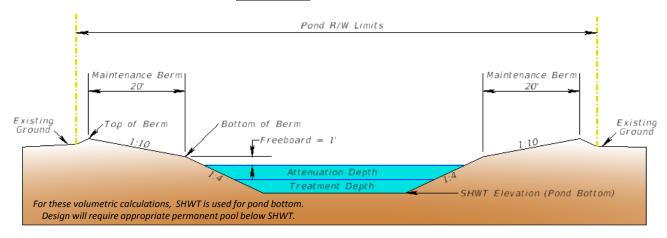
VERTICAL LIMITATIONS:

AT POND SITE:

AVERAGE NATURAL GROUND EL = 44.0 FT SHWT EL = 43.0 FT

AT ROADWAY:

LOW EOP EL = 49.6 FT



Conveyance loss to pond = 0.2 FT

Conveyance loss to outfall = 0.2 FT

Available depth for treatment and attenuation = 5.2 FT = 62.34 in

Treatment Depth = 9 in

Attenuation Depth = 21 in

Approx. low edge of pavement elevation (LEOP) = 49.6 FT

Approx. Proposed Top of Berm elevation = 46.7 FT

Average Ground at Pond Site = 44.0 FT

Actual Depth of Treatment and Attenuation = 2.5 FT

Pond Bottom Elevation = 43.0 FT

BASIN 15 (POND B)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.18	AC-FT
Square dimension at bottom of treatment depth	100.0	FT
Square dimension at top of treatment depth	106.0	FT
Square dimension at top of attenuation depth	120.0	FT
Attenuation Volume provided by attenuation depth	0.52	AC-FT
Square dimension at top of freeboard	128.0	FT
Square dimension at top berm	168.0	FT
Outside pond dimensions (including tie-down)	189.2	FT

Minimum Total Area Required:

0.99 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 15B STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 43.00 ft

Estimated Low Edge of Pavement = 49.56 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
43.00	10000.0	0.23	0.0	0.0	0.00	
43.75	11236.0	0.26	7963.5	7963.5	0.18	TV
45.50	14400.0	0.33	22431.5	30395.0	0.70	AV
46.50	16384.0	0.38	15392.0	45787.0	1.05	
46.50	28224.0	0.65	0.0	45787.0	1.05	Top of Berm
44.00	43332.3	0.99				

Required Treatment Volume = 0.16 ac-ft

Provided Treatment Volume = 0.18 ac-ft ✓

Required Attenuation Volume = 0.41 ac-ft

Provided Attenuation Volume = 0.52 ac-ft ✓

BASIN 15 (POND C)

TREATMENT VOLUME CALCULATION

BASIN 15 R/W AREA= 23.74 ACRES

BASIN 15 EXIST. IMPERVIOUS AREA= 9.90 ACRES

BASIN 15 NEW IMPERVIOUS AREA = 1.97 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 1.97 acres = **0.16 AC-FT**

POND SIZE ESTIMATION

NRCS SOILS AT POND: 17 - Myakka

NRCS HIGH WATER DEPTH: 0.5-1.5 FT (FROM PINELLAS COUNTY SOIL SURVEY)

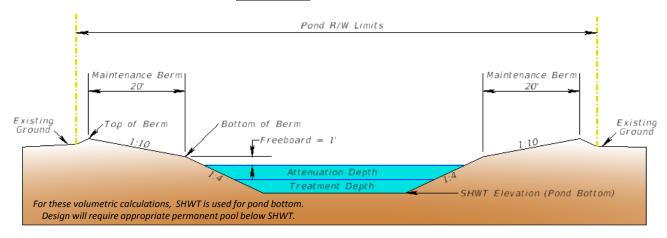
VERTICAL LIMITATIONS:

AT POND SITE:

AVERAGE NATURAL GROUND EL = $\frac{46.0}{\text{SHWT EL}}$ FT SHWT EL = $\frac{45.0}{\text{FT}}$

AT ROADWAY:

LOW EOP EL = 49.6 FT



Conveyance loss to pond = 0.1 FT

Conveyance loss to outfall = 0.0 FT

Available depth for treatment and attenuation = 3.4 FT = 40.74 in

FT

Treatment Depth = 9 in

Attenuation Depth = 19 in

Approx. low edge of pavement elevation (LEOP) = 49.6 FT

Approx. Proposed Top of Berm elevation = 48.4 FT

Average Ground at Pond Site = 46.0 FT

Actual Depth of Treatment and Attenuation = 2.3

Pond Bottom Elevation = 45.0 FT

BASIN 15 (POND C)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.18	AC-FT
Square dimension at bottom of treatment depth	100.0	FT
Square dimension at top of treatment depth	106.0	FT
Square dimension at top of attenuation depth	118.7	FT
Attenuation Volume provided by attenuation depth	0.46	AC-FT
Attenuation Volume provided by attenuation depth Square dimension at top of freeboard	0.46 126.7	AC-FT FT

Minimum Total Area Required:

0.96 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 15C STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 45.00 ft
Estimated Low Edge of Pavement = 49.56 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
45.00	10000.0	0.23	0.0	0.0	0.00	
45.75	11236.0	0.26	7963.5	7963.5	0.18	TV
47.33	14081.8	0.32	20043.2	28006.7	0.64	AV
48.33	16044.4	0.37	15063.1	43069.9	0.99	
48.33	27777.8	0.64	0.0	43069.9	0.99	Top of Berm
46.00	41705.3	0.96				

Required Treatment Volume = 0.16 ac-ft

Provided Treatment Volume = 0.18 ac-ft ✓

Required Attenuation Volume = 0.41 ac-ft

Provided Attenuation Volume = 0.46 ac-ft ✓

BASIN 16

Curve Number and Runoff Volume Calculation (SWFWMD 25YR/24HR)

Pre-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	,	Area	CN	Product
Impervious Roadway			9.73	acres	98	954
Sod/Grass	17	B/D	10.25	acres	80	820
		Subtotal:	19.98	acres		
Pond Site	17	B/D	1.20	acres	80	96
		Totals:	21.18	acres		1870

Pre-Condition Composite Curve Number: 88.3

Pre-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = $\frac{9.00}{\text{CN}}$ IN $\frac{88.3}{\text{CN}}$

Drainage Area (A) = ____21.18 ___AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 = 1.33 IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) = \frac{7.58}{10.38}$ IN Pre-Condition Runoff Volume (V_{PRE}) = A x Q = 13.38 AC-FT

Post-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	Area		CN	Product
Impervious Roadway			9.73	acres	98	954
New Impervious Roadway			3.57	acres	98	350
Sod/Grass	17	B/D	6.68	acres	80	534
		Subtotal:	19.98	acres		
Pond Impervious			0.43	acres	100	43
Pond Pervious	17	B/D	0.77	acres	80	62

Totals: 21.18 acres 1942

Post-Condition Composite Curve Number: 91.7

Post-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN = 91.7

Drainage Area (A) = 21.18 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 = 0.90 IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) = 8.00$ IN Post-Condition Runoff Volume (V_{POST}) = A x Q = 14.12 AC-FT

Required Attenuation Volume = V_{POST} - V_{PRE} = 0.74 AC-FT

BASIN 16 (POND A)

TREATMENT VOLUME CALCULATION

BASIN 16 R/W AREA= 19.98 ACRES

BASIN 16 EXIST. IMPERVIOUS AREA= 9.73 ACRES

BASIN 16 NEW IMPERVIOUS AREA = 3.57 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 3.57 acres = 0.30 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 16- Matlacha and St Augustine

NRCS HIGH WATER DEPTH: 2.0-3.0 FT (FROM PINELLAS COUNTY SOIL SURVEY)

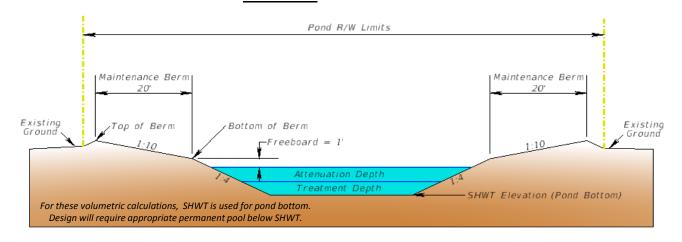
VERTICAL LIMITATIONS:

AT POND SITE:

AVERAGE NATURAL GROUND EL = 44.0 FT SHWT EL = 42.0 FT

AT ROADWAY:

LOW EOP EL = 50.6 FT



Conveyance loss to pond = 0.1 FT

Conveyance loss to outfall = 0.3 FT

Available depth for treatment and attenuation = 7.2 FT = 86.82 in

FT

Treatment Depth = 13 in

Attenuation Depth = 25 in

Approx. low edge of pavement elevation (LEOP) = 50.6 FT

Approx. Proposed Top of Berm elevation = 46.4 FT

Average Ground at Pond Site = 44.0 FT

Actual Depth of Treatment and Attenuation = 3.2

Pond Bottom Elevation = 42.0 FT

BASIN 16 (POND A)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.33	AC-FT
Square dimension at bottom of treatment depth	110.0	FT
Square dimension at top of treatment depth	118.7	FT
Square dimension at top of attenuation depth	135.3	FT
Attenuation Volume provided by attenuation depth	0.77	AC-FT
Square dimension at top of freeboard	143.3	FT
Square dimension at top berm	183.3	FT
Outside pond dimensions (including tie-down)	202.9	FT

Minimum Total Area Required:

1.14 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 16A STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 42.00 ft

Estimated Low Edge of Pavement = 50.56 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
42.00	12100.0	0.28	0.0	0.0	0.00	
43.08	14081.8	0.32	14181.8	14181.8	0.33	TV
45.17	18315.1	0.42	33746.8	47928.6	1.10	AV
46.17	20544.4	0.47	19429.8	67358.3	1.55	
46.17	33611.1	0.77	0.0	67358.3	1.55	Top of Berm
44.00	49797.4	1.14				

Required Treatment Volume = 0.30 ac-ft

Provided Treatment Volume = 0.33 ac-ft ✓

Required Attenuation Volume = 0.74 ac-ft

Provided Attenuation Volume = 0.77 ac-ft ✓

BASIN 16 (POND B)

TREATMENT VOLUME CALCULATION

BASIN 16 R/W AREA= 19.98 ACRES

BASIN 16 EXIST. IMPERVIOUS AREA= 9.73 ACRES

BASIN 16 NEW IMPERVIOUS AREA = 3.57 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 3.57 acres = 0.30 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 16- Matlacha and St Augustine

NRCS HIGH WATER DEPTH: 2.0-3.0 FT (FROM PINELLAS COUNTY SOIL SURVEY)

VERTICAL LIMITATIONS:

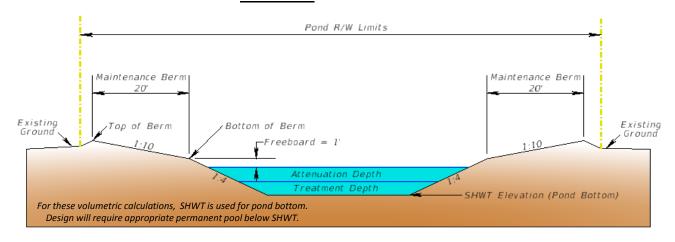
AT POND SITE:

AVERAGE NATURAL GROUND EL = 45.0 FT

SHWT EL = 43.0 FT

AT ROADWAY:

LOW EOP EL = 50.6 FT



Conveyance loss to pond = 0.1 FT

Conveyance loss to outfall = 0.2 FT

Available depth for treatment and attenuation = 6.3 FT = 75.66 in

Treatment Depth = 13 in

Attenuation Depth = 25 in

Approx. low edge of pavement elevation (LEOP) = 50.6 FT

Approx. Proposed Top of Berm elevation = 47.3 FT

Average Ground at Pond Site = 45.0 FT

Actual Depth of Treatment and Attenuation = 3.2 FT

Pond Bottom Elevation = 43.0 FT

BASIN 16 (POND B)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.33	AC-FT
Square dimension at bottom of treatment depth	110.0	FT
Square dimension at top of treatment depth	118.7	FT
Square dimension at top of attenuation depth	135.3	FT
Attenuation Volume provided by attenuation depth	0.77	AC-FT
Square dimension at top of freeboard	143.3	FT
Square dimension at top berm	183.3	FT
Outside pond dimensions (including tie-down)	202.1	FT

Minimum Total Area Required:

1.13 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 16B STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 43.00 ft

Estimated Low Edge of Pavement = 50.56 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
43.00	12100.0	0.28	0.0	0.0	0.00	
44.08	14081.8	0.32	14181.8	14181.8	0.33	TV
46.17	18315.1	0.42	33746.8	47928.6	1.10	AV
47.17	20544.4	0.47	19429.8	67358.3	1.55	
47.17	33611.1	0.77	0.0	67358.3	1.55	Top of Berm
45.00	49425.0	1.13				

Required Treatment Volume = 0.30 ac-ft

Provided Treatment Volume = 0.33 ac-ft ✓

Required Attenuation Volume = 0.74 ac-ft

Provided Attenuation Volume = 0.77 ac-ft ✓

BASIN 16 (POND C)

TREATMENT VOLUME CALCULATION

BASIN 16 R/W AREA= 19.98 ACRES

BASIN 16 EXIST. IMPERVIOUS AREA= 9.73 ACRES

BASIN 16 NEW IMPERVIOUS AREA = 3.57 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 3.57 acres = 0.30 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 17 - Myakka

NRCS HIGH WATER DEPTH: 0.5-1.5 FT (FROM PINELLAS COUNTY SOIL SURVEY)

VERTICAL LIMITATIONS:

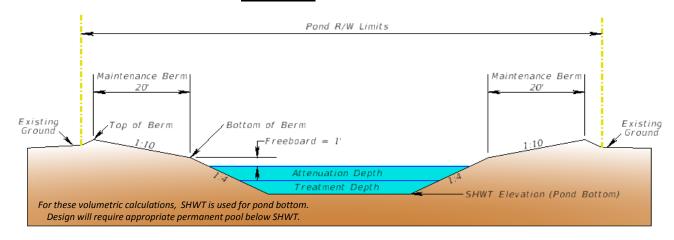
AT POND SITE:

AVERAGE NATURAL GROUND EL = 48.0 FT

SHWT EL = 47.0 FT

AT ROADWAY:

LOW EOP EL = 50.6 FT



Conveyance loss to pond = 0.2 FT

Conveyance loss to outfall = 0.3 FT

Available depth for treatment and attenuation = 2.1 FT = 25.56 in

Treatment Depth = 10 in

Attenuation Depth = 20 in

Approx. low edge of pavement elevation (LEOP) = 50.6 FT

Approx. Proposed Top of Berm elevation = 50.8 FT

Average Ground at Pond Site = 48.0 FT

Actual Depth of Treatment and Attenuation = 2.5 FT

Pond Bottom Elevation = 47.0 FT

BASIN 16 (POND C)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.34	AC-FT
Square dimension at bottom of treatment depth	130.0	FT
Square dimension at top of treatment depth	136.7	FT
Square dimension at top of attenuation depth	150.0	FT
Attenuation Volume provided by attenuation depth	0.79	AC-FT
Square dimension at top of freeboard	158.0	FT
Square dimension at top berm	198.0	FT
Outside pond dimensions (including tie-down)	220.2	FT

Minimum Total Area Required:

1.35 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 16C STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 47.00 ft

Estimated Low Edge of Pavement = 50.56 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
47.00	16900.0	0.39	0.0	0.0	0.00	
47.83	18677.8	0.43	14824.1	14824.1	0.34	TV
49.50	22500.0	0.52	34314.8	49138.9	1.13	AV
50.50	24964.0	0.57	23732.0	72870.9	1.67	
50.50	39204.0	0.90	0.0	72870.9	1.67	Top of Berm
48.00	58670.5	1.35				

Required Treatment Volume = 0.30 ac-ft

Provided Treatment Volume = 0.34 ac-ft ✓

Required Attenuation Volume = 0.74 ac-ft

Provided Attenuation Volume = 0.79 ac-ft ✓

BASIN 17

Curve Number and Runoff Volume Calculation (SWFWMD 25YR/24HR)

Pre-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	Area		CN	Product
Impervious Roadway			13.93	acres	98	1365
Sod/Grass	4, 11, 17	B/D	22.73	acres	74	1682
		Subtotal:	36.66	acres		
Pond Site	4, 17	B/D	2.35	acres	74	174
		Totals:	39.01	acres		3221

Pre-Condition Composite Curve Number: 82.6

Pre-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN = 82.6

Drainage Area (A) = 39.01 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 =2.11 IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) =$ 6.88 IN

Pre-Condition Runoff Volume (V_{PRE}) = A x Q = 22.38 AC-FT

Post-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	Area		CN	Product
Impervious Roadway			13.93	acres	98	1365
New Impervious Roadway			4.14	acres	98	406
Sod/Grass	4, 11, 17	B/D	18.59	acres	74	1376
		Subtotal:	36.66	acres		
Pond Impervious			1.00	acres	100	100
Pond Pervious	4, 17	B/D	1.35	acres	74	100
		Totals:	39.01	acres		3346

Totals: 39.01 acres

Post-Condition Composite Curve Number: 85.8

Post-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN = 85.8

39.01 Drainage Area (A) = AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 =1.66 IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) =$ 7.28 IN

Post-Condition Runoff Volume $(V_{POST}) = A \times Q =$ 23.66 AC-FT

Required Attenuation Volume = V_{POST} - V_{PRE} = 1.28 AC-FT

BASIN 17 (POND A)

TREATMENT VOLUME CALCULATION

BASIN 17 R/W AREA= 36.66 **ACRES**

BASIN 17 EXIST. IMPERVIOUS AREA= 13.93 **ACRES**

BASIN 17 NEW IMPERVIOUS AREA = 4.14 **ACRES**

TREATMENT VOLUME REQUIRED:

1 inch x 4.14 acres = 0.35 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 4 - Astatula

NRCS HIGH WATER DEPTH: (FROM PINELLAS COUNTY SOIL SURVEY) > 6.0 FT

VERTICAL LIMITATIONS:

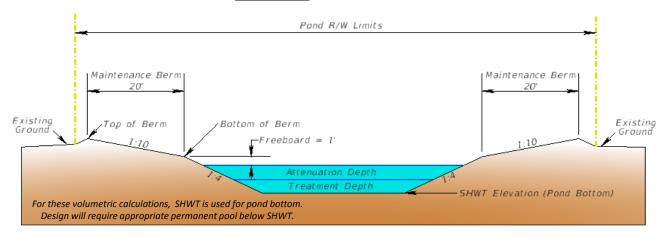
AT POND SITE:

AVERAGE NATURAL GROUND EL = 24.0 FT

SHWT EL = 18.0

AT ROADWAY:

LOW EOP EL = 25.3



FT Conveyance loss to pond = 0.3

Conveyance loss to outfall = 8.0 FT

Available depth for treatment and attenuation = 5.3 FT = 63.00 in

FT

Treatment Depth = 12 in

Attenuation Depth = 24 in

Approx. low edge of pavement elevation (LEOP) = 25.3 FT

> Approx. Proposed Top of Berm elevation = FT 24.8

> > Average Ground at Pond Site = FT 24.0

Actual Depth of Treatment and Attenuation = 3.0

Pond Bottom Elevation = 20.0 FT

BASIN 17 (POND A)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.62	AC-FT
, ,		
Square dimension at bottom of treatment depth	160.0	FT
Square dimension at top of treatment depth	168.0	FT
Square dimension at top of attenuation depth	184.0	FT
Attenuation Volume provided by attenuation depth	1.42	AC-FT
Square dimension at top of freeboard	192.0	FT
Square dimension at top berm	232.0	FT
Outside pond dimensions (including tie-down)	238.0	FT

Minimum Total Area Required:

|--|

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 17A STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 18.00 ft
Estimated Low Edge of Pavement = 25.25 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
20.00	25600.0	0.59	0.0	0.0	0.00	
21.00	28224.0	0.65	26912.0	26912.0	0.62	TV
23.00	33856.0	0.78	62080.0	88992.0	2.04	AV
24.00	36864.0	0.85	35360.0	124352.0	2.85	
24.00	53824.0	1.24	0.0	124352.0	2.85	Top of Berm
24.00	68539.2	1.57				

Required Treatment Volume = 0.35 ac-ft

Provided Treatment Volume = 0.62 ac-ft ✓

Required Attenuation Volume = 1.28 ac-ft

Provided Attenuation Volume = 1.42 ac-ft ✓

BASIN 18

Curve Number and Runoff Volume Calculation (SWFWMD 25YR/24HR)

Pre-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	Area		CN	Product
Impervious Roadway			38.45	acres	98	3768
Sod/Grass	11, 17, 18, 22, 26, 29	B/D	91.57	acres	80	7326
		Subtotal:	130.02	acres		
Pond Site	20	B/D	8.66	acres	80	693
		Totals:	138.68	acres		11787

Totals:

85.0 Pre-Condition Composite Curve Number:

Pre-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN 85.0

> Drainage Area (A) = 138.68 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 =1.77 IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) =$ 7.18 Pre-Condition Runoff Volume $(V_{PRF}) = A \times Q = 1$ 82.98 AC-FT

Post-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	Area		CN	Product
Impervious Roadway			38.45	acres	98	3768
New Impervious Roadway			21.95	acres	98	2151
Sod/Grass	11, 17, 18, 22, 26, 29	B/D	69.62	acres	80	5570
		Subtotal:	130.02	acres		
Pond Impervious			5.46	acres	100	546
Pond Pervious	20	B/D	3.20	acres	80	256

Totals: 138.68 12291 acres

Post-Condition Composite Curve Number: 88.6

Post-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN = 88.6

Drainage Area (A) = 138.68

88.11

AC-FT

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 =1.28 IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) =$ 7.62 IN Post-Condition Runoff Volume $(V_{POST}) = A \times Q =$

Required Attenuation Volume = V_{POST} - V_{PRE} = 5.13 AC-FT

BASIN 18 (POND A)

TREATMENT VOLUME CALCULATION

BASIN 18 R/W AREA (I-275)= 130.02 ACRES

BASIN 18 EXIST. IMPERVIOUS AREA= 38.45 ACRES

BASIN 18 NEW IMPERVIOUS AREA = 21.95 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 21.95 acres = 1.83 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 7 - Basinger Fine Sands

NRCS HIGH WATER DEPTH: 0.0-0.5 FT (FROM PINELLAS COUNTY SOIL SURVEY)

VERTICAL LIMITATIONS:

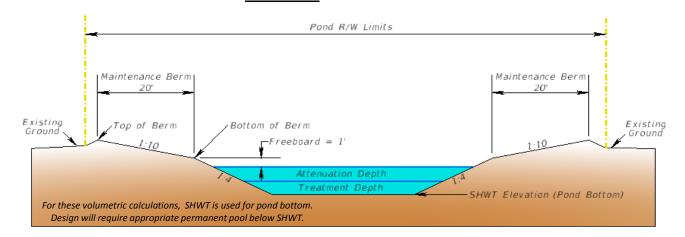
AT POND SITE:

AVERAGE NATURAL GROUND EL = 5.0 FT SHWT EL = 4.5 FT

AT ROADWAY:

LOW EOP EL = 11.6 FT

(FROM SWFWMD ERP NO. 15130.000)



Conveyance loss to pond = 3.0 FT

Conveyance loss to outfall = 0.0 FT

Available depth for treatment and attenuation = 3.1 FT = 37.08 in

FT

Treatment Depth = 12 in

Attenuation Depth = 30 in

Approx. low edge of pavement elevation (LEOP) = 11.6 FT

Approx. Proposed Top of Berm elevation = 9.0 FT

Average Ground at Pond Site = 5.0 FT

Actual Depth of Treatment and Attenuation = 3.5 FT

Pond Bottom Elevation = 4.5

BASIN 18 (POND A)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	1.92	AC-FT
Square dimension at bottom of treatment depth	285.0	FT
Square dimension at top of treatment depth	293.0	FT
Square dimension at top of attenuation depth	313.0	FT
Attenuation Volume provided by attenuation depth	5.27	AC-FT
Square dimension at top of freeboard	321.0	FT
Square dimension at top berm	361.0	FT
Outside pond dimensions (including tie-down)	393.0	FT

Minimum Total Area Required:

4.29 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 18A STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 4.50 ft
Estimated Low Edge of Pavement = 11.59 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
4.50	81225.0	1.86	0.0	0.0	0.00	
5.50	85849.0	1.97	83537.0	83537.0	1.92	TV
8.00	97969.0	2.25	229772.5	313309.5	7.19	AV
9.00	103041.0	2.37	100505.0	413814.5	9.50	
9.00	130321.0	2.99	0.0	413814.5	9.50	Top of Berm
5.00	186883.3	4.29				

Required Treatment Volume = 1.83 ac-ft

Provided Treatment Volume = 1.92 ac-ft ✓

Required Attenuation Volume = 5.13 ac-ft

Provided Attenuation Volume = 5.27 ac-ft ✓

BASIN 18 (POND B)

TREATMENT VOLUME CALCULATION

BASIN 18 R/W AREA (I-275)= 130.02 ACRES

BASIN 18 EXIST. IMPERVIOUS AREA= 38.45 ACRES

BASIN 18 NEW IMPERVIOUS AREA = 21.95 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 21.95 acres = 1.83 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 18 - Okeechobee

NRCS HIGH WATER DEPTH: 0.0 FT (FROM PINELLAS COUNTY SOIL SURVEY)

11.6

VERTICAL LIMITATIONS:

AT POND SITE:

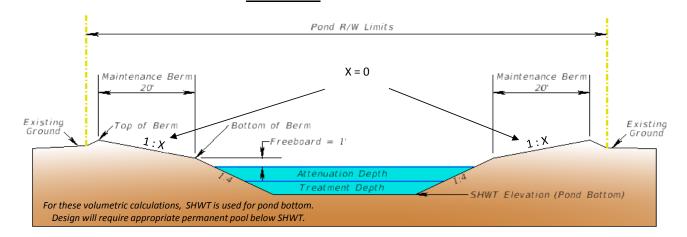
AVERAGE NATURAL GROUND EL = 2.0 FT

SHWT EL = 2.0 FT

AT ROADWAY:

LOW EOP EL =

(MEAN HIGH WATER ELEVATION 1.98 FT)



FT

Conveyance loss to pond = 3.7 FT

Conveyance loss to outfall = 0.1 FT

Available depth for treatment and attenuation = 4.8 FT = 57.72 in

Treatment Depth = 9 in

Attenuation Depth = 23 in

Approx. low edge of pavement elevation (LEOP) = 11.6 FT

Approx. Proposed Top of Berm elevation = 5.7 FT

Average Ground at Pond Site = 2.0 FT

Actual Depth of Treatment and Attenuation = 2.7 FT

Pond Bottom Elevation = 2.0 FT

BASIN 18 (POND B)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	1.91	AC-FT
Square dimension at bottom of treatment depth	330.0	FT
Square dimension at top of treatment depth	336.0	FT
Square dimension at top of attenuation depth	351.3	FT
Attenuation Volume provided by attenuation depth	5.20	AC-FT
Square dimension at top of freeboard	359.3	FT
Square dimension at top berm	399.3	FT
Outside pond dimensions (including tie-down)	429.3	FT

Minimum Total Area Required:

5.12 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 18B STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 1.98 ft
Estimated Low Edge of Pavement = 11.59 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
1.98	108900.0	2.50	0.0	0.0	0.00	
2.73	112896.0	2.59	83173.5	83173.5	1.91	TV
4.65	123435.1	2.83	226484.0	309657.5	7.11	AV
5.65	129120.4	2.96	126277.8	435935.3	10.01	
5.65	159467.1	3.66	0.0	435935.3	10.01	Top of Berm
2.00	223008.1	5.12				

Required Treatment Volume = 1.83 ac-ft

Provided Treatment Volume = 1.91 ac-ft ✓

Required Attenuation Volume = 5.13 ac-ft

Provided Attenuation Volume = 5.20 ac-ft ✓

BASIN 19

Curve Number and Runoff Volume Calculation (SWFWMD 25YR/24HR)

Pre-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	Area		CN	Product
Impervious Roadway			16.96	acres	98	1662
Sod/Grass	12, 22	B/D	56.24	acres	80	4499
		Subtotal:	73.20	acres		
Pond Site	12, 22	B/D	0.00	acres	80	0
		Totals:	73.20	acres		6161

84.2 Pre-Condition Composite Curve Number:

Pre-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN =

> Drainage Area (A) = 73.20 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 =1.88 IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) =$ 7.08 IN

Pre-Condition Runoff Volume (V_{PRE}) = A x Q = 43.19 AC-FT

Post-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	Area		CN	Product
Impervious Roadway			16.96	acres	98	1662
New Impervious Roadway			2.21	acres	98	217
Sod/Grass	12, 22	B/D	52.27	acres	80	4182
		Subtotal:	71.44	acres		
Pond Impervious			0.74	acres	100	74
Pond Pervious	12, 22	B/D	1.02	acres	80	82

6216 Totals: 73.20 acres

Post-Condition Composite Curve Number: 84.9

Post-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN

CN = 84.9 Drainage Area (A) = 73.20 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 =1.78 IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) =$ 7.17 IN

Post-Condition Runoff Volume $(V_{POST}) = A \times Q =$ 43.74 AC-FT

Required Attenuation Volume = V_{POST} - V_{PRE} = 0.56 AC-FT

BASIN 19 (POND A)

TREATMENT VOLUME CALCULATION

BASIN 19 R/W AREA= 73.20 ACRES

BASIN 19 EXIST. IMPERVIOUS AREA= 16.96 ACRES

BASIN 19 NEW IMPERVIOUS AREA = 2.21 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 2.21 acres = **0.18 AC-FT**

POND SIZE ESTIMATION

NRCS SOILS AT POND: 12 - Felda, 22 - Pineda

NRCS HIGH WATER DEPTH: 0.0-1.0 FT (FROM PINELLAS COUNTY SOIL SURVEY)

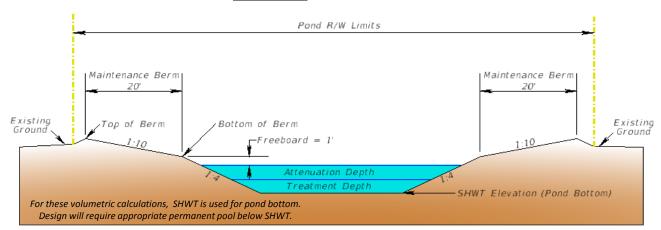
VERTICAL LIMITATIONS:

AT POND SITE:

AVERAGE NATURAL GROUND EL = 10.0 FT SHWT EL = 9.5 FT

AT ROADWAY:

LOW EOP EL = 12.8 FT



Conveyance loss to pond = 0.4 FT

Conveyance loss to outfall = 0.5 FT

Available depth for treatment and attenuation = 1.5 FT = 18.34 in

FT

Treatment Depth = 6 in

Attenuation Depth = 10 in

Approx. low edge of pavement elevation (LEOP) = 12.8 FT

Approx. Proposed Top of Berm elevation = 12.3 FT

Average Ground at Pond Site = 10.0 FT

Actual Depth of Treatment and Attenuation = 1.3

Pond Bottom Elevation = 9.5 FT

BASIN 19 (POND A)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.36	AC-FT
Square dimension at bottom of treatment depth	175.0	FT
Square dimension at top of treatment depth	179.0	FT
Square dimension at top of attenuation depth	185.7	FT
Attenuation Volume provided by attenuation depth	0.64	AC-FT
Square dimension at top of freeboard	193.7	FT
Square dimension at top berm	233.7	FT
Outside pond dimensions (including tie-down)	252.0	FT

Minimum Total Area Required:

1.76 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 19A STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 9.50 ft
Estimated Low Edge of Pavement = 12.84 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
9.50	30625.0	0.70	0.0	0.0	0.00	
10.00	32041.0	0.74	15666.5	15666.5	0.36	TV
10.83	34472.1	0.79	27713.8	43380.3	1.00	AV
11.83	37506.8	0.86	35989.4	79369.7	1.82	
11.83	54600.1	1.25	0.0	79369.7	1.82	Top of Berm
10.00	76811.4	1.76				

Required Treatment Volume = 0.18 ac-ft

Provided Treatment Volume = 0.36 ac-ft ✓

Required Attenuation Volume = 0.56 ac-ft

Provided Attenuation Volume = 0.64 ac-ft ✓

BASIN 20

Curve Number and Runoff Volume Calculation (SWFWMD 25YR/24HR)

Pre-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	Area		CN	Product
Impervious Roadway			14.62	acres	98	1433
Sod/Grass	12, 22	B/D	16.58	acres	80	1326
		Subtotal:	31.20	acres		
Pond Site	12, 22	B/D	2.67	acres	80	214
		Totals:	33.87	acres		2973

Pre-Condition Composite Curve Number: 87.8

Pre-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = $\begin{array}{cc} 9.00 \\ \text{CN} = \\ \hline \end{array}$ IN

Drainage Area (A) = 33.87 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 = 1.39 IN P-0.2S/ $^2/(P+0.8S) = 7.52$ IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) = 7.52$ IN Pre-Condition Runoff Volume (V_{PRE}) = A x Q = 21.22 AC-FT

Post-Condition Curve Number Calculation

Land Use Description	Soil Map Unit	Hydrologic Group	Area		CN	Product
Impervious Roadway			14.62	acres	98	1433
New Impervious Roadway			7.46	acres	98	731
Sod/Grass	12, 22	B/D	9.12	acres	80	730
		Subtotal:	31.20	acres		
Pond Impervious			1.21	acres	100	121
Pond Pervious	12, 22	B/D	1.46	acres	80	117

Totals: 33.87 acres 3131

Post-Condition Composite Curve Number: 92.4

Post-Condition Runoff Volume Calculation

25-yr/24-hr Rainfall Depth (P) = 9.00 IN CN = 92.4

Drainage Area (A) = 33.87 AC

Potential maximum retention after runoff begins (S) and S is:

(S) = 1000/CN-10 = <u>0.82</u> IN

Runoff Depth (Q) = $(P-0.2S)^2/(P+0.8S) = 8.09$ IN Post-Condition Runoff Volume (V_{POST}) = A x Q = 22.83 AC-FT

Required Attenuation Volume = V_{POST} - V_{PRE} = 1.61 AC-FT

BASIN 20 (POND A)

TREATMENT VOLUME CALCULATION

BASIN 20 R/W AREA= 31.20 ACRES

BASIN 20 EXIST. IMPERVIOUS AREA= 14.62 ACRES

BASIN 20 NEW IMPERVIOUS AREA = 7.46 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 7.46 acres = 0.62 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 12 - Felda, 22 - Pineda

NRCS HIGH WATER DEPTH: 0.0-1.0 FT (FROM PINELLAS COUNTY SOIL SURVEY)

VERTICAL LIMITATIONS:

AT POND SITE:

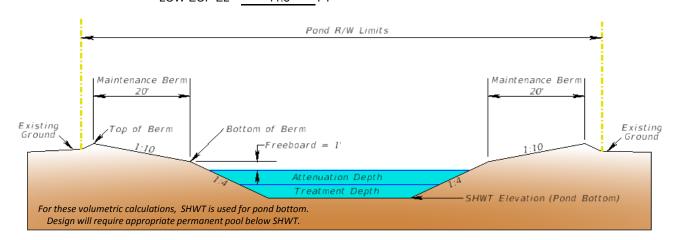
AVERAGE NATURAL GROUND EL = 8.5 FT SHWT EL = 5.3 FT

SHW1 EL = 5.3 F1

AT ROADWAY:

LOW EOP EL = 11.8 FT

(FROM SWFWMD ERP NO. 26538.000)



Conveyance loss to pond = 0.8 FT

Conveyance loss to outfall = 0.3 FT

Available depth for treatment and attenuation = 4.4 FT = 52.98 in

Treatment Depth = 8 in

Attenuation Depth = 19 in

Approx. low edge of pavement elevation (LEOP) = 11.8 FT

Approx. Proposed Top of Berm elevation = 8.9 FT

Average Ground at Pond Site = 8.5 FT

Actual Depth of Treatment and Attenuation = 2.3 FT

Pond Bottom Elevation = 5.3 FT

BASIN 20 (POND A)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.63	AC-FT
Square dimension at bottom of treatment depth	200.0	FT
Square dimension at top of treatment depth	205.3	FT
Square dimension at top of attenuation depth	218.0	FT
Attenuation Volume provided by attenuation depth	1.63	AC-FT
Square dimension at top of freeboard	226.0	FT
Square dimension at top berm	266.0	FT
Outside pond dimensions (including tie-down)	269.0	FT

Minimum Total Area Required:

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 20A STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 5.30 ft
Estimated Low Edge of Pavement = 11.79 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
5.30	40000.0	0.92	0.0	0.0	0.00	
5.97	42161.8	0.97	27387.3	27387.3	0.63	TV
7.55	47524.0	1.09	71001.2	98388.5	2.26	AV
8.55	51076.0	1.17	49300.0	147688.5	3.39	
8.55	70756.0	1.62	0.0	147688.5	3.39	Top of Berm
8.50	87556.8	2.01				

Required Treatment Volume = 0.62 ac-ft

Provided Treatment Volume = 0.63 ac-ft ✓

Required Attenuation Volume = 1.61 ac-ft

Provided Attenuation Volume = 1.63 ac-ft ✓

BASIN 20 (POND B)

TREATMENT VOLUME CALCULATION

BASIN 20 R/W AREA= 31.20 ACRES

BASIN 20 EXIST. IMPERVIOUS AREA= 14.62 ACRES

BASIN 20 NEW IMPERVIOUS AREA = 7.46 ACRES

TREATMENT VOLUME REQUIRED:

1 inch x 7.46 acres = 0.62 AC-FT

POND SIZE ESTIMATION

NRCS SOILS AT POND: 12 - Felda, 22 - Pineda

NRCS HIGH WATER DEPTH: 0.0-1.0 FT (FROM PINELLAS COUNTY SOIL SURVEY)

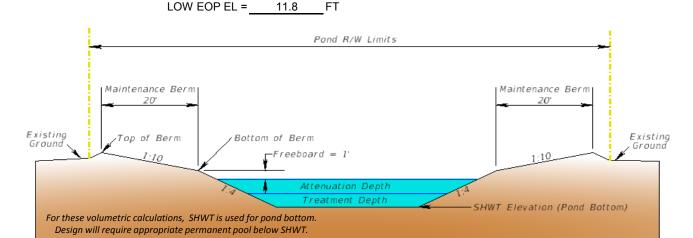
VERTICAL LIMITATIONS:

AT POND SITE:

AVERAGE NATURAL GROUND EL = 9.0 FT SHWT EL = 5.3 FT

AT ROADWAY:

(FROM SWFWMD ERP NO. 26538.000)



Conveyance loss to pond = 1.0 FT

Conveyance loss to outfall = 0.3 FT

Available depth for treatment and attenuation = 4.2 FT = 50.34 in

Treatment Depth = 8 in

Attenuation Depth = 19 in

Approx. low edge of pavement elevation (LEOP) = 11.8 FT

Approx. Proposed Top of Berm elevation = 8.9 FT

Average Ground at Pond Site = 9.0 FT

Actual Depth of Treatment and Attenuation = 2.3 FT

Pond Bottom Elevation = 5.3 FT

BASIN 20 (POND B)

POND SIZE ESTIMATION (CONTIN.)

Treatment Volume provided by treatment depth	0.63	AC-FT
Square dimension at bottom of treatment depth	200.0	FT
Square dimension at top of treatment depth	205.3	FT
Square dimension at top of attenuation depth	218.0	FT
Attenuation Volume provided by attenuation depth	1.63	AC-FT
Square dimension at top of freeboard	226.0	FT
Square dimension at top berm	266.0	FT
Outside pond dimensions (including tie-down)	265.0	FT

Minimum Total Area Required:

1.95 ACRES

THE POND SIZE INCLUDES A 10% SAFETY FACTOR FOR BOTH LENGTH & WIDTH

POND 20B STAGE-STORAGE CALCULATIONS

Estimated Seasonal High Water Table (SHWT) = 5.30 ft
Estimated Low Edge of Pavement = 11.79 ft

Elevation	Area	Area	Acumulated Volume	Total Volume	Total Volume	REMARKS
(ft)	(sf)	(ac)	(cf)	(cf)	(ac-ft)	
5.30	40000.0	0.92	0.0	0.0	0.00	
5.97	42161.8	0.97	27387.3	27387.3	0.63	TV
7.55	47524.0	1.09	71001.2	98388.5	2.26	AV
8.55	51076.0	1.17	49300.0	147688.5	3.39	
8.55	70756.0	1.62	0.0	147688.5	3.39	Top of Berm
9.00	84972.3	1.95				

Required Treatment Volume = 0.62 ac-ft

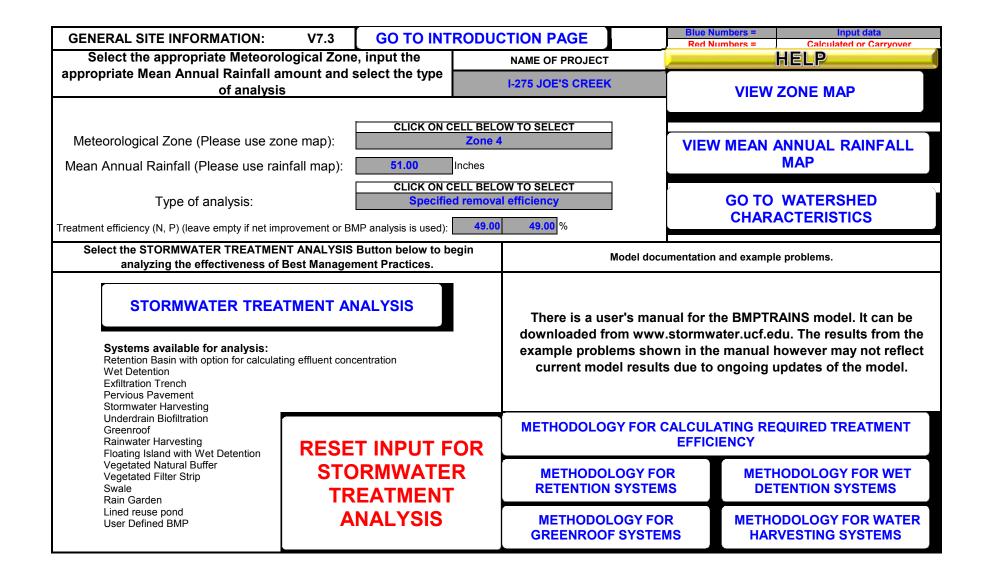
Provided Treatment Volume = 0.63 ac-ft ✓

Required Attenuation Volume = 1.61 ac-ft

Provided Attenuation Volume = 1.63 ac-ft ✓

Net Improvement Calculations for WBID 1668A - Joe's Creek

(Basins 14, 15 and 16)



Net Improvement Calculations for WBID 1668A - Joe's Creek (Basins 14, 15 and 16)

WATERSHED CHAI	RACTERISTICS V7.3	GO TO S	TORMWA	TER TREA	ATMENT AN	ALYSIS	Blue Numbers = Input data Red Numbers = Calculated	HELP - LAND USES/EMC
SELECT CATCHMENT CONFIGURATION		CLICK ON CELL BELOW TO SELECT CONFIGURATION A - Single Catchment			RATION	VIEW CATCHMENT CONFIGURATION		
CATCHMENT NO.1 CHARAC	TERISTICS:	\ If mixe		•	alculation)		OVERWRITE DEFAULT CON	CENTRATIONS USING:
	CLICK ON CELL BELOW TO	SELECT	Land use	Area Acres	non DCIA CN	%DCIA	PRE:	POST:
Pre-development land use:	Highway: TN=1.640 TP=0.2	20					EMC(N): mg/L	mg/L
with default EMCs	CLICK ON CELL BELOW TO	SELECT					EMC(P): mg/L	mg/L
Post-development land use:	Highway: TN=1.640 TP=0.2	20						
with default EMCs			Total		CLICK ON CELL BELOW TO S		OW TO SELECT:	
Total pre-development catchm	ent area:	67.62	AC				USE DEFAULT CON	CENTRATIONS
Total post-development catchr	nent or BMP analysis area:	69.82	AC		_		OSE DEFAULT CON	CENTRATIONS
Pre-development Non DCIA C	N:	80.00				nual runoff v		149.288 ac-ft/year
Pre-development DCIA percentage:		40.62 % Pre-development Annua		al Mass Loading - Nitrogen:	239.092 kg/year			
Post-development Non DCIA CN:		80.00		Pre-development Annual Mass Loa		al Mass Loading - Phosphorus:	32.073 kg/year	
Post-development DCIA perce	ntage:	56.21	%		Post-development Annual Mass Loading - Nitrogen : 301.942 kg/yea			301.942 kg/year
Estimated Area of BMP (used	for rainfall excess not loadings)	2.20	AC					40.504 kg/year

Pre-development catchment area:

Basin 14 = 23.90 ac Basin 15 = 23.74 ac Basin 16 = 19.98 ac

Total = 67.62 ac

Post-development catchment area:

Basin 14 = 23.90 ac Basin 15 = 23.74 ac Basin 16 = 19.98 ac BMPs = 2.20 ac Total = 69.82 ac Pre-development DCIA percentage:

Basin 14 = 7.84 ac Basin 15 = 9.90 ac Basin 16 = 9.73 ac

Total = 27.47 ac / 67.62 ac

DCIA = 40.62%

Post-development DCIA percentage:

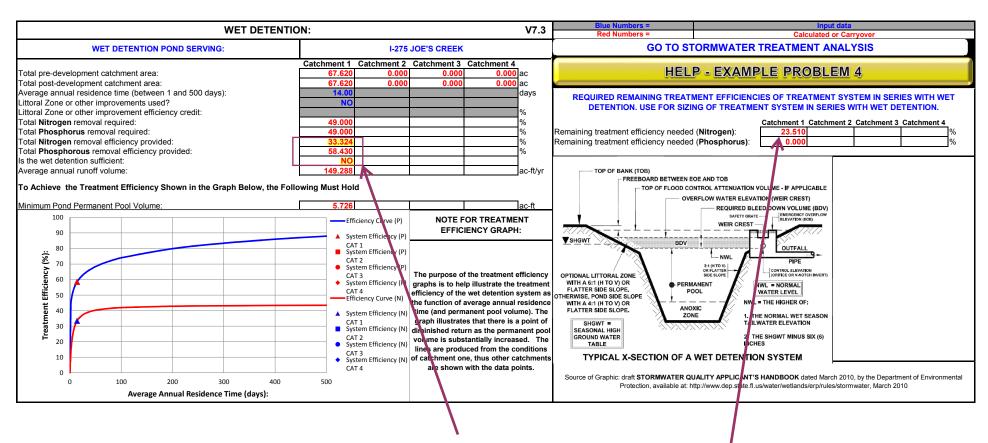
Basin 14 = 12.84 ac Basin 15 = 11.87 ac Basin 16 = 13.30 ac

Total = 38.01 ac / 67.62ac

DCIA = 56.21%

Net Improvement Calculations for WBID 1668A - Joe's Creek

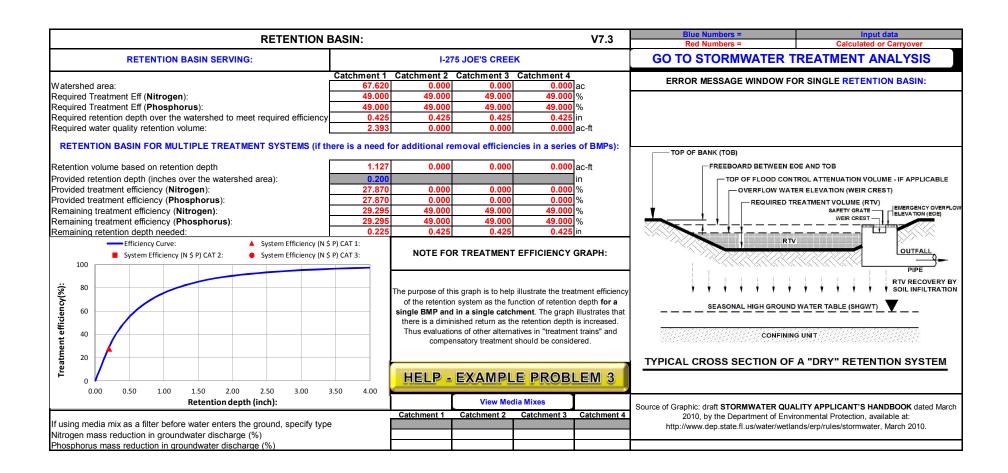
(Basins 14, 15 and 16)



Wet detention does not provide sufficient removal.

Need additional treatment system in series to achieve nitrogen removal.

Net Improvement Calculations for WBID 1668A - Joe's Creek (Basins 14, 15 and 16)



Net Improvement Calculations for WBID 1668A - Joe's Creek (Basins 14, 15 and 16)

CATCHMENTS AND TREATMENT SUMMARY RESULTS

V7.3

CALCULATION METHODS:

- 1. The effectiveness of each BMP in a single catchment is converted to an equivalent capture volume.
- 2. Certain BMP treatment train combinations have not been evaluated and in practice they are at this time not used, an example is a greenroof following a tree well.
- 3. If multiple BMPs are used in a single catchment and one of them is detention, then it is assumed to be last in series.

PROJECT TITLE	TITLE I-275 JOE'S CREEK		Optional Identification		
		Catchment 1:	Catchment 2:	Catchment 3:	Catchment 4:
BMP I	Name	Retention Basin			
BMP I	Name	Wet Detention			
ВМР	Name				

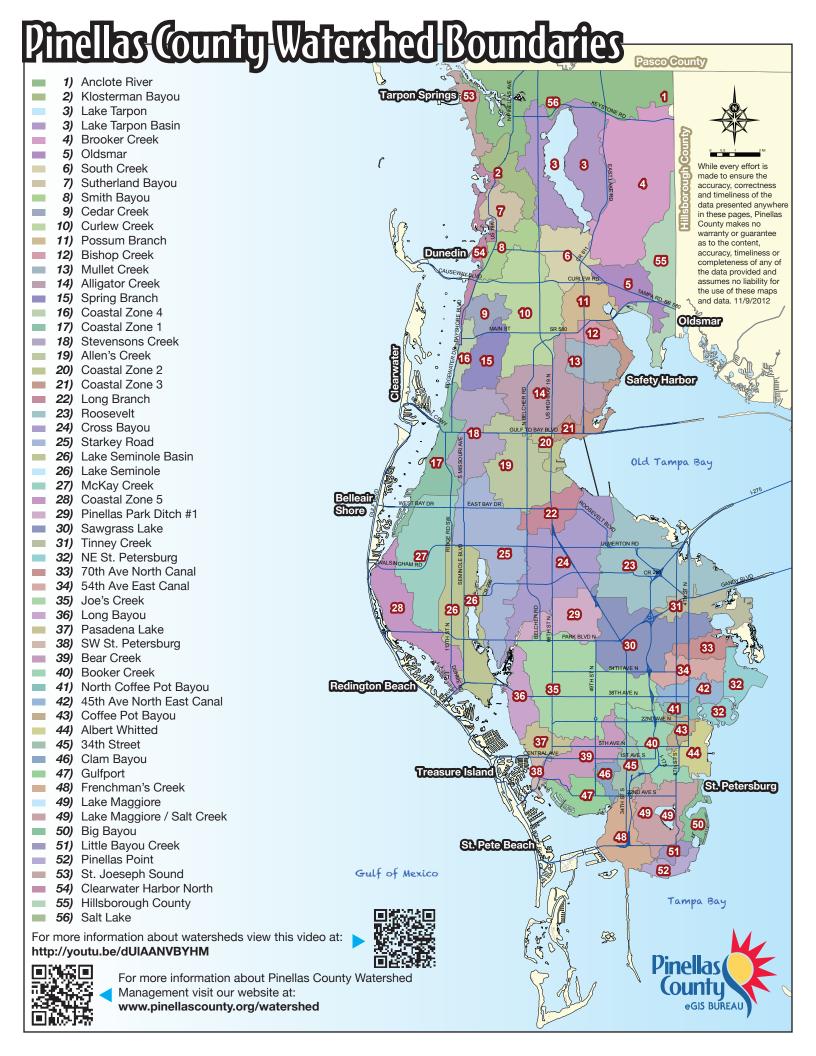
Summary Performance of Entire Watershed							
Catchment Configuration	A - Single (Catchment		6/20/2019			
Nitrogen Pre Load (kg/	/yr)	239.09	7	BMPTRAINS MODEL			
Phosphorus Pre Load (k	(g/yr)	32.07					
Nitrogen Post Load (kg	ı/yr)	301.94		h h h			
Phosphorus Post Load (kg/yr)	40.50					
Target Load Reduction ((N) %	49	1				
Target Load Reduction (P) %		49					
Target Discharge Load, N	(kg/yr)	153.99					
Target Discharge Load, P	(kg/yr)	20.66	Criteria	1			
Provided Overall Efficiency	/, N (%):	49	Met				
Provided Overall Efficiency	/, P (%):	67	Mot				
Discharged Load, N (kg/yr & lb/yr):		153.89	338.95				
Discharged Load, P (kg/yr	& lb/yr):	13.31	29.31				
Load Removed, N (kg/yr &	lb/yr):	148.06	326.11				
Load Removed, P (kg/yr &	lb/yr):	27.20	59.90				

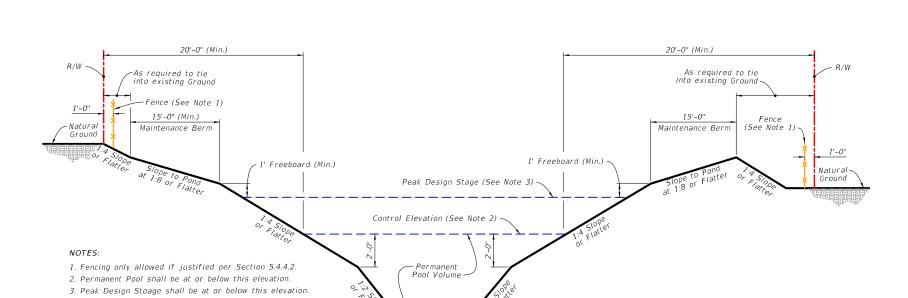
PRELIMINARY POND SITING REPORT I-275 (SR 93) PDE STUDY WPI No.: 424501-1

Available Pond Volume for Dry Pretreatment in Joe's Creek

Elevation (ft)	Area (sf)	Area (ac)	Acu. Volume (cf)	Total Volume (cf)	Total Volume (ac-ft)	REMARKS
57.0	17100.0	0.393	0.0	0.0	0.00	
60.0	29232.0	0.671	69498.0	69498.0	1.60	
61.0	33852.0	0.777	31542.0	101040.0	2.32	Weir EL
63.0	43956.0	1.009	77808.0	178848.0	4.11	

Appendix E. Figures





Effective: January 2018

Figure 5-1: Minimum Clearance Retention-Detention Ponds

TABLE D-1
RAINFALL RATIOS (ACCUMULATED 24-HOUR TOTAL)

	RAINFALL RATIOS (ACCUMULATED 24-HOUR TOTAL)
TIME (HR	SCS TYPE II FL. MODIFIED
0.0	.000 .006
0.5 1.0	.012
1.5	.019
2.0	.025
2.5	.032
3.0	.039 .047
3.5 4.0	.054
4.0 4.5	.062
5.0	.071
5.5	080. 980.
6.0	.099
6.5 7.0	.110
7.5	.122
8.0	.134
8.5	.148 .164
9.0 9.5	.181
10.0	.201
10.5	.226
11.0	.258 .308
11.5 12.0	.607
12.0	.719
13.0	.757
13.5	.785 .807
14.0	.826
14.5 15.0	.842
15.5	.857
16.0	.870 .882
16.5	.893
17.0 17.5	.904
18.0	.913
18.5	.923
19.0	.931 .940
19.5 20.0	.948
20.5	.955
21.0	.962
21.5	.969 .976
22.0 22.5	.983
22.5	.989
23.5	.995
24.0	1.000 D-13
	13-13

Table B-7: SCS Runoff Curve Numbers – Agricultural, Suburban, and Urban Land

			drologic	Soil Gr	 oup
Land Use Description			<u>B</u>	<u>C</u>	<u>D</u>
Cultivated Landa:					
Without conservation		72	81	88	91
With conservation trea	atment	62	71	78	81
Pasture or range land:					
Poor condition		68	79	86	89
Good condition		39	61	74	80
Meadow: good condition		30	58	71	78
Wood or Forest Land:					
Thin stand, poor cove	r, no mulch	45	66	77	83
Good cover b	•	25	55	70	77
Open Spaces, Lawns, Par	rks, Golf Courses, Cemeteries:				
	cover on 75% or more of the area	39	61	74	80
	cover on 50% to 75% of the area	49	69	79	84
Poor condition: grass	cover on 50% or less of the area	68	79	86	89
Commercial and Business	s Areas (85% impervious)	89	92	94	95
Industrial Districts (72% in	npervious)	81	88	91	93
Residential ^c					
Average lot size	Average % Impervious d				
1/8 acre or less	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
Paved Parking Lots, Roofs	98	98	98	98	
Streets and Roads:					
Paved with curbs and storm sewers ^e			98	98	98
Gravel		76	85	89	91
Dirt		72	82	87	89
Paved with open ditch		83	89	92	93
Newly graded area (no	o vegetation established) ^f	77	86	91	94

^a For a more detailed description of agricultural land use curve numbers, refer to Table B-8.

Note: These values are for Antecedent Moisture Condition II, and $I_a = 0.2S$.

Reference: USDA, SCS, TR-55 (1984).

^b Good cover is protected from grazing and litter and brush cover soil.

^c Curve numbers are computed assuming the runoff from the house and driveway is directed toward the street with a minimum of roof water directed to lawns where additional infiltration could occur, which depends on the depth and degree of the permeability of the underlying strata.

^d The remaining pervious areas (lawn) are considered to be in good pasture condition for these curve numbers.

^e In some warmer climates of the country, a curve number of 96 may be used.

^f Use for temporary conditions during grading and construction.

Appendix F. Correspondence

Date: November 2018
Project: I-275 (TBN Section 2)
Reviewer: Christina Jackson

Page <u>1</u> of <u>4</u>
Financial Project ID: <u>424501-1</u>
Responses By: <u>Tracy Ellison</u>

Basin No.	Comment	Response
11	11C appears as the preferred site (suggested by the City, does not impact residential or commercial, might not be considered a park (4f))	Concur.
12	All 3 alternatives appear to impact multiple residential/commercial properties. Could we find an alternative that doesn't? Can we consider vaults underneath the road as a "within ROW" alternative?	The Basin 12 sites are based on suggestions from the City of St. Pete. Basin 12 is heavily developed and avoiding residential or commercial impacts may not be possible. Per the Pinellas County Soil Survey, the depth to the seasonal high water table in this area is 0.5-1.5 feet, which makes utilization of underground vaults or other alternative treatment options impractical. Additionally, FHWA may have an issue with placing vaults under interstate pavement.
13	All 3 alternatives appear to impact multiple residential/commercial properties. Could we find an alternative that doesn't? Can we consider vaults underneath the road as a "within ROW" alternative?	The Basin 13 locations are based on suggestions from the City of St. Pete. Basin 13 is heavily developed and avoiding residential or commercial impacts may not be possible. Per the Pinellas County Soil Survey, the depth to the seasonal high water table in this area is 0.5-1.5 feet, which makes utilization of underground vaults or other alternative treatment options impractical. Additionally, FHWA may have an issue with placing vaults under interstate pavement.

Date: November 2018
Project: I-275 (TBN Section 2)
Reviewer: Christina Jackson

Page <u>2</u> of <u>4</u>
Financial Project ID: <u>424501-1</u>
Responses By: <u>Tracy Ellison</u>

Basin No.	Comment	Response
14	All 3 alternatives appear to impact multiple residential properties. Could we find an alternative that doesn't? Was the median area evaluated for pond alternatives (using the new impervious area only)?	The Basin 14 locations are based on suggestions from the City of St. Pete. Basin 14 is heavily developed and avoiding residential or commercial impacts may not be possible.
	Can we consider vaults underneath the road as a "within ROW" alternative?	We will evaluate the median as a pond alternative using the new impervious area only.
	Also, this basin appears to drain to Joe's Creek which has 3 water quality projects that FDOT could potentially partner with and obtain water quality credits for. Attenuation could potentially be provided within the median area.	Per the Pinellas County Soil Survey, the depth to the seasonal high water table in this area is 0.5-1.5 feet, which makes utilization of underground vaults or other alternative treatment options impractical. Additionally, FHWA may have an issue with placing vaults under interstate pavement or allowing attenuation in the median.
15	All 3 alternatives appear to impact multiple residential properties. Could we find an alternative that doesn't? Was the median area evaluated for pond alternatives (using the new impervious area only)?	The Basin 15 locations are based on suggestions from the City of St. Pete. Basin 15 is heavily developed and avoiding residential or commercial impacts may not be possible.
	Can we consider vaults underneath the road as a "within ROW" alternative? Also, this basin appears to drain to Joe's Creek which has 3 water quality projects that FDOT could potentially partner with and obtain water quality credits for. Attenuation could potentially be provided within the median area.	Per the Pinellas County Soil Survey, the depth to the seasonal high water table in this area is 0.5-1.5 feet, which makes utilization of underground vaults or other alternative treatment options impractical. Additionally, FHWA may have an issue with placing vaults under interstate pavement or allowing attenuation in the median.

Date: November 2018
Project: I-275 (TBN Section 2)
Reviewer: Christina Jackson

Page <u>3</u> of <u>4</u>
Financial Project ID: <u>424501-1</u>
Responses By: <u>Tracy Ellison</u>

Basin No.	Comment	Response
16	All 3 alternatives appear to impact multiple residential properties. Could we find an alternative that doesn't? Was the median area evaluated for pond alternatives (using the new impervious area only)? Can we consider vaults underneath the road as a "within ROW" alternative? Also, this basin appears to drain to Joe's Creek which has 3 water quality projects that FDOT could potentially partner with and obtain water quality credits for. Attenuation could potentially be provided within the median area.	The Basin 16 locations are based on suggestions from the City of St. Pete. Basin 16 is heavily developed and avoiding residential or commercial impacts may not be possible. Per the Pinellas County Soil Survey, the depth to the seasonal high water table in this area is 2.0-3.0 feet, which makes utilization of underground vaults or other alternative treatment options impractical. Additionally, FHWA may have an issue with placing vaults under interstate pavement or allowing attenuation in the median.
17	17A appears as the preferred site since it is all within the ROW.	Concur. This pond alternative will be sized for the new impervious area only.
18	18A appears to be within Sawgrass Lake (owned by SWFWMD) and will require further coordination with SWFWMD regarding options for expanding. 18B appears to be within school property and will require further coordination with the County regarding options for expanding. 18C appears as the least desirable as it would impact residential property.	Concur.
19	Please verify if an alternative within the infield areas can be provided and if so please site/label just like Alt. 17A.	The pond alternative for Basin 19 will be shown within the infield area of the interchange.

Date: November 2018
Project: I-275 (TBN Section 2)
Reviewer: Christina Jackson Page <u>4</u> of <u>4</u>
Financial Project ID: <u>424501-1</u>
Responses By: <u>Tracy Ellison</u>

Basin No.	Comment	Response
20	All alternatives appear to impact commercial properties. Please consider verifying if the small vacant FDOT parcel adjacent to the City Regional pond could provide treatment and attenuation for the new impervious area only.	A pond site providing treatment and attenuation for only the new impervious in Basin 20 would require at least 1.5 acres depending on site conditions. We could not locate the small vacant FDOT parcel adjacent to the City Regional pond to evaluate its size/suitability.

RESPONSES TO PRELIMINARY TBN SECTION 2 POND SITE CALCULATIONS COMMENTS

Date: <u>December 2018</u>

Page $\underline{1}$ of $\underline{3}$ Financial Project ID: $\underline{424501-1-22-01}$ Responses By: $\underline{Tracy Ellison, PE-Lochner}$ Project: TB Next Section 2
Reviewer: Cristina Jackson, PE - GEC

Comment No.	Comment	Response
1	Please verify whether any of the existing basins discharge to Impaired Water Bodies (i.e. Joe's Creek) which will require nutrient loading analysis. If so, please provide calculations to verify that the proposed wet detention ponds will not require an additional pretreatment.	Basins 14, 15 and 16 discharge to Joe's Creek and will be required to meet pre/post pollutant loading. The wet detention ponds in these basins will provide water quality treatment benefits but will not be sufficient to meet TMDL requirements alone. A 1.0-acre dry retention pretreatment area will be required to supplement the wet detention ponds to meet the required nutrient removal efficiencies. The dry retention area will be located in the median of Basin 15, in series with the downstream wet pond. This dry pretreatment area will meet the required nutrient removal efficiencies for all three basins. This dry retention area will be added to the Basin 14 & 15 Pond Site Alternatives Map for clarity. Calculations are included as Attachment #1 to these responses.

RESPONSES TO PRELIMINARY TBN SECTION 2 POND SITE CALCULATIONS COMMENTS

Date: December 2018 Page 2 of 3

Project: <u>TB Next Section 2</u> Financial Project ID: <u>424501-1-22-01</u>
Reviewer: <u>Cristina Jackson, PE - GEC</u> Responses By: <u>Tracy Ellison, PE – Lochner</u>

Comment No.	Comment	Response
2	Please verify the approach to the pond sizing calculations. The stage-storage calculations for the evaluated pond site alternatives indicate the same elevation for the top and bottom of the maintenance berm (indicating flat maintenance berms) however, the typical pond section graphics indicate top of the maintenance is two feet higher than the bottom of the maintenance berm (20-foot maintenance berm at 1:10 slope). a. If the intent is to maintain a 1:10 slope, please revise the top of the maintenance berm elevation, tie down distances and overall footprints of the pond site alternatives as these would likely be increased. b. If the intent is to maintain a flat berm, please revise the typical pond section graphic to show the flat berm.	The intent is to maintain a flat berm. The typical pond section graphic included in the calculations will be revised to show a flat berm.
3	Please verify that the pond sizing assumptions (square pond sites) is appropriate for all situations. For example, pond site alternative 2B has a long and narrow rectangular shape. It appears that in a situation like this, most of the pond site footprint may need to be devoted to typical maintenance berm rather than the stormwater volume.	A contingency factor (10%) has been included for all of the pond sizes. This is to account for the preliminary nature of the information available at this phase, such as geotechnical information, survey and final pond configuration. We will evaluate long, narrow ponds to ensure that this contingency is appropriate and adjust if necessary. This approach will apply to 2B, 11B, 12A and 16A.

RESPONSES TO PRELIMINARY TBN SECTION 2 POND SITE CALCULATIONS COMMENTS

Date: December 2018 Page 3 of 3

Project: <u>TB Next Section 2</u> Financial Project ID: <u>424501-1-22-01</u>
Reviewer: <u>Cristina Jackson, PE - GEC</u> Responses By: <u>Tracy Ellison, PE – Lochner</u>

Comment No.	Comment	Response
4	Please verify that a Curve Number of 80 is an appropriate assumption for all existing pervious areas.	 The intent was to base the curve number on the majority soil type within each basin. The majority soil type in Basins 2, 7, 11-16, and 18 are Myakka which is within HSG D and assigned a CN of 80. The majority soil type in Basin 17 is Astatula which is within HSG C and assigned a curve number of 74. The curve number for all pervious areas within Basin 17 will be revised to 74. Revised calculations are included in Attachment #2 to these responses. The majority soil type in Basins 19 and 20 is Pineda which is within HSG D and assigned a CN of 80.
5	It appears the pond sizing calculations are missing calculations for alternative 15C.	We apologize for the omission. Pond sizing calculations for alternative 15C are included in Attachment #2 to these responses.
6	The pond sizing calculations for alternative 18C start the initial stage at elevation 0.0. Please verify this assumption. Please consider starting the initial stage at the tidal tailwater elevation (i.e. MHW).	Assume comment is in reference to alternative 18B (there is no pond alternative 18C). The calculations have been revised to show the pond bottom (initial stage) at MHW and are included in Attachment #2 to these responses.
7	Please verify if any of the proposed pond sites require inflow/outfall easements (i.e. 11A, 16A)? If so, please consider showing in the graphics.	Easements will be added/shown on the Pond Site Alternative Maps for alternatives 11A, 16A and 16B.





Applicability of the Old Tampa Bay Water Quality Credits to Tampa Bay Next

Date: April 9, 2019

Location: D7 Headquarters, Executive Room

11201 N. McKinley Drive

Tampa, FL 33612

Attendees: See Sign-In Sheet

Meeting Notes:

• The purpose of the meeting was to confirm applicability of the Old Tampa Bay (OTB) water quality credits to Tampa Bay Next (TBN) program.

- Dave Kramer (Dave) gave a brief overview of the OTB water quality improvement permit
 - The project original intent was to provide net benefit.
 - OTB is a performance-based project. 20% of the credit recently released is based on tidal flux improvement. The remaining credit will be released once the project results meet specified goals. Monitoring to be performed over the next 2 years.
 - The initial discussions with FDOT regarding utilizing the project's water quality credits were for projects such as the Howard Frankland bridge replacement (Section 3), I-275/SR 60 interchange (Section 4) and Gateway that are within the immediate vicinity of Tampa Bay.
 - Due to the innovative permitting approach, the permit requires SWFWMD to review the use of the credits on a "case by case" basis and ultimately requires a proof of no adverse water quality impact.
 - o The biggest obstacle in utilizing credits is demonstrating no local water quality impacts. Previous discussions assumed that to be conservative, projects would provide local presumptive treatment and use OTB to supplement net improvement requirements.
 - The use of the OTB water quality credits is tracked at the District in a ledger maintained under the OTB ERP permit. The permit must be modified (short form modification) every time the credit is utilized for a project. FDOT has internal tracking system as well.

• Q&A

The OTB permit contained a water quality credit applicability boundary exhibit. Is the purpose of this exhibit to define the limits of where the water quality credits from the OTB can be applied to an FDOT project?

The exhibit was provided during the application process by the Consultant and appears to reflect Tampa Bay and Coastal Areas watershed boundary. In general, the water quality credit would be applicable to FDOT projects located within these boundaries. However, concerns arise when the project which is to utilize credits discharges to other water bodies/WBIDs prior to discharging to the Bay. In that situation, reasonable assurance needs to be provided to the District that local water quality impacts will not occur.

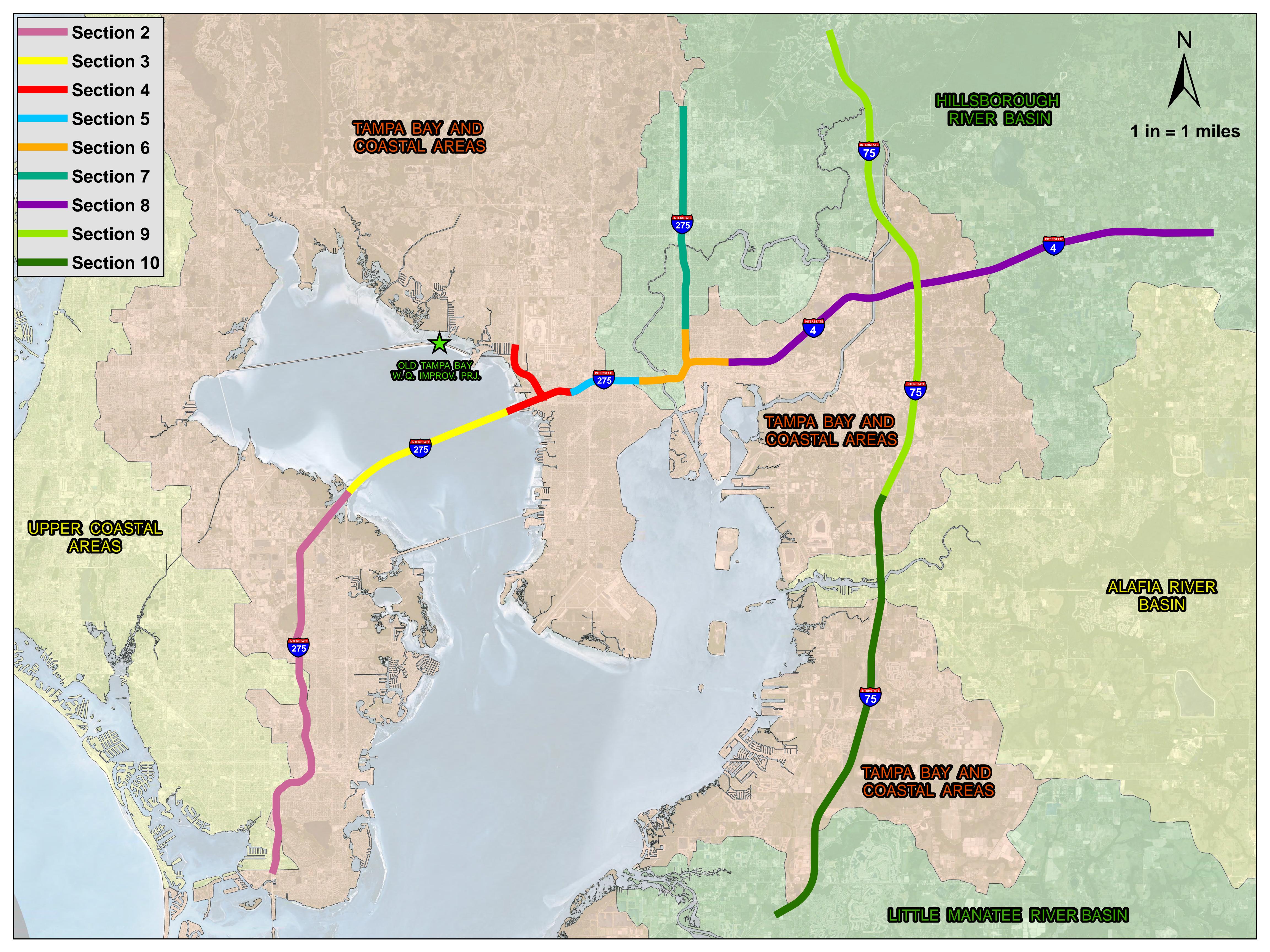
 Could the OTB credits be utilized to eliminate the need for presumptive stormwater treatment for any section of TBN within the OTB water quality credit applicability boundary if the project provides an onsite form of BMP (i.e. roadway ditches, attenuations ponds, etc.)?

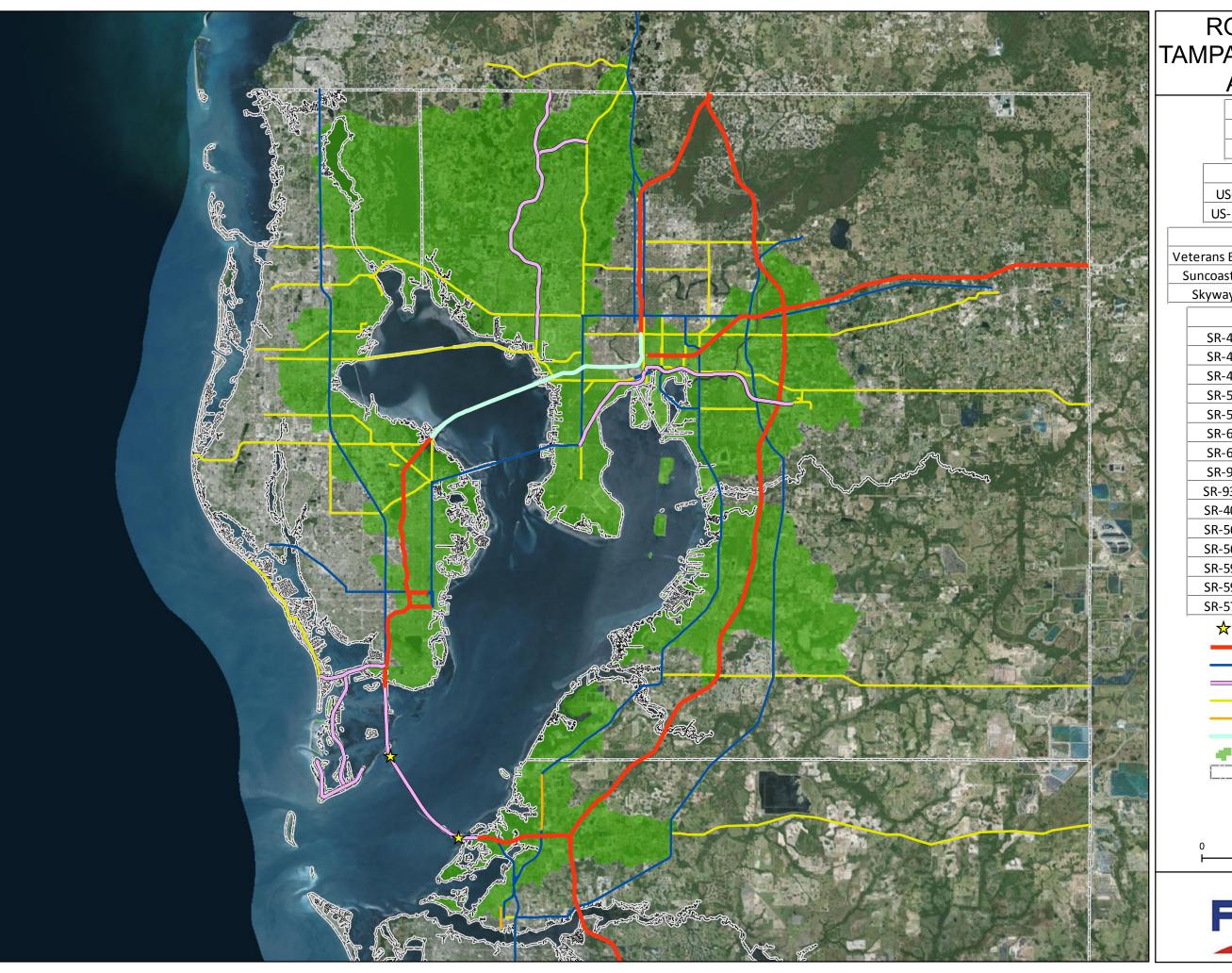
The District can apply criteria flexibility and may accept BMPs that do not meet presumptive criteria. However, reasonable assurance needs to be provided to the District that local water quality impacts will not occur. Wet pond permanent pool or linear dry ponds designed for attenuation could be accepted as BMPs in combination with the credits. FDOT may consider utilizing BMPTRAINS or other means to prove that BMPs sized for less than presumptive treatment will provide enough local benefit to provide reasonable assurance to the District that local water quality impacts will not occur.





- o TBN Section 3 was recently permitted using water quality credits from OTB without an onsite form of BMP. TBN Section 3 directly discharges to Old Tampa Bay and therefore is not required to provide attenuation. Under what conditions can this approach be utilized (i.e. rely on the OTB credits without providing any other form of formal or informal stormwater treatment)? Looking at an aerial exhibit of Tampa Bay it seems that TBN Section 4 could follow the same approach due to the proximity to the Bay. Would the District agree to this approach to minimize hardships such as right of way acquisition, construction considerations, maintenance access, etc.?
 - Yes for Section 4. Also, some portions of Section 2 appear to be located close enough to the Bay to completely rely on the credit as well. In these situations, at least sediment and trash control BMPs should be considered. The District recommends scheduling pre-application meetings prior to design to discuss and agree on appropriate levels of water quality treatment.
- Could the OTB credits be utilized to eliminate the need for presumptive stormwater treatment for any section of TBN outside of the OTB water quality credit applicability boundary if the project provides an onsite form of BMP (i.e. roadway ditches, attenuations ponds, etc.)?
 - The EOR would need to address the local WBIDs assessment/impairment and prove no local water quality impact.
- o If needed, could the OTB credits supplement the net improvement needs (when exceeding the minimum presumptive requirements) for any Section of TBN that is outside of the permitted credit applicability boundary?
 - Yes, if the net improvement requirement is specific to Tampa Bay.
- Could the OTB credits be used to retrofit existing FDOT ponds with permitted presumptive stormwater treatment capacity to maximize pond's attenuation volume and to minimize additional right of way needs?
 - Yes. It is up to the EOR to demonstrate no adverse impacts. It was also mentioned during the meeting that there is a possibility that some privately owned ponds within Section 4 could be impacted. The credits could be utilized to offset these impacts as well. Also, existing FDOT ponds that have been designed for the proposed conditions prior to net improvement (nutrient loading control) requirements do not need to address net improvement as along as the proposed activity remains within the previously permitted parameters.
- Can the OTB credits be used to offset stormwater treatment needs for potential Bus on Shoulder (BOS) operations within all TBN Sections?
 - Yes, the OTB credits can be used to completely satisfy stormwater treatment for BOS operations on all Sections of TBN. The District is OK with that approach since there is already existing pavement with minimal improvement. FDOT inquired if it could provide BOS without credits/treatment. The District indicated it is up to EOR to show no adverse water quality impact if not using the credits. BOS is not considered an exempt activity and water quality must be addressed.





ROADS WITHIN TAMPA BAY & COASTAL AREAS ERP

Interstates		
I-4	I-175	I-375
I-75	I-275	

US Roads			
US-19	US-41	US-301	
US-19A	US-41B	US-92	

Toll Roads		
Veterans Expressway Selmon Expresswa		
Suncoast Parkway	Pinellas Bayway	
Skyway Bridge	CR-679	

	,			
State Roads				
SR-41	SR-574	SR-618A		
SR-43	SR-580	SR-628		
SR-45	SR-595	SR-651		
SR-54	SR-597	SR-678		
SR-55	SR-599	SR-679		
SR-60	SR-600	SR-682		
SR-62	SR-616	SR-685		
SR-93	SR-582	SR-686		
SR-93A	SR-583	SR-687		
SR-400	SR-584	SR-688		
SR-568	SR-585	SR-693		
SR-569	SR-586	SR-694		
SR-592	SR-589	SR-699		
SR-594	SR-590			
SR-573	SR-618			









Applicability of the Old Tampa Bay Water Quality Credits to Tampa Bay Next

Date:

April 9, 2019

Location:

D7 Headquarters, Executive Room

11201 N. McKinley Drive

Tampa, FL 33612

Attendee	Representing	Telephone	E-mail
JOHN LITTLEFIELD	WSP	813 514-5528	john. littlefield@wsp.com
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Gary Cox	HDR	813 983 5380	Gay, Cox @ hding, com
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David Krower	SWFWMD	985-7481	clave, Framer @ water
Craig Fox	FDOT	817-475-6082	
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Kirk Bookn	FDOT	813-975-6448	Kirk, bogge
			J





Attendee	Representing	Telephone	E-maif
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Mary Low Godfr	ey FDOT	813-975-662	1 marylon, god fre/ @dg
Asniey Henzel	POOT/Atkins GE	C (B13)975-6433	marylon, god fre, @dg asniey.henzel@dot.stat.fi.u
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Appendix G. Preliminary Cultural Resource Assessment Probability Analysis Technical Memorandum

PRELIMINARY CULTURAL RESOURCE ASSESSMENT PROBABILITY ANALYSIS TECHNICAL MEMORANDUM

PROPOSED POND SITE ALTERNATIVES I-275/SR 93 FROM SOUTH OF 54^{TH} AVENUE SOUTH TO NORTH OF 4^{TH} STREET NORTH PINELLAS COUNTY, FLORIDA

Financial Project ID No.: 424501-1



Florida Department of Transportation
District Seven
11201 North McKinley Drive
Tampa, Florida 33612-6456

January 2019

PRELIMINARY CULTURAL RESOURCE ASSESSMENT PROBABILITY ANALYSIS TECHNICAL MEMORANDUM

PROPOSED POND SITE ALTERNATIVES I-275/SR 93 FROM SOUTH OF 54TH AVENUE SOUTH TO NORTH OF 4TH STREET NORTH PINELLAS COUNTY, FLORIDA

Financial Project ID No.: 424501-1

Prepared for:

Florida Department of Transportation District Seven 11201 North McKinley Drive Tampa, Florida 33612-6456

Prepared by:

Archaeological Consultants, Inc. 8110 Blaikie Court, Suite A Sarasota, Florida 34240

In association with:

HDR 4830 W. Kennedy Boulevard, Suite 400 Tampa, Florida 33609

January 2019

PRELIMINARY CULTURAL RESOURCE ASSESSMENT PROBABILITY ANALYSIS TECHNICAL MEMORANDUM PROPOSED POND SITE ALTERNATIVES I-275/SR 93 FROM SOUTH OF 54TH AVENUE SOUTH TO NORTH OF 4TH STREET NORTH PINELLAS COUNTY, FLORIDA Financial Project ID No.: 424501-1

1.0 INTRODUCTION

The purpose of this study was to determine, preliminarily, if any significant or potentially significant cultural resources, including archaeological sites and historic resources, will be impacted by the construction of a total 25 proposed pond site alternatives (hereinafter referred to as ponds) associated with improvements to I-275/SR 93 from south of 54th Avenue South to north of 4th Street North, Pinellas County (**Figure 1**). Known or potentially significant cultural resources are defined as those sites that are listed, determined eligible, or considered potentially eligible for listing in the National Register of Historic Places (NRHP). All work was conducted in compliance with the provisions of the *National Historic Preservation Act of 1966* (Public Law 89-665), as amended, and the implementing regulations 36 CFR 800, as well as with the provisions contained in the revised Chapter 267, *Florida Statutes (FS)*.

The study methodology included a review of Florida Master Site File (FMSF) records, NRHP listings, relevant cultural resource assessment survey (CRAS) reports, the U.S. Department of Agriculture's (USDA) *Soil Survey of Pinellas County, Florida* (USDA 1972), as well as the United States Geological Survey (USGS) Pass-A-Grille, Safety Harbor, and St. Petersburg quadrangle maps (USGS 1956a, 1956b, 1956c). Relevant CRAS reports included the Project Development and Environment (PD&E) Study for I-275/SR 93 from south of 54th Avenue South to north of 4th Street North (Archaeological Consultants, Inc. [ACI] 2015), including additional FDOT projects, those conducted for private developers, cell towers, and several historic resources surveys.

As a result of the preliminary study, one previously recorded archaeological site is recorded within two of the proposed pond sites (18A and 18B). The lithic scatter type site (8PI01212) has not been evaluated by the State Historic Preservation Officer (SHPO) but the recorders did not consider it significant. Background research indicated that 49 historic resources were previously recorded within or immediately adjacent to twelve of the proposed pond sites (**Table 2**; **Figures 2-5**). Of these, the Kenwood Historic District (8PI11176) and 21 contributing resources to the historic district are located within or adjacent to proposed pond sites 11A and 11B. The Kenwood Historic District (8PI11176) was listed in the NRHP in 2003 and the building at 2105 7th Avenue North (8PI07410) is considered NRHP-eligible as a contributing resource to the Kenwood Historic District, both are located with pond 11A. Pond 11B is adjacent to the Kenwood Historic District except for 2118 9th Avenue (8PI7588), located within a portion of Pond 11b and is considered a contributing resource but has not been evaluated by the SHPO. Background research also included a review of the Pinellas County Property Appraisers website, which indicated the potential for 45historic buildings (50 years of age or older) within or immediately adjacent to 11of the proposed pond sites (Twitty 2019). This information is summarized in **Table 2**.



Figure 1. Location of the proposed pond sites, Pinellas County.

As a result of the preliminary probability pond analysis, proposed pond sites 11A and 11B should be avoided or taken into consideration for this project. Following the selection of preferred pond sites, systematic archaeological field survey is recommended; historical/architectural field survey is also recommended.

2.0 BACKGROUND RESEARCH, DESCRIPTION OF KNOWN ARCHAEOLOGICAL AND HISTORIC RESOURCES AND SITE POTENTIAL

Between 1978 and 2012, several archaeological and historical/architectural surveys were conducted within 500 feet of the I-275 project corridor. These include a number of historic structures surveys focused on neighborhoods or defined geographical areas such as the City of St. Petersburg (City of St. Petersburg Community Development 1981); Pinellas Park (Pinellas Park Planning Division 1993); Kenwood (Kitchen 1995); Crescent Heights and Crescent Lake (Stevenson Architects, Inc. 1996); the 22nd Street Corridor (Stevenson Architects, Inc. 2000); and the Dome Industrial Park Redevelopment Area (The Urban Group, Inc. 2008). Other surveys were carried out as part of FDOT projects along SR 686 (Browning 1988), SR 688 (Jackson 1991), SR 694 (Janus Research 1995; ACI 2002, 2012a), and the northbound Howard Frankland Bridge (I-275/SR 93) (ACI 2012b), as well as for private development (Janus Research 2001), for proposed cellular tower sites (Spriggs 2002; Ambrosino 2003), and during countywide surveys (New South Associates 2008; Pinellas County Planning Department 1995, 2008; Williams 1974), City of St. Petersburg-sponsored archaeological studies (Piper Archaeological Research and ACI 1978; Piper Archaeological Research 1987, 1991), among others.

<u>Archaeological Sites</u>: The FMSF search (January 2019) indicated that 15 previously recorded archaeological sites are located within one mile of the proposed pond sites (**Table 1**). Most of the sites consists of lithic scatter type sites and none has been evaluated by the SHPO. One of the sites, 8PI01212, is located within two of the proposed pond sites, 18A and 18B. It has not been evaluated by the SHPO but the recorders did not consider it eligible.

Based upon the results of previous archaeological surveys in the vicinity, an understanding of known patterns of aboriginal settlement in the general region, as well as an examination of the USGS quadrangle maps (USGS 1956a, 1956b, 1956c) and the USDA soil survey for Pinellas County (USDA 1972), each of the proposed pond sites were evaluated for archaeological site potential. Each was reviewed and assigned to either a low or moderate potential; there were no high potential areas (**Table 2**).

Many environmental factors had a direct influence upon site location selection. Among these variables are soil drainage, distance to freshwater, relative topography, and proximity to food and other resources including stone and clay. On the basis of the aforementioned projects, it has been repeatedly demonstrated that archaeological sites are most often located near permanent or semi-permanent sources of water. In addition, prehistoric sites are found, more often than not, on better drained soils, and at the better drained margins of wetland features such as swamps, sinkholes, wet prairies, lakes and ponds. In areas characterized by poorly drained soils, sites tend to be located in areas of slightly higher elevation.

Table 1. Previously recorded archaeological sites located within one half mile of the proposed pond sites.

SITE#	SITE NAME	SITE TYPE	CULTURE	SHPO EVAL.
8PI00229	Hart Creek	Lithic Scatter	Archaic, unspecified	Not Evaluated
8PI00742	No Name (NN)	Historic Refuse	Historic, unspecified	Not Evaluated
8PI00901	Sawgrass Lake #1	Lithic scatter	Archaic, unspecified	Not Evaluated
8PI00902	Sawgrass Lake #2	Artifact Scatter	Archaic, unspecified	Not Evaluated
8PI01192	New Publix	Lithic Scatter, Shell Midden	Prehistoric, unspecified	Not Evaluated
8PI01194	Village Green	Lithic Scatter	Archaic, unspecified	Not Evaluated
8PI01197	Broadwaters	Lithic Scatter	Early-Middle Archaic	Not Evaluated
8PI01198	Whitehall Gardens	Shell Midden	Prehistoric, unspecified	Not Evaluated
8PI01201	Maximo Moorings	Lithic scatter	Archaic, unspecified	Not Evaluated
8PI01212	Turner's Creek	Lithic scatter	Archaic, unspecified	Not Evaluated
8PI01214	Glen Lake	Lithic scatter	Transitional	Not Evaluated
8PI01215	Evensen	Lithic Scatter	Paleo-Early Archaic	Not Evaluated
8PI01237	Edward White Hospital	Lithic Scatter	Middle Archaic	Not Evaluated
8PI01253	Emerson Ave. Mound	Mound	Prehistoric, unspecified	Not Evaluated
8PI01258	Gandy Exit	Lithic scatter	Archaic, unspecified	Not Evaluated

<u>Historic Resources:</u> In 2015, ACI conducted a CRAS of this segment of I-275 which resulted in recording and updating 325 historic resources. This total includes 309 buildings, 13 building complex resource groups, one historic district, one railroad, and one cemetery. In addition to this report, the Kenwood Historic District (8PI11176) nomination form was reviewed. Based on the results of these reports, 49 historic resources were previously recorded within or immediately adjacent to twelve of the proposed pond sites (**Table 2; Figures 2-5**). The Kenwood Historic District (8PI11176) was listed in the NRHP in 2003 and contains 21 contributing resources that are located within or adjacent to proposed pond sites 11A and 11B. Of these, 20 have not been evaluated by the SHPO. Contributing resource, 2105 7th Avenue North (8PI07410) was considered NRHP-eligible in 2015 and is located in pond 11A. Pond 11B is adjacent to the Kenwood Historic District except for 2118 9th Avenue (8PI7588), located within a portion of Pond 11B and considered a contributing resource but has not been evaluated by SHPO. In addition, the Orange Belt Railway is located adjacent to pond 12A and was determined to have insufficient information by the SHPO in 2015.

Background research also included a review of the Pinellas County Property Appraisers website, which indicated the potential for 45 historic buildings (50 years of age or older) within or immediately adjacent to 11 of the proposed pond sites (Twitty 2019). This information is summarized in **Table 2**.

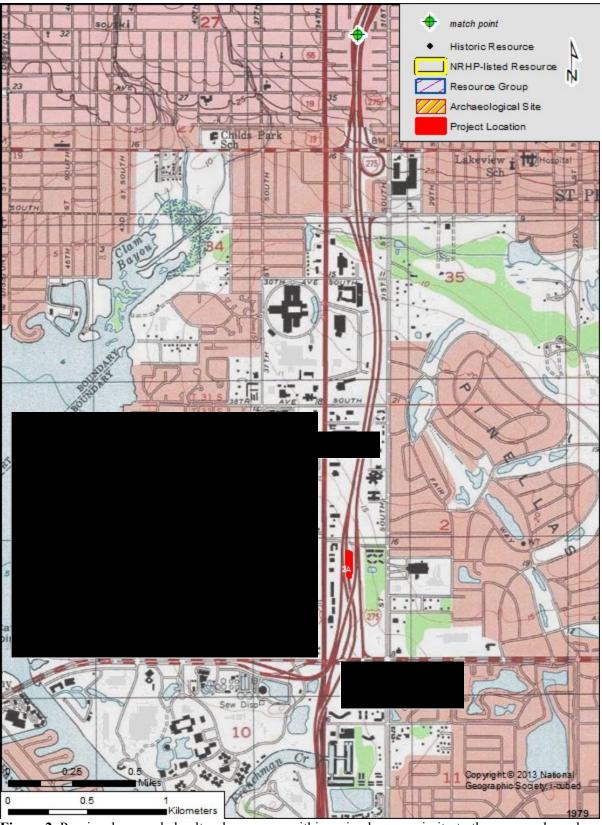


Figure 2. Previously recorded cultural resources within or in close proximity to the proposed pond sites.

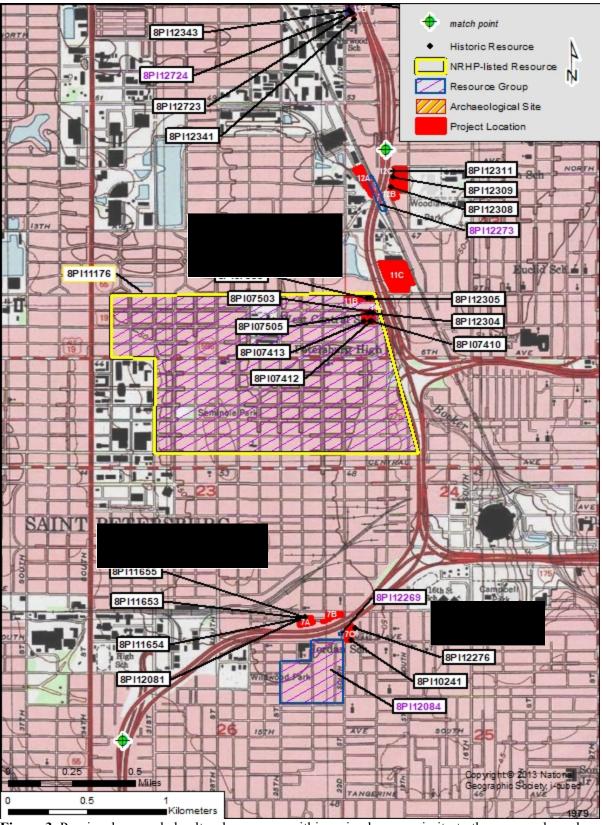


Figure 3. Previously recorded cultural resources within or in close proximity to the proposed pond sites.

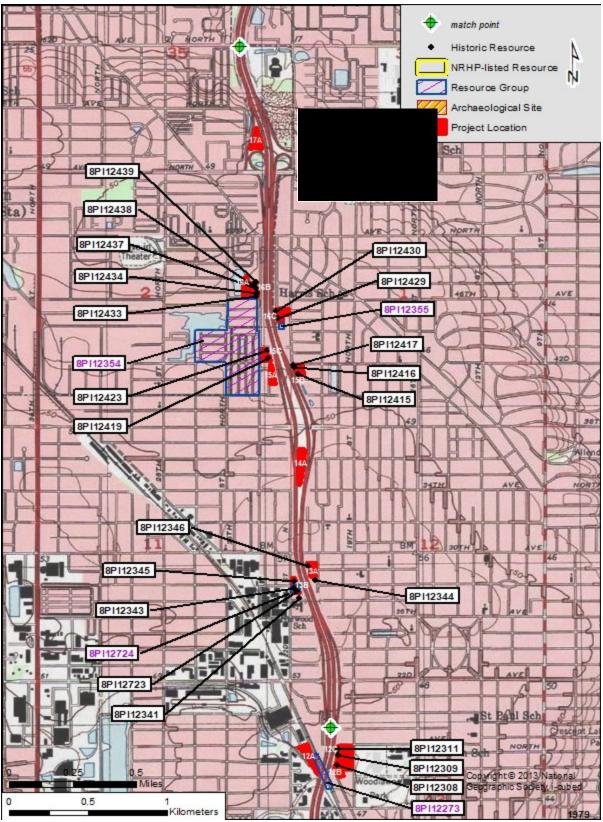


Figure 4. Previously recorded cultural resources within or in close proximity to the proposed pond sites.

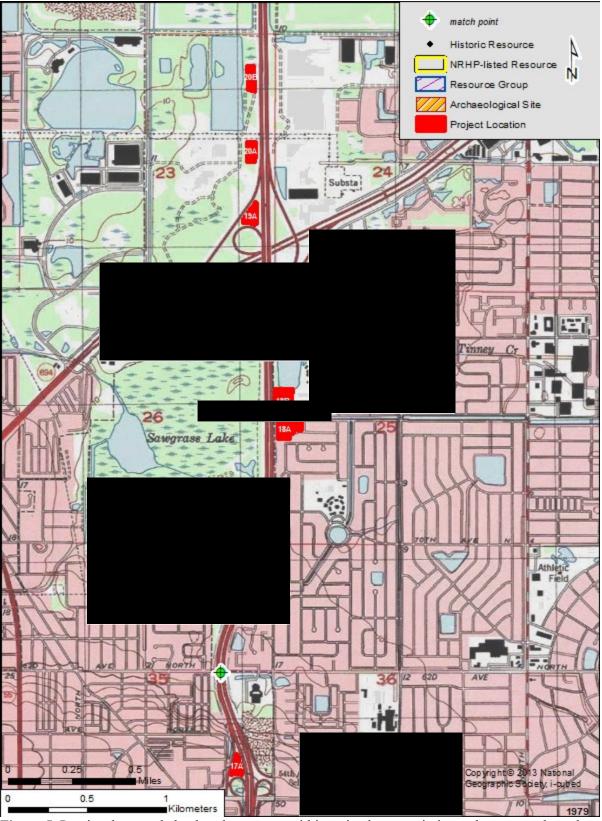


Figure 5. Previously recorded cultural resources within or in close proximity to the proposed pond sites.

Table 2. Archaeological and historic data

Table 2.	Archaeolog	ical and historic data.
POND	ZAP*	Comments (i.e. soils, vegetation, drainage, previously recorded sites, etc.)
2A	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
7A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
/A	Low	Historical: 4 previously recorded resources within or adjacent to APE; however, these appear to have been destroyed.
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
7B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
7C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
, c	Moderate	Historical: no previously recorded sites within; 2 previously recorded buildings and 1 newly identified adjacent
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
11A	High	Historical: The NRHP-listed Kenwood Historic District (8PI11176), 9 previously recorded buildings (8 buildings are contributing resources to HD), and 1 newly identified building are within the pond; 2 previously recorded & contributing resources to the historic district are adjacent to the pond.
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
11B	High	Historical: Portion of the NRHP-listed Kenwood Historic District (8PI11176) and 2 previously recorded buildings and 2 newly identified within the pond; 10 contributing resources to the historic district and 1 newly identified resource are adjacent.
	Low- Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; pond is on elevated land upland from freshwater
11C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
10.4	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
12A	Moderate	Historical: no previously recorded resources within; 1 previously recorded Resource Group (8PI12273) adjacent to pond
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
12B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	High	Historical: 1 previously recorded and 3 newly identified buildings within APE
12C	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	High	Historical: 2 previously recorded and 12 newly identified buildings within APE
13A	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	High	Historical: 1 previously recorded building within APE
13B	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	High	Historical: 4 previously recorded resources within; 1 previously recorded and 2 newly identified buildings adjacent.

Low Prehistoric Archaeological: no previously recorded sites within or adjacent to APE	POND	ZAP*	Comments (i.e. soils, vegetation, drainage, previously recorded sites, etc.)
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^{*} Zone of Archaeological Potential

3.0 CONCLUSIONS AND RECOMMENDATIONS

As a result of the preliminary probability pond analysis, proposed pond sites 11A and 11B should be avoided or taken into consideration for this project. Following the selection of preferred pond sites, systematic archaeological field survey is recommended in accordance with the guidelines and standards promulgated by the Florida Department of Transportation (FDOT) and Florida Division of Historical Resources (FDHR). The selected pond sites considered to have a low potential also should be surveyed and judgmentally tested. Historical/architectural field survey is also recommended.

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Appendix H. Right-of-Way Cost Estimate

Right of Way Cost Estimate

HDR #100626981-12.19

FM#: 424501-1 County: Pinellas

Description: I-275 54th Avenue to North of 4th Avenue Pond Sites

Date: January 22, 2019 Purpose: Special Purpose

Prepared by: Roger D. Patton, Real Estate Services Agent III

HDR, Inc.

In accordance with your request, a cost estimate has been prepared for the above-referenced project and is submitted for distribution. The estimate considers 21 pond sites. The previous estimate dated July 30, 2018 was for nine pond sites. The costs for each pond site is as follows:

SMF-2A	\$0 Existing FDOT R/W
SMF-7A	\$565,300
SMF-7B	\$537,600
SMF-7C	\$2,090,900
SMF-11A	\$5,156,100
SMF-11B	\$4,044,000
SMF-11C	\$469,700
SMF-12A	\$2,653,600
SMF-12B	\$4,380,100
SMF-12C	\$4,916,400
SMF-13A	\$2,490,900
SMF-13B	\$1,329,700
SMF-14A	\$0 Existing FDOT R/W
SMF-15A	\$1,187,200
SMF-15B	\$2,658,600
SMF-15C	\$2,352,000
SMF-16A	\$2,644,800
SMF-16B	\$3,449,500
SMF-16C	\$3,407,900
SMF-17A	\$0 Existing FDOT R/W
SMF-18A	\$2,826,200
SMF-18B	\$613,200
SMF-19A	\$0 Existing FDOT R/W
SMF-20A	\$802,100
SMF-20B	\$1,371,500

Your attention is directed toward the following for comments relating to any considerations or differences noted since our last estimate of the selected pond sites:

<u>SMF-12A</u>: The pond site as proposed encroaches on two properties and is the lowest cost of the alternates for Basin 12. One site is improved and utilized as a commercial building materials operation with common ownership to the south. The pond is situated at the rear of the site and no access easement was included in the current cost estimate. Access to this site, as configured, should be included on future maps.

The other half of the pond site is a landlocked vacant parcel, with an existing access easement. Shifting the pond onto this single parcel instead of split between the two indicates a potential savings of \$2,095,100.

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29. Tenant 30. Residential 31. Business/F 32. Personal P 33. (Lines 28 tl 34. Relocation 35. 36. 37. Real Estate: Bus. Dam.; Relocation: Overall Review Cost Estimate 5	Move Coll Farm Property hru 32) Services Roger D Alfred J. Roger D: Alfred J.	Patton Thompson Patton Thompson #: Dated:	\$25,000 \$5,000 \$40,000 \$3,000 \$3,000 Signed: Signed: Signed:	x x x x x	0 0 0 0 0 \$0	en ty	O O O O O O O O O O O O O O O O O O O	TOTAL ESTIMA Date: Date: Date: Date:	01/15/19 01/15/19 01/15/19 01/15/19 etion Date:	\$537,600
29. Tenant 30. Residential 31. Business/F 32. Personal P 33. (Lines 28 tf 34. Relocation 35. 36. 37. Real Estate: Bus. Dam. : Relocation: Overall Review Cost Estimate \$ REMARKS:	Move Collinary Farm Property Property Property Property Property Property Roger D Alfred J. Roger D Alfred J. Sequence	Patton Thompson Patton Thompson **: Dated: This estimate is for Sunfactored"	\$5,000 \$5,000 \$40,000 \$3,000 \$3,000 Signed: Signed: Signed: Signed:	x x x x x	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	en ty	O O O O O O O O O O O O O O O O O O O	TOTAL ESTIMA Date: Date: Date: Date:	01/15/19 01/15/19 01/15/19 01/15/19 etion Date:	\$537,600
29. Tenant 30. Residential 31. Business/F 32. Personal P 33. (Lines 28 tf 34. Relocation 35. 36. 37. Real Estate: Bus. Dam. : Relocation: Overall Review Cost Estimate \$ REMARKS:	Roger D Alfred J. Roger D Sequence	Patton Thompson Patton Thompson **: Dated: This estimate is for Sunfactored" The unit costs are the	\$5,000 \$5,000 \$40,000 \$3,000 \$3,000 Signed: Signed: Signed: Signed:	x x x x x	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	en ty	O O O O O O O O O O O O O O O O O O O	TOTAL ESTIMA Date: Date: Date: Date:	01/15/19 01/15/19 01/15/19 01/15/19 etion Date:	\$537,600
29. Tenant 30. Residential 31. Business/F 32. Personal P 33. (Lines 28 tf 34. Relocation 35. 36. 37. Real Estate: Bus. Dam. : Relocation: Overall Review Cost Estimate \$ REMARKS:	Roger D Alfred J. Roger D Alfred J. Roger D T	Patton Thompson Patton Thompson #: Dated: This estimate is for Sunfactored" The unit costs are the	\$5,000 \$5,000 \$40,000 \$3,000 \$3,000 Signed: Signed: Signed: Signed: Signed: Confidence	x x x x ln i	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	en ty	O O O O O O O O O O O O O O O O O O O	TOTAL ESTIMA Date: Date: Date: Date:	01/15/19 01/15/19 01/15/19 01/15/19 etion Date:	\$537,600
29. Tenant 30. Residential 31. Business/F 32. Personal P 33. (Lines 28 tf 34. Relocation 35. 36. 37. Real Estate: Bus. Dam. : Relocation: Overall Review Cost Estimate \$ REMARKS:	Move Collary Farm Property Property Property Property Property Property Alfred J. Roger D Alfred J. Roger D Sequence	Patton Thompson Patton Thompson Patton Thompson #: Dated: This estimate is for Sunfactored" The unit costs are the cost indicates the most indicates above averaged.	\$25,000 \$5,000 \$40,000 \$3,000 \$3,000 Signed:	x x x x ln i	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	en ty	O O O O O O O O O O O O O O O O O O O	TOTAL ESTIMA Date: Date: Date: Date:	01/15/19 01/15/19 01/15/19 01/15/19 etion Date:	\$537,600
29. Tenant 30. Residential 31. Business/F 32. Personal P 33. (Lines 28 tf 34. Relocation 35. 36. 37. Real Estate: Bus. Dam. : Relocation: Overall Review Cost Estimate S REMARKS:	Move Collary Farm Property Property Property Property Property Property Alfred J. Roger D Alfred J. Roger D Sequence Type A - Type B - Type C -	Patton Thompson Patton Thompson #: Dated: This estimate is for Sunfactored" The unit costs are the	\$25,000 \$5,000 \$40,000 \$3,000 \$3,000 Signed:	x x x x x ln t	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	en ty	O O O O O O O O O O O O O O O O O O O	TOTAL ESTIMA Date: Date: Date: Date:	01/15/19 01/15/19 01/15/19 01/15/19 etion Date:	\$537,600
29. Tenant 30. Residential 31. Business/F 32. Personal P 33. (Lines 28 tf 34. Relocation 35. 36. 37. Real Estate: Bus. Dam. : Relocation: Overall Review Cost Estimate S REMARKS: The following in	Move Collary Farm Froperty Froperty From 32) Services Roger D Alfred J Roger D Alfred J Roger D T T T T T T T T T T T T T T T T T T T	Patton Thompson Patton Thompson #: Dated: This estimate is for Sunfactored" The unit costs are the indicates the most indicates above aveindicates below aveindicates the least of the indicates t	\$25,000 \$5,000 \$40,000 \$3,000 \$3,000 Signed: Signed: Signed: Signed: Signed: Signed: or no confidence or no confidence	x x x x x ln the obove ce ce ce ce	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	en ty	O O O O O O O O O O O O O O O O O O O	TOTAL ESTIMA Date: Date: Date: Date:	01/15/19 01/15/19 01/15/19 01/15/19 etion Date:	\$537,600
29. Tenant 30. Residential 31. Business/F 32. Personal P 33. (Lines 28 tf 34. Relocation 35. 36. 37. Real Estate: Bus. Dam. : Relocation: Overall Review Cost Estimate \$ REMARKS: The following in	Move Collary Farm Property Property Property Property Property Property Property Roger D Alfred J Roger D Alfred J Roger D T T T T T T T T T T T T T T T T T T T	Patton Thompson Patton Thompson Patton Thompson #: Dated: This estimate is for Sunfactored" The unit costs are the indicates the most indicates above averaged indicates the least of the Department's purificates the Department's purificates and the Department's pu	\$5,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 Signed: Signed: Signed: Signed: Signed: Signed: or no confidence erage e	x x x x x ln the obove ce ce ce ce	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	en ty	O O O O O O O O O O O O O O O O O O O	TOTAL ESTIMA Date: Date: Date: Date:	01/15/19 01/15/19 01/15/19 01/15/19 etion Date:	\$537,600
29. Tenant 30. Residential 31. Business/F 32. Personal P 33. (Lines 28 tf 34. Relocation 35. 36. 37. Real Estate: Bus. Dam. : Relocation: Overall Review Cost Estimate \$ REMARKS: The following in	Move Collary Farm Property Property Property Property Property Property Property Roger D Alfred J Roger D Alfred J Roger D T T T T T T T T T T T T T T T T T T T	Patton Thompson Patton Thompson Patton Thompson #: Dated: This estimate is for Sunfactored" The unit costs are the indicates the most indicates above averaged indicates the least of the Department's purificates the Department's purificates and the Department's pu	\$25,000 \$5,000 \$40,000 \$3,000 \$3,000 Signed: Signed: Signed: Signed: Signed: Signed: or no confidence or no confidence	x x x x x ln the obove ce ce ce ce	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	en ty	O O O O O O O O O O O O O O O O O O O	TOTAL ESTIMA Date: Date: Date: Date: 30, 2018 in the a	01/15/19 01/15/19 01/15/19 01/15/19 etion Date:	\$537,600

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FM#:	424501-1	DI	STRICT SE	VER		WAY	COST ESTIN		HDR#:	10062698-1-12.19
County:	Pinellas		Segment:		SMF 7C N/A			District:		Seven
State Rd.:	N/A		FAP#:		N/A			Date: C.E. Sequence	•	4-Jan-19
Project Des. Parcels	Gross N	S. of 54th Ave t	o 4th Ave Norti	h Po	nd Sites			O.L. Sequence	Ð	N/A
Commercial	O O	0					Estimated F	Relocatees:		
Residential	o	0					Business		0	
Unimproved	3	3					Residential Signs		0	
Total Davis							Special		0	
Total Parcels	3	3					Total Reloca	atees	- 0	
R/W SUPPOR 1. Direct Lab	or Costs (PH)	•						Amount		
2. Indirect O	verhead	(Parcels (Parcels	3		20,000		,	60,000		
3.		(i diceia	3	X	0	= Rat	e)	0		
R/W OPS (PH/	ASE 4B)							TOTAL PHASE	41	\$60,00
4. Appraisal	Fees Through	h Trial					Donata		Amount	
5. Business	Damage CPA	Fees Through 1	[rial			3 0		x 30,000 =	55,555	
6. Court Rep	orter & Proce	ss Servers	50%	x	3	= 2	_	× 19,000 = × 500 =	-	
7. Expert Wi 8. Mediators			75%		3	= 2		× 30,000 =	.,,,,,,	
	n, Asb. Abate.	. Survey etc	75%	X	3	= 2		2,400 =	4,800	
10. Miscelland	ous Contract	s				1	Imprvmet of Per Project x		15,000	
11. Appraisal	Fee Review					0	Parcels x	Territoria (1996)	0	
12.								TOTAL PHASE		6470.00
R/W LAND CO	STS (PHASE	43)								\$170,80
13. Land, Imp	rovements & :	Severance Dama	ages					Amount	Subtotal	
	to Cure Amou		0	x	120%	* Design	n plan stage =	. 0		
14. Water Ret	ention & Mit. (0 Ponds)	1,047,280	X	120%	(0 Parcels	w/o R/W Acq)	1,256,700		5
15. SUBTOTA	L (43,560 SF)					(Lines	13 &14)	.,	1,256,700	
16. Admin. Se 17. Litigation	πiement: (Fac	tor	20%	X		of Line 15		150,800	1,200,100	
18. Business	nwarus (rac Damanes (Clai	tor	45%	X	_	of Line 15	5) =			
19. Bus. Dama	iges Incr (Fac	tor	25%	X	0)	=	0		
20. Owner App	or. Fees (Par	cels	3	x	\$ -)	=	0		
21. Owner CP	A Fees (Clai	ims	0	X	\$15,000 \$16,000		=	45,000		
22. Defend.Att	y Fees (Sum	of Lines 16, 17 & 19)	377,000	x	33%			0		
Owner Exp	ert Witn (Con	nm.+Unimp.)	0	+		x_18,000	ຸ ີ	<u>124,400</u> 54,000		
24. Other Con-			3	x	\$1,000			3,000		
25. SUBTOTAI 26.	_					(Lines	16 thru 24) =		603,400	
	Danney for do	sign plan stage	wit					TOTAL PHASE		\$1,860,100
(1) PD&I	E plans - 120%	(2) 30% plans	- 115% (3) 60	% nl	ans - 110% (4)	90% p/a	50 40E9/ (E) 4	200 0 1 10001		
R/W ACQUISIT	ION CONSUL	TANT (PHASE 4	2)	-	11070 (19)	SO/I pra	113 -103/6 (3) 2	206 Date -100%		
27. Acquisition	n Consultant-5	0% of parcels	\$20,000	х	0			TOTAL PHASE	10	
RELOCATION	COSTS (PHAS	E 45)						TOTAL PHASE	42	\$0
28. Owner	Replacemen	nt Housing			Number		Amount			
29. Tenant			\$35,000	X	0	=	0			
- condition	Move Costs		\$25,000	X	0	=	0			
30. Residentia			\$5,000	x	0	-	•			
31. Business/F	arm	0	\$40,000	x	0	=	0			
32. Personal P 33. (Lines 28 tl			\$3,000	X	0	=	0		10	
34. Relocation								TOTAL PHASE	45	\$0
35.	Cervices Cos	· ·		-	\$0	(Not in	Phase Total)			
36.										
37.						-	(All Phases)	TOTAL FORMA		
Real Estate:	Roger D. Pat	ton	Signed:	_	Bach	11	(All Fliases)	TOTAL ESTIMA		\$2,090,900
Bus. Dam. :	Alfred J. Tho	mpson	Signed:		- ALMO	1 0	71	Date:	01/15/19	
Relocation:	Roger D. Pat	ton	Signed:		1-90PUL	m-1	· Volume	Date:	01/15/19	
Overall Review:	Affred J. Tho	mpson	Signed:		- 0	C.J. 7.	Longen	Date:	01/15/19	
Cost Estimate S	equence #:	Dated:		In W	ho Americal see	0	1			
REMARKS:		Dateu.		in ti	he Amount of \$		Da	ata Input Comple	etion Date:	
	This e	estimate is for S	MF-7C This is	the	first actions to 4	E				
				, tile	inst estimate i	or this po	ond alternate.			
										Ĩ
										(42)
he following in	dicates the es	stimator's confid	lence in the ab	040	oetimata					
	iype A⊸indid	cates the most o	onfidence		osumate.					
	Type B - indic	cates above ave	rage confidenc	e	*1					
x	Type C - indic	cates below ave	rage confidenc	e						
	· 1he n - tudio	cates the least o	r no confidenc	е						
he following in	dicates the D	epartment's pur	none for 4' '	A.						
ronk Frogram (pdate:	-paranents pur				0				
omments:						opecial	Purpose:	xD	ocs to RW:	
,				_					==	

h j					RTMENT OF N				HDD4.	
FM#:	424501-		Alternate:		SMF-11A	TAT OC	OI COIN		HDR#:	10062698-1-12.19
County:	Pinellas		Segment:		N/A			District: Date:		Seven 4-Jan-19
State Rd.:	N/A		FAP#:		N/A			C.E. Sequence)	N/A
Project Des. Parcels	Gross	om S. of 54th Ave to Net	4th Ave North	Por	nd Sites		I=			
Commercial	0.000	0					Estimated R Business	elocatees:		200
Residential	10	10					Residential		15	
Unimproved	0	0					Signs		0	
Total Parcels	10	10					Special		0	
R/W SUPPORT				-			Total Reloca		21	
1. Direct Lab		(Parcels	10	¥	20,000 =	Rate		Amount 200,000		
2. Indirect Ov	erhead	(Parcels	10	x	0 =			200,000		
3.					-			TOTAL PHASE	41	\$200,000
R/W OPS (PHA	ASE 4B)								Amount	
4. Appraisal	Fees Thro	ough Trial				10	Parcels x	30,000 =		
5. Business 6. Court Rep	Damage C	PA Fees Through T			40 -	0	Claims >		_	
7. Expert Wit		00033 3014613	50% 75%	X	10 =	5 8	Parcels >		-1000	
8. Mediators			75%	x	10 =	8	Parcels x	,		
9. Demolition	n, Asb. Ab	ate., Survey, etc.				15	Imprvmet x	15,000 =	,	
10. Miscellane 11. Appraisal						0	Per Project x		0	
12.	ree Kevie	W				0	Parcels x			
	STC /DUA	SE 42)		_				TOTAL PHASE	4B	\$786,700
R/W LAND CO		SE 43) s & Severance Dama	nne					Amount	Subtotal	
	to Cure A		iges 0	х	4200/	Doct	plan stage =	_		
14. Water Ret			1,953,390	X			wio R/W Acq			
15. SUBTOTA				^	12076 (1	Lines 1		2,344,100	2 244 400	
16. Admin. Se			20%	х	60% o	f Line 15)	•	281,300	2,344,100	
17. Litigation			45%	х		f Line 15)		421,900		
18. Business			0	x	0)		;≡	1541.0		
19. Bus. Dama			25%	X	\$ -)		-	0		
20. Owner Ap			10	X	\$15,000)		1: =	150,000		
21. Owner CP			. 0	X	<u>\$16,000</u>)		=	0		
22. Detend,Att	ty Fees (Sum of Lines 16, 17 & 19)		X	33%_)		* (232,100		
24. Other Con		Comm.+Unimp.)	, 0	+		x <u>18,000</u>		0		
25. SUBTOTA		515	10	X	\$1,000	() !=== 4	=: :::::::::::::::::::::::::::::::::::	10,000	V20224500000	
26.	•		Ÿ.			(Lines 1	6 thru 24)	TOTAL BULLOR	1,095,300	
* Design conti	ingency fo	or design plan stage	:					TOTAL PHASE	: 43	\$3,439,400
(1) PD&	E plans - 1	20% (2) 30% plans	- 115% (3) 60	% p	lans - 110% (4)	90% plan	ns -105% (5)	268 Date -100%		
		SULTANT (PHASE 4	2)							
		int-50% of parcels	\$20,000	х	0			TOTAL PHASE	42	\$0
RELOCATION										
28. Owner	Replace	ment Housing	605.000		Number		Amount			<i>tr</i>
29. Tenant			\$35,000 \$25,000	X	11	=	140,000			
	Move Co	osts	920,000	^		-	275,000			
30. Residentia			\$5,000	x	15	=	75,000			
31. Business/			\$40,000	X	6	=	240,000			
32. Personal F 33. (Lines 28 f			\$3,000	X	0	=	0	1		
34. Relocation		Cost			670.000	201-21-1		TOTAL PHASE	45	\$730,000
35.	00111003	COST		_	\$73,000	(NOT IN	Phase Total)			
36.					(7					
37.							(All Phases)	TOTAL ESTIMA	ATE	\$5,156,100
Real Estate:	Roger D	. Patton	Signed:		POCU	OM	- 4	Date:	01/15/19	\$0,100,100
Bus. Dam. :		. Thompson	Signed:			a.s.	Thomas	Date:	01/15/19	
Relocation:		. Patton	_Signed:		Posto	4		Date:	01/15/19	
IQuarall Davieu		nompson	_Signed:	_		a.g. v	houpon	Date: _	01/15/19	
Overall Review	v. Allieu J									
		#: Dated:		_in	the Amount of S	U		ata Innut Comp	lation Date:	
Cost Estimate REMARKS:	Sequence				the Amount of \$			ata Input Comp	letion Date:	
Cost Estimate	Sequence	#: Dated:	SMF-11A. This						letion Date:	
Cost Estimate	Sequence		SMF-11A. This						letion Date:	
Cost Estimate	Sequence		SMF-11A. This						letion Date:	
Cost Estimate REMARKS:	Sequence	This estimate is for S		is t	he first estimate				letion Date:	
Cost Estimate REMARKS:	Sequence	This estimate is for state of the confidence of	idence in the a confidence	is t	he first estimate				letion Date:	
Cost Estimate REMARKS: The following	indicates (the estimator's confindicates the most	idence in the a confidence erage confiden	is t	he first estimate				letion Date:	
Cost Estimate REMARKS:	indicates (Type A Type B Type C	the estimator's confindicates the most indicates above avoid indicates below avoid indicates and	idence in the a confidence erage confiden erage confiden	is to	he first estimate				letion Date:	
Cost Estimate REMARKS: The following	indicates (Type A Type B Type C	the estimator's confindicates the most	idence in the a confidence erage confiden erage confiden	is to	he first estimate				letion Date:	
Cost Estimate REMARKS: The following i	indicates (_ Type A - Type B - Type C - Type D -	the estimator's confining indicates the most indicates above avoid indicates the least	idence in the a confidence erage confiden erage confiden or no confiden	bove ce ce	he first estimate				letion Date:	
Cost Estimate REMARKS: The following i	indicates (_ Type A - _ Type B - _ Type D - indicates (the estimator's confindicates the most indicates above avoindicates the least the Department's pu	idence in the a confidence erage confiden erage confiden or no confiden	bove ce ce	he first estimate	for this p			Docs to RW:	

		FLORIDA DE						HDR#:	10062698-1-12.19
FM#: County:	424501-1 Pinelias	Alternate:		SMF-11B			District:	T TOP T CO.	Seven
State Rd.:	N/A	Segment: FAP#:		N/A N/A			Date:		4-Jan-19
Project Des.	I-275 From S. of 54th Ave		Por			*	C.E. Sequence	•	N/A
Parcels Commercial	Gross Net					Estimated R	elocatees:	0	
Residential	2 2					Business Residential		9	
Unimproved	0 0					Signs		0	
Total Parcels	5 5					Special Total Reloca	itone	0	
	COSTS (PHASE 41)					Trotal Reloca	Amount	14	
1. Direct Labor 2. Indirect Ove	(1 010010	5	X	20,000 =			100,000		
3.	erhead (Parcels	5	X	0 =	Rate)		0		
R/W OPS (PHAS	SE 4B)						TOTAL PHASE		\$100,000
4. Appraisal F	ees Through Trial				5	Parcels 3	30,000 =	Amount 150,000	
5. Business D 6. Court Repo	Damage CPA Fees Through orter & Process Servers		(24)	120	0		19,000 =	0	
7. Expert Witn	less	<u>50%</u> 75%	X	<u>5</u> = =	3		500 = 30,000 =	.,	
8. Mediators		75%	x	5 =	4	Parcels	•		
Demolition,Miscellaneo	Asb. Abate., Survey, etc.				7	Imprvmet >	15,000 =	-,	
11. Appraisal F	ee Review			•	0	Per Project x	,	0	
12.							TOTAL PHASE		\$386,100
R/W LAND COS							Amount	Subtotal	4000,100
	ovements & Severance Da	_							
	o Cure Amount ntion & Mit. (0 Ponds)	4 720 729	×			plan stage =			
15. SUBTOTAL		1,729,738	X	120% (0	Parcels (Lines 1)	w/o R/W Acq)	2,075,700		
16. Admin. Sett	tlement: (Factor	20%	x	60% o	f Line 15)		249,100	2,075,700	
17. Litigation A		45%	x		f Line 15)		373,600		
18. Business D 19. Bus. Damag	amages (Claims	0	X)		=	0		
	r. Fees (Parcels	<u>25%</u>	X	\$ -)		=			
21. Owner CPA	Fees (Claims	0	X	\$15,000) \$16,000)		-	75,000		
22. Defend.Atty	Fees (Sum of Lines 16, 17 &		x	33%)		_	205,500		
23. Owner Expe	ert Witn (Comm.+Unimp.)	3	+	0):	x <u>18,000</u>	. =	54,000		
25. SUBTOTAL		5	X	\$1,000		=	5,000		
26.					(Lines 1	6 thru 24) =	TOTAL BUAGE	962,200	
* Design contin	gency for design plan sta	ge:					TOTAL PHASE	43	\$3,037,900
(1) PD&E	plans - 120% (2) 30% pla	ns - 115% (3) 60	% pl	ans - 110% (4)	90% plan	s -105% (5)	268 Date -100%		
	ON CONSULTANT (PHASE Consultant-50% of parcels	0.174.7417.174.441		20					
	COSTS (PHASE 45)	\$20,000	Х	0			TOTAL PHASE	42	\$0
	Replacement Housing			Number		Amount			
28. Owner 29. Tenant	_	\$35,000	x	1	=	35,000			
29. Tenant	Move Costs	\$25,000	X	4	=	100,000			
30. Residential		\$5,000	x	5	=	25,000			
31. Business/Fa 32. Personal Pr		\$40,000	X	9	= '	360,000			
33. (Lines 28 th		\$3,000	X		= ,	0	TOTAL BULGE		
34. Relocation				\$52,000	(Not in F	hase Total)	TOTAL PHASE	45	\$520,000
35.					(0.00)	nado rotari			
36. 37.									
Real Estate:	Roger D. Patton	Claused		C-1997//		(All Phases)	TOTAL ESTIMA	TE	\$4,044,000
	Alfred J. Thompson	Signed:Signed:		anou-	, 71	- Marchania	Date:	01/15/19	
Relocation:	Roger D. Patton	Signed:	-	PHON_	· Vho	ypsu	Date: Date:	01/15/19	
Overall Review:	Alfred J. Thompson	Signed:		a.g.	Thom	gra-	Date:	01/15/19	
Cost Estimate S	equence #: Date	d:	In t	he Amount of \$		/	-4-1		
REMARKS:				ne Amount of \$			ata Input Compl	etion Date:	
The following in	This estimate is for between alternate dicates the estimator's co	nfidence in the al	e as	the size and pr	ternate wa operties i	as included ii mpacted are	n the prior estim different.	ate. The comp	arison
	Type A - indicates the mo	st confidence							
×	Type B - indicates above a Type C - indicates below a	average confiden	ce						
	Type D - indicates the leas	st or no confiden	ce ce						
The following in Work Program U Comments:	dicates the Department's pdate:	purpose for this e Gaming 1;	stim	ate:	Special F	ourpose:	×	Docs to RW:	

FM#: County:			TDICT CEL	/EN	DICUT OF V	MAYOR	-			
County:	42450		Alternate:	EN	RIGHT OF V	VAT CC	SIESIIN		HDR#:	10062698-1-12.19
	Pinella	18	Segment:		SMF-11C			District: Date:		Seven 4-Jan-19
State Rd.:	N/A	richarde 💂 o ongradue outstatt.	FAP#:		N/A			C.E. Sequence	•	4-Jan-19 N/A
Project Des. Parcels	I-275 F Gross	rom S. of 54th Ave to Net	4th Ave North	Por	nd Sites			•		1417
Commercial	0						Estimated R	elocatees:		
Residential	0						Business Residential		0	
Unimproved	1	1					Signs		0	
Total Davis							Special		- 0	
Total Parcels	1	1		_			Total Reloca	tees	0	
R/W SUPPORT		(PHASE 41) (Parcels	0.40					Amount		
2. Indirect Ove		(Parcels	1		<u>20,000</u> =	Rate)		20,000		
3.		(•		rate)		TOTAL PHASE	44	
R/W OPS (PHA	SE 4B)							TOTAL PHASE		\$20,000
4. Appraisal F	ees Thr	ough Trial				1	Parcels ;	30,000 =	Amount	
5. Business [amage	CPA Fees Through T	rial			Ö	Claims	,	30,000 0	
7. Expert Witi	orter & P	rocess Servers	50%	X	=	1	Parcels >	500 =	500	12
8. Mediators	1622		75% 75%	X		1	Parcels)		30,000	
9. Demolition	, Asb. A	bate., Survey, etc.	1370	X		1 0	Parcels >	-,	2,400	
10. Miscellane	ous Con	tracts				ő	Per Project x		0	
11. Appraisal F	ee Revi	ew				0	Parcels x		ő	
12.								TOTAL PHASE	4B	\$62,900
R/W LAND COS	TS (PH	ASE 43)						Amount	Subtotal	
		s & Severance Dama	-							
and Cost t			0	X			plan stage =			
14. Water Rete	ntion &	Mit. (0 Ponds)	294,030	X	120% (0	Parcels 1	w/o R/W Acq)	352,800		
15. SUBTOTAL 16. Admin. Set	. (37,648 tlementi	(Factor	•••			(Lines 1			352,800	
17. Litigation A	warde	(Factor	0%	X		Line 15)				
18. Business D	amages	(Claims	. 0%	X	N/I	Line 15)				
19. Bus. Dama	ges Incr	(Factor	25%	X	\$ -)		=			
20. Owner App	r. Fees	(Parcels	1	x	\$15,000)			15,000		
21. Owner CPA			0	x	\$16,000)		78			
22. Defend.Atty	/ Fees	(Sum of Lines 16, 17 & 19)	0	x	33%)		:=			
23. Owner Exp	ert W itn	(Comm.+Unimp.)	0	+	1):	18,000	=	100000000000000000000000000000000000000		
	lemn. Co	osts		X	64.000	_				
24. Other Cond				^	\$1,000		=	1,000		
24. Other Cond 25. SUBTOTAL				^	\$1,000	(Lines 1	6 thru 24) =		34,000	
24. Other Cond 25. SUBTOTAL 26.	•	or design plan stago		•	\$1,000	(Lines 1	6 thru 24) =			\$386,800
24. Other Cond 25. SUBTOTAL 26. * Design contin	ngency f	or design plan stage: 120% (2) 30% plans					6 thru 24) =	TOTAL PHASE		\$386,800
24. Other Cond 25. SUBTOTAL 26. * Design contin (1) PD&E	ngency f plans -	120% (2) 30% plans	- 115% (3) 60				6 thru 24) =	TOTAL PHASE		\$386,800
24. Other Cond 25. SUBTOTAL 26. * Design contin (1) PD&E R/W ACQUISITI	ngency f plans -	or design plan stage: 120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels	- 115% (3) 60				6 thru 24) =	TOTAL PHASE 268 Date -100%	43	
24. Other Cond 25. SUBTOTAL 26. * Design contin (1) PD&E R/W ACQUISITI	ngency f i plans - ON CON I Consult	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels	- 115% (3) 60 2)	% pl	ans - 110% (4)		6 thru 24) =	TOTAL PHASE	43	\$386,800 \$0
24. Other Cond 25. SUBTOTAL 26. * Design contin (1) PD&E R/W ACQUISITI 27. Acquisition RELOCATION C	ngency f plans - ON CON Consult	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels	- 115% (3) 60 2) \$20,000	% pl	ans - 110% (4)		6 thru 24) =	TOTAL PHASE 268 Date -100%	43	
24. Other Cond 25. SUBTOTAL 26. * Design contin (1) PD&E R/W ACQUISITI 27. Acquisition RELOCATION C 28. Owner	ngency f plans - ON CON Consult	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45)	- 115% (3) 60 2) \$20,000 \$35,000)% <i>pl</i> x	0 Number 0		6 thru 24) = s -105% (5) 2 Amount 0	TOTAL PHASE 268 Date -100%	43	
24. Other Cond 25. SUBTOTAL 26. * Design contin (1) PD&E R/W ACQUISITI 27. Acquisition RELOCATION C	ngency f plans - ON CON Consult COSTS (I Replac	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	- 115% (3) 60 2) \$20,000)% <i>pl</i>	ans - 110% (4)		6 thru 24) = s -105% (5) ; Amount	TOTAL PHASE 268 Date -100%	43	
24. Other Cond 25. SUBTOTAL 26. * Design contin (1) PD&E R/W ACQUISITI 27. Acquisition RELOCATION C 28. Owner 29. Tenant 30. Residential	ngency f plans - ON CON Consult COSTS (I Replac	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	\$20,000 \$20,000 \$35,000 \$25,000	x x x	0 Number 0		6 thru 24) = s -105% (5) 2 Amount 0	TOTAL PHASE 268 Date -100%	43	
24. Other Cond 25. SUBTOTAL 26. * Design contin (1) PD&E R/W ACQUISITI 27. Acquisition RELOCATION C 28. Owner 29. Tenant 30. Residential 31. Business/F	ngency f plans - ON CON Consult COSTS (I Replace Move Co	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	- 115% (3) 60 2) \$20,000 \$35,000	x x x	0 Number 0		6 thru 24) = s -105% (5) 2 Amount 0	TOTAL PHASE 268 Date -100%	43	
24. Other Cond 25. SUBTOTAL 26. * Design contin (1) PD&E R/W ACQUISITI 27. Acquisition RELOCATION C 28. Owner 29. Tenant 30. Residential 31. Business/F 32. Personal Pr	ngency f plans - ON CON Consult COSTS (I Replace Move Co	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	\$20,000 \$20,000 \$35,000 \$25,000	2% <i>pl</i> x x x x	0 Number 0 0		6 thru 24) = s -105% (5) 2 Amount 0 0	TOTAL PHASE 268 Date -100%	43	
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24. Other Cond 25. SUBTOTAL 26. * Design contin (1) PD&E R/W ACQUISITI 27. Acquisition RELOCATION C 28. Owner 29. Tenant 30. Residential 31. Business/F 32. Personal Pl 33. (Lines 28 th 34. Relocation 35. 36.	ngency f plans - ON CON Consult COSTS (I Replac Move C arm roperty iru 32) Services	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	\$20,000 \$20,000 \$35,000 \$25,000 \$40,000 \$3,000	x x x x x	0 Number 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	90% plan:	Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TOTAL PHASE TOTAL PHASE TOTAL PHASE	43 42 45	\$0
24. Other Cond 25. SUBTOTAL 26. * Design contin (1) PD&E R/W ACQUISITI 27. Acquisition RELOCATION C 28. Owner 29. Tenant 30. Residential 31. Business/F 32. Personal Pi 33. (Lines 28 th 34. Relocation 35. 36. 37. Real Estate: Bus. Dam.:	ngency f i plans - ON CON CONSUN COSTS (I Replace Move Co arm roperty iru 32) Services	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing costs	\$20,000 \$20,000 \$35,000 \$25,000 \$40,000 \$3,000 \$3,000	x x x x x	0 Number 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	90% plan:	Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TOTAL PHASE TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date:	43 42 45 TE 01/15/19	\$0
24. Other Cond 25. SUBTOTAL 26. * Design contin (1) PD&E R/W ACQUISITI 27. Acquisition RELOCATION C 28. Owner 29. Tenant 30. Residential 31. Business/F 32. Personal Pl 33. (Lines 28 th 34. Relocation 35. 36. 37. Real Estate: Bus. Dam.: Relocation:	ngency f plans - ON CON Consult COSTS (I Replace Move C arm roperty ru 32) Services Roger I Alfred . Roger I	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing costs Cost D. Patton D. Patton D. Patton D. Patton	\$20,000 \$20,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000	x x x x x x	0 Number 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	90% plan:	Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TOTAL PHASE TOTAL PHASE TOTAL PHASE	42 45 TE 01/15/19 01/15/19	\$0
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24. Other Cond 25. SUBTOTAL 26. * Design contin (1) PD&E R/W ACQUISITI 27. Acquisition RELOCATION C 28. Owner 29. Tenant 30. Residential 31. Business/F 32. Personal Pr 33. (Lines 28 th 34. Relocation 35. 36. 37. Real Estate: Bus. Dam. ; Relocation: Overall Review: Cost Estimate S REMARKS:	Roger I Alfred . Requence	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing costs Cost D. Patton D. Thompson D. Patton D. Thompson D. Patton D. Thompson D.	\$35,000 \$20,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$1,000 \$3,000	x x x x x x ln t	Number 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	90% plan	6 thru 24) = s -105% (5) 2 Amount 0 0 0 0 0 Phase Total) (All Phases)	TOTAL PHASE TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date: Date: Date: Date: Date: Date: Date: Date: Date:	42 45 TE 01/15/19 01/15/19 01/15/19 01/15/19 etion Date:	\$0
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24. Other Cond 25. SUBTOTAL 26. * Design contin (1) PD&E R/W ACQUISITI 27. Acquisition RELOCATION C 28. Owner 29. Tenant 30. Residential 31. Business/F 32. Personal Pi 33. (Lines 28 th 34. Relocation 35. 36. 37. Real Estate: Bus. Dam. : Relocation: Overall Review: Cost Estimate S REMARKS:	mgency find plans - ON CON CONSTS (In Replace Move Co arm roperty iru 32) Services Roger I Alfred . Requence dicates Type A Type B Type C	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing costs Cost D. Patton D. Thompson D. Patton D. Thompson D. Patton D. Thompson	\$20,000 \$25,000 \$25,000 \$5,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$40,000 \$3,00	x x x x x x x x x x x x x x x x x x x	Number 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	90% plan	6 thru 24) = s -105% (5) 2 Amount 0 0 0 0 0 Phase Total) (All Phases)	TOTAL PHASE TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date: Date: Date: Date: Date: Date: Date: Date: Date:	42 45 TE 01/15/19 01/15/19 01/15/19 01/15/19 etion Date:	\$0
24. Other Cond 25. SUBTOTAL 26. * Design contin (1) PD&E R/W ACQUISITI 27. Acquisition RELOCATION C 28. Owner 29. Tenant 30. Residential 31. Business/F 32. Personal Pi 33. (Lines 28 th 34. Relocation 35. 36. 37. Real Estate: Bus. Dam. : Relocation: Overall Review: Cost Estimate S REMARKS:	mgency find plans - ON CON CONSTS (In Replace Move Co arm roperty iru 32) Services Roger I Alfred . Requence dicates Type A Type B Type C	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing costs Cost D. Patton D. Thompson D	\$20,000 \$25,000 \$25,000 \$5,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$40,000 \$3,00	x x x x x x x x x x x x x x x x x x x	Number 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	90% plan	6 thru 24) = s -105% (5) 2 Amount 0 0 0 0 0 Phase Total) (All Phases)	TOTAL PHASE TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date: Date: Date: Date: Date: Date: Date: Date: Date:	42 45 TE 01/15/19 01/15/19 01/15/19 01/15/19 etion Date:	\$0
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24. Other Cond 25. SUBTOTAL 26. * Design contin (1) PD&E R/W ACQUISITI 27. Acquisition RELOCATION C 28. Owner 29. Tenant 30. Residential 31. Business/F 32. Personal Pi 33. (Lines 28 th 34. Relocation 35. 36. 37. Real Estate: Bus. Dam. : Relocation: Overall Review: Cost Estimate S REMARKS: The following in	mgency find plans - ON CON Consult COSTS (In Replace Move Consult arm roperty Iru 32) Services Roger In Alfred In Alfred In Roger In Ro	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing costs Cost D. Patton D. Thompson D. Indicates the most of indicates the most of indicates the least of the Department's pur the Department the Department the Department's pur the Department	\$20,000 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 Signed: Signed: Signed: Signed: Signed: Office in the alconfidence arrage confidence ar	x x x x x x x x x x x x x x x x x x x	Number 0 0 Number 0 0 \$0 \$0 \$0 Philips he Amount of \$ roposed as a per estimate:	90% plans = = = (Not in P	6 thru 24) = s -105% (5) 2 Amount 0 0 0 0 0 Phase Total) (All Phases)	TOTAL PHASE TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date: Date: Date: Date: Date: Date: Date: Date: Date:	42 45 TE 01/15/19 01/15/19 01/15/19 01/15/19 etion Date:	\$0

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FM#:	424501	-1	Alternate:		SMF-12A			District:	IIDIAN.	10062698-1-12.19 Seven
County:	Pinella	s	Segment:		N/A		1	Date:		Seven 4-Jan-19
State Rd.: Project Des.	N/A	C of Eddb Ave to	FAP#:		N/A			C.E. Sequence	ū	N/A
Parcels	Gross	rom S. of 54th Ave to Net	Ath Ave Noru	Po	nd Sites		Estimated R	-lacatean.		
Commercial	1	1					Business	elocalees;	0	
Residential	0	0					Residential			
Unimproved	1	1					Signs		0	
Total Parcels	2	2					Special		1	
R/W SUPPORT							Total Reloca		1	
1. Direct Labo		(Parcels	2	x	20,000 =	Rate		Amount		
2. Indirect Ov		(Parcels	2	x	0 =	,		40,000		
3.						, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		TOTAL PHASE	41	\$40,000
R/W OPS (PHA									Amount	\$40,000
4. Appraisal	Fees Thre	ough Trial				2	Parcels :	x 30,000 =	60,000	
6. Court Ren	Damage (CPA Fees Through T rocess Servers			•	1		k 19,000 =	19,000	
7. Expert Wit	ness	100693 3614612	<u>50%</u> 75%		=	2		x 500 =	500	
8. Mediators			75%		2 =	2		x 30,000 = x 2,400 =	60,000 4,800	
9. Demolition	ı, Asb. At	pate., Survey, etc.				1	Imprvmet		15,000	
10. Miscellane 11. Appraisal l			12			0	Per Project)	15,000 =	0	
12.	Lee vêvie	ew				0	Parcels >		0	
	2TO (DIL							TOTAL PHASE	4B	\$159,300
R/W LAND COS								Amount	Subtotal	
and Cost t		s & Severance Dama	•		4000					
14. Water Rete			439,844	X			plan stage =			
15. SUBTOTAL	L (87.120	SF)	439,044	X	120% (w/o R/W Acq	527,800		
16. Admin. Set	ttlement	(Factor	20%	¥	60% 0	Lines 1) (Line 15)			527,800	
17. Litigation			45%			f Line 15)		= <u>63,300</u> = 95 ,000		
18. Business [1	X	0)		=	STATESTAN		
19. Bus. Dama			25%	x	\$1,200,000)			300,000		
20. Owner App	or. Fees	(Parcels	2	X	\$15,000)		=	30,000		
21. Owner CP/			1	X	\$16,000)			16,000		
22. Detend.Att	y rees	(Sum of Lines 16, 17 & 19)			33%_)		=	151,200		
24. Other Cond	domp Co	(Comm.+Unimp.)		+		x <u>18,000</u>	-	36,000		
25. SUBTOTAL		25.5	2	X	\$1,000	// inco 4	C 45 0.43		re ceremon monern	
26.	_					(Lines 1	6 thru 24) =	(1,893,500	
* Design conti	ngency f	or design plan stage	ø					TOTAL PHASE	43	\$2,421,300
(1) PD&E	E plans -	120% (2) 30% plans	- 115% (3) 60	% p	lans - 110% (4)	90% plan	is -105% (5)	268 Date -100%		
R/W ACQUISIT	ION CON	SULTANT (PHASE 4	2)							
		ant-50% of parcels	\$20,000	Х	- 0			TOTAL PHASE	42	\$0
RELOCATION										
28. Owner	Replace	ement Housing	635,000	Ų.	Number	_	Amount			
29. Tenant			\$35,000 \$25,000		<u>_</u>	=	0			
	. Move C	osts	400,000	^		_				
30. Residentia			\$5,000	x	0	=	0			
31. Business/F		Daniel 4 + 600 000	\$40,000	X	0	=	0			
33. (Lines 28 t	roperty (i bru 32)	Parcel 1 + \$30,000)	\$3,000	X	1	=	33,000			
34. Relocation		Cost			\$3,300	/Matin F	T-4-11	TOTAL PHASE	45	\$33,000
35.					\$3,300	(NOT IN I	Phase Total)			
36.										
37.							(All Phases)	TOTAL ESTIMA	TE	\$2,653,600
Real Estate:). Patton	Signed:	P	Pation			Date:	01/15/19	42,000,000
Bus, Dam, :		. Thompson	Signed:	-	a.	J. Th	magne	Date:	01/15/19	
Relocation: Overall Review	Roger E). Patton	Signed:	H	arou_			Date:	01/15/19	
O TOTALI I TO TIEW	. Allieu J	. I nompson	Signed:	-	a.	. Yh	men	Date:	01/15/19	
Cost Estimate	Sequence	e#: Dated:		In	the Amount of \$		/	ata Input Compl	otion Dete	
REMARKS:				-				ata input Compi	etion Date:	-05-9
										8
		This estimate is for S	SMF-12A. This	s is t	the first cost est	imate we	have perform	ed for this alter	nate.	
	4	An access easement	from 13th Ave	enue	N will be requir	ed to acc	ess this site a	and is not includ	ed in the total	cost.
	1	It is recommended the	nat the enginee	er co	nsider shifting t	hie nand	onto Borost S			
		easement. A potenti	al cost savings	of	\$2.095.100 is es	nıs pona timated w	Onto Parcel 2 hen shifting (!, a vacant tract \ the entire pond s	with an existing	g access
							men simang	ine entire pong s	site onto Parce	1 2.
The following in	ndicates	the estimator's confi	dence in the a	bove	estimate:					
	Type A	- indicates the most	confidence							
x	Type B	- indicates above ave - indicates below ave	erage confiden	ce						
	Type D	- indicates below ave - indicates the least (eraye confiden or no confiden	ce					-	
			vviiilueii	-6						
The following in	ndicates	the Department's pu	rpose for this 4	stin	nate:					
Work Program	Update:		Gaming 1:			Special	Purpose:	x	Docs to RW:	
Comments:										

			LORIDA DE								
		DIS	STRICT SEV	EN)FW	AY CC	OST ESTIN	AATE	HDR#:	10062698-1-12.19
FM#: County:	424501-1 Pinellas		Alternate:		SMF-12B				District:		Seven
State Rd.:	Pinelias N/A		Segment: FAP#:		N/A N/A				Date:		4-Jan-19
Project Des.		S. of 54th Ave to		Por					C.E. Sequenc	:•	N/A
Parcels Commercial	Gross Ne	et						Estimated R	telocatees:		
Residential	5	5					7	Business		4	
Unimproved	0	0					/	Residential Signs		0	
Exposure _)'	Special		0	
Total Parcels	5	5						Total Reloca	atees	5	#
R/W SUPPORT								Mar A. Mar Commis	Amount		
1. Direct Labo 2. Indirect Over		(Parcels	5		20,00		Rate)	,	100,000		
3.	emeau	(Parcels	5	X	-	0 =	Rate)	F	O TOTAL DUAG		
R/W OPS (PHA	CE AR)								TOTAL PHAS		\$100,000
4. Appraisal l	Fees Through	Trial					5	Darrade	20,000	Amount	
5. Business [Damage CPA F	Fees Through To	rial				5 0		x 30,000 = x 19,000 =	,	
6. Court Repo	orter & Proces	s Servers	50%	x	5	=	3		X 19,000 = X 500 =	_	
7. Expert Witi	ness		75%	x	5		4		x 30,000 =	-,	
8. Mediators 9. Demolition	* - L Aboto		75%	x	5	=	4	Parcels x	x 2,400 =	= 9,600	
9. Demolition 10. Miscellane	n, Asb. Abate., eous Contracts	Survey, etc.			_	_	8	Imprvmet x	x 15,000 =	= 120,000	
11. Appraisal F		i					0	Per Project x			
12.	66 1151						U	Parcels x	TOTAL PHAS		2121 100
R/W LAND COS	ETE (PHASE 4	191		_		_			TOTAL PHAS		\$401,100
13. Land, Impr	rovements & \$	is) Severance Dama	2006						Amount	Subtotal	
	to Cure Amou		ages 0	x	120	-0/_ ±	Poeian	plan stage =	0		
14. Water Rete	ention & Mit. (0		2,112,276	· X				plan stage = w/o R/W Acq)			
15. SUBTOTAL	L (83,648 SF)		<u></u>	^	184		(Lines 1		2,534,700	2 524 700	
16. Admin. Set	ttlement: (Fact		20%	х	60		(Lines 1 Line 15)		~ 204 200	2,534,700	
17. Litigation #	Awards (Fact	tor	45%	×			Line 15)	•	= <u>304,200</u> = 456,200		
18. Business D	Damages (Clair	ms	0	×		0)	LIII0,	ī	= <u>456,200</u> = 0		
19. Bus. Dama	ages Incr (Fact	tor	25%	x	\$ -			7	= 0		
20. Owner App	pr. Fees (Parc	els	5	X	\$15,00	00)		,	= 75,000		
21. Owner CPA	A Fees (Clair	ms	0	X	\$16,00			=	= 75,000		
22. Defend.Att	y Fees (Sum o	of Lines 16, 17 & 19)	760,400	X		(%)		7	= 250,900		
23. Owner Exp	ert Witn (Com	ım.+Unimp.)	5	+		-	18,000	<i>,</i>	= 90,000		
24. Other Cond			5	X	\$1,00			-	= 5,000		
25. SUBTOTAL	-				-	_	(Lines 1	16 thru 24) =		1,181,300	
26. * Design conti	for de								TOTAL PHAS		\$3,716,000
	ngency for us. Finlans - 120%	esign plan stage: ¼ (2) 30% plans	445% (3) 60	10/ n	440%	990.7	and alor	1000/ /5)			
DAM ACCURRENT	. hiero	(4) 50/0 pi=	-110/0 (0) 00.	70 pm	ans - 110/0	(4)	0% pian	S-105% (3)	268 Date -1007	ò	
R/W Acquisition	ON CUNSUL	TANT (PHASE 42					-				
27. Acquisition			\$20,000	х		0			TOTAL PHASE	E 42	\$0
RELOCATION		•			Manage			- management			
28. Owner	Replacemen	t Housing	\$35,000	¥	Numbe	∌r ^	_	Amount			
29. Tenant			<u>\$35,000</u> \$25,000	X X		0	= 5	0			
	Move Costs		440,000	^		U	- 9				
30. Residential	ıl		\$5,000	x	H-12	0	= ,	0			
31. Business/F			\$40,000	x		4	= 2	160,000			
32. Personal P			\$3,000	x		1	=]	3,000			
33. (Lines 28 th 34. Relocation					*40.0	- 100 A	recepting.		TOTAL PHASE	E 45	\$163,000
35. Relocation	Services out	t			\$16,30	0	(Not in I	Phase Total)			
35. 36.						9					
37.								(All Phases)	TOTAL ESTIN	1170	24 220 400
Real Estate:	Roger D. Pat	tton	Signed:	7	COTOL	_	_	(All Pilases)			\$4,380,100
Bus. Dam.	Alfred J. Tho		_Signed: _Signed:	-	Culum	-1	1.71		Date:	01/15/19	
Relocation:	Roger D. Pat	tton	_Signed: _	P	COURN	-	Y. VA	my	_ Date: _ Date:	01/15/19 01/15/19	
Overall Review			_Signed: _		100	a.9	. Th	Lusa	_ Date: _ Date: _	01/15/19	
						0		-		VIII IV.	
Cost Estimate S	Sequence #:	Dated:		<u>In t</u>	the Amount	of \$		D	Data Input Com	pletion Date:	
REMARKS:											
	This	antimate is for!	ond is	4he	" :=4 coot o	**	- hr	·*			
	1100	estimate is for S	jMr-1∠D anu is	the	first cost ea	stima:	te we na	ve pertormed	d for this alterna	ate.	
	The r	parcels are all in	nproved comm	erci	al lots.						
			· -	•.	4						
The fallenting is	** -4 44										
The following in	ndicates the e	estimator's confi	dence in the at	ove	estimate:			1			
	Type A - mar	icates the most of icates above ave	confidence								
×	Type C - indi	icates above ave icates below ave	<i>≯rage</i> confiden	ce							
	Type D - indi	icates the least of	or no confiden	ce :e							
The following in	ndicates the D	epartment's pu	rpose for this e	stim	nate:						
Work Brogram	Undate:		Gaming 1:		,	,	Special (Purpose:	x	Docs to RW:	
Work Program I Comments:	opuuto	$\overline{}$	Ç	$\overline{}$	$\overline{}$	-					

		DISTRICT SE		RTMENT OF				1100#	
FM#:	424501-1	Alternate:		SMF-12C	MATC	JOI EOIN	District:	HDR#:	10062698-1-12.19
County: State Rd.:	Pinelias	Segment:		N/A			Date:		Seven 4-Jan-19
Project Des.	N/A I-275 From S. of 54t	FAP#: h Ave to 4th Ave Nort	h Da	N/A			C.E. Sequence	•	N/A
Parcels	Gross Net	AVE TO THE AVE NOT	11 10	ilu Sites		Estimated R	Pelocateos:		
Commercial Residential	0 0					Business	. GIOCELOGO.	_ 5	
Unimproved	12 12 0 0					Residential		12	
						Signs Special		0	
Total Parcels	12 12					Total Reloca	atees	<u>0</u>	
R/W SUPPORT	COSTS (PHASE 41)						Amount		
Direct Labo Indirect Ov	1, 410		2 x				240,000		
3.	eriioau (Faice	els12	X	=	= Rate)		0		
R/W OPS (PHA	SE 4B)				_		TOTAL PHASE		\$240,00
4. Appraisal	Fees Through Trial				12	Parcels	× 30,000 =	Amount 360,000	
5. Business	Damage CPA Fees Th	-			0		× 19,000 =	,	
6. Court Repart Wit	orter & Process Serve	ers <u>50%</u>		12	- 6		x 500 =	-,	
8. Mediators		75%		12 =	: 9 : 9		x 30,000 =	,	
9. Demolition	, Asb. Abate., Survey	, etc.	2: "	· · · · · · · · · · · · · · · · · · ·	12	Imprymet	x 2,400 = x 15,000 =	,	
10. Miscellane 11. Appraisal l	ous Contracts				0	Per Project		,	
12.	ree keview				0	Parcels 2	5,000 =		
	STS (PHASE 43)		-	V=/			TOTAL PHASE	4B	\$834,60
	ovements & Severan	re Damagoe					Amount	Subtotal	
	to Cure Amount	ce Damages 0	×	420%	* Doolan	nlan atama	_		
	ention & Mit. (0 Ponds) 1,798,813	→			<i>plan stag</i> e = wlo R/W Acq			
15. SUBTOTA	L (95,832 SF)		- ^	12070	Lines 1	•	2,158,600	0.459.000	
16. Admin. Set	ttlement: (Factor	20%	х	60% c	of Line 15)		= 259,000	2,158,600	
17. Litigation	Awards (Factor	45%	X		of Line 15)		= 388,500		
	Damages (Claims	0	-	0)	Ī		- 0		
	ges Incr (Factor	25%	-	\$)			=0		
21. Owner App	or. Fees (Parcels A Fees (Claims	12	-	<u>\$15,000</u>)		=	180,000		
	y Fees (Claims y Fees (Sum of Lines 10	0	_	\$16,000)		-	0		
23. Owner Exp	ert W itn (Comm.+Uni	6, 17 & 19) <u>647,500</u> mp.) 0	-	33%_)	w 40 000	15	213,700		
24. Other Con	demn. Costs	12	-	\$1,000	x 18,000		12,000		
25. SUBTOTAI	-		4	41,000	(Lines 1	6 thru 24) =	= <u>12,000</u> =	1,053,200	
26.					5		TOTAL PHASE	43	\$3,211,800
* Design conti	ngency for design pla	n stage:	200						40,211,000
PAN ACQUIET	Eplans - 120% (2) 30	% plans - 115% (3) 6	0% p	lans - 110% (4)	90% plan	s -105% (5)	268 Date -100%		
	Consultant-50% of pa			0					
	COSTS (PHASE 45)	TCEIS \$20,000	Х	0	_		TOTAL PHASE	42	\$(
	Replacement Housi	na		Number		Amount			
28. Owner	•	\$35,000		7	=	245,000			
29. Tenant	M 0 . 4	\$25,000	х	5	=	125,000			
30. Residentia	Move Costs	\$5,000	~	40	_				
31. Business/F	arm	<u>\$5,000</u> \$40,000	_		=	200,000			
32. Personal P		\$3,000		0	=	0			
33. (Lines 28 t							TOTAL PHASE	45	\$630,000
	Services Cost			\$63,000	(Not in F	Phase Total)			4000,000
35. 36.									
37.						/A!! D!			
Real Estate:	Roger D. Patton	Signed:		1-35		(All Phases)	TOTAL ESTIMA		\$4,916,400
Bus. Dam. :	Alfred J. Thompson			10	jeun		_ Date: _	01/15/19	
Relocation:	Roger D. Patton	Signed:		7.1		In_	_ Date: Date:	01/15/19	
Overall Review	: Alfred J. Thompson	Signed:		a.g. 7	homps	-	Date:	01/15/19	
Cost Estimate	Sequence #:	Dated:	There	0	1	12	200000000000000000000000000000000000000	2009/ ARE TO	
REMARKS:	ocquence w.	Dateu.	ın	the Amount of \$	8		Data Input Comp	letion Date:	
	This estimate	e is for SMF-12C. Thi	is is '	the first cost est	imate we	have perform	and for this alton	nato	
						ролон	iou ioi tilis ulter	nate.	
	The parcels a	are all improved resid	entia	il lots.					
The following in	ndicates the estimato	r's confidence in the a	yode	e estimate:					
	Type A - indicates th	e most confidence							
X	_i ype B - indicates al	oove average confide elow average confide	nce						
	Type D - indicates th	elow average confide le least or no confidel	ice ice						
The following in	ndicates the Departme	ent's purpose for this	estir	nate:					·
work Program	Update:	Gaming 1:			Special	Purpose:	X	Docs to RW:	
Comments:								8	

				/EN	RTMENT OF VI	NAV CC		AATE	I IPANA.	
FM#:	424501-1		Alternate:		SMF-13A	MIGG	JSI ESTIM	District:	HDR#:	10062698-1-12.19
County:	Pinellas		Segment:		N/A			District:		Seven 4-Jan-19
State Rd.; Project Des.	N/A I-275 From	n S. of 54th Ave to	FAP#:	- 00	N/A			C.E. Sequence	i	N/A
Parcels	Gross N	Net	401 AVE NOTO	Poi	id Sites		Estimated R	elocatoge:		
Commercial	0	0					Business	SIVUELUNG.	0	
Residential Unimproved	6	6 0				V	Residential		6	
Ommpio.						//	Signs Special		0	
Total Parcels	6"	6					Total Reloca	itees	0	
R/W SUPPORT	COSTS (PH	•						Amount		
Direct Labo Indirect Ov		(Parcels	6	X	20,000 =	,	•	120,000		
3.	erneau	(Parcels	6	X	=	Rate))	0		
R/W OPS (PHA	ASE 4B)			_				TOTAL PHASE		\$120,000
4. Appraisal	Fees Throug	ih Trial				6	Parcels x	30,000 =	Amount	
5. Business	Damage CPA	A Fees Through Tr				0		x 30,000 = x 19,000 =	180,000 0	
6. Court Report Wit	orter & Proce	ess Servers	50%		6=	3		K 500 =	1,500	
8. Mediators			75% 75%	X	6 =	•	Parcels x		150,000	
9. Demolition	n, Asb. Abate	e., Survey, etc.	10/6	x	=	5 8	Parcels x	-,	12,000	
10. Miscellane	eous Contrac	ts				_	Per Project x		120,000	
11. Appraisal I	Fee Review					0	Parcels x	-	0	
12.								TOTAL PHASE		\$463,500
R/W LAND CO									Subtotal	
13. Land, Impr	rovements &	Severance Dama	-					n &		
	to Cure Amo		025.005	X			plan stage =			
14. Water Rete 15. SUBTOTAL	ention or wit.	(0 Ponds)	935,965	X	120%_(0		w/o R/W Acq)	1,123,200		
16. Admin. Set	L (50,020 Cr.))	20%	.,	600/-0	(Lines 1	,		1,123,200	
17. Litigation	Awards (Fa	etor	20% 45%	: X X		f Line 15) f Line 15)		134,800		
18. Business [Damages (Cla	aims	45%	X	40% of	f Line 15)	=			
19. Bus. Dama	ages Incr (Fa	ctor	25%		\$ -)		-	- 0		
20. Owner App	рт. Fees (Ра	rcels	6	X	\$15,000)		=	90,000		
21. Owner CP/			0	×	\$16,000)		=	90,000		
22. Defend.Att	y Fees (Sun	m of Lines 16, 17 & 19)		X	33%)		=	111,200		
23. Owner Exp	pert Witn (Co	mm.+Unimp.)	0	+		x 18,000	=	0		
24. Other Cond 25. SUBTOTAL			6	X	\$1,000		=	6,000		
26. SUBTUTAL	L					(Lines 1	6 thru 24) =		544,200	
* Design conti	inaency for c	design plan stage:						TOTAL PHASE	43	\$1,667,400
(1) PD&E	E plans - 120	% (2) 30% plans	- 115% (3) 609	1% pl	lans - 110% (4)	90% plan	s -105% (5)	268 Date -100%		
R/W ACQUISIT	TION CONSUL	LTANT (PHASE 42	2)					100 24.9		
27. Acquisition	n Consultant-	-50% of parcels	\$20,000	x	0			TOTAL PHASE	42	\$0
RELOCATION	COSTS (PHA	ASE 45)						TO TALL	44	
200		ent Housing	and a second		Number		Amount	-		
28. Owner 29. Tenant			\$35,000	X	6	=	210,000			
AU. I Ottom	Move Cost	···	\$25,000	X	0	= .	0			
30. Residentia	al	•	\$5,000	x	6	=	30,000			
31. Business/F			\$40,000	x		= 1	0			
32. Personal P		, in the second second	\$3,000	x	0	=	0			
33. (Lines 28 ti 34. Relocation						**** 85 . 19	AUG. (A)	TOTAL PHASE	45	\$240,000
 Relocation 35. 	Services Co	st			\$24,000	(Not in P	Phase Total)			
35. 36.										
37.						-	(All Phases)	TOTAL ESTIMA	TP	22 400 000
Real Estate:	Roger D. Pa	atton	Signed:		100	SHEW.	(All Fileses)	Date:		\$2,490,900
Bus. Dam.':	Alfred J. Th	hompson	Signed:		a.y. 72	my	~	_ Date:	01/15/19	
Relocation: Overall Review	Roger D. Pa		Signed:		HIC	PAUCH		Date:	01/15/19	
Overall Review	: Altrea J. II	ıompson	Signed:		a.g. Th	impe	~	Date:	01/15/19	
r II		Dated:		In f	the Amount of \$	/	D	Compl		
	Sequence #:			- like	He Millouit of t			ata Input Comple	etion Date:	
	Sequence #:									
		s estimate is for S	MF-13A. This	is t	he first cost est	imate we	have perform	ned for this altern	nate.	
		s estimate is for S	MF-13A. This	s is 1	the first cost est	imate we	have perform	ned for this alter	nate.	
	This					imate we	have perforn	ned for this alter	nate.	
	This	s estimate is for S e parcels are all im				imate we	have perforn	ned for this alter	n ate .	
	This					imate we	have perforn	ned for this alter	n ate .	
REMARKS:	This	e parcels are all im	nproved reside	ential	l lots.	imate we	have perforn	ned for this alter	nate.	
REMARKS:	This The Indicates the	e parcels are all im	nproved resider	ential	l lots.	imate we	have perforn	ned for this alter	nate.	
REMARKS:	This The Indicates the Type A - inc	e parcels are all im estimator's confic dicates the most o	nproved resider dence in the ab	ential bove	l lots.	timate we	have perforn	ned for this alter	nate.	
REMARKS:	This The Indicates the Type A - inc Type B - inc Type C - inc	e parcels are all im estimator's confic dicates the most of dicates above ave dicates below ave	nproved resident dence in the ab confidence erage confidence erage confidence	ential bove ce ce	l lots.	timate we	have perforn	ned for this alter	nate.	
REMARKS:	This The Indicates the Type A - inc Type B - inc Type C - inc	e parcels are all im estimator's confic dicates the most o	nproved resident dence in the ab confidence erage confidence erage confidence	ential bove ce ce	l lots.	timate we	have perforn	ned for this alter	nate.	
REMARKS: The following in	This The Indicates the Type A - ind Type B - ind Type C - ind Type D - ind	e parcels are all im estimator's confic dicates the most of dicates above ave dicates below ave dicates the least o	nproved resident dence in the ab confidence erage confidence erage confidence or no confidence	bove ce ce	l lots. e estimate:	timate we	have perforn	ned for this alter	nate.	
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x The following in	This The Indicates the Type A - inc Type B - inc Type C - inc Type D - inc	e parcels are all im estimator's confic dicates the most of dicates above ave dicates below ave dicates the least of Department's pur	nproved resident dence in the ab confidence erage confidence erage confidence or no confidence	bove ce ce	l lots. e estimate: nate:		have perform		nate.	

		DIS	STRICT SEV	/FN	RIGHT OF	WAY CO	OST ESTIM	LATE	UDD4.	
FM#:	424501-1		Alternate:		SMF-13B	WAT CO	OGT EGTIN	District:	HDR#:	10062698-1-12.19
County:	Pinellas	ER 19	Segment:		N/A			Date:		Seven 4-Jan-19
State Rd.:	N/A	AT	FAP#:		N/A			C.E. Sequence	•	N/A
Project Des. Parcels		m S. of 54th Ave to	4th Ave North	Pon	d Sites		_	•		
Commercial	Gross 0	Net					Estimated R	elocatees:		
Residential	3	3					Business Residential		2	
Unimproved	0	0					Signs		- 4	
e 11645							Special			
Total Parcels	3	3					Total Reloca	itees	6	
R/W SUPPORT		•					and the second	Amount		
1. Direct Labo		(Parcels	3	X	20,000 =			60,000		
2. Indirect Ov	erhead	(Parcels	3	X		= Rate)	0		
3.						-		TOTAL PHASE	41	\$60,000
R/W OPS (PHA	SE 4B)								Amount	
4. Appraisal I		gh Trial A Fees Through Ti				3		x 30,000 =	90,000	
6. Court Rep	orter & Pro	A rees inrough ii cess Servers	71ai 50%	~	a .	0		x 19,000 =	0	
7. Expert Wit	ness	2033 0614613	75%	X X	$\frac{3}{3}$	= 2 = 2		x 500 =	1,000	
8. Mediators			75%	x	3	2		x 30,000 = x 2,400 =	,	
9. Demolition	ı, Asb. Abaı	e., Survey, etc.		•		7	Imprvmet 3	,	4,800 105,000	
10. Miscellane	ous Contra	cts				Ö	Per Project x		05,000	
11. Appraisal I	Fee Review					0	Parcels x		_	11
12.								TOTAL PHASE	4B	\$260,800
R/W LAND COS								Amount	Subtotal	
13. Land, Impr	rovements	& Severance Dama	iges						Cubiogai	
	to Cure Am		0	x	. 120%	* Design	plan stage =	= 0		
14. Water Rete	ention & Mit	:. (0 Ponds)	447,316	x			w/o R/W Acq			
15. SUBTOTAL						(Lines	•	,	536,800	
16. Admin. Set			20%	x	60% d	of Line 15) :	64,400		
17. Litigation A			45%	x	40% (of Line 15) =			
18. Business I			0	x	0)		=			
19. Bus. Dama			25%	X	\$)		=	0		
20. Owner App			3	X	\$15,000)			45,000		
21. Owner CP/			0	X	\$16,000)			0		
22. Defend.Att	y Fees (Su	ım of Lines 16, 17 & 19)	161,000	X	33%_)			53,100		
23. Owner Exp	pert Witn (C	omm.+Unimp.)	0	+		x_18,000	<u>)</u> =	0		
24. Other Cond 25. SUBTOTAL		S	3	X	\$1,000			3,000		
26.	L					(Lines 1	16 thru 24) =	Parameter and the second	262,100	
I -										
* Dosign conti	naonou for	doniem when steers						TOTAL PHASE	43	\$798,900
* Design conti	ngency for E plans - 12	design plan stage.	: - 115% (3) 60	1% nl:	ane - 110% (4)	00% play	ne 40E9/ /E)		43	\$798,900
(1) PD&E	E plans - 12	0% (2) 30% plans	- 115% (3) 60	% pla	ans - 110% (4)	90% plai	ns -105% (5)		43	\$798,900
(1) PD&E	E plans - 12 ION CONS	0% (2) 30% plans JLTANT (PHASE 4:	- 115% (3) 60 2)			90% plai	ns -105% (5)	268 Date -100%		\$798,900
(1) PD&E R/W ACQUISIT 27. Acquisition	E <i>plans - 12</i> ION CONSt n Consultan	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels	- 115% (3) 60	% pla	ans - 110% (4) 0	90% plai	ns -105% (5)			
(1) PD&E	E <i>plans - 12</i> ION CONSI n Consultan COSTS (PH	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45)	- 115% (3) 60 2)		0	90% plai		268 Date -100%		
(1) PD&B R/W ACQUISIT 27. Acquisition RELOCATION (E <i>plans - 12</i> ION CONSI n Consultan COSTS (PH	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels	- 115% (3) 60 2) \$20,000	x			Amount	268 Date -100%		
(1) PD&E R/W ACQUISIT 27. Acquisition	E <i>plans - 12</i> ION CONSI n Consultan COSTS (PH	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45)	- 115% (3) 60 2) \$20,000 \$35,000	x	Number	=	Amount 35,000	268 Date -100%		
(1) PD&E R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner	E <i>plans - 12</i> ION CONSI n Consultan COSTS (PH	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45) eent Housing	- 115% (3) 60 2) \$20,000	x	0		Amount	268 Date -100%		
(1) PD&B R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner 29. Tenant 30. Residentia	E plans - 12 ION CONSUM n Consultan COSTS (PH Replacem Move Cost	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45) nent Housing	- 115% (3) 60 2) \$20,000 \$35,000	x	Number	=	Amount 35,000	268 Date -100%		
(1) PD&B R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner 29. Tenant 30. Residentia 31. Business/F	E plans - 12 ION CONSI n Consultan COSTS (PH Replacem Move Cost	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45) nent Housing	\$20,000 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x x x	Number	= =	Amount 35,000 75,000	268 Date -100%		
(1) PD&B R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P	E plans - 12 ION CONSI IN CONSUITAN COSTS (PH Replacem Move Cost Il Farm Property	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45) nent Housing	\$20,000 \$20,000 \$35,000 \$25,000 \$5,000	x x x	Number 1 3	= =	Amount 35,000 75,000 20,000	268 Date -100%		
(1) PD&B R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 ti	E plans - 12 ION CONSI IN CONSUITAN COSTS (PH Replacem Move Cost Il Farm Property hru 32)	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45) nent Housing	\$20,000 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x x x	Number 1 3 4 2 0	= = =	Amount 35,000 75,000 20,000 80,000	268 Date -100%	42	\$0
R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 t) 34. Relocation	E plans - 12 ION CONSI IN CONSUITAN COSTS (PH Replacem Move Cost Il Farm Property hru 32)	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45) nent Housing	\$20,000 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x x x	Number 1 3	= = = = = = = = = = = = = = = = = = = =	Amount 35,000 75,000 20,000 80,000	268 Date -100%	42	\$0
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R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 t) 34. Relocation 35. 36. 37. Real Estate:	E plans - 12 ION CONSI IN CONSUITAN COSTS (PH Replacem Move Cost In Farm Property hru 32) In Services Cost Roger D.	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45) tent Housing ats	\$20,000 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000	x x x	Number 1 3 4 2 0	= = = = (Not in	Amount 35,000 75,000 20,000 80,000 0 Phase Total) (All Phases)	268 Date -100% TOTAL PHASE	42	\$210,000
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R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 ti 34. Relocation 35. 36. 37. Real Estate: Bus. Dam.: Relocation: Overall Review Cost Estimate: REMARKS:	Roger D. Alfred J. Roger D. Alfred J. Sequence at	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45) nent Housing ets cost Patton Thompson Patton Thompson Ets Dated: is estimate is for Sith the exception of timate dated July 3:	\$35,000 \$20,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000	x x x x x x n nal p	Number 1 3 4 2 0 \$21,000	(Not in	Amount 35,000 75,000 20,000 80,000 0 Phase Total) (All Phases)	TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date: Date: Date: Date: Date: Date: Date: Date:	ATE 01/15/19 01/15/19 01/15/19 01/15/19 01/15/19	\$210,000 \$1,329,700
R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 ti 34. Relocation 35. 36. 37. Real Estate: Bus. Dam.: Relocation: Overall Review Cost Estimate: REMARKS:	Roger D. Alfred J. Roger D. Alfred J. Sequence at	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45) nent Housing ets cost Patton Thompson Patton Thompson E: Dated: ais estimate is for Sith the exception of timate dated July continuate dated dated set to the eestimator's confirmate dated set to the exception of the eestimator's confirmate dated set to the eestimate da	\$35,000 \$20,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000	x x x x x x n nal p	Number 1 3 4 2 0 \$21,000	(Not in	Amount 35,000 75,000 20,000 80,000 0 Phase Total) (All Phases)	TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date: Date: Date: Date: Date: Date: Date: Date:	ATE 01/15/19 01/15/19 01/15/19 01/15/19 01/15/19	\$210,000 \$1,329,700
R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 ti 34. Relocation 35. 36. 37. Real Estate: Bus. Dam.: Relocation: Overall Review Cost Estimate: REMARKS:	Roger D. Alfred J. Roger D. Alfred J. Sequence a	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45) nent Housing ets cost Patton Thompson Patton Thompson Ets is estimate is for S ith the exception of timate dated July continuate dated for the cost of the c	\$35,000 \$20,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000	x x x x x x n ln ti	Number 1 3 4 2 0 \$21,000	(Not in	Amount 35,000 75,000 20,000 80,000 0 Phase Total) (All Phases)	TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date: Date: Date: Date: Date: Date: Date: Date:	ATE 01/15/19 01/15/19 01/15/19 01/15/19 01/15/19	\$210,000 \$1,329,700
R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 ti 34. Relocation 35. 36. 37. Real Estate: Bus. Dam.: Relocation: Overall Review Cost Estimate: REMARKS:	Roger D. Alfred J. Roger D. Alfred J. Roger D. Alfred J. Roger D. Th	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45) nent Housing ets cost Patton Thompson Patton Thompson Patton Thompson E: Dated: is estimate is for S ith the exception of timate dated July (2) e estimates the most indicates the most indicates above averaged.	\$35,000 \$20,000 \$25,000 \$5,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000	x x x x x x x horizontal p	Number 1 3 4 2 0 \$21,000	(Not in	Amount 35,000 75,000 20,000 80,000 0 Phase Total) (All Phases)	TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date: Date: Date: Date: Date: Date: Date: Date:	ATE 01/15/19 01/15/19 01/15/19 01/15/19 01/15/19	\$210,000 \$1,329,700
(1) PD&E R/W ACQUISIT 27. Acquisition RELOCATION (2) 28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 ti 34. Relocation 35. 36. 37. Real Estate: Bus. Dam.: Relocation: Overall Review Cost Estimate: REMARKS:	Roger D. Alfred J. Roger D. Alfred J. Roger D. Alfred J. Th	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45) nent Housing ets cost Patton Thompson Patton Thompson Patton Thompson E: Dated: nis estimate is for S with the exception of timate dated July (3) e estimate the most indicates the most indicates above averaged and cates below averaged.	\$20,000 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000	x x x x x x x x x	Number 1 3 4 2 0 \$21,000	(Not in	Amount 35,000 75,000 20,000 80,000 0 Phase Total) (All Phases)	TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date: Date: Date: Date: Date: Date: Date: Date:	ATE 01/15/19 01/15/19 01/15/19 01/15/19 01/15/19	\$210,000 \$1,329,700
R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 ti 34. Relocation 35. 36. 37. Real Estate: Bus. Dam.: Relocation: Overall Review Cost Estimate: REMARKS:	Roger D. Alfred J. Roger D. Alfred J. Roger D. Alfred J. Th	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45) nent Housing ets cost Patton Thompson Patton Thompson Patton Thompson E: Dated: is estimate is for S ith the exception of timate dated July (2) e estimates the most indicates the most indicates above averaged.	\$20,000 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000	x x x x x x x x x	Number 1 3 4 2 0 \$21,000	(Not in	Amount 35,000 75,000 20,000 80,000 0 Phase Total) (All Phases)	TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date: Date: Date: Date: Date: Date: Date: Date:	ATE 01/15/19 01/15/19 01/15/19 01/15/19 01/15/19	\$798,900 \$0 \$210,000 \$1,329,700
(1) PD&B R/W ACQUISIT 27. Acquisition RELOCATION (2) 28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 tf 34. Relocation 35. 36. 37. Real Estate: Bus. Dam. : Relocation: Overall Review Cost Estimate : REMARKS: The following in	Roger D. Alfred J. Roger D. Alfred J. Roger D. Alfred J. Th W es	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45) ment Housing sts cost Patton Thompson Patton Thompson Patton Thompson is estimate is for S with the exception of timate dated July 3: the estimate shows average andicates the least of the properties of the cost of th	\$35,000 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000	x x x x x x x x x x x x x x x x x x x	Number 1 3 4 2 0 \$21,000	(Not in	Amount 35,000 75,000 20,000 80,000 0 Phase Total) (All Phases)	TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date: Date: Date: Date: Date: Date: Date: Date:	ATE 01/15/19 01/15/19 01/15/19 01/15/19 01/15/19	\$210,000 \$1,329,700
(1) PD&B R/W ACQUISIT 27. Acquisition RELOCATION (2) 28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 tf 34. Relocation 35. 36. 37. Real Estate: Bus. Dam. : Relocation: Overall Review Cost Estimate : REMARKS: The following in	Roger D. Alfred J. Roger D. Alfred J. Roger D. Alfred J. Th W es	0% (2) 30% plans JLTANT (PHASE 4: t-50% of parcels ASE 45) nent Housing ets cost Patton Thompson Patton Thompson Patton Thompson et Dated: nis estimate is for S et estimate dated July (3) et estimate dated July (3) et estimate dated July (4) et estimater's confindicates the most endicates below avendicates the least et estimater's purificates the least et estimater's purificates dated (5)	\$35,000 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000	x x x x x x x x x x x x x x x x x x x	Number 1 3 4 2 0 \$21,000	(Not in	Amount 35,000 75,000 20,000 80,000 0 Phase Total) (All Phases)	TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date: Da	ATE 01/15/19 01/15/19 01/15/19 01/15/19 01/15/19	\$210,000 \$1,329,700

				RTMENT OF N				LIDD#.	
FM#:	424501-1	Alternate:		SMF-15A	MAIO	JOI LOIN	District:	HDR#:	10062698-1-12.19
County:	Pinellas	Segment:		N/A			District: Date:		Seven 4-Jan-19
State Rd.: Project Des.	N/A	FAP#:	1044	N/A			C.E. Sequence		N/A
Parcels	I-275 From S. of 54th Ave to Gross Net	4th Ave North	Por	nd Sites		Estimated R			
Commercial	1 1					Business	elocatees:	1	
Residential	0 0					Residential		- i	
Unimproved	0 0					Signs		0	
Total Parcels	1 ^L 1					Special Total Reloca		1	
The second secon	COSTS (PHASE 41)	- V V	-			Total Reloca		3	
1. Direct Labo		1	х	20,000 =	Rate)		Amount 20,000		
2. Indirect Ove	erhead (Parcels	1	х	0 =	,		20,000		
3.							TOTAL PHASE	41	\$20,000
R/W OPS (PHA								Amount	
4. Appraisal l	Fees Through Trial Damage CPA Fees Through 1				1		30,000 =	30,000	
6. Court Repo	orter & Process Servers	riai 50%	v		. 4		19,000 =	0	
7. Expert Wite	ness	75%	X		1 1		500 = 30,000 =	500	
8. Mediators		75%	x	i=	1		2,400 =	30,000 2,400	
9. Demolition 10. Miscellane	, Asb. Abate., Survey, etc.				1	Imprvmet 2	15,000 =	15,000	
11. Appraisal F	ous Contracts				0	Per Project x		. 0	
12.	CC I/CAICM			24	0	Parcels x		0	
	STS (PHASE 43)				_		TOTAL PHASE	4B	\$77,900
	ovements & Severance Dama						Amount	Subtotal	
and Cost t	o Cure Amount	ages 0	x	4209/ 1	Donies		_		
	ntion & Mit. (0 Ponds)	509,480	X			<i>plan stage =</i> w/o R/W Acq)			
15. SUBTOTAL			^	12078	Lines 1		611,400	644 400	
	tlement: (Factor	20%	х	0% o	f Line 15)		. 0	611,400	
17. Litigation A	Awards (Factor	45%	Х		f Line 15)				
18. Business D	Damages (Claims		х	0)					
	ges Incr (Factor	25%	х	\$ -)			0		
	or. Fees (Parcels	1	X	\$15,000)		=	15,000		
	A Fees (Claims	0	X	<u>\$16,000</u>)		-	0		
23 Owner Eve	y Fees (Sum of Lines 16, 17 & 19 pert Witn (Comm.+Unimp.)		X	33%)			90,800		
24. Other Cond		1	+		x 18,000		18,000		
25. SUBTOTAL			X	\$1,000	(Linos 4	6 thru 24) =	1,000		
26.					(Lilles I	6 tilru 24) =	TOTAL PHASE	399,900	\$4.044.000
* Design contil	ngency for design plan stage	:			áš.			43	\$1,011,300
(1) PD&E	plans - 120% (2) 30% plans	s - 115% (3) 60	% p	lans - 110% (4)	90% plan	is -105% (5)	268 Date -100%		
	ON CONSULTANT (PHASE 4	2)							The second second
	Consultant-50% of parcels	\$20,000	Х	0			TOTAL PHASE	42	\$0
RELOCATION	COSTS (PHASE 45) Replacement Housing								
28. Owner	Replacement Housing	\$30,000	v	Number	_	Amount			
29. Tenant		\$25,000	X	1	=	30,000			
	Move Costs					<u>_</u>			
30. Residential 31. Business/F		\$5,000	X	1	=	5,000			
32. Personal P		\$40,000			=	40,000			
33. (Lines 28 th		\$3,000	X		=	3,000	TOTAL BUACE	10	
34. Relocation				\$7,800	(Not in F	Phase Total)	TOTAL PHASE	45	\$78,000
35.			_		Ville III I	nace rotal			
36.									
37.						(All Phases)	TOTAL ESTIMA	TE	\$1,187,200
Real Estate:	Roger D. Patton	_Signed:	T	40216IL			Date:	01/15/19	
Bus. Dam. : Relocation:	Alfred J. Thompson Roger D. Patton	_Signed:	-	a.g. Thou	pour		Date:	01/15/19	
	Alfred J. Thompson	_Signed: Signed:	-	a.g. The			Date:	01/15/19	
		_o.g.lou.		a.g. vna	yes		_ Date:	01/15/19	
Cost Estimate S				the Amount of \$		D	ata Input Compl	etion Date:	
REMARKS:	Administrative Settlement a	ind Litigation A	war	ds have been ac	justed to	reflect one of	wnership. Admi	nistrative	
	settlement is considered to	be zero, while	litig	ation is factored	at 45%.		eran eranden et en de		
	This estimate is for SMF-15	A This is the	fires	and antimate					
	1	A. IIIIa ia tile	mət	cost estimate w	re nave po	errormed for t	inis alternate.		
	18								
ľ									
The following is	adioatoo the patients as a s				_				
ronowing ir	ndicates the estimator's conf Type A - indicates the most	idence in the al	PAOG	e estimate:					
	Type B - indicates above av	erage confiden	ce						
X	Type C - indicates below av	erage confiden	ce						
	Type D - indicates the least	or no confiden	ce						
The following:	adjustes the Dana '								
Work Program	ndicates the Department's pu Update:	rpose for this e Gaming 1:	stin	nate:	en .	D			
Comments:		_ Janning 1: _			opecial	Purpose:	X	Docs to RW:	

FM#:	42450		Alternate:	/En	RIGHT OF	WAY GU	OST ESTIN		HDR#:	10062698-1-12.19
County:	Pinella		Segment:		SMF-15B N/A			District:	*:	Seven
State Rd.:	N/A		FAP#:		N/A			Date: C.E. Sequence		4-Jan-19
Project Des. Parcels	I-275 F	rom S. of 54th Ave to	4th Ave North	Poi	nd Sites			O.E. Obquenci	•	N/A
Commercial	Gross						Estimated R	telocatees:		
Residential	7						Business		1	
Unimproved	0						Residential Signs		7	
Total Parcels	_	_					Special		0	
THE RESERVE THE PERSON NAMED IN	7		V	_			Total Reloca	atees	- 8	
R/W SUPPOR 1. Direct Lab	COSTS	*/-						Amount		
2. Indirect O		(Parcels (Parcels	7	X	20,000 =	,		140,000		
3.		(i diceis		X	=	Rate)	1	0		
R/W OPS (PH/	ASE 4B)			-				TOTAL PHASE	41	\$140,00
4. Appraisal	Fees Thi	ough Trial				7	Parcels		Amount	
5. Business	Damage	CPA Fees Through T	rial			ó	01.	× 30,000 = × 19,000 =	,	
Court RepExpert Wi	orter & P	rocess Servers	50%	X	7=	4	_	× 19,000 =	_	
8. Mediators			75%	X	=	. •		× 30,000 =	-,	
		bate., Survey, etc.	75%	X	=	5	Parcels	_,	-,	
Miscellane	eous Con	tracts				10 0	Imprvmet > Per Project >	,	,	
11. Appraisal	Fee Revi	ew				0	Parcels x		•	
12.						-		TOTAL PHASE		6501.00
R/W LAND CO	STS (PH	ASE 43)								\$524,00
13. Land, Imp	rovemen	ts & Severance Dama	iges					Amount	Subtotal	
and Cost			0	x	120% *	Design i	plan stage =	. 0		
14. Water Ret	ention &	Mit. (0 Ponds)	936,788	X			w/o R/W Acq			
15. SUBTOTA	L (52,272	SF)				(Lines 1		1,124,100	1,124,100	
16. Admin. Se	ttlements	(Factor	20%	X	60% o	f Line 15)	• •	134,900	1,124,100	
17. Litigation	Awards	(Factor	45%	X	40% o	f Line 15)	=	202,300		
18. Business 19. Bus. Dama	Damages	(Claims	0	X	0)		=	0		
20. Owner Ap	ages incr	(Parcels	25%	X	_\$)		=	0		
21. Owner CP	A Fooe	(Claims	7	X	\$15,000)		=	105,000		
		(Sum of Lines 16, 17 & 19)	337,200	X	\$16,000)		=			
23. Owner Ex	pert Witn	(Comm.+Unimp.)	0	X +	33%)	. 40.000	=	111,300		
04 045 0	demn. Co	osts	7			x <u>18,000</u>	=	0		
24 . Other Con					\$4 AAA			2011		
24. Other Con 25. SUBTOTA				х	\$1,000	(Lines 1)	= 6 thru 24\ =	7,000		
25. SUBTOTA 26.	L			X	\$1,000	(Lines 10	= 6 thru 24) =		560,500	
25. SUBTOTA 26. * Design conti	L ingency f	or design plan stage:	•					TOTAL PHASE		\$1,684,600
25. SUBTOTA 26. Design conti (1) PD&	L ingency f E plans -	120% (2) 30% plans	- 115% (3) 60					TOTAL PHASE		\$1,684,600
25. SUBTOTA 26. * Design conti (1) PD& R/W ACQUISIT	L ingency f E plans - TION CON	120% (2) 30% plans SULTANT (PHASE 42	- - 115% (3) 60					TOTAL PHASE		\$1,684,600
25. SUBTOTA 26. * Design conti (1) PD& R/W ACQUISIT 27. Acquisitio	L ingency f E plans - ION CON n Consult	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels	- 115% (3) 60					TOTAL PHASE	43	
25. SUBTOTA 26. * Design conti (1) PD& R/W ACQUISIT	L ingency f E plans - TON CON n Consult	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45)	- - 115% (3) 60	% pl	ans - 110% (4)			TOTAL PHASE	43	
25. SUBTOTA 26. * Design conti (1) PD& R/W ACQUISIT 27. Acquisitio	L ingency f E plans - TON CON n Consult	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels	- 115% (3) 60 2) \$20,000	% pl	ans - 110% (4)	90% plan	s -105% (5) :	TOTAL PHASE	43	
25. SUBTOTA 26. * Design conti (1) PD& R/W ACQUISIT 27. Acquisitio RELOCATION	L ingency f E plans - TON CON n Consult	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45)	- 115% (3) 60 2) \$20,000 \$35,000	% pl x	ans - 110% (4)	90% plan	s -105% (5) ; Amount 210,000	TOTAL PHASE	43	
25. SUBTOTA 26. Design conti (1) PD& R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant	ingency f E plans - ION CON n Consult COSTS (I Replac	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	- 115% (3) 60 2) \$20,000	% pl	ans - 110% (4)	90% plan	s -105% (5) :	TOTAL PHASE	43	
25. SUBTOTA 26. * Design conti (1) PD&, R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia	ingency f E plans - ION CON n Consult COSTS (I Replace	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	- 115% (3) 60 2) \$20,000 \$35,000	% pl x	ans - 110% (4)	90% plan	Amount 210,000 25,000	TOTAL PHASE	43	
25. SUBTOTA 26. * Design conti (1) PD&, R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I	ingency f E plans - TON CON n Consult COSTS (I Replace Move C	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	\$20,000 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000	% pl	ans - 110% (4)	90% plans	s -105% (5) ; Amount 210,000	TOTAL PHASE	43	
25. SUBTOTA 26. * Design conti (1) PD&, R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I 32. Personal F	ingency f E plans - TION CON IN CONSULT COSTS (I Replace Move Coll Farm	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	- 115% (3) 60 2) \$20,000 \$35,000 \$25,000	% pl x x x x	ans - 110% (4)	90% plans	Amount 210,000 25,000 35,000	TOTAL PHASE	43	
25. SUBTOTA 26. * Design conti (1) PD&, R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I 32. Personal F 33. (Lines 28 t	ingency f E plans - TION CON IN CONSULT COSTS (I Replace Move Coll Farm Property thru 32)	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	\$20,000 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000	% pl	0 Number 6 1 7 1 0	90% plans	Amount 210,000 25,000 40,000 0	TOTAL PHASE	42	\$0
25. SUBTOTA 26. * Design conti (1) PD&, R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I 32. Personal F 33. (Lines 28 t 34. Relocation	ingency f E plans - TION CON IN CONSULT COSTS (I Replace Move Coll Farm Property thru 32)	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	\$20,000 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000	% pl	0 Number 6 1 7 1	90% plans	Amount 210,000 25,000 40,000	TOTAL PHASE 268 Date -100% TOTAL PHASE	42	\$0
25. SUBTOTA 26. * Design conti (1) PD&, R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I 32. Personal F 33. (Lines 28 t	ingency f E plans - TION CON IN CONSULT COSTS (I Replace Move Coll Farm Property thru 32)	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	\$20,000 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000	% pl	0 Number 6 1 7 1 0	90% plans	Amount 210,000 25,000 40,000 0	TOTAL PHASE 268 Date -100% TOTAL PHASE	42	\$0
25. SUBTOTA 26. * Design conti (1) PD&, R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I 32. Personal F 33. (Lines 28 t 34. Relocation 35.	ingency f E plans - TION CON IN CONSULT COSTS (I Replace Move Coll Farm Property thru 32)	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	\$20,000 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000	% pl	0 Number 6 1 7 1 0	90% plans	Amount 210,000 25,000 40,000 0	TOTAL PHASE 268 Date -100% TOTAL PHASE	43	\$310,000
25. SUBTOTA 26. * Design conti (1) PD& R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I 32. Personal F 33. (Lines 28 t 34. Relocation 35. 36. 37. Real Estate:	ingency f E plans - TON CON IN CONSULT COSTS (I Replace Move Coll Farm Property hru 32)	120% (2) 30% plans SULTANT (PHASE 4; ant-50% of parcels PHASE 45) ement Housing costs	\$20,000 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000	% pl	0 Number 6 1 7 1 0	90% plans	Amount 210,000 25,000 40,000 0 chase Total)	TOTAL PHASE TOTAL PHASE TOTAL PHASE	43 42 45	\$310,000
25. SUBTOTA 26. * Design conti (1) PD& R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I 32. Personal F 33. (Lines 28 t 34. Relocation 35. 36. 37. Real Estate: 3us. Dam. :	ingency f E plans - ION CON n Consult COSTS (I Replace Move Col Farm Property hru 32) Services Roger I Alfred J	120% (2) 30% plans ISULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing costs Cost D. Patton J. Thompson	\$20,000 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000	% pl	0 Number 6 1 7 1 0	90% plans	Amount 210,000 25,000 40,000 0 chase Total)	TOTAL PHASE 268 Date -100% TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date:	43 42 45 TE 01/15/19	\$310,000
25. SUBTOTA 26. * Design conti (1) PD&, R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I 32. Personal F 33. (Lines 28 t 34. Relocation 35. 36. 37. Real Estate: 3us. Dam. : Relocation:	ingency f E plans - TON CON n Consult COSTS (I Replace Move Coll Farm Property hru 32) Services Roger I Alfred J Roger I	120% (2) 30% plans ISULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing Costs Cost D. Patton D. Patton D. Patton D. Patton	-115% (3) 60 2) \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 Signed: Signed: Signed:	% pl	0 Number 6 1 7 1 0	90% plans	Amount 210,000 25,000 40,000 0 Chase Total)	TOTAL PHASE TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date: Date:	43 42 45 45 01/15/19 01/15/19	\$310,000
25. SUBTOTA 26. * Design conti (1) PD& R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I 32. Personal F 33. (Lines 28 t 34. Relocation 35. 36. 37. Real Estate: 3us. Dam. :	ingency f E plans - TON CON n Consult COSTS (I Replace Move Coll Farm Property hru 32) Services Roger I Alfred J Roger I	120% (2) 30% plans ISULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing Costs Cost D. Patton D. Patton D. Patton D. Patton	-115% (3) 60 2) \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000	% pl	0 Number 6 1 7 1 0	90% plans	Amount 210,000 25,000 40,000 0 Chase Total)	TOTAL PHASE 268 Date -100% TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date:	43 42 45 TE 01/15/19	\$310,000
25. SUBTOTA 26. * Design conti (1) PD&, R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/i 32. Personal F 33. (Lines 28 t 34. Relocation 35. 36. 37. Real Estate: 3us. Dam. : Relocation: Overall Review	ingency f E plans - TON CON n Consult COSTS (I Replace Move Coll Farm Property hru 32) Services Roger I Alfred J Roger I Alfred J	120% (2) 30% plans ISULTANT (PHASE 4; ant-50% of parcels PHASE 45) ement Housing costs Cost D. Patton D. Patton D. Patton D. Patton D. Thompson D. Thompson	-115% (3) 60 2) \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 Signed: Signed: Signed:	x x x x x x	0 Number 6 1 0 0 \$31,000	90% plans	Amount 210,000 25,000 40,000 0 Chase Total)	TOTAL PHASE TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date: Date: Date: Date:	43 42 45 01/15/19 01/15/19 01/15/19	\$310,000
25. SUBTOTA 26. * Design conti (1) PD&, R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I 32. Personal F 33. (Lines 28 t 34. Relocation 35. 36. 37. Real Estate: 3us. Dam. : Relocation: Overall Review Cost Estimate	ingency f E plans - TON CON n Consult COSTS (I Replace Move Coll Farm Property hru 32) Services Roger I Alfred J Roger I Alfred J	120% (2) 30% plans ISULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing costs D. Patton D. Thompson D. Patton D. Patton D. Thompson	-115% (3) 60 2) \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 Signed: Signed: Signed:	x x x x x x	0 Number 6 1 7 1 0 \$31,000	90% plans	Amount 210,000 25,000 40,000 0 chase Total)	TOTAL PHASE TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date: Date: Date: Date:	43 42 45 01/15/19 01/15/19 01/15/19	\$310,000
25. SUBTOTA 26. * Design conti (1) PD&, R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/i 32. Personal F 33. (Lines 28 t 34. Relocation 35. 36. 37. Real Estate: 3us. Dam. : Relocation: Overall Review	Ingency f E plans - ION CON n Consult COSTS (I Replace Move Coll Farm Property hru 32) Services Roger I Alfred J Roger I Coll Roger I C	120% (2) 30% plans ISULTANT (PHASE 4; ant-50% of parcels PHASE 45) ement Housing costs Cost D. Patton D. Patton D. Patton D. Patton D. Thompson D. Thompson	- 115% (3) 60 2) \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 Signed: Signed: Signed: Signed:	x x x x x x x	0 Number 6 1 7 1 0 \$31,000	90% plans	Amount 210,000 25,000 40,000 0 Chase Total)	TOTAL PHASE TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date:	43 42 45 01/15/19 01/15/19 01/15/19	\$310,000
25. SUBTOTA 26. * Design conti (1) PD&, R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I 32. Personal F 33. (Lines 28 t 34. Relocation 35. 36. 37. Real Estate: 3us. Dam. : Relocation: Overall Review Cost Estimate	Ingency f E plans - ION CON n Consult COSTS (I Replace Move Coll Farm Property hru 32) Services Roger I Alfred J Roger I Coll Roger I C	120% (2) 30% plans ISULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing costs Cost D. Patton D. Dated:	- 115% (3) 60 2) \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 Signed: Signed: Signed: Signed:	x x x x x x x	0 Number 6 1 7 1 0 \$31,000	90% plans	Amount 210,000 25,000 40,000 0 Chase Total)	TOTAL PHASE TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date:	43 42 45 01/15/19 01/15/19 01/15/19	\$310,000
25. SUBTOTA 26. * Design conti (1) PD& R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I 32. Personal F 33. (Lines 28 t 34. Relocation 35. 36. 37. Real Estate: 3us. Dam. : Relocation: Overall Review Cost Estimate : REMARKS:	Move College Property hru 32) Reger I Alfred J Roger I: Alfred J Sequence	120% (2) 30% plans ISULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing costs Cost D. Patton D. Thompson D. Patton D. Thompson	- 115% (3) 60 2) \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3igned: Signed: Signed: Signed: Signed:	% pl x x x x x x	0 Number 6 1 7 1 0 \$31,000 \$31,000	90% plans	Amount 210,000 25,000 40,000 0 Chase Total)	TOTAL PHASE TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date:	43 42 45 01/15/19 01/15/19 01/15/19	\$310,000
25. SUBTOTA 26. * Design conti (1) PD& R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I 32. Personal F 33. (Lines 28 t 34. Relocation 35. 36. 37. Real Estate: 3us. Dam. : Relocation: Overall Review Cost Estimate : REMARKS:	Move College Bervices Roger I Alfred J Roger I Alfred J Roger I Sequence	120% (2) 30% plans ISULTANT (PHASE 4; ant-50% of parcels PHASE 45) ement Housing costs Cost D. Patton D. Thompson D. Patton D. Thompson	- 115% (3) 60 2) \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 Signed: Signed: Signed: Signed: Signed: Signed:	% pl x x x x x x	0 Number 6 1 7 1 0 \$31,000 \$31,000	90% plans	Amount 210,000 25,000 40,000 0 Chase Total)	TOTAL PHASE TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date:	43 42 45 01/15/19 01/15/19 01/15/19	\$310,000
25. SUBTOTA 26. * Design conti (1) PD& R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I 32. Personal F 33. (Lines 28 t 34. Relocation 35. 36. 37. Real Estate: 3us. Dam. : Relocation: Overall Review Cost Estimate : REMARKS:	Move College Bervices Roger I Alfred J Roger I Alfred J Roger I Sequence	120% (2) 30% plans ISULTANT (PHASE 4; ant-50% of parcels PHASE 45) ement Housing costs Cost D. Patton D. Thompson D. Patton D. Thompson D. Patton D. Thompson D	- 115% (3) 60 2) \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 Signed: Signed: Signed: Signed: Signed: Signed: Signed: Signed: Signed:	% pl x x x x x x the	0 Number 6 1 7 1 0 \$31,000 \$31,000	90% plans	Amount 210,000 25,000 40,000 0 Chase Total)	TOTAL PHASE TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date:	43 42 45 01/15/19 01/15/19 01/15/19	\$310,000
25. SUBTOTA 26. * Design conti (1) PD& RW ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I 32. Personal F 33. (Lines 28 t 34. Relocation 35. 36. 37. Real Estate: Bus. Dam. : Relocation: Overall Review Cost Estimate : REMARKS:	Move College Roger I Alfred J Roger I Alfred J Roger I Alfred J Roger I Type A Type B Type C Type C	120% (2) 30% plans ISULTANT (PHASE 4; ant-50% of parcels PHASE 45) ement Housing costs Cost D. Patton D. Patton D. Patton D. Thompson D. Patton D. Thompson D. Thompson D. This estimate is for S the estimator's confident indicates the most of the indicates above average indicates below averages	- 115% (3) 60 2) \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 MF-15B and is dence in the abconfidence rage confidence rage confidence	% pl x x x x x x the	0 Number 6 1 7 1 0 \$31,000 \$31,000	90% plans	Amount 210,000 25,000 40,000 0 Chase Total)	TOTAL PHASE TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date:	43 42 45 01/15/19 01/15/19 01/15/19	\$310,000
25. SUBTOTA 26. * Design conti (1) PD& R/W ACQUISIT 27. Acquisitio RELOCATION 28. Owner 29. Tenant 30. Residentia 31. Business/I 32. Personal F 33. (Lines 28 t 34. Relocation 35. 36. 37. Real Estate: 3us. Dam. : Relocation: Overall Review Cost Estimate : REMARKS:	Move College Roger I Alfred J Roger I Alfred J Roger I Alfred J Roger I Type A Type B Type C Type C	120% (2) 30% plans ISULTANT (PHASE 4; ant-50% of parcels PHASE 45) ement Housing costs Cost D. Patton D. Thompson D. Patton D. Thompson D. Patton D. Thompson D	- 115% (3) 60 2) \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 MF-15B and is dence in the abconfidence rage confidence rage confidence	% pl x x x x x x the	0 Number 6 1 7 1 0 \$31,000 \$31,000	90% plans	Amount 210,000 25,000 40,000 0 Chase Total)	TOTAL PHASE TOTAL PHASE TOTAL PHASE TOTAL ESTIMA Date:	43 42 45 01/15/19 01/15/19 01/15/19	\$1,684,600 \$0 \$310,000 \$2,658,600

					NRTMENT OF NRIGHT OF N					
FM#:	424501-		Alternate:		SMF-15C	MATU	OSI ESIIM		HDR#:	10062698-1-12.19
County:	Pinellas	-	Segment:		N/A			District: Date:		Seven 4-Jan-19
State Rd.: Project Des.	N/A	STOCK STRAME WILL V	FAP#:		N/A			C.E. Sequence	•	4-Jan-19 N/A
Parcels	Gross	rom S. of 54th Ave to Net	4th Ave North	Por	nd Sites		1	·		1915
Commercial	0	0					Estimated R	lelocatees:		
Residential	6	6					Business Residential		2	
Unimproved	0	0					Residential Signs		6	
			e				Special		0	
Total Parcels	6	6					Total Reloca	atees	<u>0</u>	¥i
R/W SUPPORT	COSTS (-		Amount		
Direct Labo Indirect Over		(Parcels	6	X			•	120,000		
3.	9fNeau	(Parcels	6	X	=	= Rate	a)	0		
	40)			_				TOTAL PHASE	41	\$120,00
R/W OPS (PHA 4. Appraisal i	SE 4B)	- E T-LI							Amount	
5. Business [Lees inc	ough Trial CPA Fees Through Tr				6		x 30,000 =		
6. Court Repo	orter & Pro	PA Fees Through T Ocess Servers	rial 50%	¥	e .	0 = 3		x 19,000 =	0	
7. Expert Witi	ness	76433 0614612	<u>50%</u> 75%	X	6 =	= 3 = 5		x 500 =	1,500	
8. Mediators					<u> </u>	= 5 = 5		x 30,000 =		
9. Demolition	n, Asb. Aba	ate., Survey, etc.		^		= 5 8	Parcels x Imprvmet x	x 2,400 =	12,000	
10. Miscellane	ous Contr	racts				0	Per Project x	,	120,000	
11. Appraisal F	Fee Revie	w				Ō	Parcels x	N-000000000000000000000000000000000000	0	
12.		= 1				18.		TOTAL PHASE		9463 500
R/W LAND COS	STS (PHA!	SE 43)								\$463,500
13. Land, Impr	rovements	s & Severance Dama	ages					Amount	Subtotal	
and Cost t	to Cure An	mount	0	x	120%	* Design	n plan stage =	- n		
14. Water Rete	ention & M	flit. (0 Ponds)	817,620	-X			n piani stage = s w/oR/WAcq)			
15. SUBTOTAL	L (53,062 S	SF)		-	120,0		s w/o R/W Acq) 13 &14)	981,100	224 400	
16. Admin. Set	ttlement: (I	(Factor	20%	х	60% c	Lines 15) of Line 15)		147 700	981,100	
17. Litigation A	Awards (i	Factor	45%	X		of Line 15) of Line 15)		- 111,100		
18. Business D	Damages (Claims	0	X	0)) -	176,600		
19. Bus. Dama	iges Incr (I	Factor	25%	X	\$ -)		-	0		
20. Owner App	pr. Fees (l	Parcels	6	X	\$15,000)		-	0		
21. Owner CPA	A Fees (Claims		X	\$15,000) \$16,000)		-	90,000		
		Sum of Lines 16, 17 & 19)	294,300	X				0		
23. Owner Exp	ert Witn (f	Comm.+Unimp.)	294,300	X +	33%)		=	97,100		
24. Other Cond	domn. Cos	ote	6			x_18,000	<u> </u>	0		
25. SUBTOTAL		/LS		X	\$1,000	9 5-20		6,000	18 20 20 20 20 20 20 20 20 20 20 20 20 20	
26.	•					(Lines	16 thru 24) =	1	487,400	
 Design contir 	naency fo	or design plan stage:					1	TOTAL PHASE	43	\$1,468,500
(1) PD&E	plans 1	20% (2) 30% plans	i - 115% (3) 60°	% pl	lans - 110% (4)	90% plai	ne -105% (5)	nee hata -100%		
R/W ACQUISITI	ON CONS	SULTANT (PHASE 42	2)		anc.	30,0	15-100/0 (-)	200 Date - 100/2		The second second
		int-50% of parcels	\$20,000	х	n		Y			
RELOCATION C			920,000	<u>~</u>	0			TOTAL PHASE	42	\$0
NELOO,,		MASE 45) Ment Housing			Mumbar		Si			
28. Owner	1.0p	Helli Honoma	\$35,000	X :	Number	-	Amount			
29. Tenant			\$25,000 \$25,000	X X	2	=	140,000			
	Move Co	osts	*** ;:	^	-		50,000			((6))
30. Residential			\$5,000	X.	6	=	30,000			
31. Business/F			\$40,000	X	2	Ħ	80,000			
32. Personal Pr			\$3,000	x	. 0	=	0			
33. (Lines 28 th								TOTAL PHASE	45	\$300,000
34. Relocation 35.	Services	Cost			\$30,000	(Not in	Phase Total)		40	4 000,500
35.										
36. 37										
37.							(All Phases)	TOTAL ESTIMA	TE	\$2,352,000
Real Estate:	Roger D.		Signed:		1702	OIL-		Date:	01/15/19	N. C.
Bus. Dam. : Relocation:		Thompson	Signed:		a.y. the	meson		Date:	01/15/19	
Relocation: Overall Review:	Roger D.		_Signed:	_		Ott		Date:	01/15/19	
Overan nov	Allieu	Inompson	Signed:	_	a.g. Th	angem	_	Date:	01/15/19	
Cost Estimate S	Sequence	#: Dated:		In f	The Amount of S	1	P			
REMARKS:	/oqui	#		ln .	the Amount of \$		D,	ata input Comple	etion Date:	
KEMANNO.						11				
	Τ'	hin netimata is for 5	THE 4EC and ic	440	m 4 41-mata 14					
		his estimate is for S	MT-150 and is	the	first estimate w	e have p	erformed for tr	his alternate.		
The following in	idicates th	he estimator's confid	dence in the at	nove	estimate:					
	_Type A - i	indicates the most of	confidence		6941					
	Type B - i	indicates above ave	erage confidenc	e e	¥.					
X	Type C - i	indicates below ave	erage confidenc	ce):
	Type D - ı	indicates the least o	or no confidenc	æ				х *		
he following in	dicates th	he Department's pur	pose for this e	stim	iate:					
WORK Program U	Jpdate:		Gaming 1:			Special '	Purpose:	x D	Docs to RW:	
Comments:				_					7000 to 1111.	

					RTMENT OF V RIGHT OF V				HDR#:	10083600 4 42 40
FM#:	424501-		Alternate:		SMF-16A			District:	DUITE.	10062698-1-12.19 Seven
County:	Pinellas		Segment:		N/A			Date:		4-Jan-19
State Rd.: Project Des.	N/A	C at E4th Aug to	FAP#:	_	N/A			C.E. Sequence)	N/A
Parcels	Gross	om S. of 54th Ave to Net	4th Ave North	Por	nd Sites		E-Almata d D	-14		
Commercial	0	0					Estimated R Business	elocatees;		
Residential	6	6					Residential		- 5 7	
Unimproved	0	0					Signs		0	
Total Parcels	اء	e		*			Special		0	
	6	6		_			Total Reloca	itees	12	
R/W SUPPORT 1. Direct Labo		PHASE 41) (Parcels						Amount		
2. Indirect Ove		(Parceis	6	X	<u>20,000</u> =	Rate)		120,000		
3.		(i dicola				Rate)		0		
R/W OPS (PHA	SE AR)			=				TOTAL PHASE	All for the last of the last o	\$120,000
4. Appraisal f		ugh Trial				6	Paraela .		Amount	
5. Business [Damage C	PA Fees Through T	rial			6 0	Parcels >	30,000 = 19,000 =	,	
6. Court Repo	orter & Pro	cess Servers	50%	х	6 =	3	Parcels x	,	-	
7. Expert Witi			75%	X	6 =	5	Parcels x		.,	
8. Mediators 9. Demolition		4- 0	75%_	X	=	5	Parcels x	2,400 =	.,	
10. Miscellane	i, ASD. ADa Pous Contr	ite., Survey, etc.				7	Imprvmet x		. ,	
11. Appraisal F	Fee Revie	V				0	Per Project x Parcels x	200000000000000000000000000000000000000		
12.						Ū	raiceis A	5,000 =		\$440 F00
R/W LAND COS	STS (PHAS	E 43)		_			7.8			\$448,500
		& Severance Dama	nae					Amount	Subtotal	
and Cost t			lyes 0	x	4200/ *	Dooles	=/			
14. Water Rete	-		929,426				plan stage =			
15. SUBTOTAL			329,420		120% (0		w/o R/W Acq)	1,115,300		
16. Admin. Set			20%	x	60% 0	Lines 1) (Line 15)	•	400 000	1,115,300	
17. Litigation A			45%	x		f Line 15)		133,800		
18. Business D			0	x	0)	Lille 13)	_	200,800		
19. Bus. Dama			25%	X	\$ -)		-	- 0		
20. Owner App	pr. Fees (Parcels	6	х	\$15,000)		=			
21. Owner CPA			0	х	\$16,000)			0		
		ium of Lines 16, 17 & 19)	334,600	X	33%)		=	110,400		
23. Owner Exp	oert Witn (Comm.+Unimp.)	0	+	0):	x 18,000	=	J		
24. Other Cond		its	6	X	\$1,000		=	6,000		
25. SUBTOTAL	L					(Lines 1	6 thru 24) =		541,000	
26.								TOTAL PHASE	43	\$1,656,300
(1) PD&E	rigericy ro E plans - 1	r design plan stage 20% (2) 30% plans	- 115% (3) 60	% n	lane - 440% (4)	90% nlan	- 40E9/ /E)	268 Data 4000/		
R/W ACQUISIT	ION CONS	ULTANT (PHASE 4	2)	, a p	17078 (4)	307t pian	3-103/8 (3)	200 Date -100%		
		nt-50% of parcels	\$20,000	v	0			TOTAL DUAGE		
RELOCATION			\$20,000	_				TOTAL PHASE	42	\$0
ILLOCATION (nent Housing			Number		A			
28. Owner	J	g	\$35,000	x	1	=	Amount 35,000			
29. Tenant			\$25,000	X	6	=	150,000		22	
	Move Co	sts								
30. Residential 31. Business/F			\$5,000			=	35,000			
32. Personal P	raiiii Property		\$40,000 \$3,000	X	5	=	200,000			
33. (Lines 28 tl			43,000	X		= 9	0	TOTAL DUAGE		
34. Relocation		Cost			\$42,000	(Not in E	hase Total)	TOTAL PHASE	45	\$420,000
35.				_	\$42,000	(NOT III I	nase rotari			
36.										
37.							(All Phases)	TOTAL ESTIMA	ATF	\$2,644,800
Real Estate:	Roger D.	Patton	Signed:		FOR		the same of the sa	Date:	01/15/19	42,044,000
Bus. Dam. :		Thompson	Signed:		a. V. The	morrow	_	Date:	01/15/19	
Relocation:	Roger D		Signed:		FOR	TION		Date:	01/15/19	
Overall Review	: Alfred J.	Thompson	Signed:		a. J. The	yes		Date:	01/15/19	
Cost Estimate S	Seguence	#: Dated:		În.	1	1	_		US A F F F F F	
REMARKS:	ocquence	m. Dateu.		ın	the Amount of \$			ata Input Comp	letion Date:	
NEWAKKS.					9					
	т	his estimate is for S	SME-16A and is	tho	firet oetimato u	o have a				
	Ī		Jan - Ton and R	LIIC	mot collinate M	e nave pe	enonned for t	ınıs aiternate.		
	nellast-									
The falls	naicates t	ne estimator's confi	dence in the a	bove	estimate:					
The following is	Type A -									
The following in	_ Type A -	indicates the most indicates above ave	erage confiden	Ce						
The following in	_ Type A - _ Type B - _ Type C -	indicates above ave indicates below ave	erage confiden erage confiden	ce						
	_ Type A - _ Type B - _ Type C -	indicates the most indicates above avoindicates below avoindicates the least indicates the least indicate	erage confiden erage confiden	ce						
×	_ Type A - _ Type B - _ Type C - _ Type D -	indicates above ave indicates below ave indicates the least	erage confiden erage confiden or no confiden	ce					11	
X The following in	Type A - Type B - Type C - Type D -	indicates above ave indicates below ave indicates the least	erage confiden erage confiden or no confiden rpose for this e	ce	nate:				The second	
X The following in	Type A - Type B - Type C - Type D -	indicates above ave indicates below ave indicates the least ne Department's pu	erage confiden erage confiden or no confiden	ce	nate:	Special	Purpose:	x	Docs to RW:	

		DISTRICT SE		RTMENT OF I				HDR#:	10062698-1-12.19
FM#:	424501-1	Alternate:		SMF-16B			District:		Seven
County: State Rd.:	Pinellas	Segment:		N/A			Date:		4-Jan-19
Project Des.	N/A	FAP#: h Ave to 4th Ave Nor		N/A			C.E. Sequence		N/A
Parcels	Gross Net	II Ave to 4th Ave Nor	ın Po	na Sites		Estimated R	oloootoon		
Commercial	0 0					Business	eiocatees;	5	
Residential	7 7					Residential		9	
Unimproved	11					Signs		0	
Total Parcels	8 8					Special	345 Fee	0	
The second second	COSTS (PHASE 41)		_			Total Reloca	atees	14	
1. Direct Labo		ile	8 x	00.000 -	D ()		Amount		
2. Indirect Ove	1, 4, 4, 4,		8 x 8 x	20,000 =			160,000		
3.					- itale)		TOTAL PHASE	41	6460.00
R/W OPS (PHA	SE 4B)						TOTAL PHASE		\$160,00
4. Appraisal I	ees Through Trial				8	Parceis :	× 30,000 =	Amount 240,000	
5. Business (Damage CPA Fees Th	rough Trial			Ō		× 19,000 =	240,000	
	orter & Process Serve		_	8 =	= 4		x 500 =	2,000	
7. Expert Wite 8. Mediators	ness	759		8_=	- 6		x 30,000 =	180,000	
	, Asb. Abate., Survey,	75%	<u>6</u> х	8 =	= 6		x 2,400 =	14,400	
10. Miscellane	ous Contracts	etc.			9 0	Imprvmet 2 Per Project 2	,	135,000	
11. Appraisal I	ee Review				0		5,000 =	0	
12.					•		TOTAL PHASE		\$571,40
R/W LAND COS	STS (PHASE 43)								\$571,40
	ovements & Severand	e Damages					Amount	Subtotal	
	o Cure Amount	_	0 x	120%	* Design	plan stage =	= 0		
14. Water Rete	ntion & Mit. (0 Ponds		_			w/o R/W Acq			
15. SUBTOTAL				((Lines 1		1,400,300	1,488,300	
	tlement: (Factor	20%	6 x	60% c	of Line 15)	•	178,600	1,400,300	
	wards (Factor	45%	-7-		of Line 15)				
	Damages (Claims) x	0)	•	-			
	ges Incr (Factor	25%	6 x	\$)		-	0		
	r. Fees (Parcels		B x	\$15,000)		=	120,000		
	A Fees (Claims		0 x	\$16,000)		:=	. 0		
	Fees (Sum of Lines 16		- 27	33%_)		=	147,300		
24. Other Cond	ert Witn (Comm.+Uni	• • — — —	9 +		x 18,000		18,000		
25. SUBTOTAL			8 x	\$1,000			8,000		
26.	•				(Lines 1	6 thru 24)		739,800	
	ngency for design pla	n etano:					TOTAL PHASE	43	\$2,228,100
(1) PD&E	plans - 120% (2) 30	% plans - 115% (3)	60% p	lans - 110% (4)	90% plan	s -105% (5)	268 Date -100%		
R/W ACQUISIT	ON CONSULTANT (P	HASE 42)	_			1-7			
	Consultant-50% of pa		x	0			TOTAL PHASE	42	
	COSTS (PHASE 45)						TOTAL PHASE	42	\$(
	Replacement Housi	ng		Number		Amount			
28. Owner		\$35,00) x	2	=	70,000			
29. Tenant		\$25,00) x	7	=	175,000			
 30. Residentia	Move Costs		_						
31. Business/F		\$5,00	_	9	=	45,000			
32. Personal P	roperty	<u>\$40,00</u>		- 5	=	200,000			
33. (Lines 28 tl		40,00	- ^		_		TOTAL PHASE	AE	\$400.000
34. Relocation	Services Cost			\$49,000	(Not in I	Phase Total)	TOTAL PHASE	45	\$490,000
35.	Color Manusco		_	430,000	(itot iii i	Hude Total)			
36.					-				
37.						(All Phases)	TOTAL ESTIMA	ATE	\$3,449,500
Real Estate:	Roger D. Patton	Signed:		90	MIC		Date:	01/15/19	40,110,000
Bus. Dam. :	Alfred J. Thompson	Signed:		a.J. Th	man	_	Date:	01/15/19	
Relocation:	Roger D. Patton	Signed:	_	(170)	之他二		Date:	01/15/19	
Overall Review	Alfred J. Thompson	Signed:	-	a.g. TA	myse		Date:	01/15/19	
Cost Estimate	Sequence #	Dated:	le.	the Amount of \$. /	_		21027	
REMARKS:	oquonoc w.	Dateu.	""	the Amount of a			Data Input Comp	letion Date:	
TLIBUTIO.									
	This estimate	e is for SMF-16B and	is the	e first estimate v	we have p	erformed for	this alternate.		
The following in	ndicates the estimato	e most confidence		e estimate:					
	Type B - indicates al	Dove average confident	ence						
X	Type C - indicates be	elow average confide	ence						
	Type D - indicates th	e least or no confide	ence						
The following is	rdicates the Danadar	antia museus e e e e e				-			
Work Program Comments:	ndicates the Departme Update:	ent's purpose for this Gaming 1:	esti	mate:	Special	Purpose: _	x	Docs to RW:	

Parcels Gros Commercial Residential Unimproved Total Parcels R/W SUPPORT COST 1. Direct Labor Cost 2. Indirect Overhead 3. R/W OPS (PHASE 4B) 4. Appraisal Fees Ti	From S. of 54th Ave to so Net 0 0 0 8 8 8 1 2 9 10 6 (PHASE 41) (Parcels (Parcels CPA Fees Through Trial Process Servers	10 10 rial 50%	Pon x x	SMF-16C N/A N/A nd Sites 20,000 =	,			2 8 0 0 10	10062698-1-12.19 Seven 4-Jan-19 N/A
State Rd.: N/A Project Des. 1-275 Parcels Gros Commercial Residential Unimproved Total Parcels R/W SUPPORT COST 1. Direct Labor Cost 2. Indirect Overhead 3. R/W OPS (PHASE 4B) 4. Appraisal Fees TI 5. Business Damage 6. Court Reporter & 7. Expert Witness 8. Mediators 9. Demolition, Asb. A 10. Miscellaneous Co 11. Appraisal Fee Res 12.	From S. of 54th Ave to so Net 0 0 0 8 8 8 1 2 9 10 6 (PHASE 41) (Parcels (Parcels CPA Fees Through Trial Process Servers	FAP#: 2 4th Ave North 10 10 110	x	N/A nd Sites 	,	Business Residential Signs Special Total Reloca	c.E. Sequence elocatees: atees Amount 200,000 0	2 8 0 0 10	
Project Des. I-275 Parcels Gros Commercial Residential Unimproved Total Parcels R/W SUPPORT COST 1. Direct Labor Cost 2. Indirect Overhead 3. R/W OPS (PHASE 4B) 4. Appraisal Fees TI 5. Business Damage 6. Court Reporter & 7. Expert Witness 8. Mediators 9. Demolition, Asb. A 10. Miscellaneous Co 11. Appraisal Fee Res 12.	S Net 0 0 0 8 8 8 1 2 9 10 6 (PHASE 41) (Parcels (Parcels Prough Trial CPA Fees Through T	10 10	x	20,000 =	,	Business Residential Signs Special Total Reloca	atees Amount 200,000	2 8 0 0 10	N/A
Parcels Gros Commercial Residential Unimproved Total Parcels R/W SUPPORT COST 1. Direct Labor Cost 2. Indirect Overhead 3. R/W OPS (PHASE 4B) 4. Appraisal Fees TI 5. Business Damage 6. Court Reporter & 7. Expert Witness 8. Mediators 9. Demolition, Asb. A 10. Miscellaneous Co 11. Appraisal Fee Res 12.	S Net 0 0 0 8 8 8 1 2 9 10 6 (PHASE 41) (Parcels (Parcels Prough Trial CPA Fees Through T	10 10 rial 50%	x	20,000 =	,	Business Residential Signs Special Total Reloca	Amount 200,000	8 0 0 10	
Residential Unimproved Total Parcels R/W SUPPORT COST: 1. Direct Labor Cost: 2. Indirect Overhead: 3. R/W OPS (PHASE 4B) 4. Appraisal Fees Ti: 5. Business Damage: 6. Court Reporter & 7. Expert Witness 8. Mediators 9. Demolition, Asb. A 10. Miscellaneous Co: 11. Appraisal Fee Residential	9 10 6 (PHASE 41) (Parcels (Parcels Trough Trial CPA Fees Through T	10 rial 50%			,	Residential Signs Special Total Reloca	Amount 200,000 0	8 0 0 10	
Unimproved Total Parcels R/W SUPPORT COST Direct Labor Cost Indirect Overhead R/W OPS (PHASE 4B) Appraisal Fees Ti Business Damage Court Reporter & Expert Witness Mediators Demolition, Asb. A Appraisal Fee Rev Appraisal Fee Rev	9 10 6 (PHASE 41) (Parcels (Parcels rough Trial CPA Fees Through T	10 rial 50%			,	Signs Special Total Reloca	Amount 200,000 0	0 0 10	
Total Parcels R/W SUPPORT COST Direct Labor Cost Indirect Overhead R/W OPS (PHASE 4B) Appraisal Fees TI Business Damage Court Reporter & Expert Witness Mediators Demolition, Asb. Appraisal Fee Rev Appraisal Fee Rev Appraisal Fee Rev Appraisal Fee Rev	9 10 S (PHASE 41) (Parcels (Parcels arough Trial CPA Fees Through T	10 rial 50%			,	Special Total Reloca	Amount 200,000 0	0 10	
R/W SUPPORT COSTS 1. Direct Labor Cost 2. Indirect Overhead 3. R/W OPS (PHASE 4B) 4. Appraisal Fees TI 5. Business Damage 6. Court Reporter & 7. Expert Witness 8. Mediators 9. Demolition, Asb. / 10. Miscellaneous Co 11. Appraisal Fee Rec 12.	Process Servers	10 rial 50%			,	Total Reloca	Amount 200,000 0	10	
1. Direct Labor Cost 2. Indirect Overhead 3. R/W OPS (PHASE 4B) 4. Appraisal Fees Ti 5. Business Damage 6. Court Reporter & 7. Expert Witness 8. Mediators 9. Demolition, Asb. A 10. Miscellaneous Co 11. Appraisal Fee Rev	(Parcels (Parcels Trough Trial CPA Fees Through T	10 rial 50%			,		200,000		
2. Indirect Overhead 3. R/W OPS (PHASE 4B) 4. Appraisal Fees TI 5. Business Damage 6. Court Reporter & 7. Expert Witness 8. Mediators 9. Demolition, Asb. A 10. Miscellaneous Co 11. Appraisal Fee Rev 12.	(Parcels rough Trial CPA Fees Through T Process Servers	10 rial 50%			,		200,000		
3. R/W OPS (PHASE 4B) 4. Appraisal Fees TI 5. Business Damage 6. Court Reporter & 7. Expert Witness 8. Mediators 9. Demolition, Asb. / 10. Miscellaneous Co 11. Appraisal Fee Rev 12.	rough Trial CPA Fees Through T Process Servers	rial 50%	x	0=	Rate)				
R/W OPS (PHASE 4B) 4. Appraisal Fees TI 5. Business Damage 6. Court Reporter & 7. Expert Witness 8. Mediators 9. Demolition, Asb. A 10. Miscellaneous Co 11. Appraisal Fee Rec 12.	CPA Fees Through T Process Servers	50%					TOTAL PHASE		
4. Appraisal Fees TI 5. Business Damage 6. Court Reporter & 7. Expert Witness 8. Mediators 9. Demolition, Asb. A 10. Miscellaneous Co 11. Appraisal Fee Rev 12.	CPA Fees Through T Process Servers	50%					TO THE THACE	41	\$200,000
 Business Damage Court Reporter & Expert Witness Mediators Demolition, Asb. A Miscellaneous Co Appraisal Fee Res 	CPA Fees Through T Process Servers	50%			40	Danasta		Amount	
 Expert Witness Mediators Demolition, Asb. A Miscellaneous Co Appraisal Fee Rev 					10 0		x 30,000 = x 19,000 =	300,000	
 Mediators Demolition, Asb. A Miscellaneous Co Appraisal Fee Rev 	Abata Supray ata		X	10 =	_	_	× 19,000 =	2,500	
 Demolition, Asb. A Miscellaneous Co Appraisal Fee Rev 	hato Survey etc	75%	X	10 =	•		x 30,000 =	240,000	
10. Miscellaneous Co 11. Appraisal Fee Rev 12.		75%	X	=	•		x 2,400 =	19,200	
12.	ntracts				8 0	Imprvmet 2 Per Project 2	,	120,000	
					Ö		5,000 =	0	
R/W I AND COSTS (DI							TOTAL PHASE		\$681,700
141 EVID 00212 (LI	IASE 43)	V					Amount	Subtotal	4001,100
13. Land, Improveme	nts & Severance Dama	ages					Amount	Subtotal	
and Cost to Cure		0	x	120% *	Design	plan stage =	= 0		
14. Water Retention 8		1,161,663	X			w/o R/W Acq			
15. SUBTOTAL (56,62					(Lines 1	3 &14)		1,394,000	
16. Admin, Settlemen		20%	X		f Line 15)		=167,300		
17. Litigation Awards 18. Business Damage	(Factor	45%	X		f Line 15)	=	250,900		
19. Bus. Damages inc	r (Factor	259/	X	0)		=	0		
20. Owner Appr. Fees		<u>25%</u>	X X	\$ -)		_	0		
21. Owner CPA Fees		0	x	\$15,000) \$16,000)		8			
	(Sum of Lines 16, 17 & 19)		x	33%)		9.5 4.5	138,000		
23. Owner Expert Wit		0	+		x <u>18,0</u> 00	2			
24. Other Condemn. (osts	10	X	\$1,000			MARGONIC		
25. SUBTOTAL					(Lines 1	6 thru 24) =		752,200	
26. * Dooign continues	e						TOTAL PHASE	43	\$2,146,200
(1) PD&E plans	for design plan stage - 120% (2) 30% plans	: : - 115% (3) 60'	% pl	lans - 110% (4)	90% nlan	e -105% (5)	269 Dato 4009/		
	NSULTANT (PHASE 4		· p.	11070 (4)	30% plan	3-100/8 (3)	200 Date - 100%		
	Itant-50% of parcels	\$20,000	x	0			TOTAL PHASE	42	
RELOCATION COSTS							TOTAL PHASE	42	\$(
Repla	cement Housing			Number		Amount			
28. Owner		\$35,000		6	=	210,000			
29. Tenant	Costs	\$25,000	X	2	=	50,000			
30. Residential	Cosis	\$5,000	v		122	40.000			
31. Business/Farm		\$40,000	X	2	=	<u>40,000</u> 80,000			
32. Personal Property		\$3,000	x	0	_	00,000			
33. (Lines 28 thru 32)							TOTAL PHASE	45	\$380,000
34. Relocation Servic	es Cost			\$38,000	(Not in F	hase Total)			
						/A II Di	(
	D. Detter	01	-	(20) and (180).		(All Phases)	TOTAL ESTIMA	ATE	\$3,407,900
			- 4	THE HUN	-		Date:	01/15/19	
	D. Patton		Y	addition of	V. 140	ngson	_		
		Signed:		4.9	Th	number			
2	eros w	-: · · · · · · ·		1	1	1		01110110	
	ce #: Dated:		<u>In t</u>	the Amount of \$		5571	ata Input Comp	letion Date:	
REMARKS:									
35. 36. 37. Real Estate: Rogel Bus. Dam. : Alfred	D. Patton J. Thompson D. Patton J. Thompson	Signed: Signed: Signed: Signed:	¥	\$38,000). The	(All Phases)	Date: Date: Date:	01/15/19 01/15/19 01/15/19 01/15/19	\$3,40

					RTMENT OF				HDR#:	10062698-1-12.19
FM#:	424501-1		Alternate:		SMF-18A			District:	TIDIO.	Seven
County:	Pinellas		Segment:		N/A			Date:		4-Jan-19
State Rd.: Project Des.	N/A	. of 54th Ave to	FAP#;	Don	N/A			C.E. Sequenc	e	N/A
Parcels	Gross Net		4tii Ave Nortii	POII	id Sites		Estimated Ro	elocatees:		
Commercial	0	0					Business		- 1	
Residential Unimproved	0	4					Residential		4	
- Inniproved							Signs Special		0	
Total Parcels	4	4					Total Reloca	tees	5	
R/W SUPPORT		•	_					Amount		
Direct Labo Indirect Over		(Parcels (Parcels	4	X	20,000 =			80,000		
3.		(- 2.00.0	/ 	^		· Nate	×	TOTAL PHAS	F 41	\$80,000
R/W OPS (PHA	SE 4B)			_		_		TOTALTTIAG	Amount	\$80,000
4. Appraisal f						4	Parcels x	30,000 =		
5. Business D	Damage CPA F	ees Through T			_	0	Claims x	,	= 0	
6. Court Repo	orter & Proces	s Servers	50%	X		. 2	Parcels x		-,	
8. Mediators	1633		75% 75%	X		: 3 : 3	Parcels x		,	
9. Demolition	, Asb. Abate.,	Survey, etc.		••		4	Imprvmet x	•	,	
10. Miscellane		i				0	Per Project x	15,000 =	= 0	
11. Appraisal f	ee Keview					0	Parcels x			
	70 (01405.4			-				TOTAL PHAS	E 4B	\$278,200
R/W LAND COS			2008					Amount	Subtotal	
	o Cure Amour		iges 0	x	120%	* Design	plan stage =	. 0		
14. Water Rete			1,318,713	x			w/o R/W Acq)			
15. SUBTOTAL	_ (174,474 SF)	•			((Lines 1		1,002,000	1,582,500	
16. Admin. Set			20%	х	60% c	of Line 15)	•	189,900		
17. Litigation A			45%	x	40%	of Line 15	==	284,900		
18. Business E			0	x	0)		=	0		
19. Bus. Dama			25%	X	<u>\$</u>)		=	0		
20. Owner App 21. Owner CPA			4	X	\$15,000)		=	60,000		
22. Defend.Att			474 800	X	<u>\$16,000</u>)		_	0		
23. Owner Exp			474,800	X +	33%)	x 18,000	. =	156,700		
24. Other Cond			4	x	\$1,000	A_10,000	<u>-</u> =	4,000		
25. SUBTOTAL	_					(Lines 1	16 thru 24) =	4,000	695,500	
26.						·	•	TOTAL PHAS		\$2,278,000
* Design contin	ngency for de	sign plan stage	i) - 4459/ (2) 60	07 :==	lana 4400/ /41	000/ =1=	4000/ (8)	200 0 4 4000		- Indiana da
				% p	lans - 110% (4)	90% piai	ns -105% (5)	268 Date -100%	<u> </u>	·
R/W ACQUISIT 27. Acquisition			•		•			(=====================================		
RELOCATION			\$20,000	X	0			TOTAL PHAS	E 42	\$0
INCESSOR HON	Replacemen				Number		Amount			
28. Owner		.	\$35,000	х	3	=	105,000			
29. Tenant			\$25,000	X	1	=	25,000			
30. Residentia	Move Costs		\$5,000		4	_	20.000			
31. Business/F	-		\$5,000 \$40,000	×		=	<u>20,000</u> 40,000			
32. Personal P	roperty		\$3,000	X	0	=	0		-	
33. (Lines 28 t	,	•		ř.				TOTAL PHAS	E 45	\$190,000
34. Relocation	Services Cos	t			\$19,000	(Not in	Phase Total)			
35. 36.										
37.							(All Dhases)	TOTAL FOTIL		
Real Estate:	Roger D. Pat	ton	Signed:		FORTION		(All Phases)	TOTAL ESTIN		\$2,826,200
Bus. Dam, :	Alfred J. Tho		_Signed: Signed:		- TO DUM	10,7	-1.	_ Date: _ Date:	01/15/19 01/15/19	
Relocation:	Roger D. Pat	tton	Signed:		PORCHOR	-1.4	myse	_ Date:_ Date:	01/15/19	
Overall Review	: Alfred J. Tho	mpson	Signed:		-	2.9.7	home	Date:	01/15/19	
Cost Estimate	Sequence #	Dated:		le.	the Amount of	0	1	ata Iranii O	-lette- D	
REMARKS:	ocquence w.	Dated.		'''	the Amount or	,		ata Input Com	pletion Date:	
TEMATINO.										
	This	estimate is for	SMF-18A. The	prio	r estimate date	d July 30,	2018 include	d only a portion	of this current	alternate
	This	alternate now i	nicudes 4 parc	els v	vith above aver	age resid	ential improve	ements.		
The following i	ndicates the e	stimator's conf	idence in the a	bov	e estimate:					
		cates the most								
×	Type C - indi	icates above av icates below av	erage confider erage confider	ICE						
	Type D - indi	icates the least	or no confiden	ce				or or		
The following i	ndicates the D	epartment's ρι	rpose for this	estir	nate:					
Work Program Comments:	update:		Gaming 1:			Special	Purpose:	Х	_Docs to RW:	
				_						

	ı	FLORIDA DEF DISTRICT SEVE						HDR#:	10062698-1-	42.40
FM#:	424501-1	Alternate:		-18B			District:	HDRW.	Seven	12.19
County:	Pinellas	Segment:	N/A				Date:		4-Jan-19	
State Rd.: Project Des.	N/A I-275 From S. of 54th Ave	FAP#:	N/A	_			C.E. Sequence	•	N/A	
Parcels	Gross Net	e to 4th Ave North i	ond Site	/ S		Estimated R	elocatees:			
Commercial	1 1					Business	oloogiaga,	0		
Residential	0 0					Residential		0		
Unimproved	0 0					Signs		0		
Total Parcels	1 1					Special Total Reloca	tone	0		
	COSTS (PHASE 41)					Total Reloca	Amount			-
1. Direct Labo		1	x	20,000 :	= Rate)	1	20,000			
2. Indirect Ove	erhead (Parcels		x	0			0			
3.							TOTAL PHASE	41		\$20,000
R/W OPS (PHA							William Towns of the London Street	Amount		
4. Appraisal F	Fees Through Trial Damage CPA Fees Throug				1	Parcels x	,			
	orter & Process Servers	n iriai 50%	•	4 .	- 0	Claims x	•			
7. Expert Witi			, —	-	- 1	Parcels x				
8. Mediators		75%	x	1	= 1	Parcels x	•	,		
9. Demolition	, Asb. Abate., Survey, etc.				0	Imprvmet x		. 0		
10. Miscellane 11. Appraisal f					0	Per Project x	12000000000			
12.	OU NOTICE				U	Parcels x	5,000 =			400.000
	STS (PHASE 43)						dli	THE RESERVE		\$62,900
	ovements & Severance Da	amanoe					Amount	Subtotal		
	o Cure Amount		x	120%	* Design	plan stage =	. 0			
1	ention & Mit. (0 Ponds)	326,700	x			w/o R/W Acq				
15. SUBTOTAL		320,700	^	12070	(Lines 1		392,000	392,000		
	tlement: (Factor	20%	x	100%	of Line 15)	,	78,400	392,000		
	Awards (Factor	45%	x		of Line 15)					
	Damages (Claims	0	x	0)	=	0			
	ges Incr (Factor		x \$	- 1)		0			
	or Fees (Parcels	1		\$15,000	5).	=	15,000			
	A Fees (Claims		х	\$16,000	•	:=				
	y Fees (Sum of Lines 16, 17 & Pert Witn (Comm.+Unimp.)		x	33%	•		25,900			
24. Other Cond		1	*	\$1,000) x <u>18,000</u>	_ =				
25. SUBTOTAL			^	41,000	(Lines 1	= = (16 thru 24	1,000	138,300		
26.					(=00		TOTAL PHASE			530,300
* Design conti	ngency for design plan st	age:								,000,000
	plans - 120% (2) 30% pl		oplans -	110% (4)) 90% plar	rs -105% (5)	268 Date -100%			
1	ION CONSULTANT (PHAS									
	n Consultant-50% of parcels	\$20,000	х	0			TOTAL PHASE	42		\$0
RELOCATION	COSTS (PHASE 45) Replacement Housing									
28. Owner	Replacement nousing	\$30,000		Number	_	Amount 0				
29. Tenant			x	0	<u> </u>					
	Move Costs	20.7								
30. Residentia		\$5,000		0	=	0				
31. Business/F 32. Personal P			x	0	=	0				
33. (Lines 28 t			×		=		TOTAL PHASE	45		***
	Services Cost			\$0	(Not in	Phase Total)	TOTAL PHASE	: 40		\$0
35.					(itot iii	· nace rotary				
36.										
37.					***************************************	(All Phases)	TOTAL ESTIM	ATE		\$613,200
Real Estate:	Roger D. Patton	Signed:	100	CHON	-		Date:	01/15/19		
Bus. Dam. :	Alfred J. Thompson	Signed:	-	The last	2.4.7	Longson	Date:	01/15/19		
Relocation:	Roger D. Patton : Alfred J. Thompson	Signed:	37	25 min		,	Date: _	01/15/19		
Overall Review	- Anteu J. Thompson	Signed:		V.	C-y. 1-	hongism	_ Date: _	01/15/19		
Cost Estimate	Sequence #: Dat	ed:	In the A	mount of	\$ V	- "	Data Input Comp	letion Date:		
REMARKS:	Administrative Settleme	nt and Litigation Av	vards ha	ve been a	diusted to					
	settlement is considered	to be 100%, while	litigation	is factor	red at zero	•	7,1			
	T									
	This estimate is for SMF	-18B. The prior est	timate da	ited July	30, 2018 w	as for a small	ler site, but the	unit price is ur	rchanged.	
1										
	W.									
The following i	ndicates the estimator's c		ove esti	mate:						
	Type A - indicates the m									
x	Type B - indicates above Type C - indicates below	average confident	ce co							
	Type D - indicates the le	ast or no confident	:e							
The following i	ndicates the Department's	s purpose for this e	stimate:					V		
Work Program	Update:	Gaming 1:			Special	Purpose:	x	Docs to RW:		
Comments:										

		DIS	TRICT SEV	/FN	DICHT OF V	NAV CC	OST ESTIM	ATE		
FM#:	42450	1-1	Alternate:	4-7.	SMF-20A	VAT CC	JSI ESIIM		HDR#:	10062698-1-12.19
County:	Pinella		Segment:		N/A			District: Date:		Seven 4-Jan-19
State Rd.: Project Des.	N/A		FAP#:	1120	N/A			C.E. Sequence	*	N/A
Parcels	Gross	rom S. of 54th Ave to Net	4th Ave North	Por	nd Sites			·		
Commercial	1				^ i		Estimated R	elocatees:		
Residential	0						Business Residential		0	
Unimproved	0	0	OF				Signs			
Total Parcels							Special			
R/W SUPPORT	00070	1					Total Reloca	tees	0	
1. Direct Labo	or Cost	(PHASE 41) (Parcels			00.000			Amount		
2. Indirect Ov		(Parcels	1		<u>20,000</u> =	Rate) Rate)		20,000		
3.		(^		Rate		TOTAL PHASE	44	
R/W OPS (PHA	SE 4B)							TOTAL PHASE		\$20,000
4. Appraisal	Fees Thr	ough Trial				1	Parcels x	30,000 =	Amount 30,000	
5. Business	Damage	CPA Fees Through T	rial			Ö	Claims x	•	30,000	
6. Court Rep	orter & P	rocess Servers	50%	X	=	1	Parcels x	•	500	
8. Mediators	11622		75%	X		1	Parcels x	,	30,000	
	n, Asb. Al	bate., Survey, etc.	75%	X	=	1 0	Parcels x		2,400	
10. Miscellane	ous Con	tracts				0	Imprvmet x Per Project x	15,000 = 15,000 =	0	
11. Appraisal	Fee Revi	ew				Ö	Parcels x	•	0	-
12.								TOTAL PHASE		\$62,900
R/W LAND CO								Amount	Subtotal	402,500
13. Land, Impi	rovement	s & Severance Dama	ges					·····varit	-0010MI	
and Cost			0	x			plan stage =			22
14. Water Rete	ention &	Mit. (0 Ponds)	357,192	x			w/o R/W Acq)			-
15. SUBTOTAL	L (91,746)				(Lines 1			428,600	9
16. Admin. Set	ttlements	(Factor	20%_	x		f Line 15)		0		
17. Litigation /	Awards Domogoo	(Factor	45%	X		Line 15)	=	192,900		
19. Bus. Dama	ramayes	(Claims	0	X	0)		=	0		
20. Owner App	rges iller nr. Fees	(Parcole	25%	X	\$ -)		=	0		
21. Owner CP			1	x	\$15,000)		=	10,000		
		(Sum of Lines 16, 17 & 19)		x	\$16,000) 33%)		- 5	0		
23. Owner Exp	ert Witn	(Comm.+Unimp.)	102,000	+		18,000		63,700		
24. Other Cond	demn. Co	sts	1	x	\$1,000	10,000	·	1,000		
25. SUBTOTAL	L					(Lines 1	6 thru 24) =	1,000	290,600	
26.						•	- /	Character of the latest and the late		
naci - 200703.000								TOTAL PHASE	43	\$719 200
* Design conti	ngency f	or design plan stage:	4459/ /20 60	0/ -1	4400/ 74			TOTAL PHASE	43	\$719,200
(1) PD&I	E plans -	120% (2) 30% plans	- 115% (3) 60	% pl	ans - 110% (4)	90% plan	s -105% (5)		43	\$719,200
(1) PD&I	E <i>plans -</i> ION CON	120% (2) 30% plans SULTANT (PHASE 42	- 115% (3) 60 2)			90% plan	s -105% (5) 2	268 Date -100%		
(1) PD&I R/W ACQUISIT 27. Acquisition	E <i>plans -</i> ION CON n Consult	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels	- 115% (3) 60 2)	% pl	ans - 110% (4)	90% plan	s -105% (5) 2			
(1) PD&I	E plans - ION CON n Consult COSTS (I	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45)	- 115% (3) 60 2)		0	90% plan	2	268 Date -100%		
(1) PD&I R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner	E plans - ION CON n Consult COSTS (I	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels	- 115% (3) 60 2) \$20,000			90% plan	Amount	268 Date -100%		
(1) PD&I R/W ACQUISIT 27. Acquisition RELOCATION	E plans - ION CON n Consult COSTS (I Replac	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	- 115% (3) 60 2)	x	0	90% plan = =	2	268 Date -100%		
(1) PD&I R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner 29. Tenant	E plans - ION CON n Consult COSTS (I Replace	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	- 115% (3) 60 2) \$20,000 \$30,000 \$25,000	x	0	=	Amount 0	268 Date -100%		
(1) PD&I R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner 29. Tenant 30. Residentia	E plans - ION CON n Consult COSTS (I Replace Move C	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	- 115% (3) 60 2) \$20,000 \$30,000 \$25,000 \$5,000	x x x	Number 0 0		Amount 0 0	268 Date -100%		
(1) PD&I R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner 29. Tenant 30. Residentia 31. Business/F	E plans - ION CON n Consult COSTS (I Replace Move C	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	- 115% (3) 60 2) \$20,000 \$30,000 \$25,000 \$5,000 \$40,000	x x x	0 Number 0 0 0	=	Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	268 Date -100%		
(1) PD&I R/W ACQUISIT 27. Acquisition RELOCATION (28. Owner 29. Tenant 30. Residentia	E plans - ION CON n Consult COSTS (I Replace Move Coll Farm Property	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	- 115% (3) 60 2) \$20,000 \$30,000 \$25,000 \$5,000	x x x	Number 0 0		Amount 0 0	268 Date -100%	42	\$0
(1) PD&I R/W ACQUISIT 27. Acquisition RELOCATION (2) 28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 ti 34. Relocation	E plans - ION CON CONSULT COSTS (I Replace Move Col Farm Property hru 32)	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	- 115% (3) 60 2) \$20,000 \$30,000 \$25,000 \$5,000 \$40,000	x x x	0 Number 0 0 0		Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	268 Date -100%	42	
(1) PD&I R/W ACQUISIT 27. Acquisition RELOCATION (2) 28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 ti 34. Relocation 35.	E plans - ION CON CONSULT COSTS (I Replace Move Col Farm Property hru 32)	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	- 115% (3) 60 2) \$20,000 \$30,000 \$25,000 \$5,000 \$40,000	x x x	0 Number 0 0 0		Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	268 Date -100%	42	\$0
(1) PD&I R/W ACQUISIT 27. Acquisition RELOCATION (2) 28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 ti 34. Relocation 35. 36.	E plans - ION CON CONSULT COSTS (I Replace Move Col Farm Property hru 32)	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing	- 115% (3) 60 2) \$20,000 \$30,000 \$25,000 \$5,000 \$40,000	x x x	0 Number 0 0 0	= = = = = (Not in F	Amount 0 0 0 0 0 0 0 Phase Total)	TOTAL PHASE	42	\$0
(1) PD&I R/W ACQUISIT 27. Acquisition RELOCATION (2) 28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 tl 34. Relocation 35. 36. 37.	Move Communication Move C	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing costs	- 115% (3) 60 2) \$20,000 \$30,000 \$25,000 \$40,000 \$3,000	x x x	0 Number 0 0 0 0	= = = = = (Not in P	Amount 0 0 0 0 0 0 0 Phase Total)	268 Date -100%	42	\$0 \$0
(1) PD&I R/W ACQUISIT 27. Acquisition RELOCATION (2) 28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 til 34. Relocation 35. 36. 37. Real Estate:	Move Company of the constant o	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing costs S Cost	- 115% (3) 60 2) \$20,000 \$25,000 \$5,000 \$40,000 \$3,000	x x x	0 Number 0 0 0	= = = = = (Not in P	Amount 0 0 0 0 0 0 0 Phase Total)	TOTAL PHASE	42	\$0 \$0
(1) PD&I R/W ACQUISIT 27. Acquisition RELOCATION (2) 28. Owner 29. Tenant 30. Residentia 31. Business/F 32. Personal P 33. (Lines 28 tl 34. Relocation 35. 36. 37. Real Estate: Bus. Dam.:	Move College Move	120% (2) 30% plans SULTANT (PHASE 42 ant-50% of parcels PHASE 45) ement Housing costs Cost D. Patton J. Thompson	- 115% (3) 60 2) \$20,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000	x x x	0 Number 0 0 0 0	= = = = = (Not in P	Amount 0 0 0 0 0 0 0 Phase Total)	TOTAL PHASE TOTAL PHASE	42 45	\$0 \$0
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1. Direct Lab 2. Indirect Ox 3. R/W OPS (PH/ 4. Appraisal 5. Business 6. Court Rep 7. Expert Wi 8. Mediators	Gross Net 0 0 1 1 T COSTS (PHAS or Cost /erhead ASE 4B) Fees Through	0 0 1	Alternate: Segment: FAP#: 0 4th Ave North	n Poi	SMF-20B N/A N/A nd Sites		Estimated Ri Business Residential Signs Special	District: Date: C.E. Sequence	0 0	Seven 4-Jan-19 N/A
Project Des. Parcels Commercial Residential Unimproved Total Parcels R/W SUPPOR 1. Direct Lab 2. Indirect Od 3. R/W OPS (PH/ 4. Appraisal 5. Business 6. Court Rep 7. Expert Wi 8. Mediators	I-275 From S Gross Net 0 0 1 1 T COSTS (PHAS or Cost /erhead	0 0 1 1 1 SE 41) (Parcels	FAP#: o 4th Ave North	Poi	N/A		Business Residential Signs	C.E. Sequence	0 0	
Parcels Commercial Residential Unimproved Total Parcels R/W SUPPOR 1. Direct Lab 2. Indirect Ox 3. R/W OPS (PH/ 4. Appraisal 5. Business 6. Court Rep 7. Expert Wi 8. Mediators	Gross Net 0 0 1 1 T COSTS (PHAS or Cost /erhead ASE 4B) Fees Through	0 0 1 1 1 SE 41) (Parcels	1	Poi	nd Sites		Business Residential Signs		0 0	N/A
Commercial Residential Unimproved Total Parcels R/W SUPPOR 1. Direct Lab 2. Indirect Ox 3. R/W OPS (PH/ 4. Appraisal 5. Business 6. Court Rep 7. Expert Wi 8. Mediators	Gross Net 0 0 1 1 T COSTS (PHAS or Cost /erhead ASE 4B) Fees Through	0 0 1 1 1 SE 41) (Parcels	1				Business Residential Signs	elocatees:	0	
Residential Unimproved Total Parcels R/W SUPPOR 1. Direct Lab 2. Indirect Ox 3. R/W OPS (PH/ 4. Appraisal 5. Business 6. Court Rep 7. Expert Wi 8. Mediators	T COSTS (PHAS or Cost /erhead	1 1 SE 41) (Parcels					Residential Signs		0	
Unimproved Total Parcels R/W SUPPOR 1. Direct Lab 2. Indirect Ox 3. R/W OPS (PH/ 4. Appraisal 5. Business 6. Court Rep 7. Expert Wi 8. Mediators	T COSTS (PHASOF COST / PHASOF	1 SE 41) (Parcels					Signs		0	
R/W SUPPOR' 1. Direct Lab 2. Indirect Or 3. R/W OPS (PH/ 4. Appraisal 5. Business 6. Court Rep 7. Expert Wi 8. Mediators	or Cost verhead ASE 4B) Fees Through	1 SE 41) (Parcels					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
R/W SUPPOR' 1. Direct Lab 2. Indirect Or 3. R/W OPS (PH/ 4. Appraisal 5. Business 6. Court Rep 7. Expert Wi 8. Mediators	or Cost verhead ASE 4B) Fees Through	(Parcels								
1. Direct Lab 2. Indirect Ox 3. R/W OPS (PH/ 4. Appraisal 5. Business 6. Court Rep 7. Expert Wi 8. Mediators	or Cost verhead ASE 4B) Fees Through	(Parcels		_			Total Reloca	tees	0	
2. Indirect Ox 3. R/W OPS (PH/4. Appraisal 5. Business 6. Court Rep 7. Expert Wir 8. Mediators	verhead ASE 4B) Fees Through							Amount		
3. R/W OPS (PH/ 4. Appraisal 5. Business 6. Court Rep 7. Expert Wi 8. Mediators	ASE 4B) Fees Through	(Parcels			20,000 =	Rate)	20,000		
R/W OPS (PH/ 4. Appraisal 5. Business 6. Court Rep 7. Expert Wi 8. Mediators	Fees Through		1	X	0 =	Rate)	0		1/
 Appraisal Business Court Rep Expert Wi Mediators 	Fees Through							TOTAL PHASE	41	\$20,000
 Business Court Rep Expert Wi Mediators 	Damage CPA F								Amount	7.5,10
6. Court Rep 7. Expert Wi 8. Mediators	Damage CPA F	Trial				1	Parcels x	30,000 =	30,000	
7. Expert Wi 8. Mediators	Orter & Proces	ees inrough i				0	Claims x	19,000 =	0	
8. Mediators		Servers	<u>50%</u> 75%	X	1	1	Parcels x		500	
9. Demolition			75%	X		• 1 • 4	Parcels x	,	30,000	
(n, Asb. Abate.,	Survey, etc.	.070	^		. ,	Parcels x	_,	2,400	
10. Miscelland	ous Contracts					ŏ	Per Project x		0	
11. Appraisal	Fee Review					0	Parcels x		Ö	
12.	-							TOTAL PHASE	4B	\$62,900
R/W LAND CO	STS (PHASE 43	3)						Amount	Subtotal	
13. Land, Imp	rovements & Se	everance Dama	ages						Oubtotal	
	to Cure Amoun		0	X	120%	* Design	plan stage =	0		
14. Water Ret	ention & Mit. (0	Ponds)	654,024	X			w/o R/W Acq)			
15. SUBTOTA						(Lines 1			784,800	
	ttlement: (Facto		20%	X		f Line 15)		0	13.1333	3
17. Litigation	Awards (Facto)r	45%	×	100% c	of Line 15)	=	353,200		
10. Dusiness	Damages (Clain	ns -	0	Х	0)		=	0		
20 Owner An	pr. Fees (Parce	or No.	25%	Х	_\$)		=	0		
21. Owner CP.	A Fees (Claim		1	X	\$15,000)		=	15,000		
	ty Fees (Sum of		353 300	X	\$16,000)		=	0		
23. Owner Ex	pert Witn (Com	" - I lnimn \		X	33%_)	W 40.000	=	116,600		
24. Other Con	demn. Costs	Ommp.,	0	†		x 18,000		18,000		
25. SUBTOTA				X	\$1,000	(l ince 4	E 4h 24)	1,000	(2-202-1-20-1/1)	D)
26.						(Lines 1	6 thru 24) =	TOTAL BULGE	503,800	
* Design conti	ingency for des	ign plan stage	:					TOTAL PHASE	43	\$1,288,600
(1) PD&	E plans - 120%	(2) 30% plans	- 115% (3) 60	% pl	ans - 110% (4)	90% plan	s -105% (5) 2	268 Date -100%	61	
R/W ACQUISIT	ION CONSULT	ANT (PHASE 4	2)							
	n Consultant-50		\$20,000	X	0			TOTAL PHASE	42	\$0
RELOCATION	COSTS (PHASE									
28. Owner	Replacement	Housing			Number	±3	Amount			
29. Tenant			\$30,000	X	0	=	0			
Lot Foliant	Move Costs		\$25,000	X	<u>0</u>	=	0	32		
30. Residentia			\$5,000	x	0	1=				
31. Business/I			\$40,000	x	0	=	0			
32. Personal P	roperty		\$3,000	X	0	=				
33. (Lines 28 t					•			TOTAL PHASE	45	\$0
-	Services Cost				\$0	(Not in F	Phase Total)			
35. 36.						-				
37.										
Real Estate:	Boots D. T.						(All Phases)	TOTAL ESTIMA	TE	\$1,371,500
Real Estate: Bus. Dam. :	Roger D. Patt Alfred J. Thor	on	_Signed: _		TOOLUL	_		Date:	01/15/19	
Relocation:	Roger D. Patt	npson	_Signed: Signed:	_		4.4.	Thompson	Date:	01/15/19	
	: Alfred J. Thor	npson	Signed:		2000	0 -	-	Date:	01/15/19	
			olgiled.			a.y.	houghen	Date:	01/15/19	
Cost Estimate	Sequence #:	Dated:		In t	he Amount of \$	· ·	/ Da	ata Input Compl	otion Date:	
REMARKS:	Administrative	Settlement a	nd Litigation Av	ward	s have been ad	justed to	reflect one ou	nership. Admi	etion Date:	
	settlement is	considered to	be zero, while i	itiga	tion is factored	at 45%.	renect one ow	mersnip. Admir	nistrative	
		IS for SMF-20E	3. The prior es	tima	te dated July 30), 2018 on	this parcel w	as for a smaller	site.	
	This estimate			d		L				
	This estimate		notontial futur		evelopment of t	ne site ad	ided to the cos	st of this pond s	ite.	
	This estimate		e potential futu	ie de	•					
	This estimate		e potential futu	ie u						
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	This estimate Damages for of the discrete states and the discrete states are also as a second state are also as a second s	diminishing the	dence in the ab	ove				-		
The following in	This estimate Damages for of the distance of	diminishing the	dence in the ab confidence erage confidence	oove				· · · · · · · · · · · · · · · · · · ·		
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The following in X	This estimate Damages for of the discrete streets Type A - indicates the estration of the discrete streets Type B - indicates the control of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the discrete streets Type C - indicates the estration of the discrete streets Type C - indicates the discrete streets Type C - indicat	timator's confi ates the most ates above ave ates below ave ates the least of partment's pur	dence in the ab confidence erage confidence erage confidenc or no confidence	oove ce ce	estimate:	Special F		х	Docs to RW:	

Appendix I. Environmental Look Around Documentation

TBN S2 ELA Approach

PD&E	Watershed	WBID	PD&E Preferred		ELA for Offsite Pond Replacement/Reduction	Stakeholder Approach
Basin 2	Upper Coastal	Boca Ciega Bay	Pond 2A	Ponds No	N/A - Ponds are within the ROW	N/A
7	Areas Tampa Bay And	Booker Creek	7B	Yes	N/N Tonus are within the Nov	1971
	Coastal Areas Tampa Bay And	BOOKEI CIEEK	76	163		
11	Coastal Areas	Booker Creek	11C	Yes	Utilizes ELA # 2 (expanded SMF 7B), ELA # 3 (expanded SMF 11C) or ELA # 4 for Water Quality Treatment and	Agreement with City of St. Pete for ELAs # 2, 3
12	Tampa Bay And Coastal Areas	Booker Creek	12A	Yes	Water Quantity Attenuation	or 4
13	Tampa Bay And Coastal Areas	Booker Creek	13B	Yes		
14	Upper Coastal Areas	Joe's Creek	14A	No	N/A - Ponds are within the ROW	N/A
15	Upper Coastal Areas	Joe's Creek	15A	Yes	Utilizes ELA #7, 8 or 9 for Water Quality Treatment &	Agreement with Pinellas County for ELAs #7, 8
16	Upper Coastal Areas	Joe's Creek	16A	Yes	ELA #10/SMF 17A for Water Quantity Attenuation	or 9 and 10
17	Tampa Bay And Coastal Areas	Sawgrass Lake Drain / 77th Avenue Canal	17A	No	Utilizes ELA #10 for Water Quality Treatment & Water Quantity Attenuation. Allows SMF 17A to provide Water Quantity Attenuation for Basins 15 and 16	N/A
18	Tampa Bay And Coastal Areas	Sawgrass Lake Drain / 77th Avenue Canal	18B	Yes	ELA #10 for Water Quality Treatment & Water Quantity Attenuation	Agreement with Pinellas County for ELA #10
19	Tampa Bay And Coastal Areas	Sawgrass Lake Drain / 77th Avenue Canal	19A	No	N/A - Ponds are within the ROW	N/A
20	Tampa Bay And Coastal Areas	Roosevelt Basin	20A	Yes	Utilize Water Quality Treatmeant Credits from the Old Tampa Bay Water Quality Improvement Project	Deduct Water Quality Treatment Credits from OTBWQ Project upon SWFWMD concurence

