District Seven

Pond Siting Report

Tampa Interstate Study
Supplemental Environmental Impact Statement

I-275 from Howard Frankland Bridge to North of Dr. Martin Luther King, Jr. Boulevard and I-4 from I-275 to East of 50th Street with New Alignment from I-4 South to the Existing Selmon Expressway and Improvements to the Selmon Expressway from the Kennedy Boulevard Overpass East to Maydell Drive

Hillsborough County, Florida

Work Program Item Segment Number 258337-2

Segments 2B, 3A & 3B

November 2019

No 59623

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ADDENDUM

Date: May 29, 2020

Name of Document: *Pond Siting Report*– Segments 2B, 3A and 3B

Project: Tampa Interstate Study
Supplemental Environmental Impact Study
I-275 from North of Rome Avenue to North of Dr Martin Luther King, Jr Boulevard
I-4 from I-275 to East of 50th Street
[Work Program Item Segment Number 258337-2]

Location: Hillsborough County, Florida

This addendum serves to document a change to the build project concept examined in the November 2019 *Pond Siting Report* (PSR) since the document was prepared and published on the Federal Highway Administration website.

When this November 2019 CSER was prepared, Design Option E for TIS Segments 2B and 3A was developed after the May 2019 Alternatives Public Workshop and was selected as the Recommended Locally Preferred Alternative. The Recommended Locally Preferred Alternative (presented at the project public hearing held on February 25 and 27, 2020) was later refined based on coordination with the City of Tampa, public comments received on the *Draft Supplemental Environmental Impact Statement* during the comment period for the public hearing, and as revealed through the *Supplemental Interchange Modification Report* process. The conceptual design refinements include widening of Reo Street, re-alignment of Lemon Street, and modified Downtown Tampa connections. The specific refinements, along with corresponding exhibits, are presented below. The Recommended Locally Preferred Alternative, as modified by the conceptual refinements, is identified now as the Preferred Alternative.

Refinements following the Public Hearing

Reo Street Widening (located in TIS Segment 1A) – Reo Street is proposed to be widened from Executive Drive to Cypress Street to accommodate a revised typical section. The proposed typical section includes two southbound lanes, a two-way left turn lane, and a single northbound lane. The second southbound lane will provide traffic capacity to the adjacent commercial properties, the new southbound I-275 entrance ramp and the thru-connection to W. Kennedy Boulevard. The two-way left turn lane will provide left-turn access to adjacent commercial properties on both sides of Reo Street without contributing to congestion in the through lanes. A southbound Reo Street right turn lane to Executive Drive and the southbound I-275 entrance ramp is added. Widening on Cypress Street at the intersection with Reo Street will accommodate an additional left turn lane from westbound Cypress Street to southbound Reo Street and a single right turn lane from eastbound Cypress Street to southbound Reo Street. Additionally, a shared use path is proposed along the west side of Reo Street providing connectivity from the proposed shared-use path across the Howard Frankland Bridge to Cypress Point Park. The roadway widening and shared-use path create impacts to four additional and one previously identified commercial properties, including some parking impacts. However, the widening does not impact Cypress Point Park. The City of Tampa will acquire the four additional right of way takings north of Gray Street and intends to extend the shared-use path through the Cypress Point Park.

Lemon Street Re-alignment (located in TIS Segment 1A) – The proposed concept design included within the draft SEIS has southbound I-275 on bridge structure over Lemon Street between Occident Street and West Shore Boulevard. A hydroplaning analysis on I-275 in this area determined that traffic within the express lanes would be prone to hydroplaning due to all general use and express lanes sloping toward the median. In order to mitigate this safety concern, Lemon Street is proposed to be shifted to the north side of I-275 so that I-275 between Occident Street and West Shore Boulevard can be constructed on roadway embankment and retaining wall. This allows for longitudinal trench drain to be positioned within the buffer between the general use lanes and the express lanes, thereby capturing the stormwater runoff from the general use roadway before it enters the express lanes which mitigates the hydroplaning issue. The proposed re-alignment of Lemon Street to the north side of I-275 impacts the adjacent commercial property. It is anticipated that the commercial property access from Lemon Street will need to be reconfigured or possibly relocated to Occident Street. FDOT owns the vacant parcel to the west of this commercial property which could be used to mitigate the impacts.

The Reo Street Widening and Lemon Street Re-alignment conceptual design refinements are located entirely outside the limits of Segments 2B. 3A and 3B and are not addressed further in this document. Additional information for these are included in the *Final Preliminary Engineering Report* for the Tampa Interstate Study Supplemental Environmental Impact Study – Segments 1A and 2A (prepared under separate cover).

Downtown Tampa Connections (located in Segment 2B) To achieve the City of Tampa's mission of enhancing the street grid and improving the safe movement of pedestrians and bicycles in TIS Segments 2B and 3A, the northbound I-275 General Purpose traffic will exit exclusively to Tampa Street, without direct connection to Ashley Drive. This will require the ramp bridge to be widened to two lanes with the ramp terminus at Tampa Street to provide two eastbound lanes to Scott Street and triple right turns to Tampa Street. To facilitate the northbound General Purpose ramp improvements, the ramp bridge from Ashley Drive to northbound I-275 will require reconstruction. The northbound Express Lane ramp connection to Ashley Drive will tie into the existing ramp pavement, eliminating the need to widen the ramp bridge over Laurel Street. The Preferred Alternative will also result in the following local street improvements (see **Figure A**):

- ➢ A new intersection of Ashley Drive at Fortune Street will be created, and Fortune Street will be connected to the Harrison Street/Tampa Street intersection, completing this street grid connection.
- ➢ The northbound Ashley Drive bridge/grade separation over the southbound ramp will be removed.
- ➢ Through a reversing S-curve, Laurel Street will be connected to Fortune Street, completed this street grid connection.
- ➢ A northbound Ashley Drive connection to Laurel/Fortune Street S-curve will be made.

  Minor widening of Scott Street is anticipated.

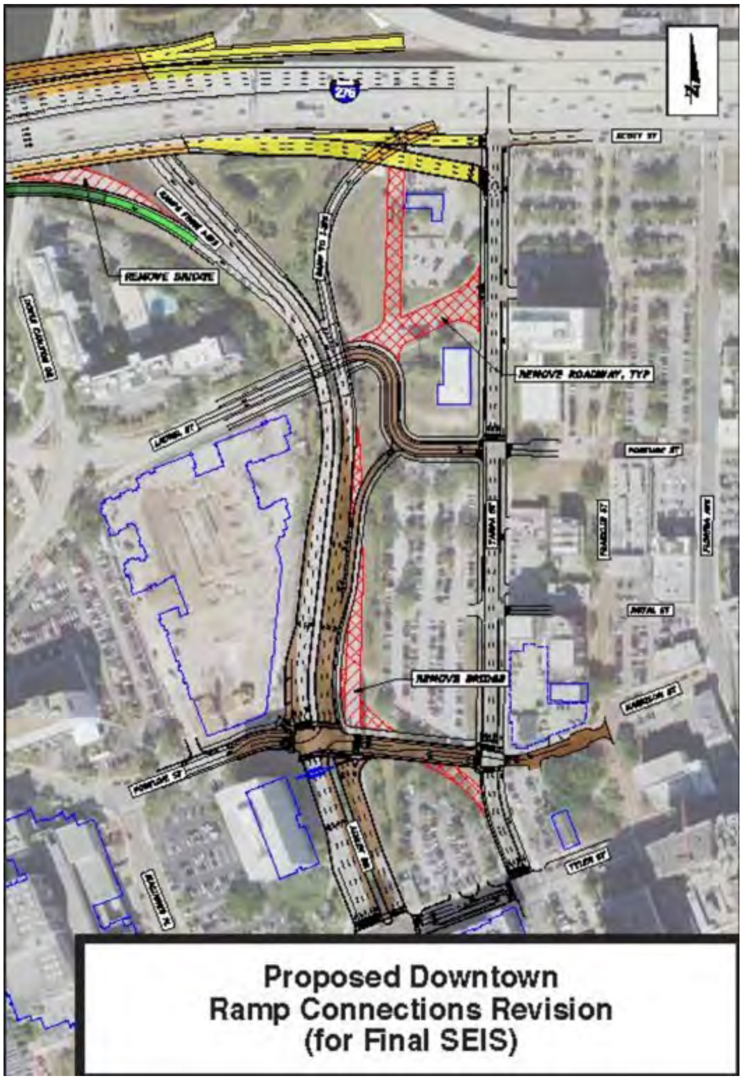

Figure A – Downtown Ramp Connection Revision

As a result of the refinements noted above, adjustments were made to the connections in the portion of I-275 between Rome Avenue and Ashley Drive/Tampa Street. The modified connection is shown in **Figure B**.

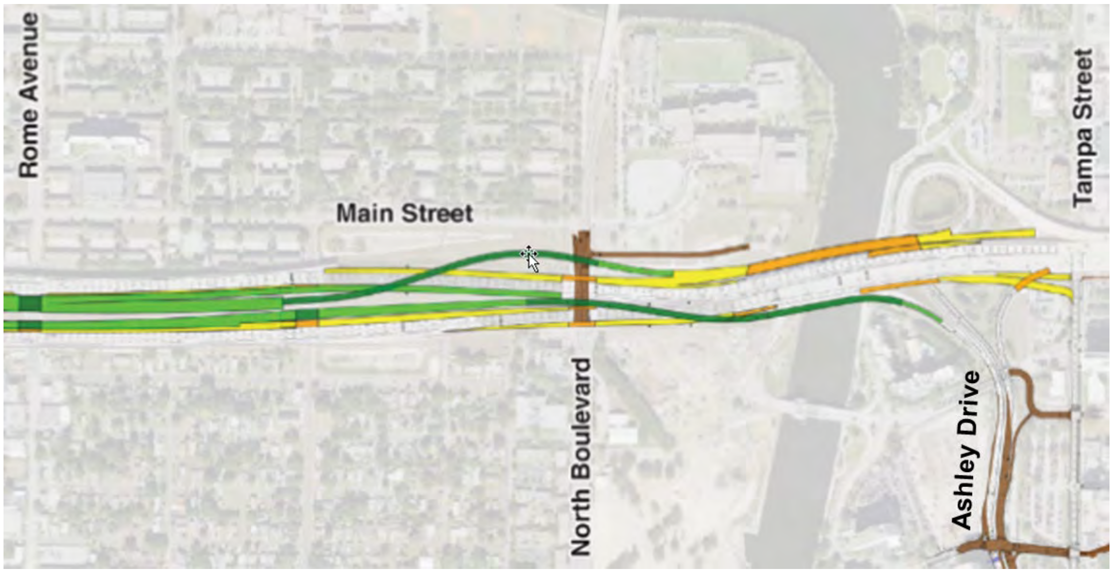

Figure B – I-275 Improvements Rome Avenue to Ashley Drive/Tampa Street

Scott Street

To accommodate the extensive growth that has recently occurred, and is projected to continue, in the Channel District in Tampa's east side, FDOT will widen Scott Street by 12 feet to the south for an additional lane for the one block between Morgan Street and Jefferson/Orange Streets. This will create four lanes, allowing for two entry lanes to northbound I-275, one lane combined to eastbound I-4/through lane, and one exclusive right turn lane to Jefferson/Orange Streets. The entrance ramp to northbound I-275 will be widened for several hundred feet, before tapering to a single lane. See **Figure C**.

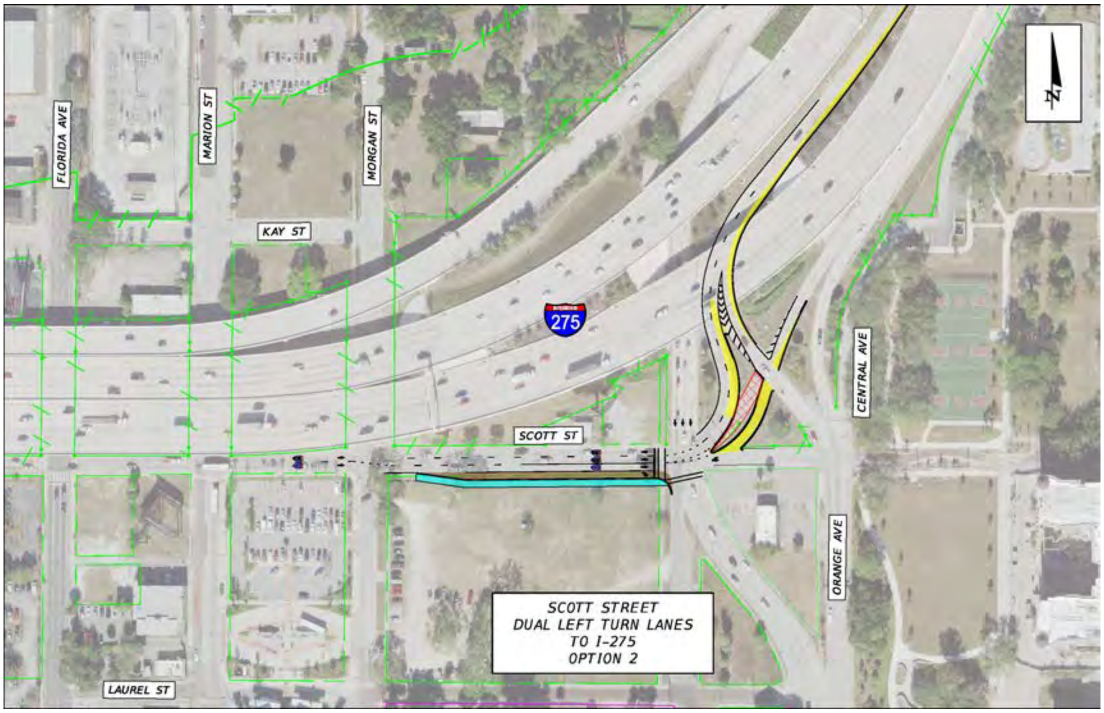

Figure C - Downtown Tampa Connection – Scott Street/Orange Avenue

All of the refinements discussed above combined with the LPA (Design Option E) to encompass the Preferred Alternative for Segments 2B and 3A and shown in **Figure D**. There are no improvements shown for Segment 3B.

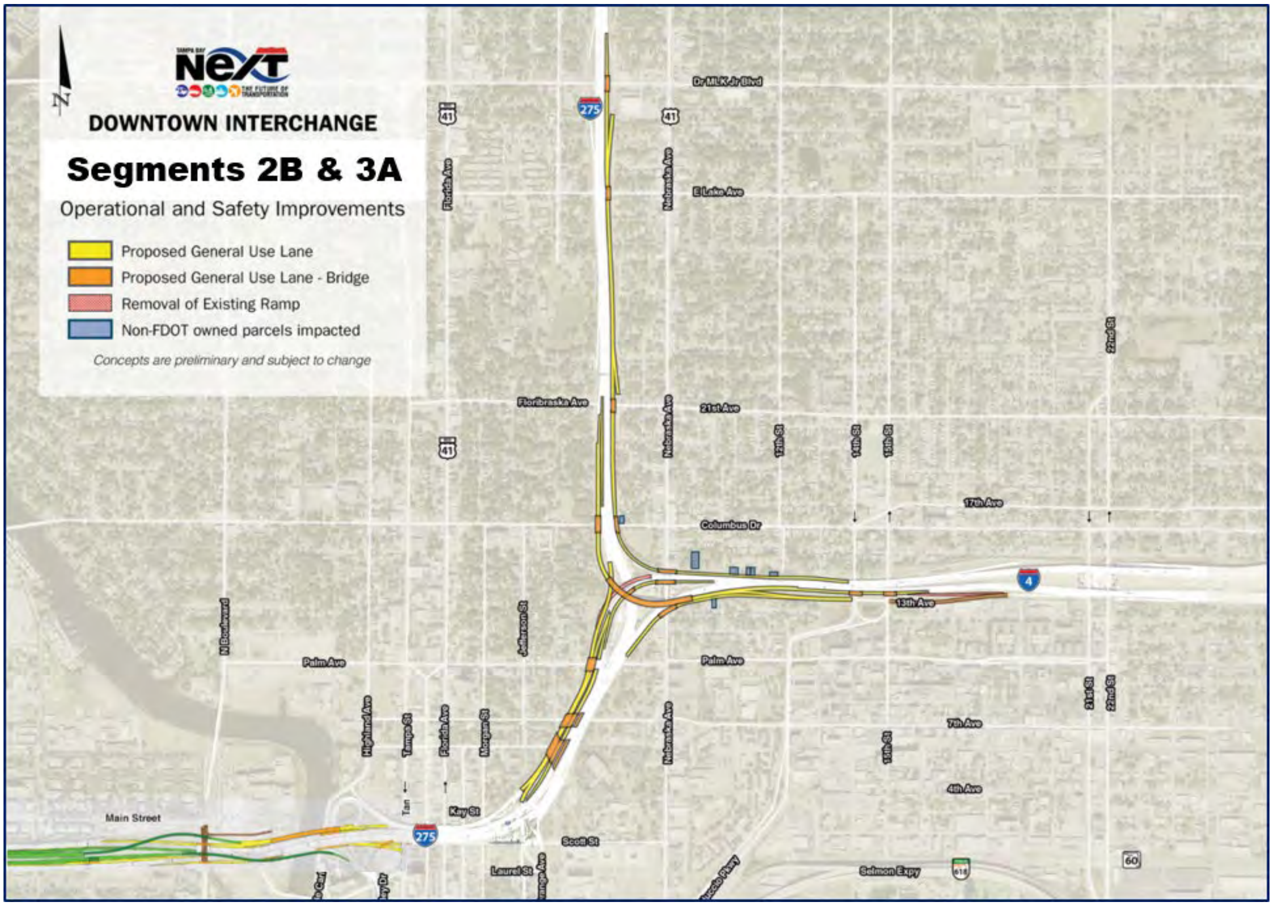

Figure D - Preferred Alternative for Segments 2B and 3A

Overall, anticipated potential pond sites of the Preferred Alternative remain consistent with those of the Recommended Locally Preferred Alternative as documented in this report. Further refinement of the pond shapes and volumes will be evaluated during the design phase.

SUMMARY

The Federal Highway Administration (FHWA) and Florida Department of Transportation (FDOT) have initiated the environmental review process for the Tampa Interstate Study (TIS) Project in Tampa, Hillsborough County, Florida. The study is a supplement to the 1996 Final Environmental Impact Statement (FEIS). FHWA issued the Records of Decision (ROD) in 1997 and 1999. FDOT and FHWA are conducting this study based on a proposed design change that includes a new alternative not previously considered, as well as modified alternatives presented in the 1996 TIS FEIS to accommodate tolled or non-tolled express lanes and other capacity and mobility improvement alternatives, some of which are being considered by FDOT in separate studies. FDOT, in coordination with FHWA, will prepare a Supplemental Environmental Impact Statement (SEIS) in accordance with the National Environmental Policy Act (NEPA) and other regulatory requirements.

The purpose of this Pond Siting Report (PSR) is to document the stormwater management facility (SMF) requirements for the TIS SEIS Segments 2B, 3A, and 3B of the TIS, along I-275 from Rome Avenue to North of Martin Luther King (MLK), Jr. Boulevard and I-4 from I-275 to East of 50th Street. The analysis looks at the stormwater management requirements for four separate roadway design options and identifies hydraulically feasible SMFs. The project study area limits are shown in **Figure 1-1** and in **Appendix B**.

Segment 2B traverses through six basins. Basins 1, 3, and 4 all currently provide stormwater management; Basins 2, 5, and 6 provide no stormwater management and are unpermitted. In general, all drainage basins discharge to the Hillsborough River, which is not listed impaired. When possible, existing SMFs were utilized in the proposed condition and evaluated as to whether they were adequately designed for future improvements or are in need of supplemental SMFs. Proposed SMFs within Basins 1 through 4 all drain to tidally influenced waters, and provide treatment only as attenuation is not required. Proposed SMFs within Basins 5 and 6 provide both treatment and attenuation, before discharging to the existing outfalls.

A primary objective of the analysis was to site proposed SMFs within the existing right of way (ROW) when possible. In situations where this was not possible, alternative offsite SMF sites were evaluated, including the avoidance of SMF sites by routing runoff to other basins. The stormwater management requirements for each of the five evaluated roadway design options A-E are further summarized below:

Design Option A

Basin 1: It was found that the two existing SMFs within Basin 1 were designed for future improvements, and are permitted with an impervious median. The existing SMFs are adequate.

Basin 2: Basin 2 does not currently provide any stormwater management. Two SMF alternatives, both within FDOT owned ROW, are proposed within this basin; only one is required, as stormwater treatment requirements can be adequately addressed with a single proposed SMF. Attenuation is not required. Basins 3 and 4 provide excess treatment volume greater than what is required for Basin 2 treatment, which would reduce or potentially eliminate the SMF need in Basin 2 since they share the same outfall discharge location.

Basin 3: Basin 3 provides both treatment and attenuation in the existing condition through two existing SMFs, which are proposed to be eliminated. The existing provided and required new treatment volume can be provided with four proposed SMFs within FDOT owned ROW; attenuation will not be required since the outfall will be improved to provide the required increased capacity.

Basin 4: Basin 4 provides both treatment and attenuation in the existing condition through two existing SMFs, which are proposed to be eliminated. The existing provided and required new treatment volume can be provided with two proposed SMFs within FDOT owned ROW; attenuation will not be required since the outfall will be improved to provide the required increased capacity.

Basin 5: Basin 5 does not currently provide any stormwater management, and is a closed / volume sensitive basin. Stormwater treatment and attenuation requirements can be adequately addressed with a single SMF, which is sited per the 1996 TIS FEIS, and requires the acquisition of 9 parcels, including historical building impacts. A no-pond alternative is described in **Alternative 2**.

Basin 6: Basin 6 does not currently provide any stormwater management. Two SMFs were evaluated to address stormwater treatment and attenuation requirements; only one of these is required. The first is sited per the 1996 TIS FEIS, and requires the acquisition of 13 parcels, which includes historical building impacts and has a high risk for contamination. The second SMF is sited underneath the I-75 Bridge over MLK, and requires the bridge to be extended by 450 ft. A no-pond alternative is described in **Alternative 2**.

Alternative 2: Alternative 2 is a no-pond alternative to the Basin 5 and 6 SMFs. The I-75 corridor is proposed to be piped south to Basin 4, and increases the number of proposed Basin 4 SMFs from two to four facilities. The outfall from Basin 4 to the Hillsborough River will then be further upgraded in size to accommodate the additional runoff. No attenuation is required.

Design Option B

Basin 1: It was found that the two existing SMFs within Basin 1 were designed for future improvements, and are permitted with an impervious median. The existing SMFs are adequate.

Basin 2: Basin 2 does not currently provide any stormwater management. Two SMF alternatives, both within FDOT owned ROW, are proposed within this basin; only one is required, as stormwater treatment requirements can be adequately addressed with a single proposed SMF. Attenuation is not required. Basins 3 and 4 provide excess treatment volume greater than what is required for Basin 2 treatment, which would reduce or potentially eliminate the SMF need in Basin 2 since they share the same outfall discharge location.

Basin 3: Basin 3 provides both treatment and attenuation in the existing condition through two existing SMFs, which are proposed to be eliminated. The existing provided and required new treatment volume can be provided with four proposed SMFs within FDOT owned ROW; attenuation will not be required since the outfall will be improved to provide the required increased capacity.

Basin 4: Basin 4 provides both treatment and attenuation in the existing condition through two existing SMFs, which are proposed to be eliminated. The existing provided and required new treatment volume can be provided with a single proposed SMF within FDOT owned ROW; attenuation will not be required since the outfall will be improved to provide the required increased capacity.

Basin 5: Basin 5 does not currently provide any stormwater management, and is a closed / volume sensitive basin. Stormwater treatment and attenuation requirements can be adequately addressed with a single SMF, which is sited per the 1996 TIS FEIS, and requires the acquisition of 2 parcels, including a historical building impact. A no-pond alternative is described in **Alternative 2**.

Basin 6: Basin 6 does not currently provide any stormwater management. Two SMFs were evaluated to address stormwater treatment and attenuation requirements; only one of these is required. The first is sited per the 1996 TIS FEIS, and requires the acquisition of 13 parcels, which includes historical building impacts and has a high risk for contamination. The second SMF is sited underneath the I-75 Bridge over MLK, and requires the bridge to be extended by 450 ft. A no-pond alternative is described in **Alternative 2**.

Alternative 2: Alternative 2 is a no-pond alternative to the Basin 5 and 6 SMFs. The I-75 corridor is proposed to be piped south to Basin 4. The proposed increase in the SMF size will provide the necessary treatment. The outfall from Basin 4 to the Hillsborough River will then be further upgraded in size to accommodate the additional runoff. No attenuation is required.

Design Option C

Basin 1: It was found that the two existing SMFs within Basin 1 were designed for future improvements, and are permitted with an impervious median. The existing SMFs are adequate.

Basin 2: Basin 2 does not currently provide any stormwater management. Two SMF alternatives, both within FDOT owned ROW, are proposed within this basin; only one is required, as stormwater treatment requirements can be adequately addressed with a single proposed SMF. Attenuation is not required. Basins 3 and 4 provide excess treatment volume greater than what is required for Basin 2 treatment, which would reduce or potentially eliminate the SMF need in Basin 2 since they share the same outfall discharge location.

Basin 3: Basin 3 provides both treatment and attenuation in the existing condition through two existing SMFs, which are proposed to remain. Attenuation of the additional runoff can be provided in a single proposed SMF within FDOT owned ROW. The treatment is provided in the existing SMFs and in SMF 4B.

Basin 4: Basin 4 provides both treatment and attenuation in the existing condition through two existing SMFs, which are proposed to remain. Treatment and attenuation for the additional runoff is addressed with two proposed SMFs that are within FDOT owned ROW. Additionally, runoff is diverted from the Hillsborough River outfall to the Ybor Channel outfall to avoid overloading the Hillsborough River outfall capacity.

Basin 5: The project does not propose any improvements within Basin 5 for Design Option C. No stormwater management is required.

Basin 6: The project does not propose any improvements within Basin 6 for Design Option C. No stormwater management is required.

Design Option D

Basin 1: It was found that the two existing SMFs within Basin 1 were designed for future improvements, and are permitted with an impervious median. The existing SMFs are adequate.

Basin 2: Basin 2 does not currently provide any stormwater management. Two SMF alternatives, both within FDOT owned ROW, are proposed within this basin; only one is required, as stormwater treatment requirements can be adequately addressed with a single proposed SMF. Attenuation is not required. Basin 3 and 4 provide excess treatment volume greater than what is required for Basin 2 treatment, which would reduce or potentially eliminate the SMF need in Basin 2 since they share the same outfall discharge location.

Basin 3: Basin 3 provides both treatment and attenuation in the existing condition through two existing SMFs, which are proposed to remain. Treatment for the additional runoff is proposed to be provided within Basin 4; attenuation will not be required since the outfall will be improved to provide the required increased capacity.

Basin 4: Basin 4 provides both treatment and attenuation in the existing condition through two existing SMFs, which are proposed to remain. Treatment and attenuation for the additional runoff is addressed with a single proposed SMF that is within FDOT owned ROW. This SMF also provides treatment for Basin 3.

Basin 5: The project does not propose any improvements within Basin 5 for Design Option D. No stormwater management is required.

Basin 6: The project does not propose any improvements within Basin 6 for Design Option D. No stormwater management is required.

Design Option E

Basin 1: It was found that the two existing SMFs within Basin 1 were designed for future improvements, and are permitted with an impervious median. The existing SMFs are adequate.

Basin 2: Basin 2 does not currently provide any stormwater management. Stormwater treatment requirements can be adequately addressed with a single proposed SMF that is sited within FDOT owned property in a location similar to the one proposed in the 1996 TIS FEIS. The SMF is also proposed to provide additional, compensatory treatment for the increase in impervious pavement within Basin 3. No attenuation is required within this basin.

Basin 3: Basin 3 provides both treatment and attenuation in the existing condition through two existing SMFs, which are proposed to remain. Attenuation and partial treatment of the additional runoff can be provided in a single proposed SMF within FDOT owned ROW. Additional required treatment is provided in the existing SMFs and in the proposed SMF 2A (discussed above).

Basin 4: Basin 4 provides treatment and attenuation in the existing condition for the portion of Basin 4 that drains to the Hillsborough River (Basin 4A) through two existing SMFs, which are proposed to remain. The portion of the Basin 4 outfall to the Ybor Channel (Basin 4B) is untreated in the existing condition. Treatment and attenuation for the additional runoff, including additional runoff from the diversion of runoff from Basin 5 and Basin 4A, is addressed with two proposed SMFs that are within FDOT owned ROW.

Basin 5: Basin 5 does not currently provide any stormwater management, and is a closed / volume sensitive basin. A no-pond option was developed by diverting runoff to SMF 4A within Basin 4 in order to avoid ROW acquisition for a new SMF.

Basin 6: Basin 6 does not currently provide any stormwater management. Treatment and attenuation can be adequately addressed with a single SMF within FDOT owned ROW.

Segments 3A and 3B traverse through five separate drainage basins along I-4. The entirety of this length of roadway currently provides stormwater treatment and attenuation, and was previously permitted for the future full build-out condition (i.e. entirely impervious median). This report has confirmed that the proposed I-4 impervious pavement is less than the assumed full build-out pavement, and that the existing SMFs are adequate. In general, most of these basins are a part of the Ybor City Drain watershed, which is listed as impaired for fecal coliform, bacteria, and dissolved oxygen. Impaired water criteria are not required to be addressed for dissolved oxygen however, as the existing stormwater management systems were designed for future improvements (see **Appendix C**).

A floodplain impact analysis is part of the Location Hydraulics Memorandum that is prepared separately. The analysis determined that the widening would have minimum encroachment the 100-year floodplain. No floodplain mitigation is expected to be required.

Also prepared separately are the Natural Resource Evaluation, Contamination Screening Evaluation Report, and the Cultural Resource Assessment Survey Update. It was found that there are no wetland, threatened and endangered species, or archeological impacts associated with any of the SMF sites for any of the roadway design options of the TIS SEIS project study area. However, certain SMF alternatives of the roadway design options include historical impacts and/or have medium to high risk of contamination. The findings of these reports are summarized in **Section 5.8**.

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Figures

Tables

Appendices

Acronyms

ac	acre
ac-ft	acre-feet
BMP	Best Management Practices
CBD	Central Business District
cfs	cubic feet per second
DCIA	Directly Connected Impervious Area
DEIS	Draft Environmental Impact Statement
DHW	Design High Water

EIS	Environmental Impact Statement
EL	Elevation
ERP	Environmental Resource Permit
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
ft	foot / feet
ft^3	cubic feet
fps	feet per second
FTE	Florida's Turnpike Enterprise
HFB	Howard Frankland Bridge
HART	Hillsborough Area Rapid Transit Authority
HOV	High Occupancy Vehicle
I	Interstate
LRTP	Long Range Transportation Plan
m	meter
MLK	Martin Luther King
MPO	Metropolitan Planning Organization
NEPA	National Environmental Policy Act
NRCS	National Resource Conservation Service
OFW	Outstanding Florida Water
PD&E	Project Development and Environment
RCP	Reinforced Concrete Pipe
ROD	Record of Decision
ROW	Right-of-way
SEIS	Supplemental Environmental Impact Statement
SHWT	Seasonal High Water Table
SMF	Stormwater Management Facility
SR	State Road
SWFWMD	Southwest Florida Water Management District

TBARTA	Tampa Bay Area Regional Transportation Authority
TBN	Tampa Bay Next
TBX	Tampa Bay Express
TIS	Tampa Interstate Study
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
WBID	Water Body Identification

1. INTRODUCTION

The Federal Highway Administration (FHWA) and Florida Department of Transportation (FDOT) have initiated the environmental review process for the Tampa Interstate Study (TIS) Project in Tampa, Hillsborough County, Florida. The study is a supplement to the 1996 Final Environmental Impact Statement (FEIS). FHWA issued the Records of Decision (ROD) in 1997 and 1999. FDOT and FHWA are conducting this study based on a proposed design change that includes a new alternative not previously considered, as well as modified alternatives presented in the 1996 TIS FEIS to accommodate tolled or non-tolled express lanes and other capacity and mobility improvement alternatives, some of which are being considered by FDOT in separate studies. FDOT, in coordination with FHWA, will prepare a Supplemental Environmental Impact Statement (SEIS) in accordance with the National Environmental Policy Act (NEPA) and other regulatory requirements. This Pond Siting Report was prepared to support the TIS SEIS.

1.1 Purpose of the Report

This report documents the potential stormwater management facility (SMF) requirements for TIS Segments 2B, 3A, and 3B of the TIS, along I-275 from Rome Avenue to North of Martin Luther King (MLK), Jr. Boulevard and I-4 from I-275 to East of 50th Street.

1.2 Location of the TIS SEIS Project

The proposed TIS SEIS Project is located in the City of Tampa in Hillsborough County, Florida. The study area comprises approximately 11 miles of I-275 and I-4, an approximate 4.4-mile segment of the Selmon Expressway, and an approximate 0.8-mile segment of the I-4/Selmon Expressway Connector (previously known as the Crosstown Connector). The proposed improvements would involve the reconstruction/widening of I-275 from east of Howard Frankland Bridge (HFB) to North of State Road (SR) 574 (Dr. MLK, Jr. Boulevard), and I-4 from I-275 to east of 50th Street. The proposed improvements are located in the 1996 TIS FEIS Segments 1A, 2A, 2B, 3A, and 3B (see **Figure 1-1**). Segment 3C improvements have already been constructed, and because no additional improvements are proposed for this area as part of the project, it is not addressed in this report.

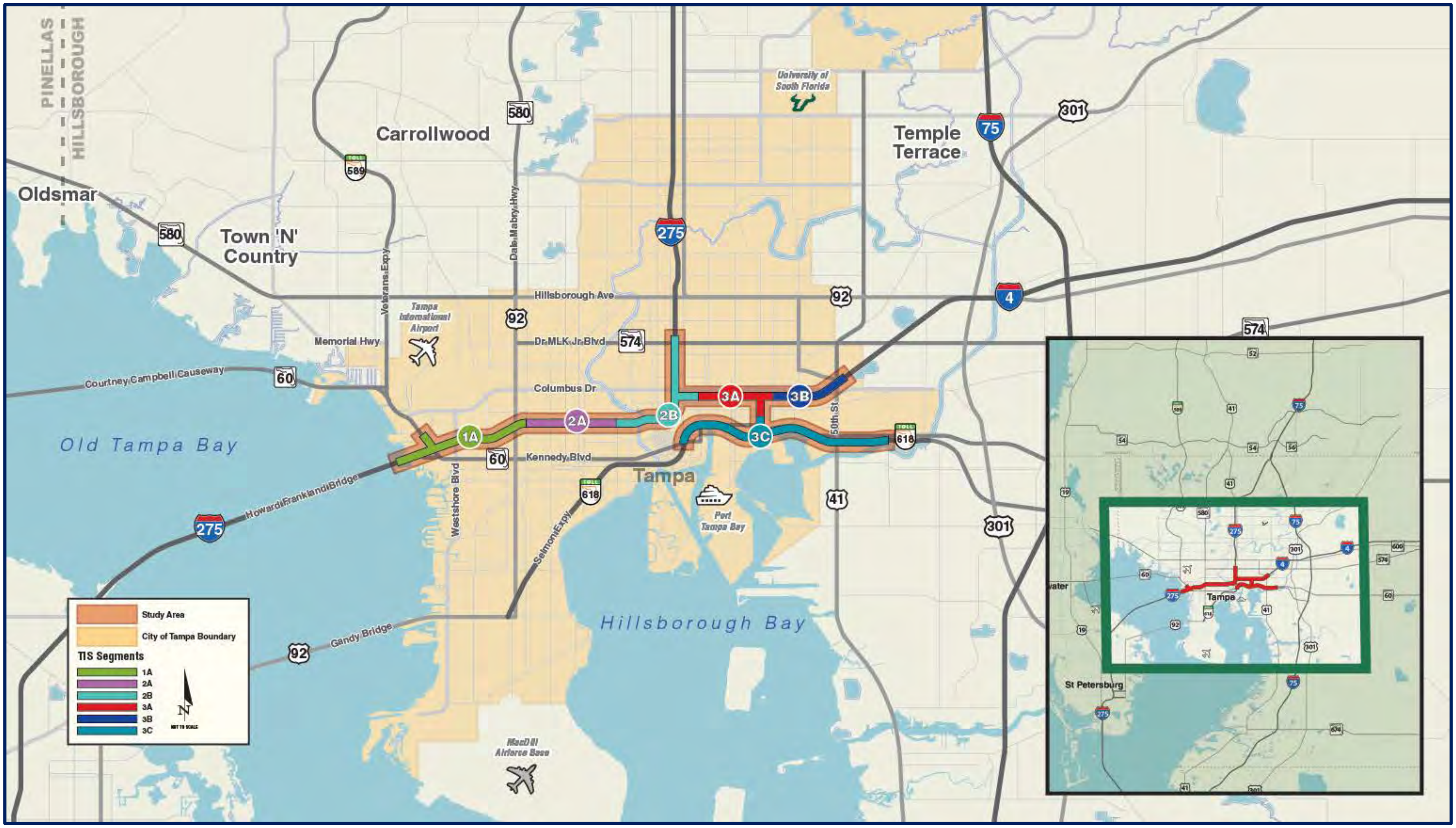
1.3 Background of the TIS SEIS Project

The TIS Project has been under consideration for many years. The Tampa Interstate system is the cornerstone of the Tampa Bay Region's surface transportation system and improvements to the system have been a priority to the State since the 1980's. The proposed improvements to the interstate system are found in the Hillsborough Metropolitan Planning Organization's (MPO) *2035 Long Range Transportation Plan for Hillsborough County* (LRTP) (2009) and the *Imagine 2040: Hillsborough Long Range Transportation Plan* (2014).

1.4 Purpose of the TIS SEIS Project

In the 1996 TIS FEIS, the purpose for the proposed action was "…to upgrade the safety and efficiency of the existing I-275 and I-4 corridors that service the Tampa urban area while maintaining access to the surrounding community."

The current SEIS Purpose is consistent with the 1996 TIS FEIS Purpose and expands upon the originally identified purpose and need to include congestion relief that improves accessibility, mobility, travel times, system linkages, and multimodal connections, while supporting regional economic development goals and enhancing quality of life for Tampa Bay residents and visitors.



SOURCE: FDOT 1996
Note: Segment 3C has been constructed and is not included in this SEIS.

Figure 1-1 Tampa Interstate Study SEIS Project Study Area

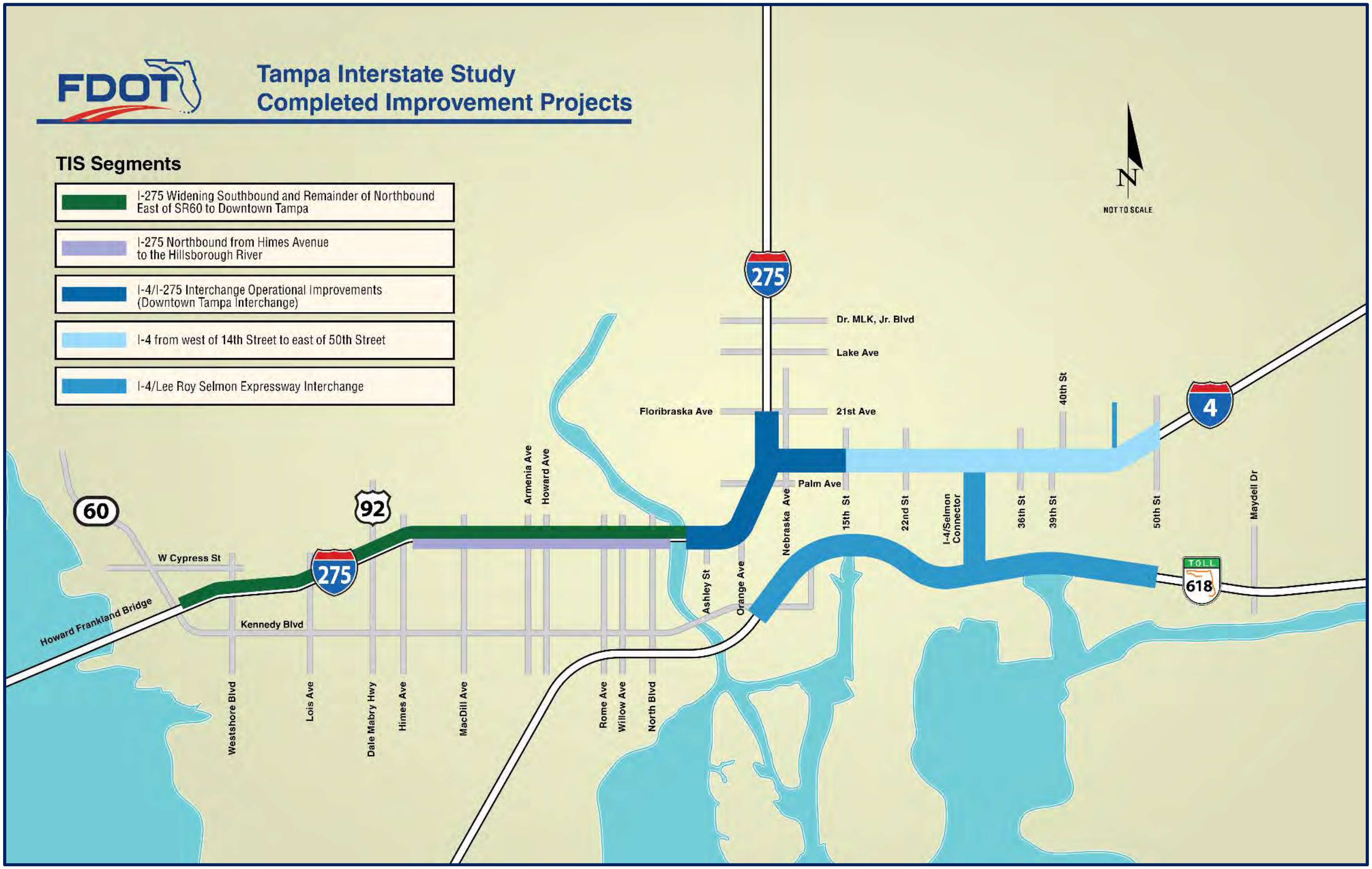
In 1983, FDOT began to identify potential improvements to the Tampa Interstate system, which was constructed in the early 1960's. These improvements included potential short-term safety solutions and design changes, and long-term high-occupancy vehicle (HOV) related improvements to accommodate growing traffic volumes and congestion. The 1983 study considered all transportation needs within the study area, including concurrent highway, rail, and/or transit improvements.

Using the 1983 study as a documented base, FDOT began Phase I of the TIS in 1987. The purpose of the Phase I study was to produce a Master Plan to identify alternatives and make recommendations regarding the preferred type and location of multi-lane improvements, potential HOV facilities, transit facilities, traffic management techniques, and traffic surveillance and control systems. Based on the work performed, FDOT published the *TIS Master Plan Report* in 1989. The Hillsborough County MPO adopted the Tampa Interstate Master Plan Concept into the 2010 LRTP in November 1989.

Following completion of the *TIS Master Plan Report*, FHWA, in cooperation with FDOT, began the preparation of an Environmental Impact Statement (EIS) and the supporting documentation necessary for state and federal approvals and subsequent funding of the *TIS Master Plan Report* concepts. The EIS evaluated impacts associated with a Selected Alternative, a Long-Term Preferred Alternative, and a No-Action Alternative, addressed agency and citizen concerns, and identified ways to minimize impacts.

FHWA approved the EIS in November 1996, issued the ROD for the 1996 TIS FEIS in 1997, and an amended ROD in June 1999. The 1997 and 1999 RODs are the documents that have governed the development of all improvements to I-275 and I-4 providing a roadway system that includes general use lanes and separated express lanes in each direction, as well as a future transit corridor. The intent of the FHWA and the FDOT is to ultimately construct the Long-Term Preferred Alternative as funding becomes available through the Hillsborough County MPO. Since issuance of the 1997 and 1999 RODs, FDOT has taken several major steps to advance the Project to full implementation. The TIS Project has been re-evaluated several times to advance various elements of the project, many of which FDOT has already constructed including portions of Segment 1A, Segment 2A, Segment 3A, Segment 3B, and Segment 3C (see **Figure 1-2**). The following describes the projects that FDOT has constructed.

- **I-275 Widening Southbound and Remainder of Northbound from east of SR 60 to Downtown Tampa** – Corridor length: 4.2 miles, Construction Cost: $217.3 million, Start: July 2012 – Completion: Fall 2016. Reconstruction and roadway widening. Improvements included: providing four through lanes in each direction, flattening the profile of the roadway at bridges over the crossroads, aesthetic treatments, improved interchanges, and increased median width for future improvements.
- **I-275 Northbound from Himes Avenue to the Hillsborough River** – Corridor Length: 2 miles, Construction Cost: $109 million, Start: August 2007 – Completion: Spring 2010. Reconstruction of a 3-lane roadway into a 4-lane roadway primarily south of the existing alignment. Improvements also included: providing an increased median width reserved for future transportation needs, new bridges with improved height clearances, shoulder-mounted 8-foot noise walls near densely developed residential areas, aesthetic treatments, and improved lighting and drainage.



SOURCE: FDOT 2000-2015

Notes: Green line represents TBX Sections 4, 5, and 6, referred to as Segments1A, 2A, and part of 2B in the 1996 TIS FEIS; Grey line comprises part of TBX Section 5, referred to as Segment 2A in the 1996 TIS FEIS; Dark blue line comprises part of TBX Section 6, referred to as part of Segment 2B in the 1996 TIS FEIS; the light blue line comprises part of TBX Section 6, referred to as Segment 3A and 3C in the 1996 TIS FEIS; the turquoise line comprises part of TBX Section 6, referred to as part of Segment 3B and Segment 3C in the 1996 TIS FEIS.

Figure 1-2 Tampa Interstate Study Completed Improvement Projects

- **I-4/I-275 Interchange Operational Improvements (Downtown Tampa Interchange)** - Corridor Length: 2.7 miles, Construction Cost: $81 million, Start: October 2002 – Completion: December 2006. Capacity and safety improvements to the Downtown Tampa Interchange, which widened both interstates to four lanes in each direction. Improvements also included: extending the Ashley Street entrance ramp, providing a local auxiliary exit ramp system, improving weaving movements related to the I-275 southbound to I-4 eastbound flyover ramp, shoulder-mounted 8-foot noise walls near densely developed residential areas, landscaping within infield area and aesthetic treatments.

- **I-4 from West of 14th Street to East of 50th Street** – Corridor Length: 3.2 miles, Construction Cost: $185 million, Start: February 2004 – Completion: Fall 2007. Reconstruction of a 4-lane roadway into a 6-lane roadway (three lanes in each direction with auxiliary lanes) to tie into the Downtown Tampa Interchange improvement project completed in December 2006. Improvements also included: providing an increased median width reserved for future transportation needs, new bridges with improved height clearances, shoulder-mounted 8-foot noise walls near densely developed residential areas, aesthetic treatments, and improved lighting and drainage.

- **I-4/Lee Roy Selmon Expressway Interchange** – Corridor Length: 1 mile, Construction Cost: $425 million, Start: March 2010 – Completion: Spring 2014. Construction of a new north-south toll interchange, which connects I-4 with the Lee Roy Selmon Expressway (SR 618). The elevated roadway with an all-electronic toll collection system links these two, major east-west corridors, and provides “truck-only” lanes for direct access to the Port Tampa Bay to reduce heavy truck traffic from local roads in Ybor City. Aesthetic treatments were also included in this project.

In 2011, FDOT released the *Florida Transportation Vision for the 21st Century*. The vision focused on innovative financing alternatives, advancing projects, and accommodating economic growth. While the 1996 TIS FEIS always included express lanes along the region’s interstates, tolling was not a consideration at the time. As a result of the 2011 Vision, FDOT initiated a master plan study in 2012 to determine the feasibility of dynamically tolling the proposed express lanes on the interstate. FDOT’s 2015 *Tampa Bay Express (TBX) Master Plan*, which included the TIS Project limits, established a system-wide framework for implementation of dynamically-tolled express lanes within the Tampa Bay Region. As part of the development of the *TBX Master Plan*, FDOT conducted extensive outreach, beginning with focus groups, to better understand public perceptions of the express lanes concept.

Due to funding constraints for the implementation of the ultimate capacity improvements envisioned in the *TBX Master Plan* for the Tampa Bay Region, FDOT identified a series of express lane projects in the five-year work program that could be advanced. FDOT could build each of these smaller-scale projects within a five-year window. FDOT considers these shorter-term improvements the “Starter Projects.” The Hillsborough County MPO formally added the Starter Projects to the fiscally-constrained Transportation Improvement Program (TIP) in 2015. The Tampa Bay Regional Transportation Authority (TBARTA) also included the Starter Projects in the *2015 Regional Transportation Master Plan Update*.

2. DEFINITION OF ALTERNATIVES CONSIDERED

The alternatives that will be evaluated in the TIS SEIS are described in the following sections.

2.1 No Further Action Alternative

Portions of the Selected Alternative in the 1996 TIS FEIS have been constructed, so the No-Action Alternative that was evaluated in previous studies is no longer applicable. Therefore, a new No Further Action Alternative will be evaluated for comparison to the 1996 TIS FEIS Long-Term Preferred Alternative and a 2018 Express Lane Alternative. The No Further Action Alternative is defined as the existing transportation system plus projects included in the Hillsborough MPO's *Imagine 2040: Hillsborough Long Range Transportation Plan*. In Segment 1A, the No Further Action Alternative includes construction of the general use lanes (outer roadways) within the I-275/SR 60 Interchange, which was approved under the 1999 ROD. Within the TIS SEIS study area, the remainder of the Imagine 2040 projects have already been built. This alternative provides a baseline against which the Build alternatives can be compared.

2.2 1996 TIS FEIS Long-Term Preferred Alternative (Non-Tolled)

Proposed improvements of the 1996 TIS FEIS Long-Term Alternative consist of a four-roadway system (general use lanes that provide local access and non-tolled express lanes in each direction of travel) on I-275 throughout the study limits and the preservation of a HOV/Transitway corridor within the interstate alignment. Proposed interchange improvements include:

- a fully directional interchange for the I-275 connection to the SR 60/Veterans Expressway;
- modifications to the existing Westshore Boulevard, Lois Avenue, and Dale Mabry Highway interchanges;
- split interchange ramps remaining at Howard and Armenia Avenues;
- a new west bank Central Business District (CBD) interchange with ramps to and from the west on I-275 at North Boulevard;
- a fully directional interchange for the I-4/I-275 connection;
- removal of the existing ramps to and from the north at Floribraska Avenue;
- a full interchange at Dr. MLK, Jr. Boulevard;
- reconfiguration of the split interchange at Columbus Drive and 50th Street;
- removal of the interchange ramps at 40th Street;
- a new directional freeway-to-freeway interchange with the proposed I-4/Selmon Expressway Connector on I-4 near 31st Street; and
- a new Ybor City/east side CBD split interchange on I-4 at 14th and 15th Streets (with extension of the ramps at 14th and 15th Streets as parallel frontage roads to 21st and 22nd Streets to replace the existing access from I-4 to these streets).

Other new non-interstate improvements include the following:

- the removal of the 19th Street overpass and the maintenance of the 26th Street overpass;
- the extension of Sherrill Street from Memorial Highway (SR 60) and Kennedy Boulevard under I-275 to Cypress Street;
- the extension of Trask Street under I-275;
- a Lemon Street Connector to Westshore Boulevard from Occident Street;
- park-n-ride lots to provide access to HOV lanes located at the Florida State Fairgrounds, Yukon Street, Sinclair Hills Road, and SR 56;
- overpass width to accommodate pedestrian and bicycle facilities on cross street; and

- a multi-modal terminal/parking garage at the northern end of the Marion Street.

The 1996 TIS FEIS Long-Term Preferred Alternative has been reevaluated numerous times throughout the past 20 years as the various segments of interstate have been constructed. Therefore, this alternative consists of the original impacts, as updated by the approved re-evaluations.

2.3 2018 Express Lane Alternative (Tolled or Non-Tolled Build Alternative)

Improvements identified for the segments that will be evaluated in the TIS SEIS include major components of the 1996 TIS FEIS Long-Term Preferred Alternative. There are areas where the design has changed in alignment and configuration. The TIS segments that will be evaluated in the SEIS and the design differences from the 1996 TIS FEIS Long-Term Preferred Alternative are described in the following sections. **Figure 1-1** shows the TIS SEIS segments.

2B – I-275 from East of Rome Avenue to North of MLK, Jr. Boulevard and I-4 from I-275 to East of 15th Street: Operational improvements at the I-275/I-4 interchange were included in the 1996 TIS FEIS. The design changes include tolled or non-tolled express lanes; changes in access to express lanes, which include adding a direct connection to the downtown local street network and slip ramp access north and east of downtown; adding overpasses at several locations to open cross-connections of local streets through the interstate footprint; and additional right-of-way (ROW) acquisition involving vacant or undeveloped portions of land at a few pinch-points. This section is adjacent to several historic districts and primarily residential areas.

3A – I-4 from East of 15th Street to East of 34th Street: The general use and express lanes in this section were included in the 1996 TIS FEIS. The outer roadway (general use lanes) has already been constructed from 21st Street to 34th Street. The design changes involve tolled or non-tolled express lanes; changes in access to express lanes, which include slip ramp access east of downtown; and ramp access change with I-4 interchanges at 14/15th Street and 21/22nd Street. No additional ROW would be acquired. Land uses adjacent to this section include historic districts and a mix of residential and commercial areas such as Ybor City and East Tampa.

3B – I-4 from East of 34th Street to East of 50th Street: The general use lanes in this section were included in the 1996 TIS FEIS. The outer roadway (general use lanes) has already been constructed from 34th Street to 50th Street. Minimal ROW would be acquired in this section just east of 50th Street to accommodate barrier separated express lanes along I-4 while accommodating an eastbound ingress just east of 50th Street. Work in this section would include adding express lanes in the median and adjustments in access between express and general lanes. This would require the mainline and eastbound entrance ramp to shift south of the existing ROW within the limits of the ramp.

3C – I-4/Lee Roy Selmon Expressway Interchange: These improvements were fully constructed in 2014 and are not a part of the SEIS.

2.4 Design Options for the 2018 Express Lane Alternative

Several design options are being considered as part of the Build Alternatives. They are described below.

2.4.1 Downtown Interchange Design Options (Segment 2B)

Four express lane interchange design options are being considered for the Downtown Interchange in Segment 2B. They represent both tolled and non-tolled options for managed lanes.

- **Options A and B - Reconstructed Interchange -** The proposed improvements under Options A and B would include reconstructing the interchange to provide a fully directional interchange for the I-4/I-275 connection, with express lanes. The design options include changes in access to express lanes, which include adding a direct connection to the downtown local street network and slip ramp access north and east of downtown; adding overpasses at several locations to open cross-connections of local streets through the interstate footprint; and additional ROW acquisition involving vacant or undeveloped portions of land at a few pinch-points. This section is adjacent to several historic districts and primarily residential areas. The differences between Options A and B are as follows:
  - **Option A - Reconstructed Interchange with Express Lanes to the North:** Option A includes express lanes along the north leg of I-275 with direct connections to I-275 and I-4.
  - **Option B - Reconstructed Interchange without Express Lanes to the North:** Option B does not include express lanes along the north leg of I-275 and does not include direct connections from the express lanes to the north leg of I-275.
- **Options C and D - Existing Interchange with Elevated Express Lanes -** Proposed improvements under Options C and D would include preserving the existing I-275 and I-4 interstate while adding express lanes on elevated structure from west of the Hillsborough River to I-4. Access would be provided to the downtown street grid from the elevated express lanes. However, like the 1996 Long-Term Preferred Alternative, there would be no access to Floribraska Avenue since the ramps would be eliminated. Other improvements include providing two-lane ramps for connections to I-4 and the north leg of I-275, adding express lane ramp connections from I-4 to the north leg of I-275 and reconfiguring the eastbound I-4 exit to Ybor City, to increase capacity and improve operations between the Selmon Connector and the north leg of I-275. Adding express lane ramp connection from I-4 to the north leg of I-275 would eliminate weaving on I-4 for traffic traveling to and from the Selmon Connector and the north leg of I-275. Reconfiguring the eastbound I-4 exit to Ybor City would eliminate weaving between the southbound I-275 ramp to eastbound I-4 and the exit to Ybor City. This would be accomplished by removing the ramp along eastbound I-4, currently serving only 21st/22nd Street and providing separate exits from northbound I-275 and southbound I-275.

  The exit from northbound I-275 would be located between Palm Avenue and Nebraska Avenue while the exit from southbound I-275 would be located off the two-lane flyover to eastbound I-4. Those two separate ramps would then combine along the south side of the eastbound I-4 mainline east of Nebraska Avenue and would tie into 14th/15th Street, providing a new access point the would serve both the 14th/15th Street and 21st/22nd Street interchanges. The ramp would align with the eastbound frontage road that currently connects 14th/15th Street and 21st/22nd Street. The frontage road would be widened to two lanes to facilitate traffic to 21st/22nd Street. The differences between Options C and D are as follows:
  - **Option C - Existing Interchange with Elevated Express Lanes – South Side of I-275:** Under Option C, the elevated express lanes would fly out from the median of I-275 west of the Hillsborough River over the northbound I-275 lanes to the outside of the existing interstate and run adjacent to the existing northbound I-275 lanes from the Hillsborough River to I-4, on the south side of I-275. The elevated express lanes would turn east along I-4 by crossing over to the north side of I-4, adjacent to the westbound I-4 lanes from I-275 to east of 15th Street. The elevated express lanes would then fly over the westbound I-4 lanes back into the median of I-4 just west of 21st Street.
  - **Option D - Existing Interchange with Elevated Express Lanes – North Side of I-275:** Under Option D, the elevated express lanes would fly out from the median of I-275 west of the Hillsborough River over the southbound I-275 lanes to the outside of the existing interstate and run adjacent to the existing southbound I-275 lanes from the Hillsborough River to I-4, on the north side of I-275. The elevated

express lanes would turn east along I-4, adjacent to the westbound I-4 lanes from I-275 to east of 15th Street. The elevated express lanes would then fly over the westbound I-4 lanes back into the median of I-4 just west of 21st Street.

- **Option E (Safety and Operational Improvements):** In May 2019, FDOT held Alternatives Public Workshops to receive input on the Westshore and Downtown Alternatives, including Options A, B, C, and D, with the intent of recommending one of the options to carry forward as a part of the Recommended Locally Preferred Alternative (LPA). While there is definitive public support for reconstruction of the I-275/SR 60 Interchange (TIS Segment 1A), there are many factors that may impact the plans in the I-275/I-4 (TIS Segment 2B). Therefore, FDOT developed Option E in response to input from the public and area stakeholders including:

  - Continuous comments from the public to minimize ROW impacts to downtown neighborhoods
  - Comments and concerns related to the closure of the Floribraska Avenue ramps
  - Comments and concerns related to the potential impacts to the Perry Harvey Sr Park
  - Support for safety and operational improvements in the Downtown Interchange area

  The TIS SEIS Project Team reviewed the Options A, B, C, and D within the I-275/I-4 interchange and extracted and refined three improvements from the current concepts that would enhance safety and operational performance in alignment with the Purpose and Need. The improvements are shown in **Appendix A** and are discussed further in the following sections. The areas below would not be tolled.

  - **Southbound I-275 to Eastbound I-4** - The southbound I-275 to eastbound I-4 improvements include widening the existing flyover ramp to two lanes. New signage located near Hillsborough Avenue would inform drivers that they can remain in the outermost lane to access the dual lane flyover ramp to I-4. The existing auxiliary lane that begins at the entrance ramp from Dr. MLK, Jr. Boulevard still would also provide drivers access to the I-4 flyover ramp without changing lanes. The existing exit ramp to Floribraska Avenue would remain.

    The improvements would also include relocating the exit ramp to Ybor City and East Tampa from the existing location at 21st/22nd Street to 14th/15th Street. The relocated exit ramp would provide enhanced access to businesses, educational institutions, and residential areas. Drivers would still access 21st/22nd Street via widening the existing single-lane frontage road, East 13th Avenue, to two lanes. These proposed operational improvements would be completed almost entirely within the existing FDOT owned ROW. Only one additional parcel impact is anticipated.

  - **Westbound I-4 to Northbound I-275 -** The westbound I-4 to northbound I-275 operational improvement would include widening the existing exit to northbound I-275. Westbound I-4 would be widened beginning at the westbound on-ramp from 21st Street and continuing to northbound I-275, providing for a widened two-lane exit to north I-275.

    The additional widened lane would continue north along I-275 to provide five lanes from I-4 to the Floribraska Avenue on-ramp. Between the Floribraska Avenue on-ramp and the Dr. MLK, Jr. Boulevard exit ramp, a sixth auxiliary lane would be added connecting the existing Floribraska Avenue on-ramp to the Dr. MLK, Jr. Boulevard exit ramp. The existing single-lane exit ramp to Dr. MLK, Jr. Boulevard would be widened to two lanes. From the exit ramp to Dr. MLK, Jr. Boulevard north, the five lanes would continue and then reduce to four lanes prior to the on-ramp from Dr. MLK, Jr. Boulevard and continuing to Hillsborough Avenue. The on-ramp from Dr. MLK, Jr. Boulevard would merge prior to Osborne Avenue. Drivers in the innermost lane from the ramp to I-275 northbound would be able to continue in this lane to Hillsborough Avenue. These proposed operational improvements would be completed mostly within the existing FDOT owned ROW. Seven parcels would need to be acquired.

- **Westbound I-4 to Southbound I-275 -** The westbound I-4 to southbound I-275 operational improvements would include widening the southbound I-275 ramp from two lanes to three lanes. The three lanes would join the two lanes from southbound I-275 to provide five lanes. The five lanes would then merge to four lanes near Jefferson Street. The exit ramps to Downtown Tampa would be adjusted to improve spacing so drivers can more efficiently exit to downtown. The exit ramps would still serve Orange Avenue, Jefferson Street, Ashley Drive, and Doyle Carlton Drive. The improvements would remove the existing ramp bridge structure over I-275 as part of the ramp relocations. The existing shoulders would be widened on I-275 from Palm Avenue to Jefferson Street. These proposed operational improvements would be completed entirely within the existing FDOT owned ROW.

  Collectively the three operational/safety improvements make up the geometric improvements to the Downtown Interchange, which will be Option E.

I-275 from Rome Avenue to Ashley Drive

Northbound, the two express lanes from Segment 2A would merge to one lane approaching North Boulevard and continue as a new single-lane flyover ramp to the outside of northbound I-275 over the Hillsborough River. The express lane ramp would then terminate to the outside of the Ashley Drive off-ramp to downtown, providing direct access to downtown.

Southbound, a new two-lane bridge would be constructed north of the existing southbound I-275 lanes over the Hillsborough River for the downtown on-ramps from Tampa Street and Ashley Drive. The existing general use lanes would shift outward and allow for the development of a buffer separated express lane beginning just east of North Boulevard. A single-lane express lane ramp from the Ashley Drive/Tampa Street on-ramp would flyover from the outside of I-275 to the median of I-275 between North Boulevard and Willow Avenue.

Segments 3A, 3B and 3C

There are no improvements proposed in TIS Segments 3A and 3B under Design Option E. However, within these study limits, there is work proposed as part of the improvements associated with I-4 eastward to the Polk County Line (TB Next Section 8) that were approved under a separate NEPA action under WPI Segment 431746-1. To make a seamless transition to I-4, FDOT prepared an Engineering and Environmental Technical Compendium (EETC) for I-4 from the Selmon Connector to east of 50th Street. FDOT prepared the EETC in support of the I-4 Categorical Exclusion prepared for TB Next Section 8. For information, these improvements are shown as dashed in Appendix A (sheets 12-16).

As indicated earlier in this document TIS Segment 3C, the Selmon Connector and its associate improvements along the Selmon Expressway were constructed as part of the 1997 TIS ROD and Design Change Reevaluation.

3. REGULATORY SETTING

The TIS SEIS Project stormwater management will comply with the federal, state, and local regulations of the FDOT, Southwest Florida Water Management District (SWFWMD), United States Army Corps of Engineers (USACE), and Florida Department of Environmental Protection (FDEP).

4. STORMWATER MANAGEMENT INFORMATION

This section of the report is to evaluate conceptual SMF sites to meet federal, state, and local stormwater management requirements. The SMFs were sized using the stormwater regulatory design criteria outlined in the latest editions of the FDOT Drainage Manual (2020) and the SWFWMD *Environmental Resource Permit Applicant's Handbook Volume II* (2018).

This Pond Siting Report is preliminary and is used as an engineering tool to identify potential SMF sites. The recommendations are generated using highly variable factors for each SMF. The SMF site locations are screened using preliminary information based upon many assumptions and judgments. The calculations presented in this report are preliminary and help in estimating the preliminary size of the SMF for each basin. The sizes and limits of the basins associated with each SMF shown on the figures, tables, and included in the documentation are subject to change throughout the preliminary engineering and project design phases.

4.1 Project Description

The FDOT is evaluating the Interstate Modernization component of the TIS SEIS Project. This report evaluates the four Downtown Interchange Design Options (Options A-D) that were received on January 11, 2018 from Arcadis, and a fifth Design Option (Option E) that was received on October 28, 2019 for the 1996 TIS FEIS Segments 2B, 3A, and 3B (see **Appendix A**). The Design Options are preliminary and any modifications to these designs will need to be further evaluated during the future design phases of the project. The project limits for these segments is from I-275 at North Rome Avenue to north of MLK, Jr. Avenue (Osborne Avenue) and I-4 from I-275 to east of 50th Street.

The study limits of Segments 2B, 3A, and 3B are located within Sections 1, 12, 13, and 14 of Township 29S, Range 18E, and Sections 9, 10, 16, 17, and 18 of Township 29S, Range 19E, in Hillsborough County. Refer to **Figure 4-1** and **Appendix B** for a location map.

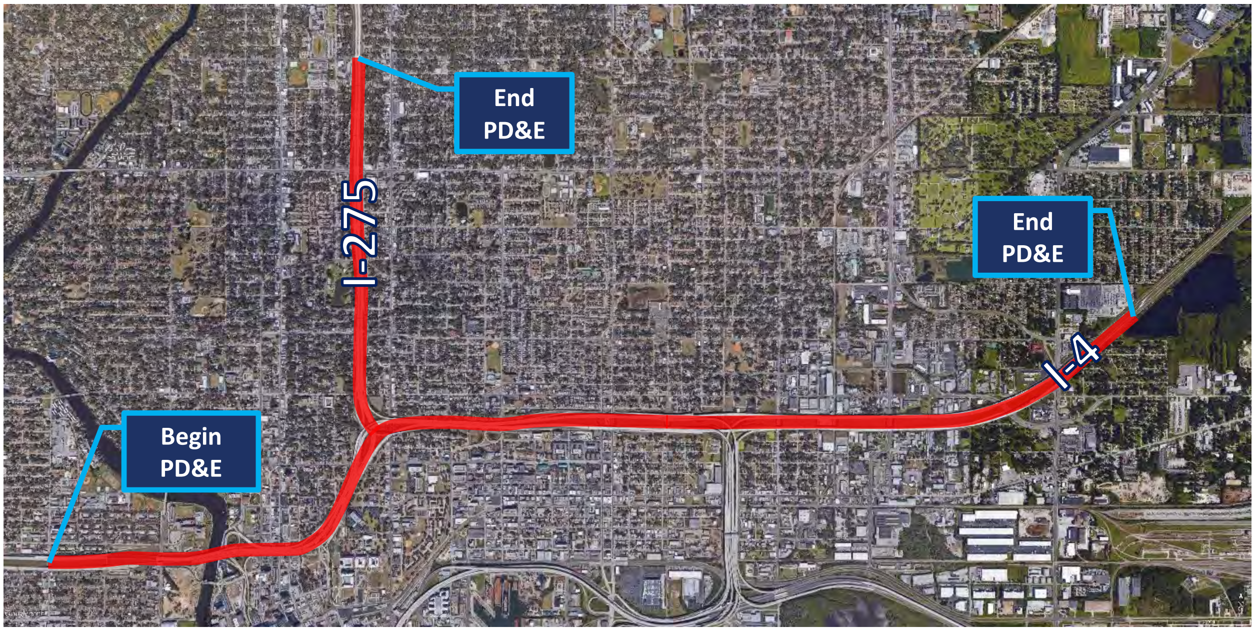


Figure 4-1 Location Map

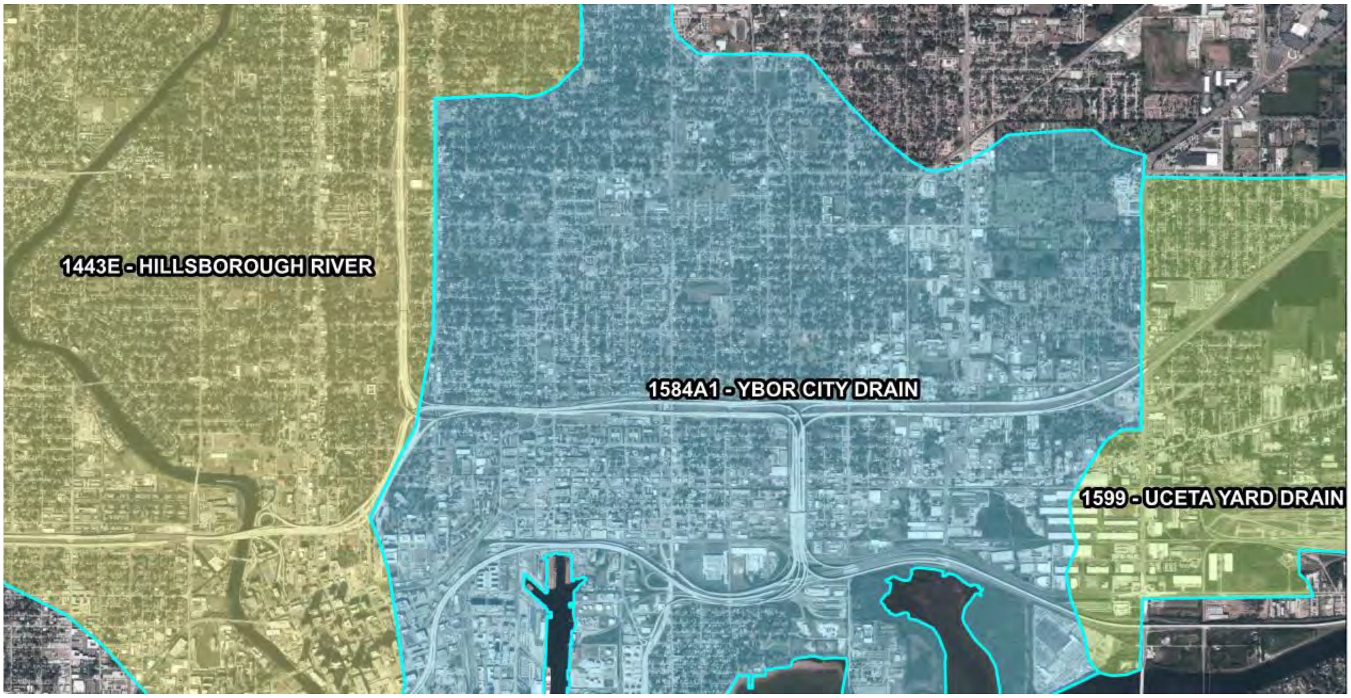
Design Option A includes the entire reconstruction of the I-275 / I-4 general use lanes and interchange; the addition of express lanes; and a premium transit corridor from the beginning of Segment 2B to the interchange and from the interchange to the end of Segment 3B along I-4. Design Option B includes the same improvements as Design Option A, but does not extend the express lanes north of the I-275 / I-4 interchange. Design Options C and D retain the existing interstate and interchange, and propose express lanes to the east and south of the interchange. Design Option C connects the express lanes from I-275 to I-4 via a viaduct whose alignment runs south of the interchange, and Design Option D connects them with a viaduct that runs north of the interchange. Design Option E proposes an operational improvement of the I-275 corridor and the I-275 / I-4 interchange through the reconstruction and widening of general use lanes and on ramps, off ramps, and interchange ramps.

4.2 Existing SWFWMD Environmental Resource Permits

- SWFWMD ERP #445619.005 – FDOT - 1-275, Himes Avenue to Hillsborough River (Issued 7/11/2013)
- SWFWMD ERP #4320690.001 – DOT-SR 400 (I4) SEC 3 W 14TH TO E 50TH (Issued 9/25/2001)
- SWFWMD ERP #4420690.004 – DOT I-275 & I-4 Interchange Mod. (Issued 4/21/2005)
- SWFWMD ERP #4420690.007 – SR400 I-4 Lee Roy Selmon Interchange (Issued 12/4/2007)

4.3 Watersheds

The TIS SEIS Project study area drains to three watersheds – Hillsborough River Water Body Identification (WBID) 1443E, Ybor City Drain WBID 1584A1, and Uceta Yard Drain WBID 1599. The Uceta Yard Drain is verified impaired for fecal coliform and bacteria. The Ybor City Drain is verified impaired for dissolved oxygen, fecal coliform, and bacteria. Hillsborough River is not impaired. The TIS SEIS Project study area does not discharge to an Outstanding Florida Water (OFW). Refer to **Figure 4-2** and **Appendix B** for the FDEP WBID map.



SOURCE: FDEP, 2005

Figure 4-2 FDEP WBID Map

4.4 Floodplains

The adopted FEMA FIRM panels relevant to the project location (Map No. 12057C, Panels 0352H, 0353H, 0354H, 0358H, 0359H, and 0360H dated August 28, 2008) designate the majority of the project as Zone X, which falls outside of the 100-year floodplain. The maps also indicate the Hillsborough River and a few adjacent water bodies as Zones A and AE. The proposed TIS SEIS Project in Segments 2B, 3A, and 3B does not impact FEMA designated 100-year floodplain. Refer to **Appendix B** for the FEMA FIRM figures.

A floodplain impact analysis is provided in the Location Hydraulics Memorandum for this project. The analysis determined that the widening would have minimum encroachment the 100-year floodplain. No floodplain mitigation is expected to be required.

4.5 Soils Information

The Soil Survey of Hillsborough County prepared by NRCS, obtained from the United States Department of Agriculture (USDA) website indicates several soil types within the TIS SEIS Project study area and contributing drainage areas. The soil information is summarized in **Table 4-1** and presented in **Appendix B**.

Table 4-1 NRCS Soils Information

Unit Name	Unit Symbol	Drainage Class	Depth to SHWT (inches)	Hydrologic Soil Group
Archbold fine sand	3	Moderately Well Drained	42 – 72	A
Candler fine sand	7	Excessively Drained	> 80	A
Candler-Urban land complex	9	Excessively Drained	> 80	A
Millhopper-Urban land complex	28	Moderately Well Drained	42 – 72	A
Myakka-Urban land complex	32	Poorly Drained	6 – 18	A/D
Ona-Urban land complex	34	Poorly Drained	6 – 18	B/D
Pomello-Urban land complex	42	Moderately Well Drained	24 – 42	A
St. Johns fine sand	46	Poorly Drained	0 – 12	B/D
Tavares-Urban land complex	55	Moderately Well Drained	42 – 72	A
Urban land	56	Unclassified	Unlisted	Unclassified

SOURCE: USDA, 2018

4.6 Regulatory Agency Criteria

The SWFWMD and FDOT state agency criteria controls the design of the stormwater management for the project. The specific criterion for water quality and water quantity is discussed within this section.

Water Quality (Treatment)

SWFWMD requires the following water quality criteria:

- Wet SMFs shall treat the first one-inch of stormwater runoff from the increased impervious area.

- Dry SMFs shall treat the first one-half inch of stormwater runoff from the increased impervious area.

Impervious area is a combination of the directly connected impervious area (DCIA), unconnected impervious area from local roads, and pond control surface areas. Any existing treatment volume lose due to the project is required to be replaced by the proposed SMFs. Many existing SMFs were originally designed to provide treatment volume for the entire contributing basin area. This report confirms that the existing provided treatment volume remains adequate in the proposed condition. Additionally, for future flexibility in the design the dry retention facilities were sized to treat the first 1 inch of stormwater runoff, which is 0.5 inches additional beyond the minimum requirements.

This TIS SEIS Project study area does not discharge to any OFWs. Proposed SMFs that discharge to basins that have been verified impaired for nutrients are required by SWFWMD to provide a net improvement for the impaired nutrients so that the nutrient loading discharged from the proposed site is equal to or less than the nutrient loading discharged from the existing site. However, SWFWMD has confirmed that SMFs designed and permitted for future development (e.g. ultimate typical section) would not be required to meet the impaired waters criteria.

Water Quantity (Attenuation)

For basins with a positive outfall, or open basins, SWFWMD requires that the proposed peak discharge rate from the basin be less than or equal to the existing peak discharge rate for the 25-year/24-hour SWFWMD storm event in accordance with Sections 3.1.a.1 and 3.1.b of the SWFWMD ERP Applicant’s Handbook, Volume II. Basins directly discharging to tidal water bodies are exempt from attenuating peak discharges per Section 3.1.c of the SWFWMD ERP Applicant’s Handbook, Volume II.

For basins without a positive discharge, or closed basins, the project shall attenuate the pre- versus post- runoff volume for the 100-year/24-hour SWFWMD storm event and the 100-year/10-day FDOT storm event per SWFWMD and FDOT criteria, respectively.

4.7 Environmental Look Around

An environmental look around was conducted by the FDOT with regional stakeholders to explore watershed-wide impacts and environmental considerations. At this time, no commitments are in place to be included in this report.

4.8 Environmental Clearances

A contamination analysis for the project study area is provided in the Contamination Screening Evaluation report that was prepared separately. The results of the contamination screening indicate that most of the SMF sites evaluated in this report are of “Low” risk rating. However, three SMF sites had a risk rating of “Medium” and one had a risk rating of “High”. A level II field screening should be conducted at these proposed SMFs depending on the selected Design Option.

A Natural Resource Evaluation and the Cultural Resource Assessment Survey Update were prepared separately. No archaeological impacts, wetland impacts, or adverse effects to state- or federally-threatened and endangered species are anticipated for proposed SMF sites. The four SMF sites alternative located outside of the existing FDOT owned ROW, and one within FDOT owned ROW, are identified as impacts historical buildings.

The findings of these reports that are relevant to the PSR are summarized in **Section 5.8.**

4.9 Existing Drainage Patterns

The TIS SEIS Project study area is located within a gently sloped (1-5 percent slope) terrain, with a predominant Urban and Built-Up land use classification. In general, runoff within the Hillsborough River WBID will flow inwards west and east towards the Hillsborough River, largely through closed storm sewer systems. Runoff within the Ybor City Drain drainage basin flows south into the Ybor Channel and McKay Bay, and runoff within the Uceta Yard Drain drainage basin flows south into the mouth of the Palm River / Tampa Bypass Canal. Refer to the Existing Conditions figure in **Appendix D** that shows the basins described below. A summary of the existing SMFs is provided in **Table 4-2**.

The I-275 portion of Segment 2B has six separate basins. The basins are summarized below:

- **Basin 1** spans from N. Rome Avenue to North Boulevard and contains existing SMF 5L and SMF 5RA. SMF 5L was designed to treat runoff for the entirety of the westbound lanes and median from N. Himes Avenue to North Boulevard. SMF 5RA treats runoff for the eastbound lanes. Both SMFs discharge directly to the Hillsborough River and do not provide any attenuation. This basin has been permitted under SWFWMD ERP 5619.001 and ERP 5619.005.

- **Basin 2** spans from North Boulevard to the Hillsborough River. Runoff from this area does not drain to an existing SMF and discharges directly to Hillsborough River untreated.

- **Basin 3** spans from the Hillsborough River to south of the I-275 / I-4 interchange and contains SMF 1A and SMF 1C. Both SMFs provide treatment for a partial amount I-275 impervious area and provide attenuation so that the existing storm sewer outfall is not overloaded with any additional runoff from the project. The permitted portion of the basin was approved under SWFWMD ERP 20690.004.

- **Basin 4** encompasses the I-275 / I-4 interchange from south of the interchange at E. Palm Avenue to E. Floribraska Avenue to the north and N. 14th Street to the east. The existing SMF 1G and SMF 1H are located within the basin limits. Both SMFs provide treatment for a partial amount I-275 impervious area and provide attenuation so that the existing storm sewer outfall is not overloaded with any additional runoff from the project. An existing 60-inch diameter pipe routes the runoff that drains to these SMFs southwest to SMF 1C. The runoff from the pair of ramps between N. Nebraska Avenue to N. 14th Street and E. Columbus Drive to E. Floribraska Avenue is not currently treated, and instead is directly discharged south to the Ybor Channel. Previously permitted increases in impervious area within these limits were treated within SMFs 1A, 1C, 1G, and 1H. This permitted portion of the basin was approved under SWFWMD ERP 20690.004.

- **Basin 5** spans from E. Floribraska Avenue to E. Lake Avenue. The basin runoff drains towards the midpoint of the basin limit where it is routed westward to the pond at Robles Park. This pond connects southwest to a closed storm sewer system via a pump station that discharges to the Hillsborough River at Ridgewood Park. The basin is a volume sensitive closed basin due to the limited capacity of the pumped outfall. No formal treatment or attenuation has been permitted for this basin.

- **Basin 6** spans from E. Lake Avenue to E. Osborne Avenue. Runoff drains towards the center of the basin where it discharges westward through a closed storm sewer system along E. Emma Street. The ultimate discharge is directly to the Hillsborough River at Rivercrest Park. No formal treatment or attenuation has been permitted for this basin. This basin was previously referred to as Sunshine Park Basin in the TIS *Drainage Master Plan* (FDOT 1991, pp. 14).

The limits of I-4 in Segments 3A and 3B contain existing SMF's within the associated five basins. These SMFs were designed for the full build-out design condition. This included sizing the SMFs for treatment and attenuation of the entire contributing drainage area for each SMF (typically includes eastbound lanes, westbound lanes, median, and pond sites). A CN of 98 was used for the entirety of these areas.

The existing stormwater management provides attenuation and treatment volume for the first 1 inch of runoff from the contributing drainage area. This Pond Siting Report documents the existing SMFs that are permitted through SWFWMD and assesses the need for modification to the existing SMFs or the addition of proposed SMFs. The basins and SMFs are summarized below:

- **Basin 7** spans from N. 14th Street to N. 21st Street along I-4. Runoff is routed to existing SMF 100-1, SMF 100-2, and SMF 100-3 for treatment and attenuation. These SMFs connect to a closed storm sewer system that drains south down N. 15th Street and discharges directly to the Ybor Channel. This basin has been permitted under SWFWMD ERP 20690.001, previously referred to as Basin 100.

- **Basin 8** spans from N. 21st Street to the Selmon Expressway Connector. Runoff is routed to existing SMF 200-1, SMF 200-2, SMF 200-3, SMF 200-4, and SMF 200-5 for treatment and attenuation. These SMFs connect to a closed storm sewer system that routes stormwater south and parallel to the Selmon Expressway Connector, underneath Adamo Drive to a channel at the south end of the Selmon Expressway Connector, which directly discharges to McKay Bay. This basin has been permitted under SWFWMD ERP 20690.001, previously referred to as Basin 200.

- **Basin 9** encompasses the interchange of I-4, the Selmon Expressway Connector, and I-4 from the interchange to the CSX. Runoff is routed to the existing SMF 200-6 and the connected SMF 300-1A and SMF 300-1B for treatment and attenuation. SMF 300-1A and SMF 300-1B connect to a closed storm sewer system that routes stormwater south to a ditch that is located south of E. 2nd Avenue between the Selmon Expressway Connector and N. 34th Street. The ditch connects to the same channel that Basin 8 discharges to before discharging to McKay Bay. SMF 200-6 is routed south via a ditch underneath the Selmon Expressway Connector before connecting to the same storm sewer system as SMF 300-1A and SMF 300-1B. This basin has been most recently permitted under SWFWMD ERP 20690.007.

- **Basin 10** spans along I-4 from the CSX to E. 14th Avenue. A portion of the basin from the CSX to N. 40th Street is collected and routed to the same storm sewer system as SMF 300-1A and SMF 300-1B without any formal treatment or attenuation. The rest of the basin from the CSX to N. 40th Street is collected and directly discharged to a wetland on the northeast quadrant of I-4 and N. 40th Street. From N. 40th Street to E. 14th Avenue, runoff drains to existing SMF 400-1, which is located near the intersection of N. 45th Street and E. 12th Avenue and provides treated and attenuated. SMF 400-1 discharges to a ditch that routes water south to a wetland and discharges south through a ditch to McKay Bay. This basin has been permitted under SWFWMD ERP 20690.001, previously referred to as Basin 400.

- **Basin 11** spans from N. 50th Street to E. 26th Avenue adjacent to Lake Juan. Runoff is routed to existing SMFs SMF 800-1, SMF 800-2, and SMF 800-3 that provide only attenuation. Stormwater treatment was not provided in these SMFs. However, compensatory treatment for this basin was provided in Basins 7 through 10 (100-400), as well as 6.27 acres (ac) of local roadway impervious area. This basin has been permitted under SWFWMD ERP 20690.001, previously referred to as Basin 800.

Table 4-2 Existing SMF Summary

Basin	Existing SMF	Permitted for the Ultimate Condition	Permitted Treatment Volume Required (ac-ft)	Permitted Treatment Volume Provided (ac-ft)	Excess Treatment Volume (ac-ft)	Treatment Type
1	SMF 5L	Yes	2.80	2.90	0.10	Effluent Filtration
	SMF 5RA	Yes	1.06	1.34	0.28	Effluent Filtration
2	None	No	N/A	N/A	N/A	N/A
3	SMF 1A	No	1.07	0.72	0.70	Wet Detention
	SMF 1C	No		0.34		Wet Detention
4	SMF 1G	No		0.12		Wet Detention
	SMF 1H	No		0.58		Wet Detention
5	None	No	N/A	N/A	N/A	N/A
6	None	No	N/A	N/A	N/A	N/A
7	SMF 100-1	Yes	1.68	1.85	0.17	Wet Detention
	SMF 100-2	Yes				Wet Detention
	SMF 100-3	Yes	0.64	0.65	0.01	Wet Detention
8	SMF 200-1	Yes	0.54	0.52	-0.02	Effluent Filtration
	SMF 200-2	Yes	0.54	0.54	0.00	Wet Detention
	SMF 200-3	Yes	1.03	1.05	0.02	Wet Detention
	SMF 200-4	Yes	0.72	0.73	0.01	Wet Detention
	SMF 200-5	Yes	0.56	0.54	-0.02	Wet Detention
9	SMF 200-6	Yes	0.59	0.62	0.03	Wet Detention
	SMF 300-1A	Yes	0.90	1.37	0.47	Wet Detention
	SMF 300-1B	Yes	1.35	0.94	-0.41	Wet Detention
10	SMF 400-1	Yes	2.89	2.96	0.07	Wet Detention
11	SMF 800-1	Yes	0.41	0.00	-0.41	None Provided
	SMF 800-2	Yes	0.55	0.00	-0.55	None Provided
	SMF 800-3	Yes	1.03	0.00	-1.03	None Provided

5. STORMWATER MANAGEMENT ANALYSIS

The objective of the analysis is to identify SMF locations that are hydraulically feasible and environmentally permittable to provide presumptive treatment requirements based on the best available information. If a proposed SMF is located outside of the existing ROW, a minimum of two SMF sites were evaluated. If the proposed SMF is located within the existing ROW, no additional sites were evaluated.

The stormwater management needs associated with Options A and B are greatest due to the larger footprint of these options in the vicinity of the interchange. However, east of 26th Avenue along I-4 the Design Options A –

D are identical except for the absence of the proposed transit corridor in the median for Design Options C and D. Design Option E proposes no improvements east of 19th Street and the improvements proposed in Basin 7 result in a net removal of 0.56 ac of pavement.

The following alternatives were evaluated for Design Options A and B. The stormwater management requirements for Alternative 2 remain the same as Alternative 1. However, the evaluation of Alternative 2 focused on eliminating the proposed SMFs in Basins 5 and 6 via the construction of a new outfall pipe that would directly discharge to the tidal waters of the Hillsborough River. Direct discharge to tidal waters eliminates the need to attenuate post peak discharge rates to existing discharge rates. Design Options C and D did not require two alternatives, since there were no proposed roadway impacts to Basins 5 and 6 and all proposed SMFs are located within FDOT owned ROW.

> **Alternative - 1**: The utilization of existing SMFs within Basin 1; the feasibility of providing SMF sites within the existing ROW and remnant parcels in Basins 2 through 4; the construction of new SMFs for Basins 5 and 6; and utilization of existing SMFs within Basins 7 through 11.
>
> **Alternative - 2**: The feasibility of providing SMF sites within the existing ROW and remnant parcels for Basins 3 through 6 via the construction of a new storm drain outfall for direct discharge to Hillsborough River; Alternative 1 would apply for Basins 1, 2, and 7 through 11.

5.1 Proposed SMF Configuration Assumptions

The proposed wet detention stormwater evaluation was performed using the following criteria:

- A 20 ft maintenance berm.
- 1:4 side slopes.
- A minimum 1 ft of freeboard between the high water and berm elevation.
- The inside top of bank elevation no more than 1 ft above or below the existing average grade elevation.
- A design control elevation at the estimated seasonal high water table (SHWT) elevation.
- A minimum 1.5 ft of depth below the control elevation for permanent pool volume.

The proposed dry retention stormwater evaluation was performed using the following criteria:

- A 15 ft maintenance berm.
- 1:4 side slopes.
- A minimum 1 ft of freeboard between the high water and berm elevation.
- A minimum 2 ft of clearance between the pond bottom/control elevation and the SHWT elevation.

5.1.1 Stormwater Management Facility Aesthetics

As part of an ongoing effort by FDOT in response to public input, the proposed SMFs should adhere to the department's adopted Highway Beautification Policy by considering aesthetic effects, when feasible. This should include naturalistic and curvilinear shapes, landscape shelves, tree plantings, selective clearing, and other aesthetic improvements. In several instances, the preliminary design of SMFs incorporated minor to moderate excess volume and size in pursuit of conservative design parameters. Final stormwater management design would allow for the conversion of the excess volume into landscape shelves or variation of cross slopes should the design assumptions prove conservative and the design requirements not increase with later roadway designs. Ancillary landscaping elements such as fencing and tree plantings are not considered in this report and are expected to be further developed during later project stages. Refer to Appendix 4 – Urban Design Guidelines Summary of Appendix E – Memorandum of Agreement of the 1996 TIS FEIS (FDOT 1996).

This Pond Siting Report evaluates SMF sites located underneath bridges. Siting SMFs underneath bridges is not always desirable in the interest of aesthetics. However, it allows for the avoidance of ROW acquisition. This consideration has been discussed with the Department.

5.2 Design Option A – Alternative 1

This report evaluates new stormwater management SMFs for Basins 1 through 6 and confirms that the existing stormwater management design for Basins 7 through 11 is adequate in the existing condition for the proposed roadway design. The existing condition for Basins 7 through 11 has been permitted in ERP 20690.001 and ERP 20690.007, which designed for the ultimate build-out and sized SMFs for the future improvements. Presented in the permit's SWFWMD engineering worksheets (included in **Appendix E**) are each existing basin's impervious area and the proposed impervious area. The proposed Design Option A impervious area is less than what was originally designed for, making the existing stormwater management design adequate for the proposed improvements. A discussion of each individual basin is below and summary of the proposed basin treatment is provided in **Table 5-8**. Refer to the Design Option A – Alternative 1 & 2 figures presented in **Appendix D**.

Basin 1

The proposed reconstruction of the I-275 general use lanes and addition of express lanes and premium transit do not extend beyond the existing interstate limits. The existing stormwater management (SMF 5L and SMF 5RA) provides treatment for the entirety of the encompassing roadway extents, which would accommodate Design Option A required treatment volume. SMF 5L was permitted with 0.10 ac-ft of treatment volume more than required, which is adequate volume to treat an additional 1.0 ac of impervious area, if required by any modification extending outside the current project footprint. Therefore, no new SMF sites would be required for Basin 1. Please note that the contributing area to the existing SMFs extend west beyond the Segment 2B SEIS study limits for Basin 1 and coordination between sections is required as the TIS SEIS Project moves into the design phases.

Basin 2

The proposed SMF 2A is located underneath the proposed I-275 Bridge and within the previously acquired Presbyterian Village Parcel. The SMF is sized to provide treatment volume for the increase in impervious area of Basin 2, the increase in impervious area of the adjacent local roadway, and the SMF control surface area. An alternative site is presented as SMF 2B, in a location similar to the 1996 TIS location. A third alternative to providing an SMF within Basin 2 would be to eliminate the pond altogether and to utilize the excess treatment volume in Basins 3 and 4, which has a total excess treatment volume greater than what is required for Basin 2.

The NRCS Soil Survey identifies the predominant soil type as *55 – Tavares-Urban land complex, 0 to 5 percent slopes* with an estimated depth to water table of 42-72 inches. A depth to SHWT of 3.28 ft was used below the average grade elevation of 12.00, yielding a SHWT elevation of 8.72. See **Table 5-1** for a summary of SMF 2A and 2B. Refer to **Appendix D** for the Design Option A – Alternative 1 & 2 Basin 2 figure and calculations.

Table 5-1 Design Option A – Alternatives 1 and 2 Proposed SMF 2A and 2B Summary

SMF[1]	Treatment Type	Area (ac)	SHWT / Control EL	Weir EL	DHW EL	Inside T.O.B. EL
SMF 2A	Wet Detention	1.15	8.72	9.72	N/A	12.00
SMF 2B	Wet Detention	0.98	8.72	9.72	N/A	12.00

[1] Only one SMF is required

Basin 3

The existing SMFs 1A and 1C within Basin 3 were designed to provide 0.72 ac-ft and 0.34 ac-ft of treatment volume respectively. Both of these SMFs will be impacted by the proposed design option. The four proposed SMFs are all required and sized to provide treatment for the increase in I-275 impervious area, the SMF control surface area, and the replacement of existing 1.06 ac-ft of treatment volume. The reconstruction of local roads was evaluated in comparison to existing local roads and was found to have a reduced impervious area. Credit for the reduction of local road impervious area was not taken in the design of SMFs. The SHWT elevations for SMF 3A and 3B were obtained from existing ERP 20690.004 as 2.40m (7.87 ft) and 3.05m (10.00 ft) respectively and used in place of NRCS data. The SHWT elevation for SMF 3C was set at the SHWT elevation of SMF 3B. The NRCS Soil Survey identifies the predominant soil type for SMF 3D as *55 – Tavares-Urban land complex, 0 to 5 percent slopes* with an estimated depth to water table of 42-72 inches. A depth to SHWT of 3.28 ft was used below the average grade elevation of 45.00, yielding a SHWT elevation of 41.72. See **Table 5-2** for a summary of SMF 3A, SMF 3B, SMF 3C, and SMF 3D. Refer to **Appendix D** for the Option A – Alternative 1 & 2 Basin 3 figure and calculations.

Table 5-2 Design Option A – Alternatives 1 and 2 Proposed SMF 3A, 3B, 3C, and 3D Summary

SMF	Treatment Type	Area (ac)	SHWT / Control EL	Weir EL	DHW EL	Inside T.O.B. EL
SMF 3A	Wet Detention	0.78	7.87	8.87	N/A	10.80
SMF 3B	Wet Detention	2.09	10.00	11.00	N/A	14.00
SMF 3C	Wet Detention	1.96	10.00	11.00	N/A	15.00
SMF 3D	Wet Detention	3.13	41.72	42.72	N/A	45.00

Basin 4

The existing SMFs 1G and 1H were designed to provide 0.12 ac-ft and 0.58 ac-ft of treatment volume respectively. Both of these SMFs will be eliminated by the proposed design option. Proposed SMF 4A and SMF 4B are sized to provide treatment for the increase in I-275 impervious area, the SMF pond bottom area, and the replacement of the existing 0.70 ac-ft of treatment volume. The reconstruction of local and frontage roads was evaluated in comparison to existing local roads and were found to have a reduced impervious area. Credit for the reduction of local road impervious area was not taken in the design of SMF 4A.

The NRCS Soil Survey identifies the predominant soil type as *55 – Tavares-Urban land complex, 0 to 5 percent slopes* with an estimated depth to water table of 42-72 inches. The SHWT elevation was obtained from existing ERP 20690.004 as 7.35m (24.11 ft) and used in place of NRCS data. See **Table 5-3** for a summary of SMF 4A and SMF 4B. Refer to **Appendix D** for the Option A – Alternative 1 Basin 4 figure and calculations.

Table 5-3 Design Option A – Alternative 1 Proposed SMF 4A and 4B Summary

SMF	Treatment Type	Area (ac)	SHWT / Bottom EL	Weir EL	DHW EL	Inside T.O.B. EL
SMF 4A	Dry Retention	3.59	24.11 / 33.50	34.50	N/A	37.00
SMF 4B	Dry Retention	2.21	24.11 / 34.50	35.50	N/A	37.00

Basin 5

The proposed SMF 5A is sited per the 1996 TIS FEIS (FDOT 1996, pp. 4-86) and sized to provide treatment and attenuation for the increase in impervious area of the I-275 corridor and SMF control surface area. The reconstruction of adjacent local and frontage roads was evaluated in comparison to existing local roads and were found to have increased impervious area in the post-developed condition. Basin 5 is a closed basin and is drained by a pump station located southwest of the Robles Park pond. As such, closed basin SWFWMD criteria apply, and a secondary outfall to divert discharge to Basin 4 is needed to not increase runoff volume to the existing outfall.

The NRCS Soil Survey identifies the predominant soil type as *55 – Tavares-Urban land complex, 0 to 5 percent slopes* with an estimated depth to water table of 42-72 inches. A depth to SHWT of 3.28 ft was used below the average grade elevation of 42.00, yielding a SHWT elevation of 38.72. See **Table 5-4** for a summary of SMF 5A. Refer to **Appendix D** for the Design Option A – Alternative 1 Basin 5 figure and calculations.

Table 5-4 Design Option A – Alternative 1 Proposed SMF 5A Summary

SMF	Treatment Type	Area (ac)	SHWT / Control EL	Weir EL	DHW EL	Inside T.O.B. EL
SMF 5A	Wet Detention	2.81	38.72	39.25	40.25	42.00

Basin 6

Two pond site locations were evaluated for Basin 6, but only one is required to meet the stormwater requirement. The proposed SMF 6A is the sited per the 1996 TIS FEIS (FDOT 1996, pp. 4-86) with a minor modification to avoid impact to the existing homes along Central Avenue. The SMF 6B site was evaluated as a no ROW option under the I-275 Bridge that is proposed to span Dr. MLK, Jr. Boulevard. However, it would result in additional construction costs associated with bridge lengthening. Per preliminary cost estimates received from HNTB on May 26, 2018, the excess costs associated with the bridge lengthening total to $20,328,950, which includes MOT, mobilization, design, and unknown costs. Each pond was sized to provide treatment and attenuation for the increase in impervious area of the I-275 corridor and SMF control water surface area. The reconstruction of local and frontage roads was compared to the existing roads and were found to have a reduced the total impervious area. However, no credit was applied in the SMF design for the reduction of impervious area.

The NRCS Soil Survey identifies the predominant soil type as *55 – Tavares-Urban land complex, 0 to 5 percent slopes* with an estimated depth to water table of 42-72 inches. A depth to SHWT of 3.28 ft was used below the average grade elevation of 47.00, yielding a SHWT elevation of 43.72. See **Table 5-5** for a summary of SMF 6A and 6B. Refer to **Appendix D** for the Design Option A – Alternative 1 Basin 6 figure, calculations, and HNTB bridge extension cost estimate.

Table 5-5 Design Option A – Alternative 1 Proposed SMF 6A and 6B Summary

SMF[1]	Treatment Type	Area (ac)	SHWT / Control EL	Weir EL	DHW EL	Inside T.O.B. EL
SMF 6A	Wet Detention	1.92	43.72	44.50	45.80	47.00
SMF 6B	Wet Detention	1.66	43.72	44.50	45.60	47.00

[1] Only one SMF is required

Storm Sewer Trunkline

Under Design Option A – Alternative 1, the existing storm sewer trunkline outfall within Basins 3 and 4 would be required to be reconstructed and enlarged to allow direct connection to Hillsborough River. The tidally influenced outfall would eliminate the need for attenuation. For the purposes of comparing the costs of design options, a preliminary size and cost of a 1.5 mile trunkline from E. Floribraska Avenue to the Hillsborough River was estimated. Refer to **Table 5-6** for the storm sewer design. The estimate of costs for the storm sewer trunkline sizes is provided in **Table 5-7**.

Table 5-6 Design Option A – Alternative 1 Proposed Storm Sewer Trunkline Design

Cumulative Drainage Area (ac)	Storm Pipe Length (ft)	Tc (min)	Intensity (25 yrs)	C	Estimated cumulative Discharge (cfs)	Storm Pipe Diameter (in)
5.4	922	19	6.60	0.95	34	36
10.3	715	22	6.20	0.95	61	42
87.9	2,212	43	4.40	0.77	299	(2) 66
137.9	4,030	60	3.70	0.81	412	(2) 72

Table 5-7 Design Option A – Alternative 1 Proposed Storm Sewer Trunkline Cost Estimate

Limits	Estimated Cumulative Discharge (cfs)	Storm Pipe Length (ft)	Storm Pipe Diameter (in)	Cost Estimate
From E. Floribraska Ave. to E. Columbus Dr.	34	922	36	$97,821
From E. Columbus Dr. to E. Sparkman Ave.	61	715	42	$121,948
From E. Sparkman Ave. to E. Oak Ave.	299	2,212	(2) 66	$2,187,851[1]
From E. Oak Ave. to Hillsborough River	412	4,030	(2) 72	$4,136,193
Trunkline Cost				$6,543,814
Unknowns and Constructability Cost (100% Trunkline Cost)				$6,543,814
Subtotal				$13,087,628
Contingency (50% Subtotal)				$6,543,814
Total				**$19,631,442**

[1] This amount also includes the cost of the proposed 48-inch pipe from N. 12th Street to the proposed SMF 4A

Basin 7

The existing approved ERP reported a 19.17 ac increase in impervious area from 4.82 ac to 23.98 ac. The proposed impervious area in Design Option A Basin 7 is 22.97 ac. The total impervious area including the SMF control surface is 26.84 ac. The permitted condition used a design treatment area of 27.87 ac for the entire SMF contributing drainage area that includes the 3.87 ac of pond sites. Therefore, 2.32 ac-ft. of treatment volume is required. The existing SMFs were designed and constructed to provide 2.50 ac-ft of treatment volume. As such, no additional treatment or attenuation is expected to be required for Design Option A.

Basin 8

The existing approved ERP reported a 26.26 ac increase in impervious area from 7.43 ac to 33.69 ac. The proposed impervious area in Design Option A Basin 8 is 28.24 ac. The total proposed impervious area including the SMF control surface is 35.15 ac. The permitted condition used a design treatment area of 40.61 ac of the entire SMF contributing drainage area that includes the 6.91 ac of pond sites. Therefore, 3.39 ac-ft. of treatment volume is required. The existing SMFs were designed and constructed to provide 3.38 ac-ft of treatment volume. As such, no additional treatment or attenuation is expected to be required for Design Option A.

Basin 9

The existing approved ERP permit reported that Basin 9 contains three existing SMFs that provide treatment and attenuation. The original ERP 20690.001 reported an existing impervious roadway area of 7.51 ac. SMF 200-6 was designed to provide treatment for the entire interim build contributing drainage area of 7.04 ac. The contributing drainage area was reduced to 4.65 ac in the ultimate design-build condition. SMF 300-1A and SMF 300-1B were designed to provide treatment for the entire contributing drainage areas of 10.76 ac and 16.23 ac respectively for the ultimate design condition. The proposed impervious area in Design Option A Basin 9 is 24.89 ac, which is less than the 34.03 ac of design treatment area that includes 4.83 ac of pond site. As such, no additional treatment or attenuation is expected to be required for Design Option A.

Basin 10

The existing approved ERP reported a 26.85 ac increase in impervious area from 12.57 ac to 39.42 ac. The proposed impervious area in Design Option A Basin 10 is 33.70 ac. The total proposed impervious area including the SMF control surface area is 37.45 ac. The permitted condition used a design treatment area of 34.68 ac of the entire SMF contributing drainage area that includes the 3.75 ac of pond site minus the 8.50 ac of direct discharge. Therefore, 2.89 ac-ft. of treatment volume is required. The existing SMF was designed and constructed to provide 2.96 ac-ft of treatment volume. As such, no additional treatment or attenuation is expected to be required for Design Option A.

Basin 11

The Basin 11 existing SMF 800-1, SMF 800-2, and SMF 800-3 do not provide treatment. The required treatment was compensated by the excess treatment provided in the SMFs for Basins 7 through 10, which includes approximately 6.27 ac of local roadway. The existing approved ERP permit 20690.001 reported a total build-out (Ultimate) impervious pavement area of 138.89 ac for Basins 7-11 versus an existing roadway area of 33.96 ac, which results in a required treatment area of 104.93 ac. The total SMF site area in these basins is 21.36 ac. There is 2.00 ac of SMF area attributed to Basin 11. A total of 129.46 ac of impervious I-4 area is proposed for Design Option A. The required treatment volume balance was estimated for this analysis based upon the following **Equation 1**:

Equation 1

$$Proposed\ \text{I4} - Original\ \text{I4} + Local\ Roadway + Pond\ Sites = Required\ Treatment\ Area$$

$$129.46ac - 33.96ac + 6.27ac + 21.36ac = 123.13ac$$

$$123.13ac\ (10.26ac \cdot ft)\ Required < 131.03ac\ (10.92ac \cdot ft)\ Design < 11.77ac \cdot ft\ Provided$$

$$\therefore Design\ is\ adequate$$

The proposed westbound N. 50th Street to I-4 on-ramp encroaches into existing pond SMF 800-3 berm. The total volume loss is approximately 21,000 ft^3. Due to the minimal loss of volume, it is assumed that the required reconfiguration of SMF 800-3, adjustment of the off-ramp, and/or the coordination with Segment 4A would be worked out during the design phase. As such, no additional treatment or attenuation is expected to be required for Design Option A segments 3A and 3B (Basins 7-11).

Table 5-8 Design Option A – Alternative 1 Summary of Basin Treatment

Basin	SMF	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Increase in Impervious Area (ac)	Treatment Volume Required (ac-ft)	Replaced Existing Treatment Volume (ac-ft)	Total Treatment Volume Required (ac-ft)	Treatment Volume Provided (ac-ft)
2	SMF 2A[1]	11.34	17.31	5.97	0.50	0.00	0.50	0.54
	SMF 2B[1]	11.34	17.31	5.97	0.50	0.00	0.50	0.50
	No SMF Option	11.34	16.80	5.46	0.46	0.00	0.46	0.00
3	SMF 3A	28.87	60.61	31.74	2.65	1.06	3.71	0.32
	SMF 3B							1.10
	SMF 3C							1.04
	SMF 3D							1.95
4	SMF 4A	27.26	56.19	28.93	2.41	0.70	3.11	2.31
	SMF 4B							1.02
5	SMF 5A	15.92	23.44	7.52	0.63	0.00	0.63	1.01
6	SMF 6A[1]	16.04	22.41	6.37	0.53	0.00	0.53	0.66
	SMF 6B[1]	16.04	21.62	5.58	0.47	0.00	0.47	0.61
Segment 2B Totals		99.43[2]	179.96[2]	80.53[2]	6.72[2]	1.76	8.48[2]	9.95[2]
7	SMF 100-1	4.82[3]	26.84 (22.97 I-4 roadway)	22.02	1.84	0.00	1.84	1.85
	SMF 100-2							
	SMF 100-3							0.65
8	SMF 200-1	7.43[3]	35.15 (28.24 I-4 roadway)	27.72	2.31	0.00	2.31	0.52
	SMF 200-2							0.54
	SMF 200-3							1.05
	SMF 200-4							0.73
	SMF 200-5							0.54

Basin	SMF	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Increase in Impervious Area (ac)	Treatment Volume Required (ac-ft)	Replaced Existing Treatment Volume (ac-ft)	Total Treatment Volume Required (ac-ft)	Treatment Volume Provided (ac-ft)
9	SMF 200-6	7.51[3]	29.72 (24.89 I-4 roadway)	22.21	1.85	0.00	1.85	0.62
	SMF 300-1A							1.37
	SMF 300-1B							0.94
10	SMF 400-1	12.57[3]	37.45 (33.70 I-4 roadway)	24.88	2.07	0.00	2.07	2.96
11	SMF 800-1	1.63[3]	21.67 (19.67 I-4 roadway)	20.04	1.67	0.00	1.67	0.00
	SMF 800-2							0.00
	SMF 800-3							0.00
Segment 3A & 3B Totals		33.96[3]	150.83	116.87	9.74	0.00	9.74	11.77

[1] Only one SMF is required for Basin 2 and Basin 6 each

[2] Sum calculated utilizing Basin 2 - SMF 2A and Basin 6 – SMF 6A values

[3] The existing roadway area prior to ERP 20690.001 i.e. the original I-4

5.3 Design Option A – Alternative 2

The stormwater management requirements for Alternative 2 remain the same as Alternative 1. However, the evaluation of Alternative 2 focused on eliminating the proposed SMFs in Basins 5 and 6 via the construction of a new outfall pipe that would directly discharge to the tidal waters of the Hillsborough River. Direct discharge to tidal waters eliminates the need to attenuate post-development peak discharge rates to existing discharge rates. The excess treatment volume within Basins 3 and 4 would be utilized to meet the treatment requirement in Basins 5 and 6. Therefore, the discussion in this section focuses on the required Basin 4 SMF sites and storm sewer outfall. The SMF sites and calculations for Basins 1, 2, 3, and 7 through 11 are not changed. Refer to the Design Option A – Alternative 2 figure in **Appendix D**.

Basin 4

There are four proposed SMFs (4A, 4B, 4C, and 4D) required and sized to provide treatment for the increase in I-275 impervious area for Basins 4, 5, and 6, the SMF control surface areas, and the replacement of the Basin 4 existing 0.70 ac-ft of treatment volume. The reconstruction of local and frontage roads was evaluated in comparison to existing local roads and were found to have a reduced exposed impervious area. Credit for the reduction of local road impervious area was not taken in the design. The NRCS Soil Survey identifies the predominant soil type as *55 – Tavares-Urban land complex, 0 to 5 percent slopes* with an estimated depth to water table of 42-72 inches. The SHWT elevation was obtained from existing ERP 20690.004 as 7.35m (24.11 ft) and used in place of NRCS data. See **Table 5-9** for a summary of SMFs 4A, 4B, 4C, and 4D. Refer to **Appendix D** for the Design Option A – Alternative 2 Basin 4 figure and calculations.

Table 5-9 Design Option A – Alternative 2 Proposed SMF 4A, 4B, 4C and 4D Summary

SMF	Treatment Type	Area (ac)	SHWT / Bottom EL	Weir EL	DHW EL	Inside T.O.B. EL
SMF 4A	Dry Retention	3.59	24.11 / 33.50	34.50	N/A	37.00
SMF 4B	Dry Retention	2.21	24.11 / 34.50	35.50	N/A	37.00
SMF 4C	Dry Retention	1.68	24.11 / 34.75	35.50	N/A	37.00
SMF 4D	Dry Retention	0.97	24.11 / 34.75	35.50	N/A	37.00

Storm Sewer Trunkline

Under Design Option A – Alternative 2, runoff would be routed from Basins 5 & 6 south to the I-275 / I-4 interchange. This alternative would require the design and construction of a new storm sewer trunkline for approximately 1.75 miles from E. Osbourne Avenue to the interchange. Additionally, the approximately 1-mile existing trunkline from the interchange to the Hillsborough River would need to be enlarged or supplemented with additional trunklines to accommodate the additional discharge. Refer to **Table 5-10** for the rational method storm sewer design. A summary of the storm sewer trunkline sizes and cost estimate is provided in **Table 5-11**. The trunkline was estimated conservatively by keeping peak discharge rates to about 4 feet per second (fps) as minor losses were not taken into account. Refer to **Appendix D** for the Design Option A – Alternative 2 exhibits.

Table 5-10 Design Option A – Alternative 2 Proposed Storm Sewer Trunkline Design

Cumulative Drainage Area (ac)	Storm Pipe Length (ft)	Tc (min)	Intensity (25 yrs)	C	Estimated cumulative Discharge (cfs)	Storm Pipe Diameter (in)
5.0	1150	18	6.75	0.95	32	36
10.4	900	22	6.18	0.95	61	42
14.3	550	25	5.85	0.95	79	48
21.6	1290	31	5.30	0.95	109	54
38.8	3330	44	4.40	0.95	162	66
53.2	1100	48	4.15	0.95	210	72
119.5	1700	60	3.65	0.82	357	(2) 66
160.2	2630	69	3.30	0.83	437	(2) 72
191.0	1950	76	3.10	0.85	501	(2) 84

Table 5-11 Design Option A – Alternative 2 Proposed Storm Sewer Trunkline Cost Estimate

Limits	Estimated Cumulative Discharge (cfs)	Storm Pipe Length (ft)	Storm Pipe Diameter (in)	Cost Estimate
From north of E. Osborne Ave. to E. Emma St.	32	1,150	36	$122,038
From E. Emma St. to E North Bay St.	61	900	42	$153,522
E North Bay St. to north of MLK Jr Blvd.	79	550	48	$92,609
From north of MLK Jr Blvd. to E Lake Ave.	109	1,290	54	$360,581
From E. Lake Ave. to south of E. Robles St.	162	3,330	66	$1,329,969
From E. Robles St. to E. Sparkman Ave.	210	1,100	72	$855,879[1]
From E. Sparkman Ave. to E Palm Ave.	357	1,700	(2) 66	$1,357,926
From E. Palm Ave. to N. Morgan St.	437	2,630	(2) 72	$2,079,751
From N. Morgan St. to Hillsborough River	501	1,950	(2) 84	$2,730,000
Trunkline Cost				$9,082,275
Unknowns and Constructability Cost (100% Trunkline Cost)				$9,082,275
Subtotal				$18,164,550
Contingency (50% Subtotal)				$9,082,275
Total				**$27,246,825**

[1] This amount also includes the cost of the proposed 48-inch pipe from N. 12th Street to the proposed SMF 4A

5.4 Design Option B – Alternative 1 and 2

The most significant change for Design Option B, from Design Option A, is the elimination of the express lanes north of the interchange along the north leg of I-275 and does not include direct connections from the express lanes to the north leg of I-275. Those changes reduces the impervious area and overall footprint in Basins 5 and 6 when compared to Design Option A, which reduces the SMF requirement. The SMF sites and calculations for Basins 1 and 7 through 11 are not changed.

The Basin 5 impact would include additional impervious area at the north end of the interchange for connectivity and additional shoulder width. Basin 6 has similar increases in impervious area as Design Option A Basin 6 per the January 11, 2018 provided options. The increase in impervious area is due to the off and on ramps construction at MLK Jr. Boulevard and shoulder widening. As with Design Option A, the analysis performed for Design Option B includes two Alternatives. Alternative 1 includes proposed SMF options for Basins 5 and 6 in similar locations for Design Option A – Alternative 1, but the pond volume requirement is reduced. It is noted that SMF 5A would provide the retention storage required for Basin 5 (closed basin) due to the minor increase in impervious area. Runoff diversion to Basin 4 is not necessary, as is required for Design Option A – Alternative 1. SMF 5A would impact one private parcel along Taliaferro Avenue and the City of Tampa owned North Mitchell Avenue ROW.

Alternative 2 eliminates the Basin 5 and 6 SMFs via the construction of a new outfall to the tidal waters of Hillsborough River. The proposed SMF 4A in Basin 4 has sufficient capacity to provide the required treatment volume for Basin 4, 5 and 6 for Design Option B – Alternative 2, since the elimination of the north express lane provides increased available infield area. The proposed SMFs in Basins 1 through 3 remain the same for Alternative 2. The proposed outfall to the Hillsborough River would still be required, as in Design Option A, but may be evaluated with a minor reduction in storm pipe size due to the reduced impervious area in the design phase of the project.

Refer to **Appendix D** for the Design Option B – Alternative 1 and Design Option B – Alternative 2 figures and calculations. See **Table 5-12** for a summary of the proposed SMFs; see **Table 5-13** for a summary of treatment requirements.

Table 5-12 Design Option B – Proposed SMF Summary

SMF	Treatment Type	Area (ac)	SHWT / Control (or Bottom) EL	Weir EL	DHW EL	Inside T.O.B. EL
Alternative 1						
SMF 2A[1]	Wet Detention	1.15	8.72	9.72	N/A	12.00
SMF 2B[1]	Wet Detention	0.98	8.72	9.72	N/A	12.00
SMF 3A	Wet Detention	0.78	7.87	8.87	N/A	10.80
SMF 3B	Wet Detention	2.09	10.00	11.00	N/A	14.00
SMF 3C	Wet Detention	2.06	10.00	11.00	N/A	15.00
SMF 3D	Wet Detention	3.13	41.72	42.72	N/A	45.00
SMF 4A	Dry Retention	2.59	24.11 / (32.50)	34.00	N/A	37.00
SMF 5A	Dry Retention	0.85	34.72 / (36.72)	37.30	37.90	39.00
SMF 6A[1]	Wet Detention	1.92	43.72	44.50	45.80	47.00

SMF	Treatment Type	Area (ac)	SHWT / Control (or Bottom) EL	Weir EL	DHW EL	Inside T.O.B. EL
SMF 6B[1]	Wet Detention	1.66	43.72	44.50	45.80	47.00
Alternative 2						
SMF 4A	Dry Retention	3.72	24.11 / (32.50)	34.00	N/A	37.00

[1] Only one SMF is required for Basin 2 and Basin 6 each

Table 5-13 Design Option B – Summary of Basin Treatment

Basin	SMF	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Increase in Impervious Area (ac)	Treatment Volume Required (ac-ft)	Replaced Existing Treatment Volume (ac-ft)	Total Treatment Volume Required (ac-ft)	Treatment Volume Provided (ac-ft)
Alternative 1								
2	SMF 2A[1]	5.41	11.25	5.84	0.49	0.00	0.49	0.54
	SMF 2B[1]	5.41	11.25	5.84	0.49	0.00	0.49	0.50
	No SMF Option	5.41	10.74	5.33	0.44	0.00	0.44	0.00
3	SMF 3A	28.63	59.05	30.42	2.54	1.06	3.60	0.32
	SMF 3B							1.10
	SMF 3C							1.09
	SMF 3D							1.95
4	SMF 4A	27.26	43.23	15.97	1.33	0.70	2.03	2.21
5	SMF 5A	12.22	13.67	1.45	0.12	0.00	0.12	0.29
6	SMF 6A[1]	18.65	25.41	6.76	0.56	0.00	0.56	0.66
	SMF 6B[1]	18.65	24.62	5.97	0.50	0.00	0.50	0.61
Totals		92.17[2]	152.61[2]	60.44[2]	5.04[2]	1.76	6.80[2]	8.16[2]
Alternative 2								
4	SMF 4A	55.52	78.92	23.40	1.95	0.70	2.65	3.58

[1] Only one SMF is required for Basin 2 and Basin 6 each

[2] Sum calculated utilizing Basin 2 - SMF 2A and Basin 6 – SMF 6A values

5.5 Design Option C

Proposed improvements for Design Option C would include preserving the existing I-275 and I-4 interstate while adding express lanes on elevated structure from west of the Hillsborough River to I-4. However, the preservation of a HOV/Transitway corridor is not provided within the interstate alignment for Design Option C.

The proposed improvement has a smaller footprint compared to Design Options A and B, which would result in less stormwater treatment requirements. A goal of the Design Option C drainage design was to avoid the reconstruction of the existing Basin 3 and Basin 4 outfall by attenuating within these basins. The basin discussion below for Design Option C provides a summary of the impacts and approach to providing stormwater management throughout the corridor. Refer to the Design Option C figures and calculations in **Appendix D**. Refer to **Table 5-15** and **Table 5-16** for summaries of the required basin treatment and attenuation.

Basin 1

The proposed roadway footprint is within the existing ROW, which has been accounted for with treatment in the previous design. Any final roadway design adjustments requiring increased treatment volume can be accommodated for in SMF 2A within Basin 2.

Basin 2

The elevated express lanes would fly over the median of I-275 west of the Hillsborough River with on and off express lane ramps to the north and south. There is a slight increase in the impervious area compared to Design Options A and B. The proposed SMF 2A is sited underneath the proposed I-275 Bridge, within the previously acquired Presbyterian Village Parcel, and is sized to provide treatment volume for the increase in impervious area of Basin 2 and the SMF control surface area. The reconstruction of the local roadway was evaluated in comparison to existing local roads and was found to have a reduced impervious area. Credit for the reduction of local road impervious area was not taken in the design. An alternative site is presented as SMF 2B, in a location similar to the 1996 TIS location. A third alternative to providing an SMF within Basin 2 would be to eliminate the pond altogether and to utilize the excess treatment volume in Basins 3 and 4, which has a total excess treatment volume greater than what is required for Basin 2.

Basins 3 and 4

The elevated express lanes would fly over the northbound I-275 lanes to the outside of the existing interstate and run adjacent to the existing northbound I-275 lanes from the Hillsborough River to I-4, on the south side of I-275. The existing I-275 NB and SB mainline would remain. The stormwater management approach is to maintain the existing stormwater system and SMF 1A, 1C, 1G, and 1H with the addition of new SMFs to provide the required treatment volume and attenuation volume to allow for connection to the existing storm sewer outfalls without replacement of the trunklines.

The existing permitted ERP 20690.004 combined these drainage basins into a single basin denoted as Basin 1. The existing SMFs within this basin (SMF 1A, 1C, 1G, and 1H) provided a combined treatment volume of 2179 m^3 (1.77 ac-ft) for the previously permitted increase in impervious area of 5.21 ha (12.87 ac), requiring 1.07 ac-ft of treatment volume. This excess provided treatment volume of 0.70 ac-ft has been utilized in the required treatment design in this report. The remaining required treatment volume is provided in the proposed SMF 4B.

For the purposes of attenuation, Basin 4 has been partitioned into Basin 4A and 4B due to the two separate outfalls with Basin 4. Basins 3 and 4A both contribute to the same outfall, which is the existing 60-inch reinforced concrete pipe (RCP) that drains southwest from SMF 1G to SMF 1C before discharging to the Hillsborough river. To provide the required attenuation volume, SMFs 3A and 4A are proposed at the upstream end of the outfall network. These SMFs provide attenuation volume only, and are both located within existing ROW. Both SMFs are conservatively designed as no attenuation credit is taken from the existing SMFs. The design control elevation of SMF 4A is above the SMF 1G and 1H top-of-bank elevation. As such, runoff will be required to be routed to SMF 4A first, before discharging to existing SMFs or the outfall pipe. Refer to the Design Option C Exhibits in Appendix D for the impervious area diversion schedule. Note that 6.34 ac of existing I-275 is proposed to drain to SMF 3A, which will require storm sewer improvements within the existing roadway. The combination of the existing SMFs and proposed SMFs allows for utilizing the existing storm sewer outfall trunkline.

SMF 3A is currently located within a designated project greenway and will require additional coordination and community input on the design and configuration of the pond. For comparison purposes, a cost estimate for the replacement of the existing storm sewer outfall with the elimination of SMF 3A would be comparable to the estimate for Design Option D ($12,723,483). The need for the new outfall reconstruction may be evaluated further during the design phase of the project.

Basin 4B consists of the I-275 corridor between E. Columbus Drive and E. Floribraska Avenue (excluding a portion of the I-275 southbound lanes), the I-4 eastbound and westbound lanes between N. Nebraska Avenue and N. 14th Street, and the I-4 westbound to I-275 northbound ramp connecting them. This basin directly discharges into the city of Tampa’s storm sewer system at N. 10th Street before draining south and directly discharging to the Ybor Channel. In the existing condition, the runoff originating from this basin is not formally treated; the required treatment is instead provided within SMFs 1A, 1C, 1G, and 1H via compensatory treatment. SMF 4B has been proposed to provide treatment and attenuation in this basin, and is located within the existing ROW. The impervious roadway area proposed to be routed to SMF 4B is 13.71 ac for treatment volume. The remaining impervious area required to be routed to this SMF for treatment and attenuation will need to come from the offsite drainage area to the north, which is passed through the storm drain at N. 10th Street. Minor changes to the existing interstate storm sewer will be required to divert drainage area from Basin 4A to Basin 4B. See **Table 5-14** for a summary of the proposed SMFs.

Table 5-14 Design Option C – Proposed SMF Summary

SMF	Treatment Type	Area (ac)	SHWT / Control (or Bottom) EL	Weir EL	DHW EL	Inside T.O.B. EL
SMF 2A[1]	Wet Detention	1.00	8.72	10.00	N/A	12.00
SMF 2B[1]	Wet Detention	0.98	8.72	10.00	N/A	12.00
SMF 3A	Wet Detention	1.46	40.90	40.90	43.80	45.00
SMF 4A	Dry Retention	1.80	37.90 / (39.90)	39.90	41.00	42.00
SMF 4B	Wet Detention	2.69	36.90	38.40	40.75	42.00

[1] Only one SMF is required

Table 5-15 Design Option C – Summary of Attenuation Volume Requirements

Basin	SMF	Required Attenuation Volume (ac-ft)	Provided Attenuation Volume (ac-ft)	Freeboard Depth (ft)
3	SMF 3A	1.76	2.18	1.20
4A	SMF 4A	0.65	1.18	1.00
4B	SMF 4B	3.50	4.34	1.25

Basins 5 and 6

Design Option C provided on January 11, 2018, would reduce the impervious area in Basin 5 due to the removal of the I-275 southbound off ramp and I-275 northbound on ramp at E. Floribraska Avenue. No roadway improvements or alterations are proposed within the limits of Basin 6. As such, no stormwater management design would be required for these basins.

Basins 7 through 11

The proposed elevated express lanes turn east along by crossing over to the north side of I-4, adjacent to the westbound I-4 lanes from I-275 to east of N. 15th Street. The express lanes then continue east within the median of I-4. Since the proposed design of Design Option C is identical to Design Options A and B less the premium transit corridor, the SMF design for those design options would be adequate for Design Option C.

Table 5-16 Design Option C – Summary of Basin Treatment

Basin	SMF	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Increase in Impervious Area (ac)	Treatment Volume Required (ac-ft)	Replaced Existing Treatment Volume (ac-ft)	Total Treatment Volume Required (ac-ft)	Treatment Volume Provided (ac-ft)
SMFs								
2	SMF 2A[1]	5.41	12.13	6.72	0.56	0.00	0.56	0.64
	SMF 2B[1]	5.41	12.13	6.72	0.56	0.00	0.56	0.65
	No SMF Option	5.41	11.67	6.26	0.52	0.00	0.52	0.00
3	SMF 3A	27.69	39.56	11.87	0.99	0.00	0.99	0.00
	Exist. SMF 1A				0.53[2]	0.00	0.53	0.72
	Exist. SMF 1C					0.00		0.34
4A	SMF 4A	15.06	16.22	1.16	0.10	0.00	0.10	0.00
	Exist. SMF 1G				0.54[2]	0.00	0.54	0.12
	Exist. SMF 1H					0.00		0.58
4B	SMF 4B	12.20	27.05	14.85	1.24	0.00	1.24	2.48
5	None	12.22	10.59	-1.63	0.00	0.00	0.00	0.00
6	None	16.04	16.04	0.00	0.00	0.00	0.00	0.00
Totals		60.36[3]	94.96[3]	34.60[3]	3.96[3]	0.00	3.96[3]	4.88[3]

[1] Only one SMF required

[2] Permitted required treatment volume per ERP 20690.004

[3] Sum calculated utilizing Basin 2 - SMF 2A and Basins 3 and 4 values

5.6 Design Option D

Proposed improvements for Design Option D would include preserving the existing I-275 and I-4 interstate while adding express lanes on elevated structure from west of the Hillsborough River to I-4, similar to Option C. However, under Option D the proposed alignment in relation to the existing I-275 differs. The preservation of a HOV/Transitway corridor is not provided within the interstate alignment for Design Option D.

The proposed improvement has a smaller footprint when compared to Design Options A and B, which would result in less stormwater treatment requirements. One difference between the Design Option C and Design Option D stormwater management approach is that Design Option D replaces the existing storm sewer outfall without consideration of utilizing the existing system. This is because the elevated express lane alignment in Design Option D overlaps and conflicts with the existing outfall. The basin discussion below for Design Option D provides a summary of the impacts and approach to providing stormwater management throughout the corridor. Refer to the Design Option D figures and calculations in **Appendix D**. Refer to **Table 5-18** and **Table 5-21** for summaries of the required basin treatment and attenuation.

Basin 1

The proposed roadway footprint is within the existing ROW, which has been accounted for with treatment in the previous design. Any final roadway design adjustments requiring increased treatment volume can be accommodated for in SMF 2A within Basin 2.

Basin 2

The elevated express lanes would fly over the median of I-275 west of the Hillsborough River with on and off express lane ramps to the north and south. There is a slight increase in the impervious area compared to Design Options A and B. The proposed SMF 2A is sited underneath the proposed I-275 Bridge, within the previously acquired Presbyterian Village Parcel, and is sized to provide treatment volume for the increase in impervious area of Basin 2, the SMF control surface area, and the adjacent local roadway. Also proposed is an alternative pond site SMF 2B, sited similarly to the 1996 TIS. The design configurations of SMF 2A and SMF 2B are identical to the Design Option C configurations. An alternative to providing an SMF within Basin 2 would be to eliminate the pond altogether and to utilize the excess treatment volume in Basins 3 and 4, which has a total excess treatment volume greater than what is required for Basin 2.

Basins 3 and 4

The elevated express lanes would fly over the northbound and southbound I-275 lanes to the outside of the existing interstate and run adjacent to the existing southbound I-275 lanes from the Hillsborough River to I-4, on the north side of I-275. The existing I-275 NB and SB mainline would remain. The stormwater management approach is to maintain the existing stormwater system and SMF 1A, 1C, 1G, and 1H with the addition of new SMFs to provide the required treatment volume and attenuation volume. Since the proposed express lanes run above a significant portion of the existing Hillsborough River outfall trunkline, conflicts would be experienced and realignment would be required. As such, the drainage design for this outfall would include upgrading the existing trunkline in conjunction with the realignment.

Treatment for Basins 3 and 4 is designed holistically, utilizing the additional 0.45 ac-ft compensatory treatment volume of SMF 2A, and the additional 0.70 ac-ft of treatment volume in SMFs 1A, 1C, 1G, and 1H. The remaining required treatment volume would be provided in the proposed SMF 4B.

For the purposes of attenuation, Basin 4 has been partitioned into Basin 4A and 4B due to the two separate outfalls with Basin 4. Basins 3 and 4A both contribute to the same outfall, which is the existing 60-inch RCP that drains southwest from SMF 1G to SMF 1C before discharging to the Hillsborough river. Therefore, the net attenuation required for these basins has been merged since they contribute to the same storm sewer network and are both located upstream. As previously stated, attenuation for this outfall is not expected to be required due to the upgrade in existing outfall pipe size.

Basin 4B consists of the I-275 corridor between E. Columbus Drive and E. Floribraska Avenue (excluding a portion of the I-275 southbound lanes), the I-4 eastbound and westbound lanes between N. Nebraska Avenue and N. 14th Street, and the I-4 eastbound to I-275 northbound ramp connecting them. This basin directly discharges into the City of Tampa's storm sewer system at N. 10th Street before draining south and directly discharging to the Ybor Channel. In the existing condition, the runoff originating from this basin is not formally treated; the required treatment is instead provided within SMFs 1A, 1C, 1G, and 1H via compensatory treatment. SMF 4B has been proposed to provide treatment and attenuation in this basin, and is located within the existing ROW. The impervious area required to be routed to this SMF for treatment and attenuation will need to come from both the impervious interstate roadway, and from the offsite drainage area to the north which is passed through the storm drain at N. 10th Street. This report has not formally allocated the contributing drainage area to SMF 4B, and instead only confirmed that the required volume is available to be utilized. See **Table 5-17** for a summary of the proposed SMFs.

Table 5-17 Design Option D – Proposed SMF Summary

SMF	Treatment Type	Area (ac)	SHWT / Control EL	Weir EL	DHW EL	Inside T.O.B. EL
SMF 2A[1]	Wet Detention	1.00	8.72	10.00	N/A	12.00
SMF 2B[1]	Wet Detention	0.98	8.72	10.00	N/A	12.00
SMF 4B	Wet Detention	2.69	36.90	38.40	40.75	42.00

[1] Only one SMF is required

Table 5-18 Design Option D – Summary of Attenuation Requirements

Basin	SMF	Required Attenuation Volume (ac-ft)	Provided Attenuation Volume (ac-ft)	Freeboard Depth (ft)
4B	SMF 4B	3.00	4.36	1.25

Basins 5 and 6

Per the Design Option D provided on January 11, 2018, the impervious area in Basin 5 decreases due to the removal of the I-275 southbound off ramp and I-275 northbound on ramp at E. Floribraska Avenue. No roadway improvements or alterations are proposed within the limits of Basin 6. As such, no stormwater management design would be required for these basins.

Basins 7 through 11

The elevated express lanes would turn east along I-4 by crossing over to the north side of I-4, adjacent to the westbound I-4 lanes from I-275 to east of N. 15th Street. The express lanes then continue east within the median of I-4. Since the proposed design of Design Option D is identical to Design Options A and B less the premium transit corridor, the SMF design for those design options are adequate for Design Option D.

Storm Sewer Trunkline

As previously stated, the existing trunkline from the interchange to the Hillsborough River is proposed to be enlarged in conjunction with the realignment. This qualifies the basin to meet the SWFWMD criteria for direct discharge to tidal water bodies, and does not require attenuation. Refer to **Table 5-19** for the rational method storm sewer design. A summary of the storm sewer trunkline sizes and cost estimate is provided in **Table 5-20**.

Table 5-19 Design Option D – Proposed Storm Sewer Trunkline Design

Cumulative Drainage Area (ac)	Storm Pipe Length (ft)	Tc (min)	Intensity (25 yrs)	C	Estimated cumulative Discharge (cfs)	Storm Pipe Diameter (in)
47.7	1,520	30	5.40	0.62	161	72
70.4	2,700	41	4.60	0.73	236	(2) 60
103.0	1,990	50	4.10	0.76	320	(2) 66

Table 5-20 Design Option D – Proposed Storm Sewer Trunkline Cost Estimate

Limits	Estimated Cumulative Discharge (cfs)	Storm Pipe Length (ft)	Storm Pipe Diameter (in)	Cost Estimate
From E. Sparkman Ave. to E Palm Ave.	161	1,520	72	$600,993
From E. Palm Ave. to N. Morgan St.	236	2,700	(2) 60	$2,050,596
From N. Morgan St. to Hillsborough River	320	1,990	(2) 66	$1,589,572
Trunkline Cost				$4,241,161
Unknowns and Constructability Cost (100% Trunkline Cost)				$4,241,161
Subtotal				$8,482,322
Contingency (50% Subtotal)				$4,241,161
Total				**$12,723,483**

Table 5-21 Design Option D – Summary of Basin Treatment

Basin	SMF	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Increase in Impervious Area (ac)	Treatment Volume Required (ac-ft)	Replaced Existing Treatment Volume (ac-ft)	Total Treatment Volume Required (ac-ft)	Treatment Volume Provided (ac-ft)
SMFs								
2	SMF 2A[1]	11.33	15.88	4.55	0.38	0.00	0.38	0.64
	SMF 2B[1]	11.33	15.88	4.55	0.38	0.00	0.38	0.65
	No SMF Option	11.33	15.42	4.09	0.34	0.00	0.34	0.00
3, 4A, & 4B	Exist. SMF 1A	55.53	85.28	29.75	3.55[2]	0.00	3.55[2]	0.72
	Exist. SMF 1C							0.34
	Exist. SMF 1G							0.12
	Exist. SMF 1H							0.58
	SMF 4B							2.48
5	None	12.22	11.31	-0.91	0.00	0.00	0.00	0.00
6	None	16.04	16.04	0.00	0.00	0.00	0.00	0.00
Totals		66.86[3]	101.16[3]	34.30[3]	3.93[3]	0.00	3.93[3]	4.88[3]

[1] Only one SMF required

[2] Includes 1.07 ac-ft permitted treatment required in ERP 20690.004

[3] Sum calculated utilizing Basin 2 - SMF 2A and Basins 3 and 4 values

5.7 Design Option E

Proposed improvements for Design Option E include the widening of the existing I-275 interstate, and the widening and reconstruction of several on ramps, off ramps, and interchange ramps. The proposed improvements encroach into a minor portion of the far western limits of Segment 3A. However, for the most part, the proposed improvements are restricted to Segment 2B.

The Design Option E proposed stormwater management design avoids both ROW acquisition for SMF sites and any major reconstruction of existing outfall trunklines, excluding any required reconstruction incidental to the proposed roadway construction. The basin discussion below for Design Option E provides a summary of the impacts and approach to providing stormwater management throughout the corridor. Refer to the Design Option E figures and calculations in **Appendix D**. Refer to **Table 5-26** and **Table 5-27** for summaries of the required basin treatment and attenuation.

Basin 1

The proposed roadway footprint is within the existing ROW, which has been accounted for with treatment in the previous design. No further action is needed to meet the treatment requirements of Basin 1.

Basin 2

The proposed SMF 2A is sited within the previously acquired Presbyterian Village Parcel, in a location similar to the 1996 TIS location. The pond is sized to provide treatment volume for the increase in impervious area of Basin 2 and the SMF control surface area utilizing compensatory treatment to meet the treatment requirements of Basin 3.

The NRCS Soil Survey identifies the predominant soil type as *55 – Tavares-Urban land complex, 0 to 5 percent slopes* with an estimated depth to water table of 42-72 inches. A depth to SHWT of 3.50 ft was used below the average grade elevation of 12.00, yielding a SHWT elevation of 8.50. See **Table 5-22** for a summary of SMF 2A. Refer to **Appendix D** for the Design Option E – Basin 2 figure and calculations.

Table 5-22 Design Option E –Proposed SMF 2A Summary

SMF	Treatment Type	Area (ac)	SHWT / Control EL	Weir EL	DHW EL	Inside T.O.B. EL
SMF 2A	Wet Detention	0.59	8.50	10.00	N/A	12.00

Basin 3

The existing SMFs 1A and 1C within Basin 3 were designed to provide 0.72 ac-ft and 0.34 ac-ft of treatment volume respectively. The proposed SMF 3A is required and sized to provide attenuation and partial treatment for the increase in I-275 impervious area and the SMF control surface area. The remaining required treatment volume is provided for in SMF 2A. The NRCS Soil Survey identifies the predominant soil type for SMF 3A as *55 – Tavares-Urban land complex, 0 to 5 percent slopes* with an estimated depth to water table of 42-72 inches. A depth to SHWT of 3.50 ft was used below the average grade elevation of 45.00, yielding a SHWT elevation of 41.50. See **Table 5-23** for a summary of SMF 3A. Refer to **Appendix D** for the Option E – Basin 3 figure and calculations.

Table 5-23 Design Option E – Proposed SMF 3A Summary

SMF	Treatment Type	Area (ac)	SHWT / Control EL	Weir EL	DHW EL	Inside T.O.B. EL
SMF 3A	Wet Detention	0.73	41.50	41.90	44.00	45.00

Basin 4

Basin 4 has been partitioned into two, separate basins by their outfall. The part of Basin 4 that drains to the Hillsborough River has been denoted Basin 4A, and the part of Basin 4 that drains to the Ybor Channel has been denoted Basin 4B. Basin 4A is currently being treated and attenuated by two existing SMFs (SMF 1G and SMF 1H), which were designed to provide 0.12 ac-ft and 0.58 ac-ft of treatment volume respectively. The two SMFs are maxed out, as they currently provide 1.5 ft of treatment depth and have no additional volume for attenuation. Design Option E proposes 1.02 ac of new pavement, and the removal of 0.70 ac of pavement for a net 0.32 ac increase in pavement within Basin 4A. To avoid the construction of a new SMF to treat and attenuate this pavement, 0.90 ac of pavement is proposed to be diverted to Basin 4B. During final design, pond routing of the proposed condition with no diversion may show no adverse impacts to the storm sewer or SMF stages, and diversion may not be needed.

Within Basin 4B, two proposed SMFs denoted SMF 4A and 4B are sized to provide treatment and attenuation for the increase in I-275 impervious area, the SMF control surface areas, and the runoff that is being diverted away from Basin 4A and Basin 5. The NRCS Soil Survey identifies the predominant soil type for SMF 4A and 4B as *55 – Tavares-Urban land complex, 0 to 5 percent slopes* with an estimated depth to water table of 42-72 inches. A depth to SHWT of 3.50 ft was used below the average grade elevation of 41.00, yielding a SHWT elevation of 37.50. The design high water (DHW) elevations for the two SMFs were limited to 40.00, as that is the low-edge of pavement of adjacent local roads which are to drain to SMF 4A. The design parameters of SMF 4A deviates from those established in **Section 5.1**, as it proposes a 15 ft maintenance berm. See **Table 5-24** for a summary of SMF 4A and SMF 4B. Refer to **Appendix D** for the Option E – Basin 4 figure and calculations.

Table 5-24 Design Option E – Proposed SMF 4A and 4B Summary

SMF	Treatment Type	Area (ac)	SHWT / Control EL	Weir EL	DHW EL	Inside T.O.B. EL
SMF 4A	Wet Detention	2.81	37.50	37.80	40.00	41.00
SMF 4B	Wet Detention	1.35	37.50	37.90	40.00	41.00

Basin 5

Design Option E proposes 1.55 ac of pavement within Basin 5. Since Basin 5 is a closed / volume sensitive basin, and to avoid ROW acquisition with the construction of a new SMF, 1.57 ac of pavement is proposed to be diverted to SMF 4A within Basin 4B. Refer to **Appendix D** for the Design Option E – Basin 5 figure and calculations.

Basin 6

The proposed SMF 6A is sited within the limited access ROW between the I-275 corridor and N Marguerite Street.

SMF 6A is sized to provide treatment and attenuation for the increase in I-275 pavement and the SMF control surface area. The NRCS Soil Survey identifies the predominant soil types as *55 – Tavares-Urban land complex, 0 to 5 percent slopes*, with an estimated depth to water table of 42-72 inches, and *28 – Millhopper-Urban land complex, 0 to 5 percent slopes*, with an estimated depth to water table of 42-72 inches. A depth to SHWT of 3.50 ft was used below the average grade elevation of 49.00, yielding a SHWT elevation of 45.50 for both sites. The design parameters of SMF 6A deviates from those established in **Section 5.1**, as it proposes 5 ft maintenance berms and 1:3 side slopes. See **Table 5-25** for a summary of SMF 6A. Refer to **Appendix D** for the Design Option E – Basin 6 figure and calculations.

Table 5-25 Design Option E – Proposed SMF 6A Summary

SMF	Treatment Type	Area (ac)	SHWT / Bottom EL	Weir EL	DHW EL	Inside T.O.B. EL
SMF 6A North	Dry Retention	0.19	45.50 / 47.50	47.75	48.25	49.25
SMF 6A South	Dry Retention	0.50	45.50 / 47.50	47.75	48.25	49.25

Table 5-26 Design Option E – Summary of Attenuation Volume Requirements

Basin	SMF	Required Attenuation Volume (ac-ft)	Provided Attenuation Volume (ac-ft)	Freeboard Depth (ft)
3	SMF 3A	0.63	0.75	1.00
4B	SMF 4A	5.72	6.05	1.00
	SMF 4B			
6	SMF 6A	0.17	0.20	1.00

Basins 7 through 11

Design Option E proposes minor improvements to Basin 7, including the widening of the eastbound lanes between 14th Street and 15th Street, and the widening of 13th Street, which accounts for an increase of 0.10 ac of pavement. Also proposed is the removal of the I-4 eastbound off ramp, which accounts for a removal of 0.66 ac of pavement and a net loss of 0.56 ac of pavement. Therefore, no additional treatment or attenuation is required within Basin 7. Design Option E proposes no improvements east of Basin 7, and the existing stormwater management within Basins 8 – 11 is adequate as it is.

Table 5-27 Design Option E –Summary of Basin Treatment

Basin	SMF	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Increase in Impervious Area (ac)	Treatment Volume Required (ac-ft)	Replaced Existing Treatment Volume (ac-ft)	Total Treatment Volume Required (ac-ft)	Treatment Volume Provided (ac-ft)
2	SMF 2A	5.41	7.61	2.20	0.18	0.00	0.18	0.35
3	SMF 3A	28.92	32.39	3.47	0.29	0.00	0.29	0.12
	Exist. SMF 1A				0.53[1]	0.00	0.53[1]	0.72
	Exist. SMF 1C							0.34
4	Exist. SMF 1G	27.07	35.63	8.56	0.54[1]	0.00	0.54[1]	0.12
	Exist. SMF 1H							0.58
	SMF 4A				0.76	0.00	0.76	0.59
	SMF 4B							0.22
5	None	12.21	12.19	-0.02	0.00	0.00	0.00	0.00
6	SMF 6A	16.04	17.03	0.99	0.08	0.00	0.08	0.09
Totals		89.65	104.85	15.20	2.38	0.00	2.38	3.13

[1] Permitted required treatment volume per ERP 20690.004

5.8 SMF Determination Matrices

Table 5-28 Design Option A – SMF Determination Matrix

SMF Name	SMF 2A (Alt 1A)	SMF 2B (Alt 1B)	SMF 3A	SMF 3B	SMF 3C	SMF 3D	SMF 4A	SMF 4B	SMF 4C	SMF 4D	SMF 5A	SMF 6A (Alt 1A)	SMF 6B (Alt 1B)	Basins 5&6 (Alt 2)
Alternative 1	X	X	X	X	X	X	X	X			X	X	X	
Alternative 2	X	X	X	X	X	X	X	X	X	X				X
Treatment Method	Wet Detention	Wet Detention	Wet Detention	Wet Detention	Wet Detention	Wet Detention	Dry Retention	Dry Retention	Dry Retention	Dry Retention	Wet Detention	Wet Detention	Wet Detention	N/A
Pond Area	1.15 ac	0.98 ac	0.78 ac	2.09 ac	1.96 ac	3.13 ac	3.59 ac	2.21 ac	1.68 ac	0.97 ac	2.81 ac	1.92 ac	1.66 ac	N/A
Est. SHWT / Control EL.	8.72	8.72	7.87	10.00	10.00	41.72	24.11 / 33.50	24.11 / 34.50	24.11 / 34.75	24.11 / 34.75	38.72	43.72	43.72	N/A
Treatment Depth	1.00 ft	1.00 ft	1.00 ft	1.00 ft	1.00 ft	1.00 ft	1.00 ft	1.00 ft	0.75 ft	0.75 ft	0.53 ft	0.78 ft	0.78 ft	N/A
Arch. Impacts	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Hist. Impacts	None	None	None	None	None	None	None	None	None	None	Yes	Yes	None	None
Contamination / Hazmat.	No	No	Low	Medium	Low	Low	Medium	Low	Low	Low	Low	High	Low	N/A
T&E Impacts	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Wetland Impacts	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Bridge Extension Costs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	$0	$20,328,950	$0
Trunkline / Storm sewer Costs	$19,631,441										N/A	N/A	N/A	$27,246,825
Easement Requirements	None	None	None	None	None	None	None	None	None	None	None	None	None	None
No. of Parcels Impacted	0	0	0	0	0	0	0	0	0	0	9[1]	13[1]	0	0
ROW Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$738,426	$1,640,200	$0	$0

Alternative 1A Total Cost	**$22,010,067**	*= Trunkline cost + ROW cost for SMFs 5A and 6A*
Alternative 1B Total Cost	**$40,698,817**	*= Trunkline cost + ROW cost for SMF 5A + Bridge Extension cost*
Alternative 2 Total Cost	**$27,246,825**	*= Alternative 2 Trunkline cost*

X : Denotes SMF is part of alternative

[1] Parcel information was obtained from Hillsborough County Property Appraiser (http://gis.hcpafl.org/gissearch/)

ROW Cost estimate = parcel(s) market value (does not include minor city owned ROW cost)

Table 5-29 Design Option B – SMF Determination Matrix

SMF Name	SMF 2A (Alt 1A)	SMF 2B (Alt 1B)	SMF 3A	SMF 3B	SMF 3C	SMF 3D	SMF 4A	SMF 4A (Alt 2)	SMF 5A	SMF 6A (Alt 1A)	SMF 6B (Alt 1B)	Basins 5 & 6 (Alt 2)
Alternative 1	X	X	X	X	X	X	X		X	X	X	
Alternative 2	X	X	X	X	X	X		X				X
Treatment Method	Wet Detention	Wet Detention	Wet Detention	Wet Detention	Wet Detention	Wet Detention	Dry Retention	Dry Retention	Dry Retention	Wet Detention	Wet Detention	N/A
Pond Area	1.15 ac	0.98 ac	0.78 ac	2.09 ac	2.06 ac	3.13 ac	2.59 ac	3.72 ac	0.85 ac	1.92 ac	1.66 ac	N/A
Est. SHWT / Control EL.	8.72	8.72	7.87	10.00	10.00	41.72	24.11 / 32.50	24.11 / 32.50	34.72 / 36.72	43.72	43.72	N/A
Treatment Depth	1.00 ft	1.00 ft	1.00 ft	1.00 ft	1.00 ft	1.00 ft	1.50 ft	1.50 ft	0.58 ft	0.78 ft	0.78 ft	N/A
Arch. Impacts	None	None	None	None	None	None	None	None	None	None	None	None
Hist. Impacts	None	None	None	None	None	None	None	None	Yes	Yes	None	None
Contamination / Hazmat.	No	No	Low	Medium	Low	Low	High	High	Low	High	Low	N/A
T&E Impacts	None	None	None	None	None	None	None	None	None	None	None	None
Wetland Impacts	None	None	None	None	None	None	None	None	None	None	None	None
Bridge Extension Costs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	$0	$20,328,950	$0
Trunkline / Storm sewer Costs	$19,631,441							N/A	N/A	N/A	N/A	$27,246,825
Easement Requirements	None	None	None	None	None	None	None	None	None	None	None	None
No. of Parcels Impacted	0	0	0	0	0	0	0	0	2[1]	13[1]	0	0
ROW Costs	$0	$0	$0	$0	$0	$0	$0	$0	$131,724	$1,640,200	$0	$0

Alternative 1A Total Cost	**$21,403,365**	*= Trunkline cost + ROW cost for SMFs 5A and 6A*
Alternative 1B Total Cost	**$40,092,115**	*= Trunkline cost + ROW cost for SMF 5A + Bridge Extension cost*
Alternative 2 Total Cost	**$27,246,825**	*= Alternative 2 Trunkline cost*

X : Denotes SMF is part of alternative

[1] Parcel information was obtained from Hillsborough County Property Appraiser (http://gis.hcpafl.org/gissearch/)

ROW Cost estimate = parcel(s) market value (does not include minor city owned ROW cost)

Table 5-30 Design Option C – SMF Determination Matrix

SMF Name	SMF 2A (Alt 1A)	SMF 2B (Alt 1B)	SMF 3A	SMF 4A	SMF 4B
Treatment Method	Wet Detention	Wet Detention	Wet Detention	Dry Retention	Wet Detention
Pond Area	1.00 ac	0.98 ac	1.46 ac	1.80 ac	2.69 ac
Est. SHWT / Control EL.	8.72	8.72	40.90	37.90 / 39.90	36.90
Treatment Depth	1.28 ft	1.28 ft	0.00 ft	0.00 ft	1.50 ft
Archaeological Impacts	None	None	None	None	None
Historical Impacts	None	None	None	None	None
Contamination / Hazmat.	No	No	Low	Low	Medium
T&E Impacts	None	None	None	None	None
Wetland Impacts	None	None	None	None	None
Bridge Extension Costs	N/A	N/A	N/A	N/A	N/A
Trunkline / Storm sewer Costs	N/A	N/A	N/A	N/A	N/A
Easement Requirements	None	None	None	None	None
No. of Parcels Impacted	0	0	1[1]	0	0
ROW Costs	$0	$0	TBD	$0	$0
Total Cost	**$0[2]**				

[1] Parcel impacted is minor city owned ROW to be condemned.

[2] Note that this amount is for marginal costs and does not reflect the total stormwater management cost.

Table 5-31 Design Option D – SMF Determination Matrix

SMF Name	SMF 2A (Alt 1A)	SMF 2B (Alt 1B)	SMF 4B
Treatment Method	Wet Detention	Wet Detention	Wet Detention
Pond Area	1.00 ac	0.98 ac	2.69 ac
Est. SHWT / Control EL.	8.72	8.72	36.90
Treatment Depth	1.28 ft	1.28 ft	1.50 ft
Archaeological Impacts	None	None	None
Historical Impacts	None	None	None
Contamination / Hazmat.	No	No	Medium
T&E Impacts	None	None	None
Wetland Impacts	None	None	None
Bridge Extension Costs	N/A	N/A	N/A
Trunkline / Storm sewer Costs	N/A	N/A	$12,723,483
Easement Requirements	None	None	None
No. of Parcels Impacted	0	0	0
ROW Costs	$0	$0	$0
Total Cost	**$12,723,483**		

Table 5-32 Design Option E – SMF Determination Matrix

SMF Name	SMF 2A	SMF 3A	SMF 4A	SMF 4B	SMF 6A
Treatment Method	Wet Detention	Wet Detention	Wet Detention	Wet Detention	Dry Retention
Pond Area	0.59 ac	0.73 ac	2.81 ac	1.35 ac	0.69 ac
Est. SHWT / Control EL.	8.50	41.50	37.50	37.50	45.50 / 47.50
Treatment Depth	1.50 ft	0.40 ft	0.30 ft	0.40 ft	0.25 ft
Archaeological Impacts	None	None	None	None	None
Historical Impacts	None	None	None	Yes	None
Contamination / Hazmat.	No	Low	Medium	Medium	Low
T&E Impacts	None	None	None	None	None
Wetland Impacts	None	None	None	None	None
Bridge Extension Costs	N/A	N/A	N/A	N/A	N/A
Trunkline / Storm sewer Costs	N/A	N/A	N/A	N/A	N/A
Easement Requirements	None	None	None	None	None
No. of Parcels Impacted	0	0	0	0	0
ROW Costs	$0	$0	$0	$0	$0
Total Cost	**$0[1]**				

[1] Note that this amount is for marginal costs and does not reflect the total stormwater management cost.

6. REFERENCES

Maps

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APPENDIX A

Design Option Figures

MATCHLINE A
LEGEND
🟩 PROPOSED EXPRESS LANE
🟩 PROPOSED EXPRESS LANE - BRIDGE
🟨 PROPOSED GENERAL USE LANE
🟧 PROPOSED GENERAL USE LANE - BRIDGE
🟦 PROPOSED COLLECTOR-DISTRIBUTOR LANE
🟦 PROPOSED COLLECTOR-DISTRIBUTOR LANE - BRIDGE
🟫 PROPOSED NON-INTERSTATE FACILITY
🟪 PROPOSED TOLL GANTRY FACILITY
🟩 PROPOSED GREENWAY
⬜ EXISTING OR UNDER CONSTRUCTION
▨ EXISTING ROADWAY REMOVAL
3 NUMBER OF GENERAL USE LANES
2 NUMBER OF EXPRESS LANES
1 NUMBER OF COLLECTOR DISTRIBUTOR LANES
1 AUX NUMBER OF AUXILIARY LANES
EXISTING RIGHT OF WAY
EXISTING LIMITED ACCESS RIGHT OF WAY
TIS/FEIS RIGHT OF WAY
PROPOSED RIGHT OF WAY (TBD)
PROPOSED LIMITED ACCESS RIGHT OF WAY (TBD)
TAMPA HEIGHTS LOCAL HISTORIC DISTRICT (2000)
TAMPA HEIGHTS NATIONAL REGISTER HISTORIC DISTRICT (1995)
YBOR CITY LOCAL HISTORIC DISTRICT (1975, UPDATED 2013)
YBOR CITY NATIONAL HISTORIC LANDMARK DISTRICT (1990)
YBOR CITY NATIONAL REGISTER HISTORIC DISTRICT (1974)
SEMINOLE HEIGHTS LOCAL HISTORIC DISTRICT (1995)
SEMINOLE HEIGHTS NATIONAL REGISTER HISTORIC DISTRICT (1993)
UPPER NORTH FRANKLIN STREET NATIONAL REGISTER COMMERCIAL DISTRICT (2010)
NORTH FRANKLIN STREET NATIONAL REGISTER HISTORIC DISTRICT (2002)
WEST TAMPA NATIONAL REGISTER HISTORIC DISTRICT (1983)
N
0 60 300
Feet
AERIAL FLIGHT DATE: 2017
17th St
29th St
30th St
SECTION 6 SEIS LIMITS
275
4
41
DOWNTOWN GRID DETAIL
DETAIL A
MATCHLINE A
SECTION 6 SEIS LIMITS

DRAFT

These maps are provided for informational and planning purposes only. All information is subject to change and the user of this information should not rely on the data for any other purposes that may require guarantee of accuracy, timeliness or completeness of information.

DATE: 10/19/2018

OPTION A: RECONSTRUCTED INTERCHANGE WITH EXPRESS LANE RAMPS TO THE NORTH

TAMPA BAY NEXT THE FUTURE OF TRANSPORTATION

DOWNTOWN INTERCHANGE

OPTION A

Includes a connection from the express lanes to the general purpose lanes on I-275 north.

DRAFT

N
275
E Lake Ave
Floribraska Ave
21st Ave
12th St
15th St
22nd St
41
17th Ave
Columbus Dr
4
N Boulevard
Jefferson St
Palm Ave
Palm Ave
Highland Ave
Tampa St
Florida Ave
Morgan St
Nebraska Ave
15th St
21st St
22nd St
7th Ave
4th Ave
Main St
Kay St
275
Scott St
Laurel St
Orange Ave
Nuccio Pkwy
Selmon Expy
618
Adamo Dr
60
Doyle Carlton Dr
Ashley Dr
N Boulevard
Cypress St

MATCHLINE A
SECTION 6 SEIS LIMITS
SECTION 6 SEIS LIMITS
DOWNTOWN GRID DETAIL
DETAIL A
MATCHLINE A
275
4
41
TOLL
618
N
0 60 300
Feet

LEGEND

🟩	PROPOSED EXPRESS LANE
🟩	PROPOSED EXPRESS LANE - BRIDGE
🟨	PROPOSED GENERAL USE LANE
🟧	PROPOSED GENERAL USE LANE - BRIDGE
🟦	PROPOSED COLLECTOR-DISTRIBUTOR LANE
🟦	PROPOSED COLLECTOR-DISTRIBUTOR LANE - BRIDGE
🟫	PROPOSED NON-INTERSTATE FACILITY
🟪	PROPOSED TOLL GANTRY FACILITY
🟩	PROPOSED GREENWAY
⬜	EXISTING OR UNDER CONSTRUCTION
▨	EXISTING ROADWAY REMOVAL
③	NUMBER OF GENERAL USE LANES
②	NUMBER OF EXPRESS LANES
①	NUMBER OF COLLECTOR DISTRIBUTOR LANES
1 AUX	NUMBER OF AUXILIARY LANES
—	EXISTING RIGHT OF WAY
—	EXISTING LIMITED ACCESS RIGHT OF WAY
—	TIS/FEIS RIGHT OF WAY
—	PROPOSED RIGHT OF WAY (TBD)
—	PROPOSED LIMITED ACCESS RIGHT OF WAY (TBD)
- - -	TAMPA HEIGHTS LOCAL HISTORIC DISTRICT (2000)
- · -	TAMPA HEIGHTS NATIONAL REGISTER HISTORIC DISTRICT (1995)
······	YBOR CITY LOCAL HISTORIC DISTRICT (1975, UPDATED 2013)
- · · -	YBOR CITY NATIONAL HISTORIC LANDMARK DISTRICT (1990)
- · - ·	YBOR CITY NATIONAL REGISTER HISTORIC DISTRICT (1974)
- · - ·	SEMINOLE HEIGHTS LOCAL HISTORIC DISTRICT (1995)
- · - ·	SEMINOLE HEIGHTS NATIONAL REGISTER HISTORIC DISTRICT (1993)
- · · -	UPPER NORTH FRANKLIN STREET NATIONAL REGISTER COMMERCIAL DISTRICT (2010)
— · ·	NORTH FRANKLIN STREET NATIONAL REGISTER HISTORIC DISTRICT (2002)
- - -	WEST TAMPA NATIONAL REGISTER HISTORIC DISTRICT (1983)

AERIAL FLIGHT DATE: 2017

DRAFT

These maps are provided for informational and planning purposes only. All information is subject to change and the user of this information should not rely on the data for any other purposes that may require guarantee of accuracy, timeliness or completeness of information.

DATE: 10/19/2018

OPTION B: RECONSTRUCTED INTERCHANGE WITHOUT EXPRESS LANE RAMPS TO THE NORTH

TAMPA BAY NEXT
THE FUTURE OF TRANSPORTATION

DOWNTOWN INTERCHANGE

OPTION B

DRAFT

N
E Lake Ave
275
Floribraska Ave
21st Ave
22nd St
12th St
15th St
41
17th Ave
Columbus Dr
4
Jefferson St
N Boulevard
Palm Ave
Palm Ave
Highland Ave
Tampa St
Florida Ave
Morgan St
Nebraska Ave
15th St
21st St
22nd St
7th Ave
4th Ave
Main St
Kay St
275
Scott St
Laurel St
Orange Ave
Nuccio Pkwy
Selmon Expy
618
Adamo Dr
60
Doyle Carlton Dr
Ashley Dr
N Boulevard
Cypress St

MATCHLINE A
SECTION 6 SEIS LIMITS
SECTION 6 SEIS LIMITS
DOWNTOWN GRID DETAIL
275
4
41
TOLL
618
Baker St
James St
Emily St
28th Ave
26th Ave
25th Ave
24th Ave
23rd Ave
22nd Ave
21st Ave
20th Ave
19th Ave
18th Ave
17th Ave
15th Ave
14th Ave
12th Ave
11th Ave
10th Ave
9th Ave
8th Ave
7th Ave
6th Ave
3rd Ave
Floribraska Ave
Adalee St
St Clair St
Holmes Ave
Bryan St
Forest Ave
Columbus Dr
Amelia Ave
Frances Ave
Park Ave
Ross Ave
Palm Ave
Oak Ave
Henderson Ave
Chestnut St
Union St
Estelle St
Kay St
Scott St
Harrison St
Adamo Dr
Melbourne Ave
East Broadway Ave
W Laurel St
Hillsborough River
Oregon Ave
Willow Ave
Delaware Ave
Munro Ave
North Blvd
Tampa St
Florida Ave
Central Ave
Nebraska Ave
Jefferson St
Marion St
Morgan St
Pierce St
N Highland Ave
29th St
30th St
0 60 300
Feet
N

LEGEND

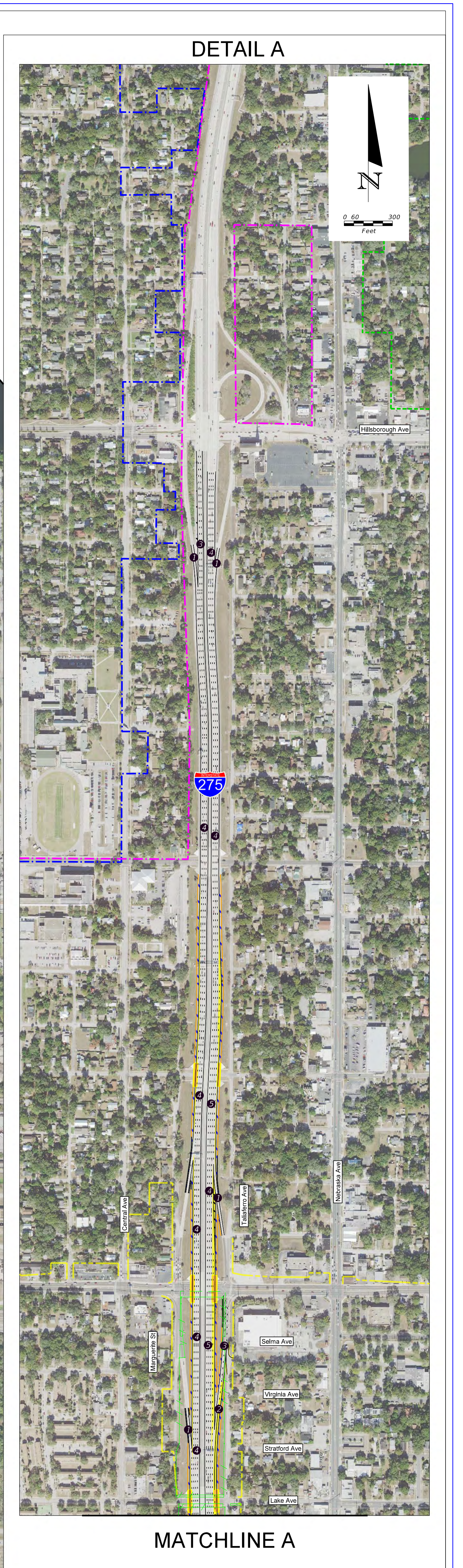
🟩	PROPOSED EXPRESS LANE
🟩	PROPOSED EXPRESS LANE - BRIDGE
🟨	PROPOSED GENERAL USE LANE
🟧	PROPOSED GENERAL USE LANE - BRIDGE
🟦	PROPOSED COLLECTOR-DISTRIBUTOR LANE
🟦	PROPOSED COLLECTOR-DISTRIBUTOR LANE - BRIDGE
🟫	PROPOSED NON-INTERSTATE FACILITY
🟪	PROPOSED TOLL GANTRY FACILITY
🟩	PROPOSED GREENWAY
⬜	EXISTING OR UNDER CONSTRUCTION
▨	EXISTING ROADWAY REMOVAL
❸	NUMBER OF GENERAL USE LANES
②	NUMBER OF EXPRESS LANES
①	NUMBER OF COLLECTOR DISTRIBUTOR LANES
1 AUX	NUMBER OF AUXILIARY LANES
—	EXISTING RIGHT OF WAY
—	EXISTING LIMITED ACCESS RIGHT OF WAY
—	TIS/FEIS RIGHT OF WAY
—	PROPOSED RIGHT OF WAY (TBD)
—	PROPOSED LIMITED ACCESS RIGHT OF WAY (TBD)
- - -	TAMPA HEIGHTS LOCAL HISTORIC DISTRICT (2000)
-·-·	TAMPA HEIGHTS NATIONAL REGISTER HISTORIC DISTRICT (1995)
·····	YBOR CITY LOCAL HISTORIC DISTRICT (1975, UPDATED 2013)
-··-	YBOR CITY NATIONAL HISTORIC LANDMARK DISTRICT (1990)
-·-·	YBOR CITY NATIONAL REGISTER HISTORIC DISTRICT (1974)
-·-·	SEMINOLE HEIGHTS LOCAL HISTORIC DISTRICT (1995)
-·-·	SEMINOLE HEIGHTS NATIONAL REGISTER HISTORIC DISTRICT (1993)
-··-	UPPER NORTH FRANKLIN STREET NATIONAL REGISTER COMMERCIAL DISTRICT (2010)
—··	NORTH FRANKLIN STREET NATIONAL REGISTER HISTORIC DISTRICT (2002)
- - -	WEST TAMPA NATIONAL REGISTER HISTORIC DISTRICT (1983)

AERIAL FLIGHT DATE: 2017

DRAFT

These maps are provided for informational and planning purposes only. All information is subject to change and the user of this information should not rely on the data for any other purposes that may require guarantee of accuracy, timeliness or completeness of information.

DATE: 10/19/2018



OPTION C: EXISTING INTERCHANGE WITH ELEVATED EXPRESS LANES SOUTH OPTION

TAMPA BAY NeXT THE FUTURE OF TRANSPORTATION

DRAFT

DOWNTOWN INTERCHANGE

OPTION C

The express lanes (shown in green) would be built to the south and east of the existing lanes

N
275
E Lake Ave
Floribraska Ave
21st Ave
41
12th St
15th St
22nd St
17th Ave
Columbus Dr
4
N Boulevard
Jefferson St
Palm Ave
Palm Ave
15th St
21st St
22nd St
Highland Ave
Tampa St
Florida Ave
Morgan St
Nebraska Ave
7th Ave
4th Ave
Kay St
Main St
275
Scott St
Laurel St
Orange Ave
Adamo Dr
60
Selmon Expy
618
Nuccio Pkwy
Doyle Carlton Dr
Ashley Dr
N Boulevard
Cypress St

MATCHLINE A
SECTION 6 SEIS LIMITS
SECTION 6 SEIS LIMITS
DETAIL A
MATCHLINE A
DOWNTOWN GRID DETAIL
275
4
41
TOLL 618
N
0 60 300
Feet
Columbus Dr
Palm Ave
Henderson Ave
7th Ave
8th Ave
Floribraska Ave
Melbourne Ave
Hillsborough River
East Broadway Ave
Adamo Dr
Hillsborough Ave

LEGEND

🟩	PROPOSED EXPRESS LANE
🟩	PROPOSED EXPRESS LANE - BRIDGE
🟨	PROPOSED GENERAL USE LANE
🟧	PROPOSED GENERAL USE LANE - BRIDGE
🟦	PROPOSED COLLECTOR-DISTRIBUTOR LANE
🟦	PROPOSED COLLECTOR-DISTRIBUTOR LANE - BRIDGE
🟫	PROPOSED NON-INTERSTATE FACILITY
🟪	PROPOSED TOLL GANTRY FACILITY
🟩	PROPOSED GREENWAY
⬜	EXISTING OR UNDER CONSTRUCTION
▨	EXISTING ROADWAY REMOVAL
③	NUMBER OF GENERAL USE LANES
②	NUMBER OF EXPRESS LANES
①	NUMBER OF COLLECTOR DISTRIBUTOR LANES
1 AUX	NUMBER OF AUXILIARY LANES
―	EXISTING RIGHT OF WAY
―	EXISTING LIMITED ACCESS RIGHT OF WAY
―	TIS/FEIS RIGHT OF WAY
―	PROPOSED RIGHT OF WAY (TBD)
―	PROPOSED LIMITED ACCESS RIGHT OF WAY (TBD)
- - -	TAMPA HEIGHTS LOCAL HISTORIC DISTRICT (2000)
-·-	TAMPA HEIGHTS NATIONAL REGISTER HISTORIC DISTRICT (1995)
·····	YBOR CITY LOCAL HISTORIC DISTRICT (1975, UPDATED 2013)
-··-	YBOR CITY NATIONAL HISTORIC LANDMARK DISTRICT (1990)
-·-	YBOR CITY NATIONAL REGISTER HISTORIC DISTRICT (1974)
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-·-	SEMINOLE HEIGHTS NATIONAL REGISTER HISTORIC DISTRICT (1993)
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―··	NORTH FRANKLIN STREET NATIONAL REGISTER HISTORIC DISTRICT (2002)
- - -	WEST TAMPA NATIONAL REGISTER HISTORIC DISTRICT (1983)

AERIAL FLIGHT DATE: 2017

DRAFT

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DATE: 10/19/2018

OPTION D: EXISTING INTERCHANGE WITH ELEVATED EXPRESS LANES NORTH OPTION

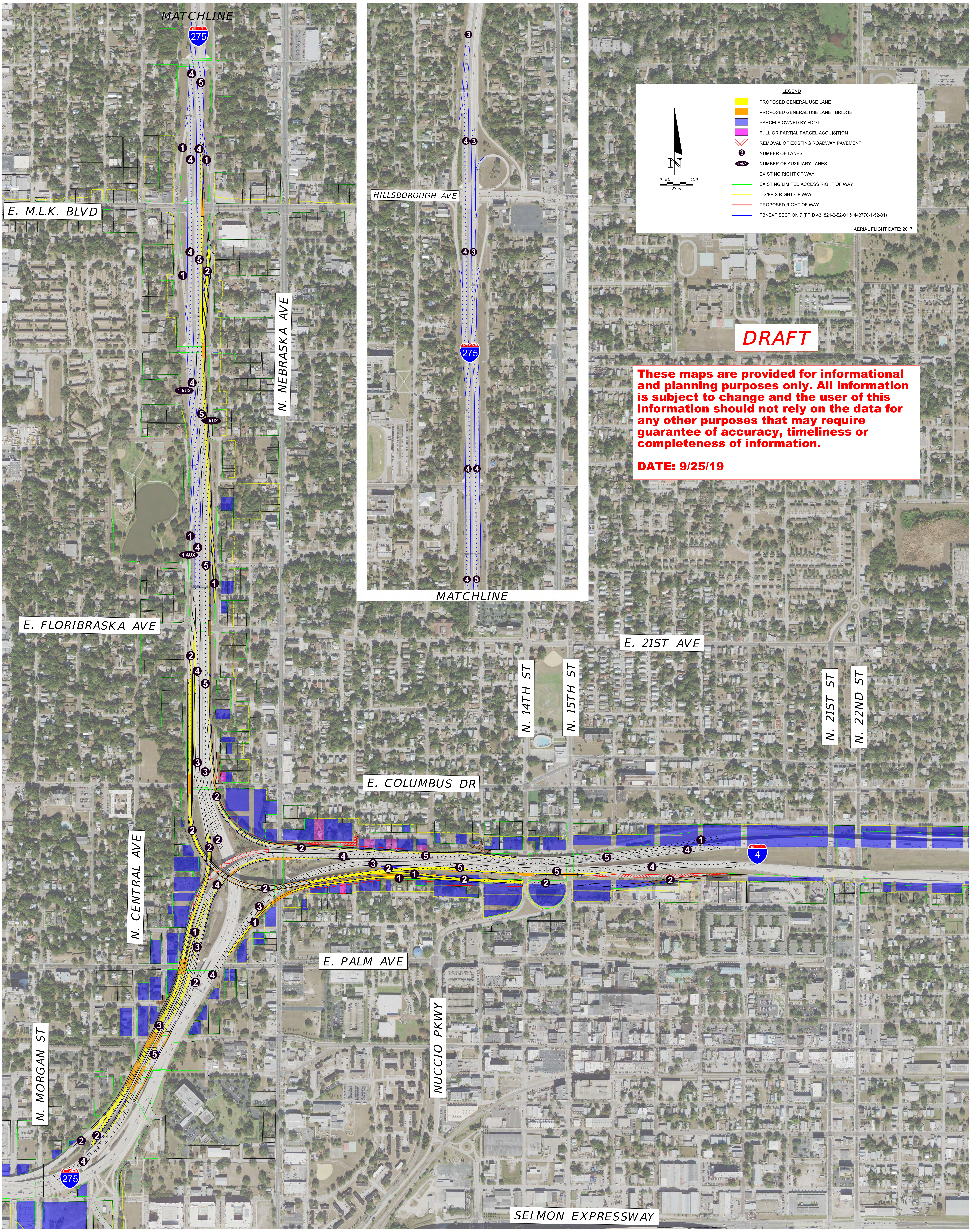
TAMPA BAY NEXT
THE FUTURE OF TRANSPORTATION

DOWNTOWN INTERCHANGE
OPTION D

DRAFT

The express lanes (shown in green) would be built to the north and westst of the existing lanes

N
275
E Lake Ave
Floribraska Ave
21st Ave
12th St
15th St
22nd St
41
17th Ave
Columbus Dr
4
N Boulevard
Jefferson St
Palm Ave
Palm Ave
15th St
21st St
22nd St
Highland Ave
Tampa St
Florida Ave
Morgan St
Nebraska Ave
7th Ave
4th Ave
Main St
Kay St
275
Scott St
Laurel St
Orange Ave
Nuccio Pkwy
Selmon Expy
618
Adamo Dr
60
Doyle Carlton Dr
Ashley Dr
N Boulevard
Cypress St



LEGEND

🟨	PROPOSED GENERAL USE LANE
🟧	PROPOSED GENERAL USE LANE - BRIDGE
🟦	PARCELS OWNED BY FDOT
🟪	FULL OR PARTIAL PARCEL ACQUISITION
▨	REMOVAL OF EXISTING ROADWAY PAVEMENT
❸	NUMBER OF LANES
1 AUX	NUMBER OF AUXILIARY LANES
— - - —	EXISTING RIGHT OF WAY
—ᐟᐟᐟ—	EXISTING LIMITED ACCESS RIGHT OF WAY
—	TIS/FEIS RIGHT OF WAY
—	PROPOSED RIGHT OF WAY
—	TBNEXT SECTION 7 (FPID 431821-2-52-01 & 443770-1-52-01)

AERIAL FLIGHT DATE: 2017

DRAFT

These maps are provided for informational and planning purposes only. All information is subject to change and the user of this information should not rely on the data for any other purposes that may require guarantee of accuracy, timeliness or completeness of information.

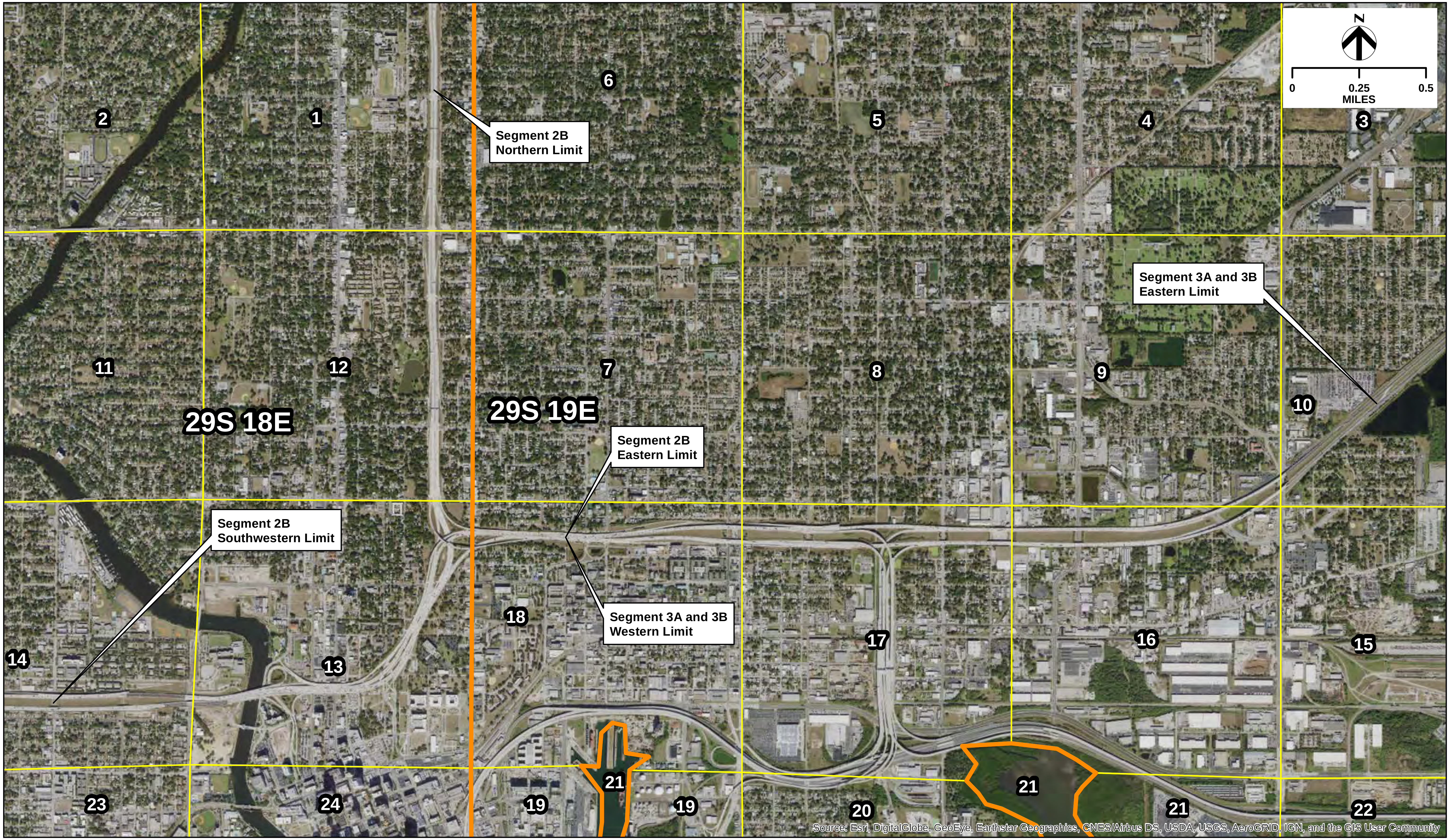
DATE: 9/25/19

OPTION E: OPERATIONAL AND SAFETY IMPROVEMENTS

smaierle 9/25/2019 c:\caddlib\pw\smaierle\sediv\d0176266\Exhibit_All.dgn

APPENDIX B

General Figures



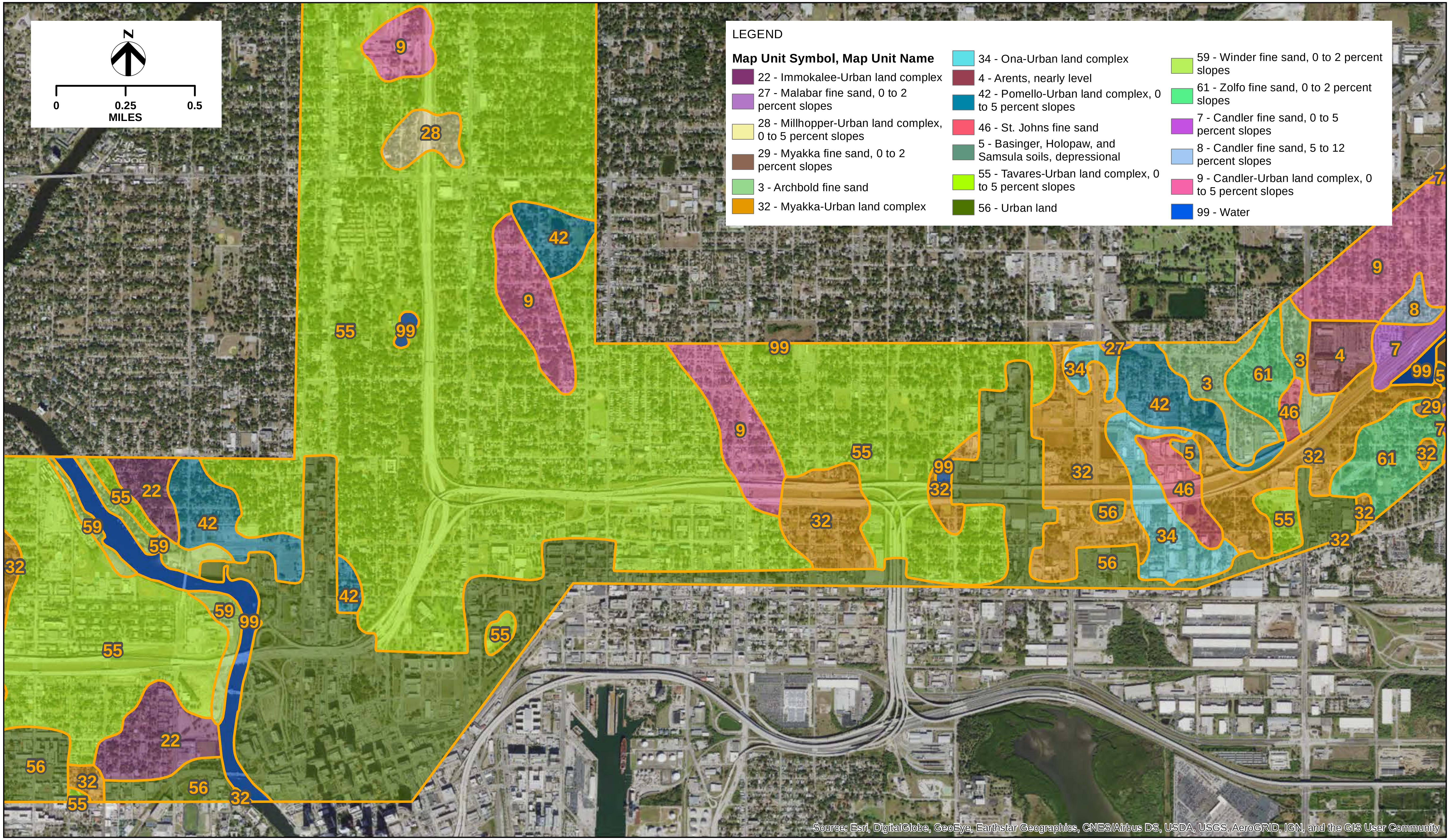
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

PROJECT LOCATION MAP

TIS SEIS SEGMENTS 2B, 3A, AND 3B
POND SITING REPORT

DATE
NOVEMBER, 2019

FIGURE
FIGURE 1


N
0
0.25
0.5
MILES
LEGEND
Map Unit Symbol, Map Unit Name
22 - Immokalee-Urban land complex
27 - Malabar fine sand, 0 to 2 percent slopes
28 - Millhopper-Urban land complex, 0 to 5 percent slopes
29 - Myakka fine sand, 0 to 2 percent slopes
3 - Archbold fine sand
32 - Myakka-Urban land complex
34 - Ona-Urban land complex
4 - Arents, nearly level
42 - Pomello-Urban land complex, 0 to 5 percent slopes
46 - St. Johns fine sand
5 - Basinger, Holopaw, and Samsula soils, depressional
55 - Tavares-Urban land complex, 0 to 5 percent slopes
56 - Urban land
59 - Winder fine sand, 0 to 2 percent slopes
61 - Zolfo fine sand, 0 to 2 percent slopes
7 - Candler fine sand, 0 to 5 percent slopes
8 - Candler fine sand, 5 to 12 percent slopes
9 - Candler-Urban land complex, 0 to 5 percent slopes
99 - Water
9
28
42
9
55
99
99
9
55
99
32
32
34
27
42
3
61
3
4
7
99
46
29
5
32
46
56
34
56
55
32
61
32
32
32
8
9
7
55
22
42
59
59
32
59
99
42
55
55
22
56
32
56
32
55

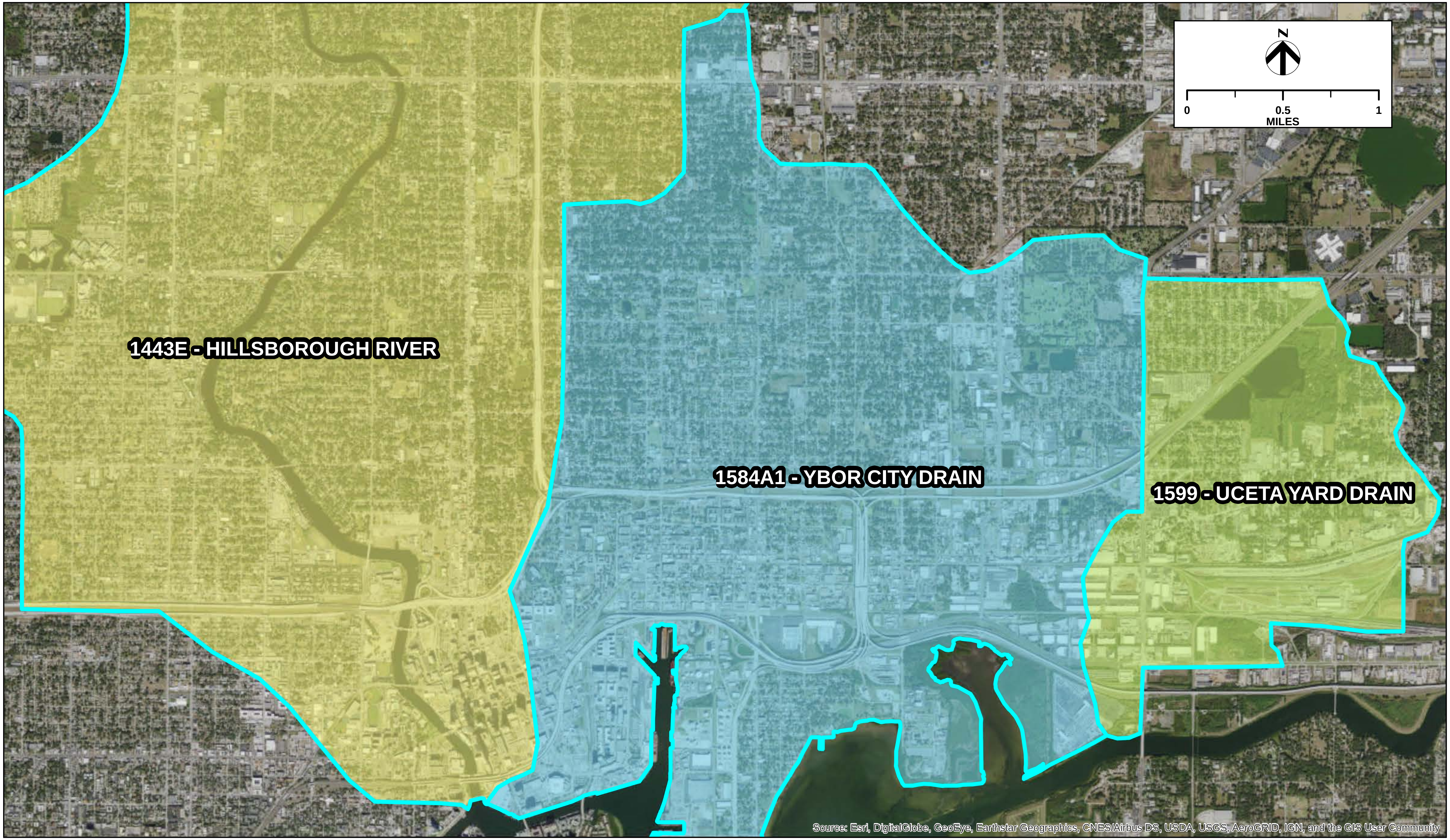
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

NRCS SOIL SURVEY

TIS SEIS SEGMENTS 2B, 3A, AND 3B
POND SITING REPORT

DATE
NOVEMBER, 2019

FIGURE
FIGURE 2



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

FDOT

FDEP WBID MAP

TIS SEIS SEGMENTS 2B, 3A, AND 3B
POND SITING REPORT

DATE
NOVEMBER, 2019

FIGURE
FIGURE 3

NOTES TO USERS

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

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

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

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

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

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

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

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

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

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

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

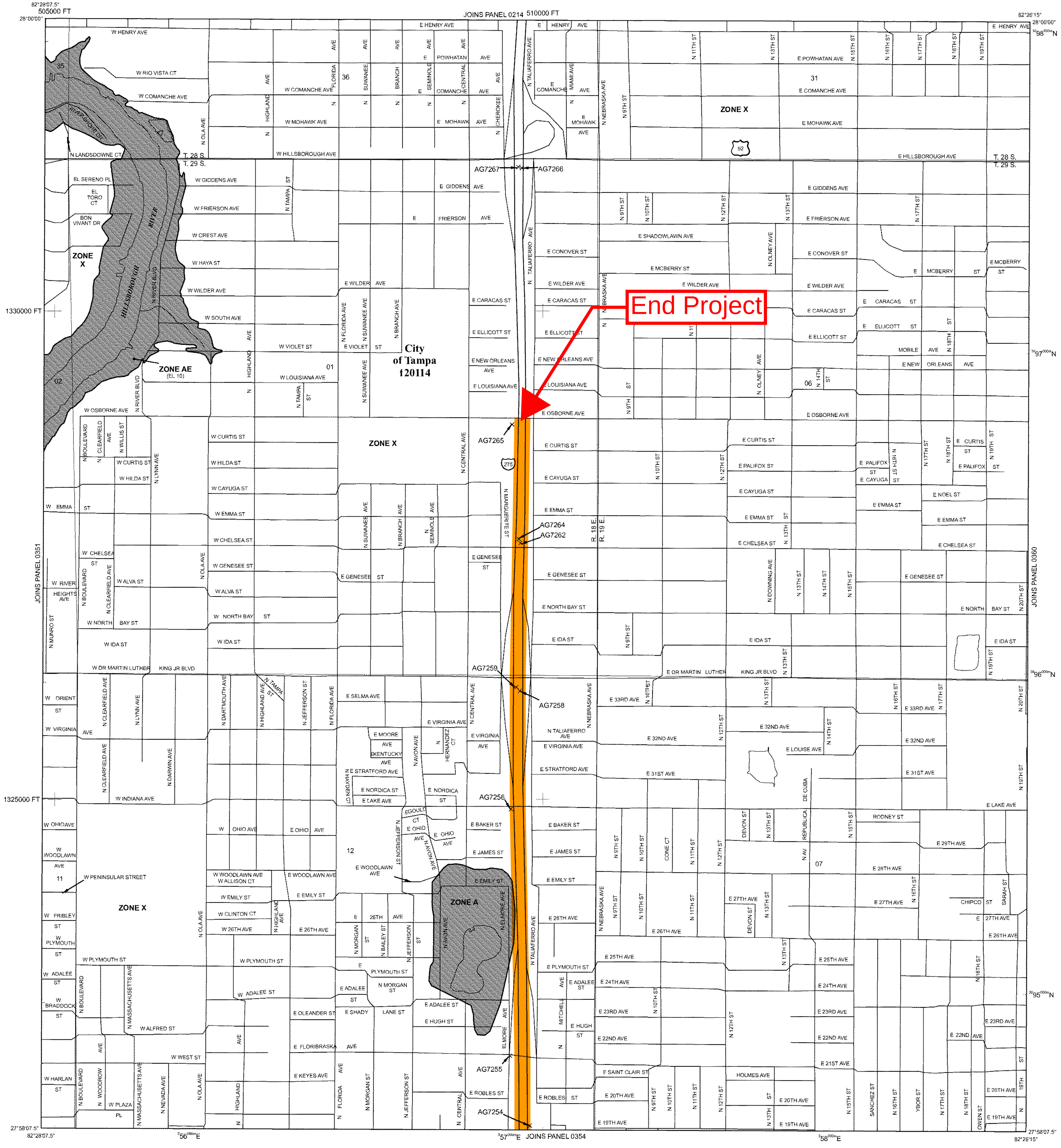
Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which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

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

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

Hillsborough County

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



LEGEND

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

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

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

▨ FLOODWAY AREAS IN ZONE AE

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

▨ OTHER FLOOD AREAS

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

☐ OTHER AREAS

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

▨ COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

▨ OTHERWISE PROTECTED AREAS (OPAs)

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

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

* Referenced to the North American Vertical Datum of 1988

(A)———(A)	Cross section Line
(23)- - - -(23)	Transect line
87°07'45", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
$^{31}76^{000m}$N	1000-meter Universal Transverse Mercator grid values, zone NAD 83 UTM Zone 17
600000 FT	5000-foot grid ticks: Florida State Plane coordinate system, West zone (FIPSZONE 0902), Transverse Mercator projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
●M1.5	River Mile
♦410285	Junction

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

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

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

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

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

N

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0352H

FIRM
FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY, FLORIDA
AND INCORPORATED AREAS

PANEL 352 OF 801

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
TAMPA, CITY OF	120114	0352	H

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

MAP NUMBER
12057C0352H

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

NOTES TO USERS

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

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

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

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

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

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

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NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
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Silver Spring, Maryland 20910-3282
(301) 713-3242

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Hillsborough County

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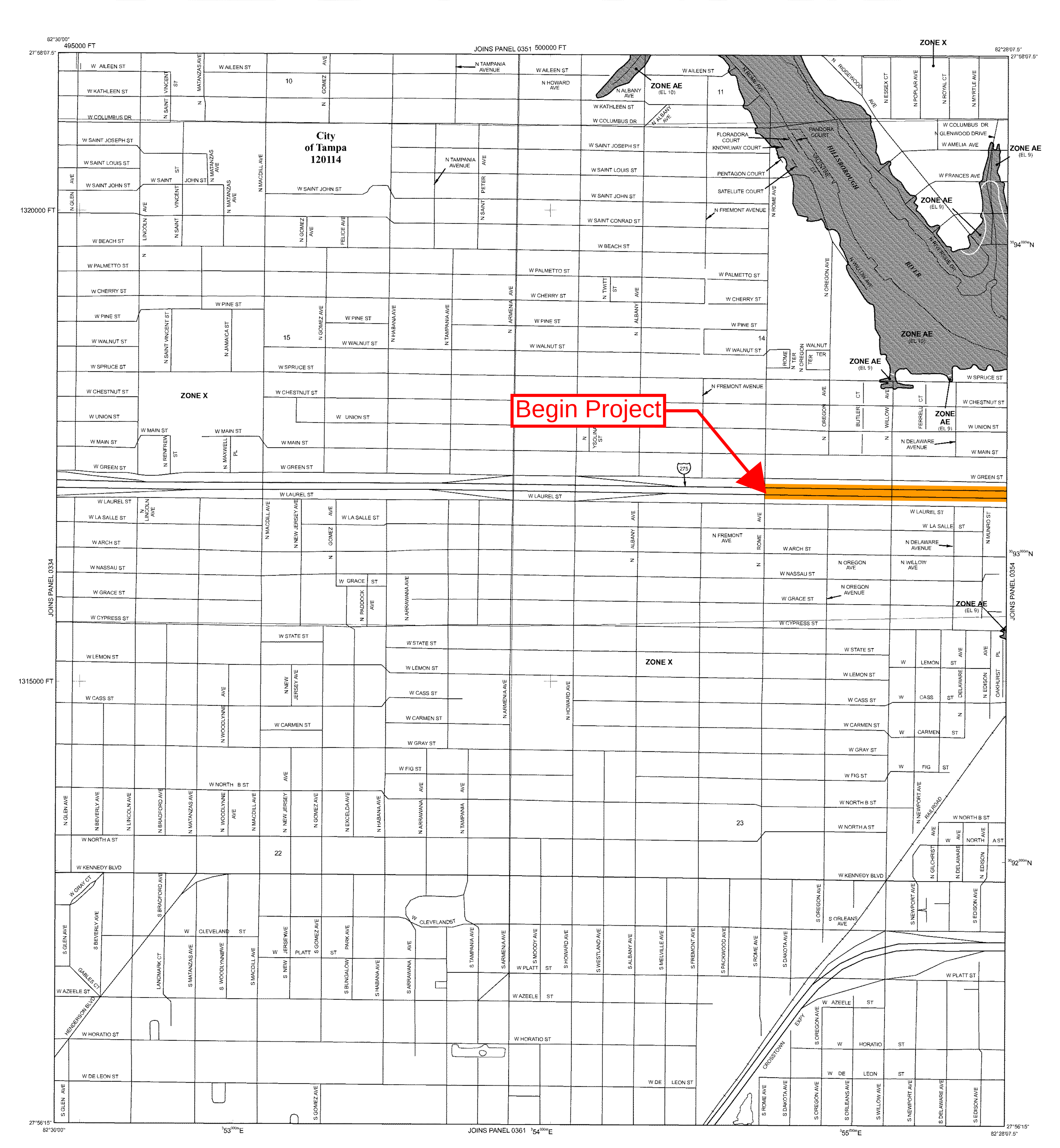

LEGEND

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

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

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

▨ FLOODWAY AREAS IN ZONE AE

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

▨ OTHER FLOOD AREAS

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

☐ OTHER AREAS

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

▨ COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

▨ OTHERWISE PROTECTED AREAS (OPAs)

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

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

* Referenced to the North American Vertical Datum of 1988

(A)———(A)	Cross section Line
(23)- - - - -(23)	Transect line
87°07'45", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
$^{32}76^{000m}$N	1000-meter Universal Transverse Mercator grid values, zone NAD 83 UTM Zone 17
600000 FT	5000-foot grid ticks: Florida State Plane coordinate system, West zone (FIPSZONE 0902), Transverse Mercator projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
● M1.5	River Mile
◆ 410285	Junction

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

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

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

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

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

N

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0353H

FIRM

FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY, FLORIDA
AND INCORPORATED AREAS

PANEL 353 OF 801

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
TAMPA, CITY OF	120114	0353	H

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

MAP NUMBER
12057C0353H

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

NOTES TO USERS

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

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

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

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

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

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

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

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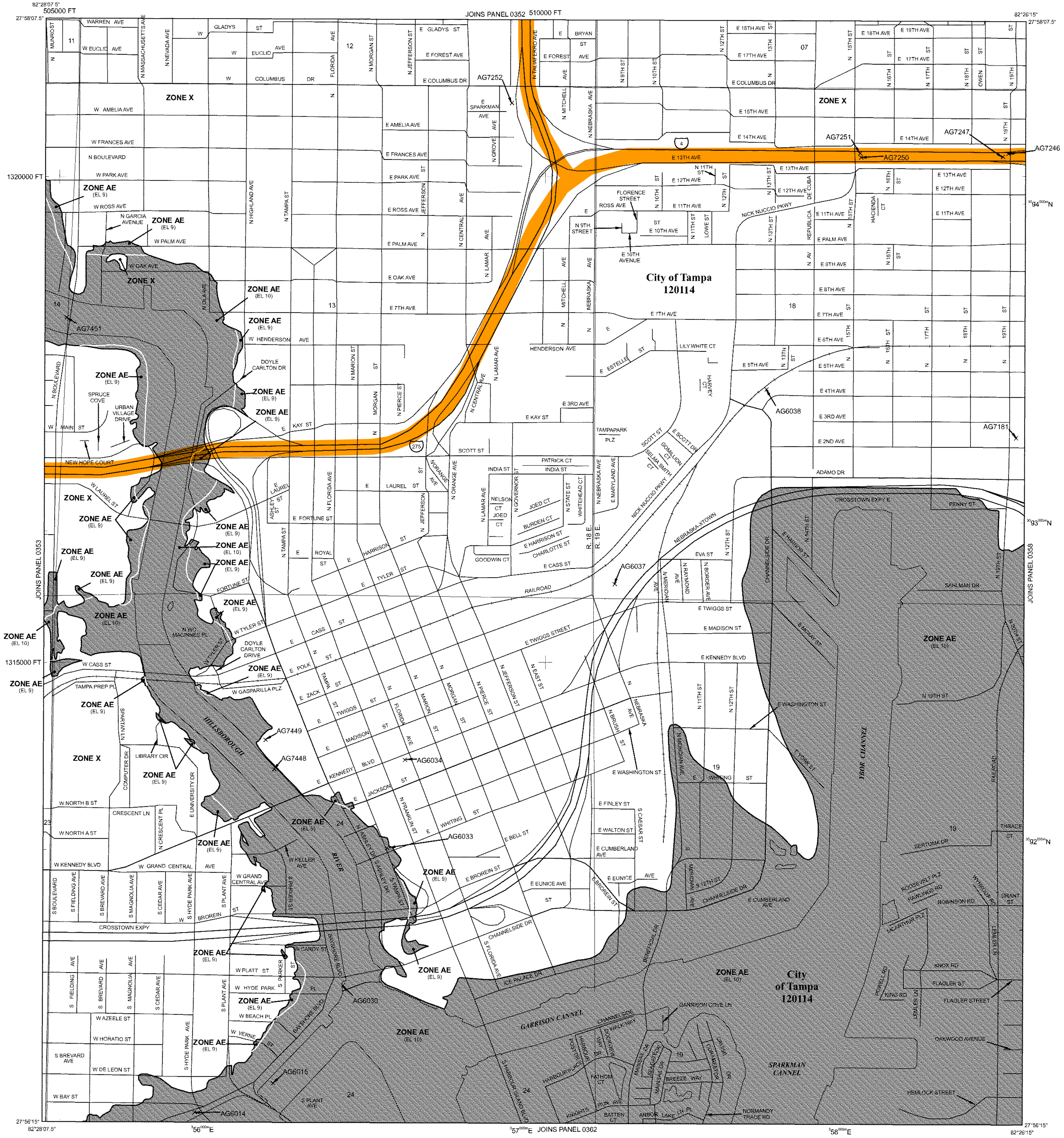

LEGEND

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

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ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

▨	FLOODWAY AREAS IN ZONE AE

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

▒	OTHER FLOOD AREAS
ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
☐	OTHER AREAS
ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.
▧	COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
▧	OTHERWISE PROTECTED AREAS (OPAs)

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

───	Floodplain boundary
— — —	Floodway boundary
- — — -	Zone D boundary
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(A)———(A)	Cross section Line
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DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
●M1.5	River Mile
◆410285	Junction

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

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

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

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N

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250 0 500 1000 FEET
150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0354H

FIRM
FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY, FLORIDA
AND INCORPORATED AREAS

PANEL 354 OF 801

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
TAMPA, CITY OF	120114	0354	H

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MAP NUMBER
12057C0354H

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

NOTES TO USERS

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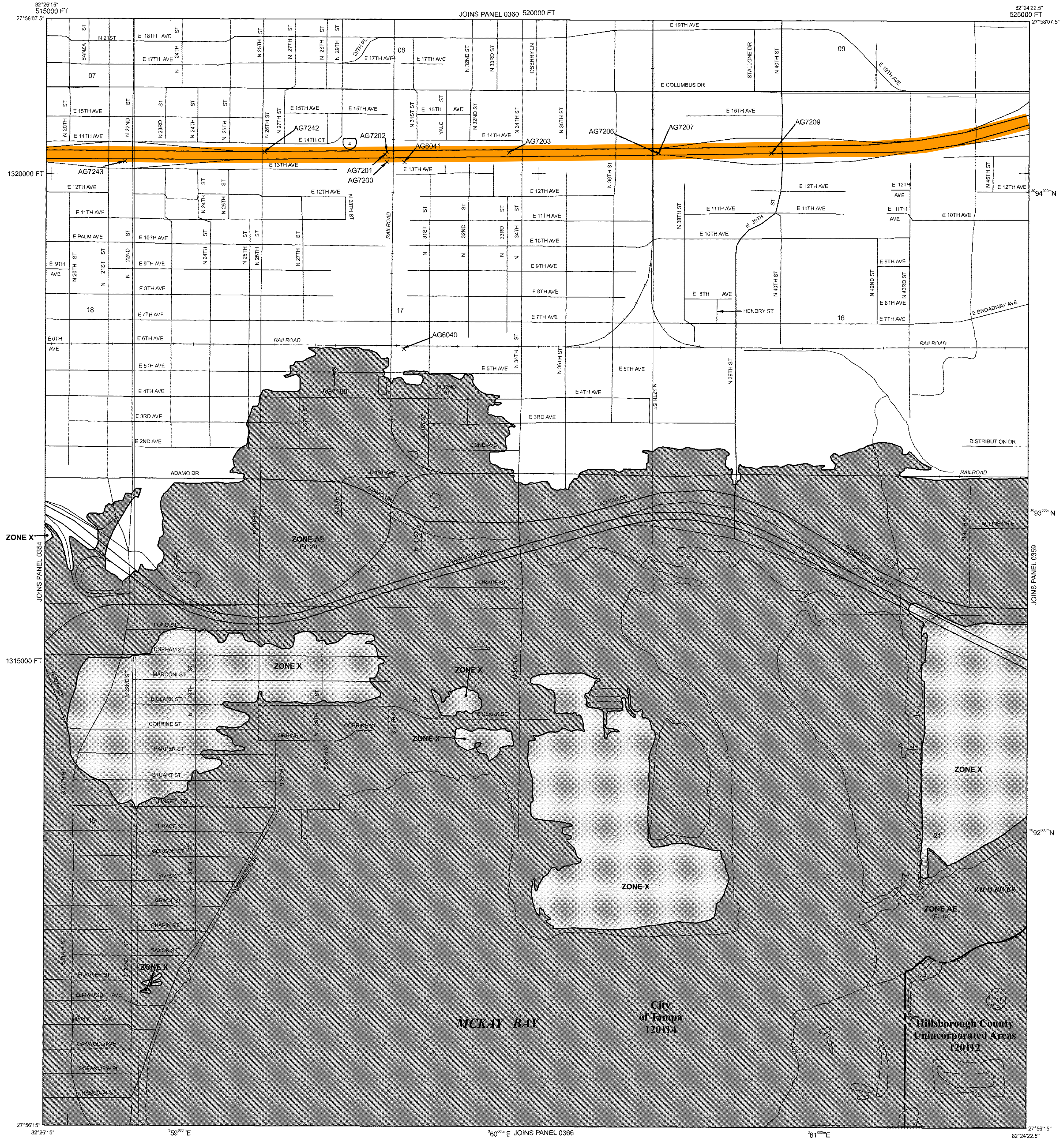

LEGEND

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

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MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

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

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N

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0358H

FIRM

FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY, FLORIDA
AND INCORPORATED AREAS

PANEL 358 OF 801

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HILLSBOROUGH COUNTY	120112	0358	H
TAMPA, CITY OF	120114	0358	H

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MAP NUMBER
12057C0358H

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

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

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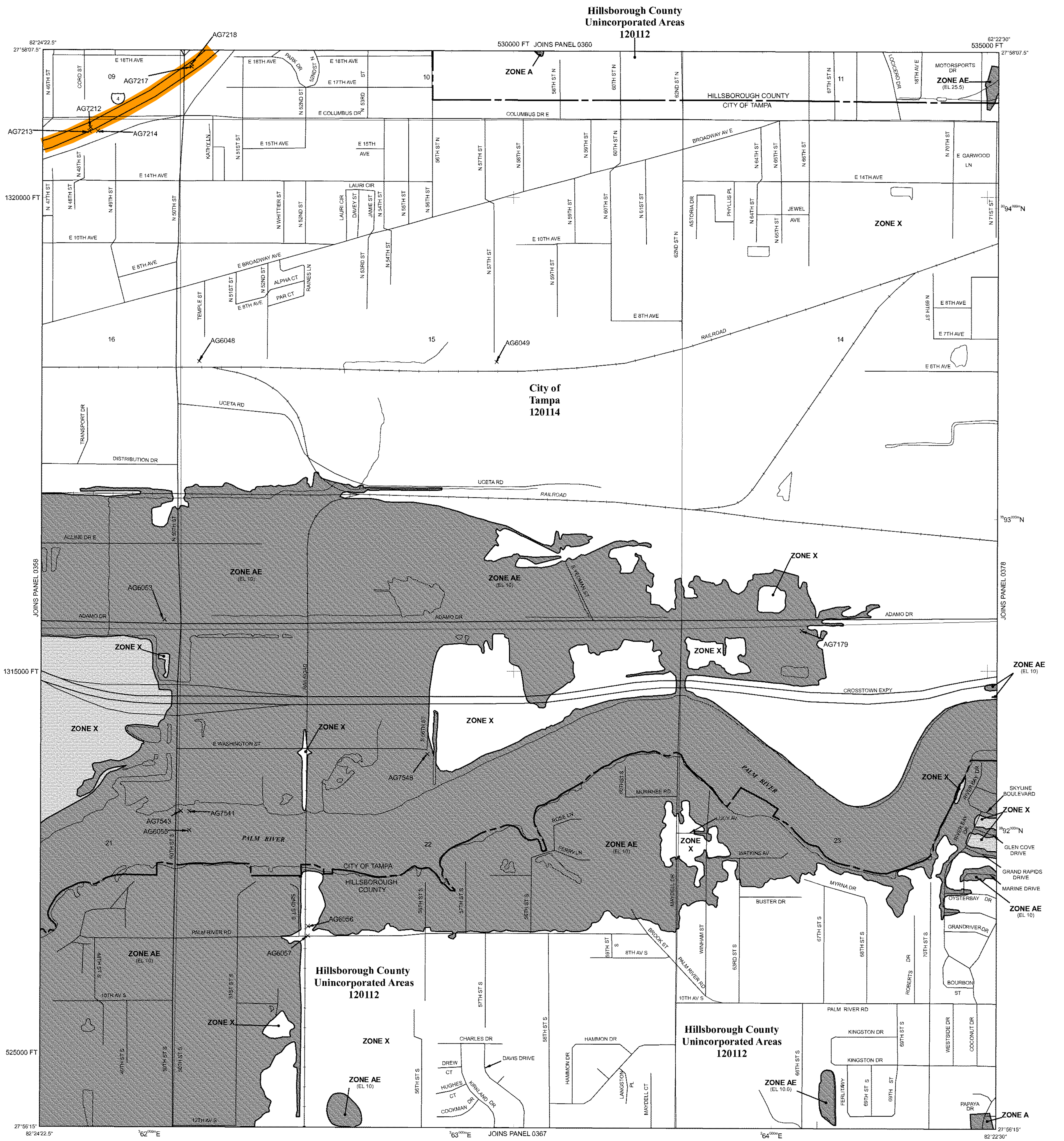

LEGEND

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ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

▨ FLOODWAY AREAS IN ZONE AE

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

▒ OTHER FLOOD AREAS

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

☐ OTHER AREAS

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

▨ COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

▨ OTHERWISE PROTECTED AREAS (OPAs)

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— — —	Floodway boundary
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DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
● M1.5	River Mile
♦ 410285	Junction

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

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

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

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

N

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0359H

FIRM

FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY, FLORIDA
AND INCORPORATED AREAS

PANEL 359 OF 801

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HILLSBOROUGH COUNTY	120112	0359	H
TAMPA, CITY OF	120114	0359	H

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

MAP NUMBER
12057C0359H

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

NOTES TO USERS

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

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

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

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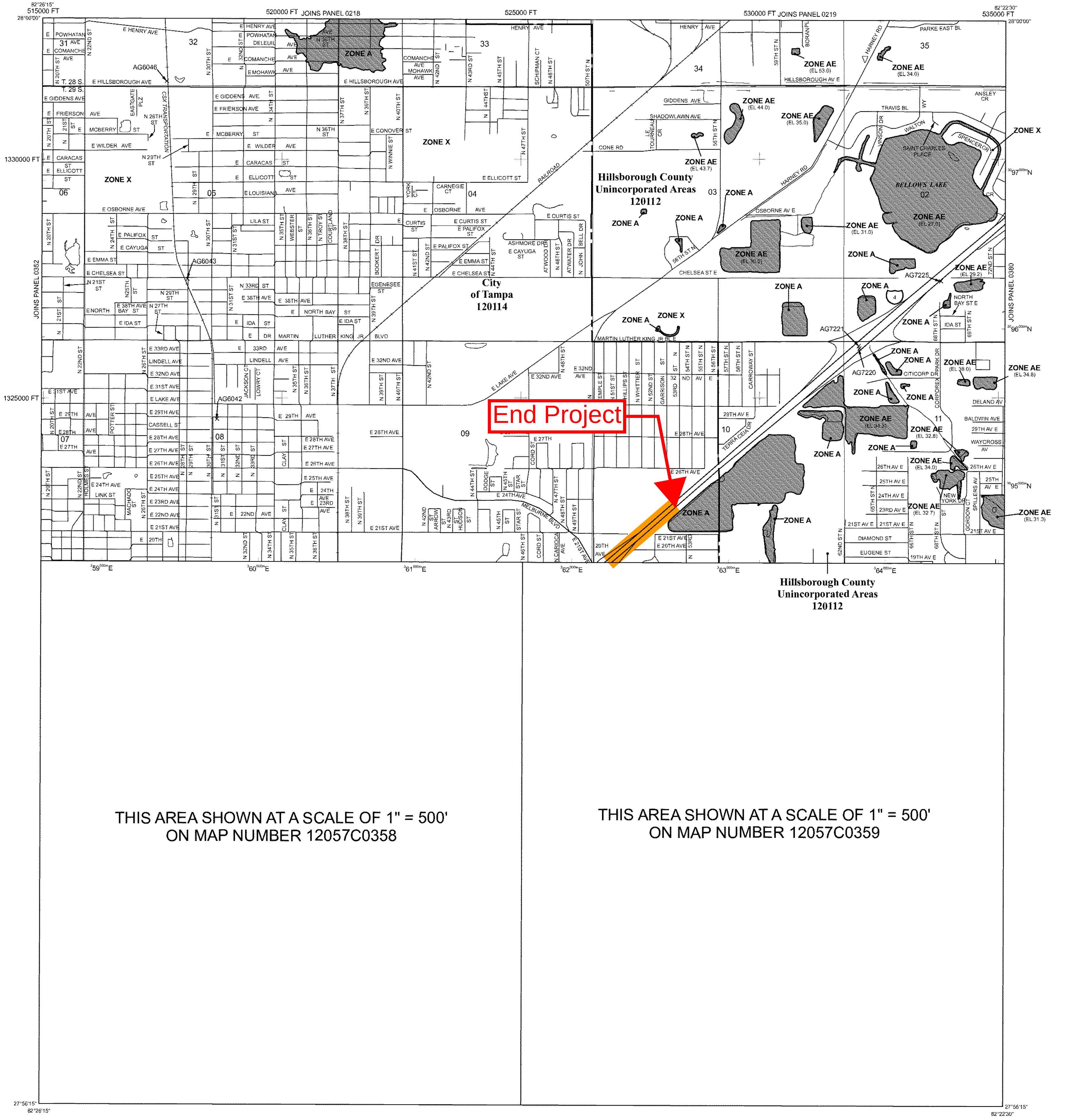

THIS AREA SHOWN AT A SCALE OF 1" = 500'
ON MAP NUMBER 12057C0358

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FLOOD INSURANCE RATE MAP
August 28, 2008

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300 0 300 600 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0360H

FIRM
FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY, FLORIDA
AND INCORPORATED AREAS

PANEL 360 OF 801

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
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TAMPA, CITY OF	120114	0360	H

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MAP NUMBER
12057C0360H

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

APPENDIX C

Correspondence

Meeting Minutes

Project:	TBX Segment 6 – FPID 433821-2
Subject:	Roadway and Stormwater Design Meeting
Date:	Tuesday, November 15, 2016
Location:	FDOT 7
Attendees:	Mary Lou Godfrey – FDOT Daniel Lauricello - FDOT Richard Moss – FDOT Ginger Crieghton – FDOT Abdul Waris - FDOT
	David Bredahl – ACP Amy Neidringhaus - FDOT Allan Urbonas – FDOT Bill McTeer – FDOT Jim Johnston - HDR

	Topic	*Facilitator*	*Start*	*End*
1	Click here to enter text.	Name	Time	Time
2	Click here to enter text.	Name	Time	Time
3	Click here to enter text.	Name	Time	Time
4	Click here to enter text.	Name	Time	Time

- HDR (sub to American Consulting Professionals) is scoped to prepare LHR and PSR. American will be preparing 15% line and grade.
- Preliminary conceptual roadway design and r/w information is available. HDR will coordinate with American to obtain the electronic files.
- Mainline design is complete; side streets tie-downs still require adjustments.
- TIS that was provided to HDR was completed in early 1990’s so stormwater management criteria has changed.
- HDR should coordinate with Paul Staes, who has been assisting the Department with design and r/w efforts.

Existing Drainage Concerns

- Existing drainage/flooding concerns within the project area should be researched. FDOT may want to resolve where feasible as part of the TBX. Check if any flooding issues are documented in the Hillsborough River Watershed Study.
- Abdul believes there is an existing flooding issue in the vicinity of 40th Street (need clarification from Abdul since it appears 40th St is beyond project limits).
- 14-86 criteria should be used for basins with documented flooding issues if feasible.

Design Approach

- Schedule pre-application meeting with SWFWMD in December or early January. Need to determine if water quality treatment will be required for all DCIA or only the additional impervious area.
- Stormwater management for TBX accommodated in previous projects west of 14th Street.
- Hillsborough River is considered tidal within the project limits. Attenuation would not be required for outfalls to the river. Consider potential outfalls along existing City streets that are not brick.
- Impervious area based on entire r/w would provide the most conservative approach, although proposed infield areas should not be included.

Potential SWM Sites

- Any pond sites on adjacent TBX segments that could be expanded for Segment 6 should be considered.
- Approximately nine remnant parcels are anticipated. Some have been reserved for the proposed trail.
- Remnant parcels that will likely be available for stormwater management include Mobley Park apartments (large site), Presbyterian Village, expansion of Robles Park (pond is being constructed across from park) and the site north of the community center. Also consider the DMS building site.
- Trail agreements will affect the pond siting efforts.
- Former jail site was discussed, may be needed for other future uses.
- Avoid existing single family homes. Although some are close to the proposed improvements, the existing lots are small.
- Public housing site that is currently boarded up may be an option for proposed stormwater management.
- Meet with the City and County to determine if any joint use opportunities exist. City may have purchased flooded home sites within the project limits

Alternative Methods

- Shallow SHWT will likely prevent the use of sand filters.

- Determine if vaults are an option either onsite or offsite. They should not be considered under the roadway pavement. HDR should obtain available information for the existing vaults along the Selmon Expressway to clarify the design approach.
- Determine if there are opportunities for stormwater harvesting and document in the report.
- Determine if deep well injection is an option. May require a very high level of water quality treatment.
- Are there other options that are being used in different regions or FDOT Districts?

TBX Segment 6 Roadway and Stormwater Design Meeting
FPID: 433821-2
11/15/2016

- Overall project limits
- Concept Roadway Design Status for RFP
- Stormwater Management Data Collection efforts
- Existing Drainage Concerns within the Area – Could FDOT resolve offsite flooding as part of the TBX?
- Remnant Parcels Available for stormwater treatment?
- Environmental Look Around
- Joint Use Opportunities with the City of Tampa or Hillsborough County?
- Any opportunities for Stormwater harvesting?
- SWFWMD Pre-Application Meeting
- Deliverables
- Action Items
- Next Meeting

FDOT TBX Section 6 Drainage Meeting

Date: 4/21/17
Time: 10:00 AM – 11:30 AM
Location: D7-HQ, Flamingo

Attendees: See attached Sign-In Sheet

Subject: TBX Section 6 Drainage

Meeting Minutes:

1. Project Overview
   - Schedule
     - American will create once CDP scope is finalized.
   - Current contract status
     - There will be continuity of American/HDR team for the CDP.
     - HDR will submit a letter to FDOT confirming they will not pursuit the Section Design Build contract.
   - Scope/Staff Hour Estimate
     - Kirk Bogen and George Walton will meet to discuss scope.
     - American/HDR will compare PD&E scope with CDP scope and adjust CDP and provide recommendations.
2. Project History
   - A PD&E PSR/LHR has not been submitted yet.
   - Mary Lou Godfrey would like to see HDR submit a PSR/LHR as per the PD&E scope.
   - Daniel Lauricello would like to see a comprehensive PSR completed.
   - There was a discussion on if there should be two separate PSRs submitted or if the requirements of the PD&E scope could be satisfied by way of a PSR Memo and then a formal PSR submitted ongoing with the CDP.
   - Cristina Jackson will forward HDR examples of other TBX Sections PSRs for Right of Way Needs developed during the PD&E phase for their use in developing a PSR Memo to satisfy the requirements of the PD&E scope.
3. Roadway Status
   - HDR has not seen the latest Arcadis concept. David Bredahl will forward the latest Arcadis concept to Bart Rohrer.
   - Arcadis submitted a traffic report and FDOT is currently reviewing and providing comments for it. Once the comments are submitted, they will be forwarded to American/HDR for their use.
   - Jeff Drapp will forward preliminary elevations provided by Arcadis for HDR's use in evaluating hydraulic feasibility of pond sites.
4. Drainage Status
   - Bart Rohrer presented exhibits showing the preliminary sub-basin limits and outfalls:
     - West of Hillsborough River
     - Interchange area
     - North of Interchange
     - Future sub-basin limit coordination with Sections 5, 7 and 8
   - Bart Rohrer presented a table with the proposed treatment and attenuation

  - Treatment volume required assumed to be total new impervious. Pond sizes will be revised to address net new impervious only.
  - Attenuation volume required assumed direct outfall to Hillsborough River will not require attenuation.
  - The TIS Pond Sites were discussed.
    - See attached exhibits.
    - The TIS Pond Site in the northwest corner of I-275 and the Hillsborough River is part of the Presbyterian Village and is still available for pond sites.
    - The TIS Pond Site in the southwest corner of I-275 and the Hillsborough River is part of Julian B Park and will not be available for pond sites.
    - The TIS Pond Site in the northeast corner of I-275 and the Hillsborough River is still available for pond sites.
    - The TIS Pond Site underneath the Downtown Interchange are still available for pond sites however will need to be split into several sites if used.
    - The rectangular TIS Pond Site northwest of the Downtown Interchange will be verified for ROW acquisition status.
      - FDOT will follow up with ROW to find out what has been purchased already.
      - HDR will review FDOT GIS Map Portal that shows the acquired ROW.
    - The TIS Pond Site north of Robles Park and west of I-275 will be part of Robles Park and not available for pond sites.
      - David Bredahl will share the PD&E Commitments with HDR regarding Robles Park.
    - The rectangular TIS Pond Site east of I-275 across from Robles Park will be verified for ROW acquisition status. This site will be expanded for a park but may be available for pond sites if a curvilinear (no BURP) pond site is considered.
    - The TIS Pond Site in the northwest corner of MLK and I-275 has been partially revised to address historic residential property. The available pond site will be revised to include the frontage parcels only plus the commercial Chevron property to form a backwards "L" shape.
    - The TIS Pond Site in the northwest corner of Chelsea St and I-275 will be verified by Kirk Bogen/Ashley Henzel for Cultural Resources.
  - Other Proposed Pond Sites were discussed.
    - The vacant parcel north of the Oaklawn Cemetery and south of I-275 will be reserved for a Multi Modal center and not available for pond sites.
    - Alternatives underneath the proposed I-275 bridges north of Floribraska Avenue will not be available for pond sites as they will be reserved for park connectivity in between the west and east sides of I-275.
- Other considerations
  - Daniel Lauricello asked that stormwater harvesting, vaults, and regional ponds/park expansions be considered. Environmental Look Arounds (ELAs) should be considered throughout all PSR phases.
  - FDOT will have preliminary discussions with SWFWMD regarding the SWFWMD River Tower Shoreline Project for potential water quality equivalencies for improvements to Section 6 and 7 of TBX.
  - HDR will provide treatment calculations that include impair water criteria and will not consider utilizing water quality equivalencies from Old Tampa Bay.
  - Jeff Drapp offered that the proposed bridges over 14th and 15th Street might have areas underneath available for pond sites if needed. However, he stated it is the City's preference to

convert those bridges into MSE walls and eliminate the open area underneath if they are not needed for pond sites.

5. Permitting
    - Cristina Jackson will schedule a SWFWMD Pre-Application Meeting.
    - TPA and USCG permits will be required for improvements over the Hillsborough River.
6. Action Items
    - FDOT/American/HDR will continue developing Scope/Staff Hours/Schedule.
    - HDR will submit a letter to FDOT confirming they will not pursuit the Section Design Build contract.
    - Cristina Jackson will forward HDR examples of other TBX Sections PSRs for Right of Way Needs developed during the PD&E phase for their use in developing a PSR Memo to satisfy the requirements of the PD&E scope.
    - Jeff Drapp will forward preliminary elevations provided by Arcadis for HDR's use in evaluating hydraulic feasibility of pond sites.
    - FDOT will follow up with ROW to find out what has been purchased already. HDR will review FDOT GIS Map Portal that shows the acquired ROW.
    - David Bredahl will share the PD&E Commitments with HDR regarding Robles Park.
    - The TIS Pond Site in the northwest corner of Chelsea St and I-275 will be verified by Kirk Bogen/Ashley Henzel for Cultural Resources.
    - Cristina Jackson will schedule a SWFWMD Pre-Application Meeting.
    - Cristina Jackson will schedule a follow up Drainage Meeting to discuss the progress on the action items discussed in this meeting.

FDOT TBN Section 6 PSR Meeting

Date: 1/11/18
Time: 11:00 AM – 12:00 PM
Location: D7-HQ, Planning

Attendees: Kirk Bogen, Jeff Drapp, Brad Flom, Ashley Henzel, Mary Lou Godfrey, Cristina Jackson, Daniel Lauricello, Alice Price, Bart Rohrer, Nicole Selly

Subject: TBN Section 6 PSR

Meeting Minutes:

1. Previous Work:
   - Ponds were originally sized for the entire contributing area per former SWFWMD criteria
   - Ponds were revised to only include the new impervious area per new SWERP criteria
   - FDOT has requested that ROW for ponds be eliminated where possible especially for the MLK and Robles Park Pond
   - FDOT is evaluating four alternatives for Section 6: two reconstruction alternatives and two viaduct alternatives
   - The TBN Owners Rep has performed a preliminary analysis evaluating opportunities to minimize ROW for ponds
2. Project Coordination
   - The PD&E Limits for Section 6 along I-4 are from I-275 to East of 50th.
   - Jeff Drapp sent the latest draft of the four design option exhibits on 1/11/18 to American.
   - Cristina Jackson will send Bart Rohrer the preliminary review done for the Chunk.
   - A follow up workshop/meeting will be scheduled to discuss the implications and considerations to providing a conveyance system with direct discharge to Hillsborough River in lieu of attenuation.
   - TBN Owners Rep will provide the latest FDOT ROW files within Section 6.
   - FDOT will provide direction on what FDOT owned parcels can be used for ponds and which cannot.
   - TBN Owners Rep/FDOT will provide the latest trail concepts along Section 6.
   - Cristina Jackson will schedule a Pre-Application Meeting within a month.
   - Bart Rohrer will discuss Amendment needs with American and provide to FDOT.
   - The regional stormwater quality projects being evaluated by FDOT will not be included in the TBN Section 6 PSR.
   - Bart Rohrer will submit a Draft PSR and LHR in line with the PD&E schedule.

RECORD OF TELEPHONE CALL

Job #	56636; FPN 431746-1-22-01	**Date**	05/20/2014
Call From	Mark Livesay	**Of**	HNTB Corporation
Call To	Jack Moore (Senior PE)	**Of**	SWFWMD (ERP Evaluation Section)
Phone	(813) 985-7481 ext. 2041		

Subject Discussed

Existing Permitted I-4 Ponds – Impaired Waters Criteria:

Jack Moore (Job Title: Senior Professional Engineer) with the Environmental Resource Permit (ERP) Evaluation Section of the Southwest Florida Water Management District (SWFWMD) called back in response to HNTB's question regarding the applicability of the impaired waters criteria on the existing permitted I-4 ponds from 50th Street to the Polk Parkway (SR 570). Mr. Moore had been involved in the review/permitting of the original permits in Hillsborough County.

Mr. Moore was told that HNTB is currently working on a PD&E Study which assesses the capability of the I-4 existing ponds to serve the ultimate typical section. Our research has shown that all of the existing ponds are permitted for the ultimate condition. However, the ponds were designed before the existence of FDEP's verified list of impaired waters and associated criteria.

Mr. Moore remembered that the I-4 permitting in which he was involved had permitted the stormwater management system for the ultimate condition. Therefore, he said that **ponds designed for the ultimate condition will be accepted and SWFWMD will not require any redesign to meet the impaired waters criteria.** Mr. Moore said that this was common SWFWMD practice for stormwater management systems that were designed and permitted for future improvements.

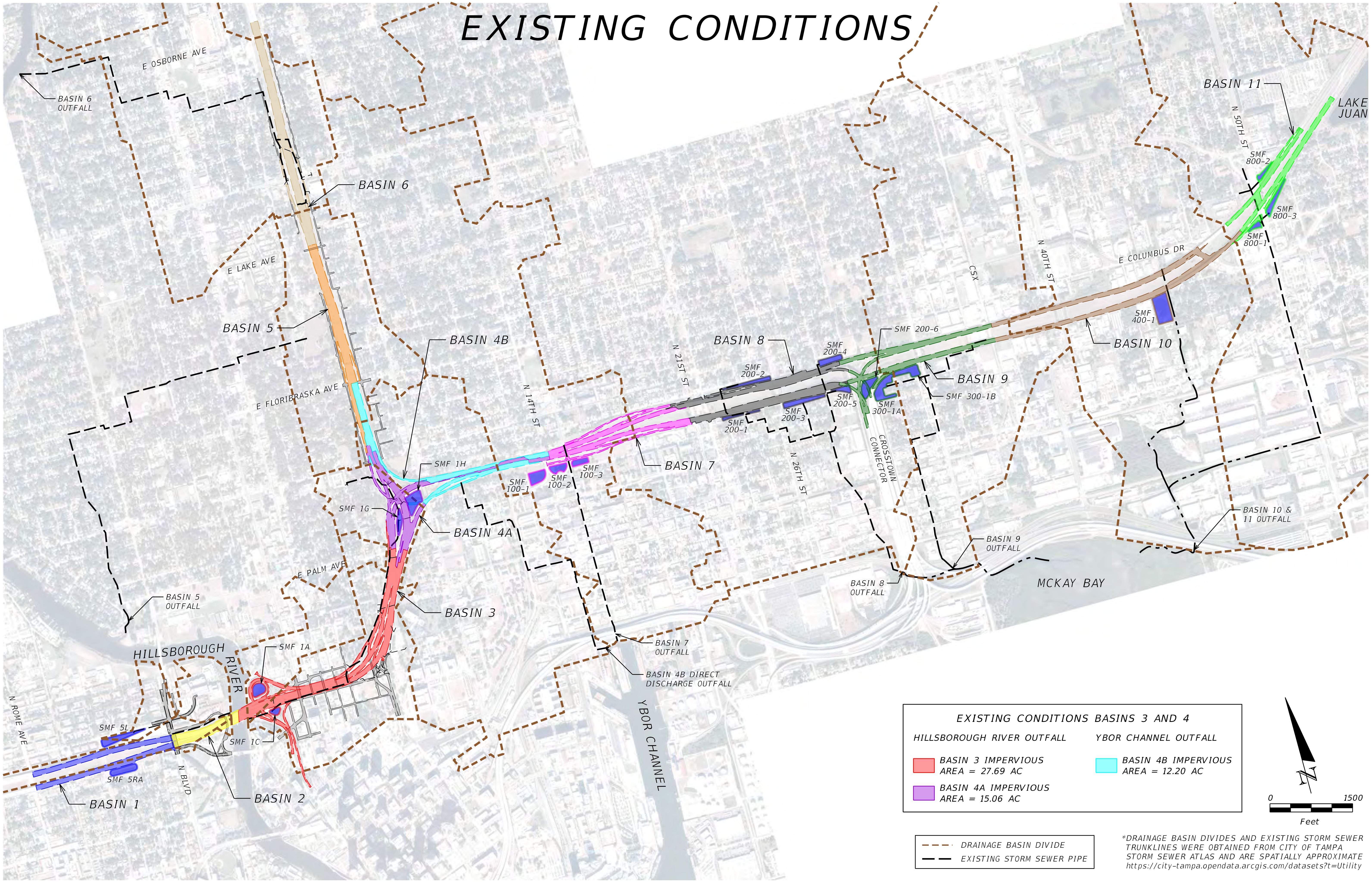
APPENDIX D

Stormwater Management Figures and Calculations

APPENDIX D-1

Design Option A

EXISTING CONDITIONS



EXISTING CONDITIONS BASINS 3 AND 4

HILLSBOROUGH RIVER OUTFALL

🟥 BASIN 3 IMPERVIOUS AREA = 27.69 AC

🟪 BASIN 4A IMPERVIOUS AREA = 15.06 AC

YBOR CHANNEL OUTFALL

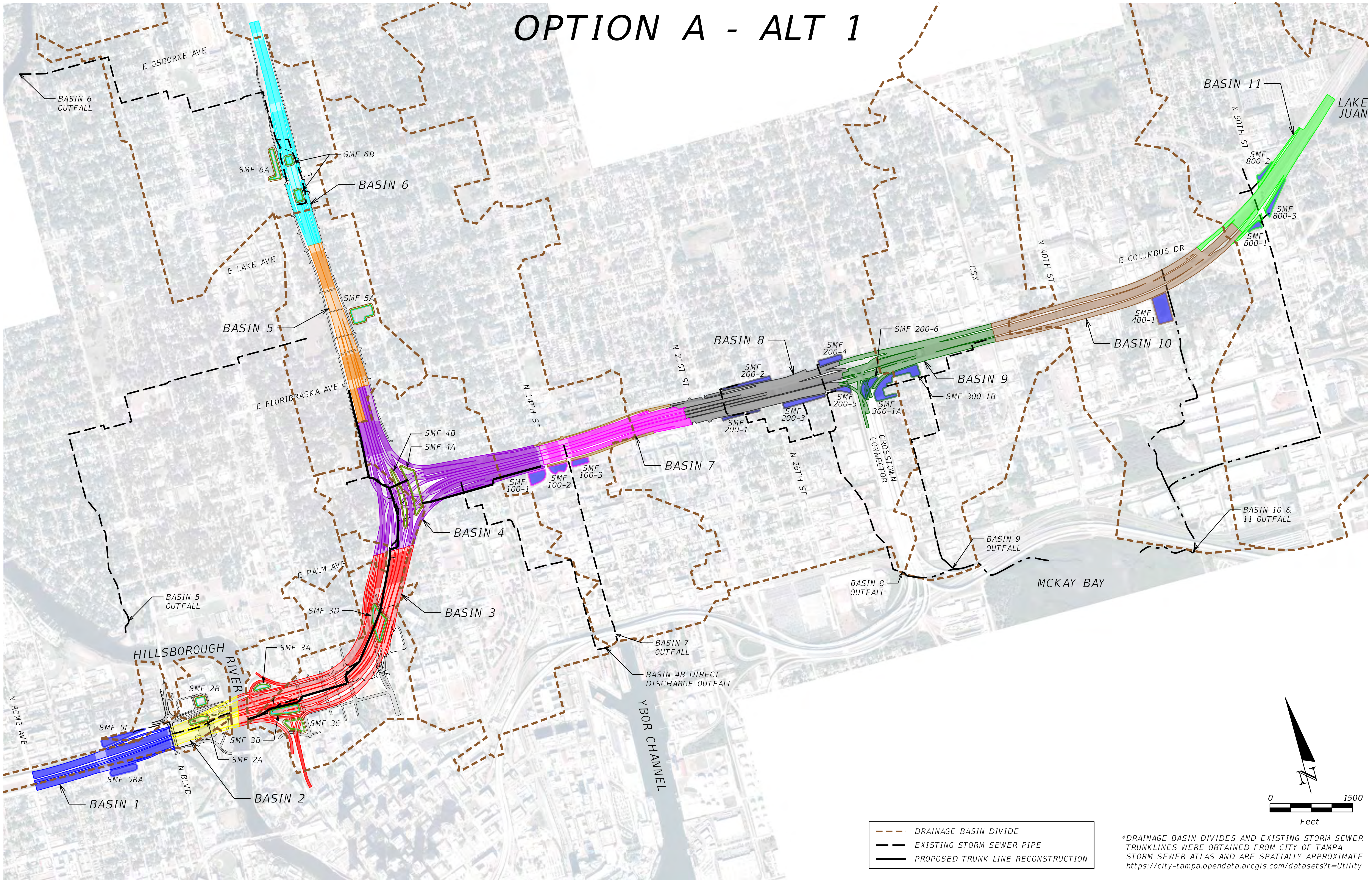
🟦 BASIN 4B IMPERVIOUS AREA = 12.20 AC

- - - DRAINAGE BASIN DIVIDE

— — EXISTING STORM SEWER PIPE

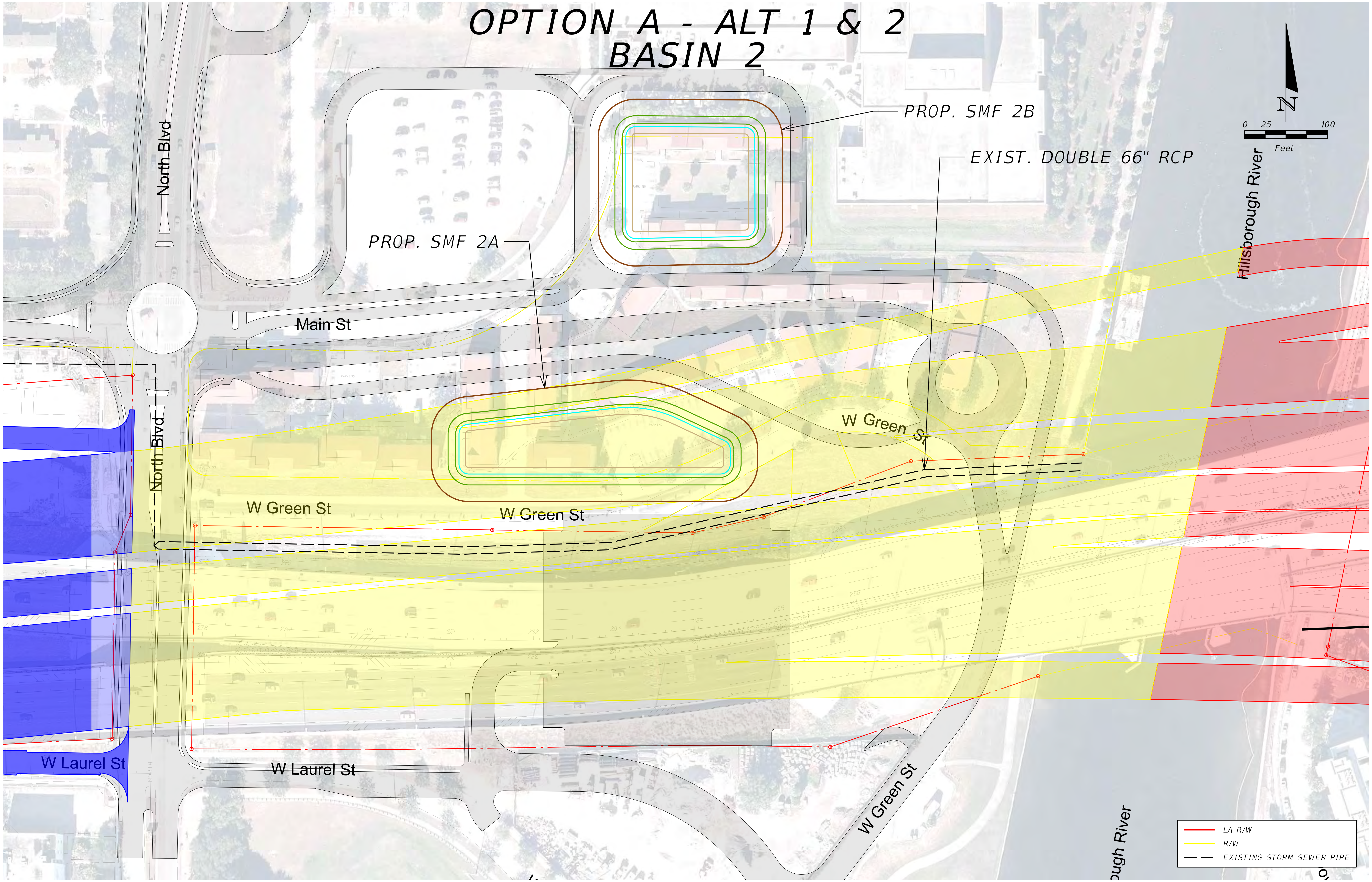
*DRAINAGE BASIN DIVIDES AND EXISTING STORM SEWER TRUNKLINES WERE OBTAINED FROM CITY OF TAMPA STORM SEWER ATLAS AND ARE SPATIALLY APPROXIMATE https://city-tampa.opendata.arcgis.com/datasets?t=Utility

OPTION A - ALT 1

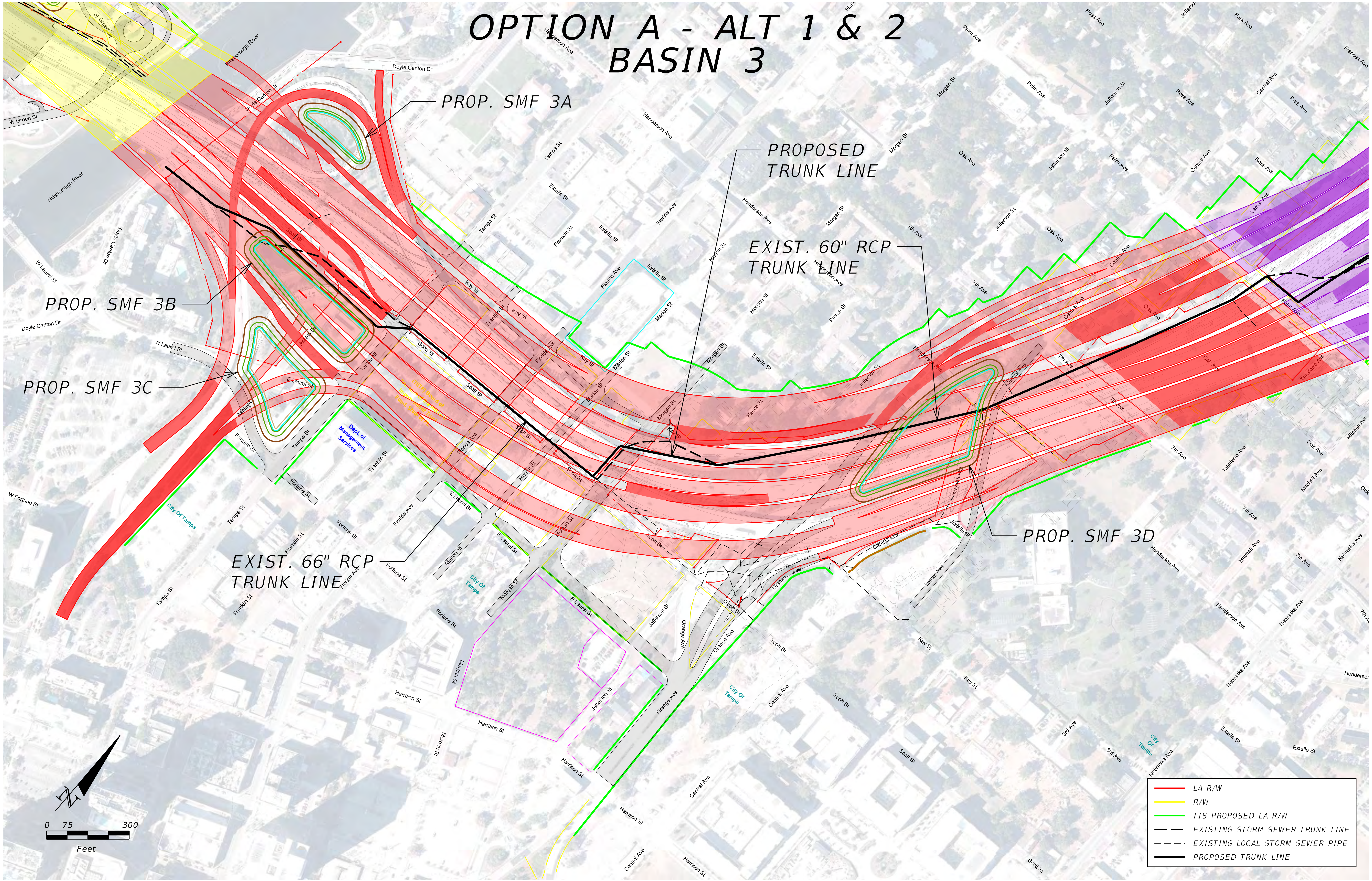


*DRAINAGE BASIN DIVIDES AND EXISTING STORM SEWER TRUNKLINES WERE OBTAINED FROM CITY OF TAMPA STORM SEWER ATLAS AND ARE SPATIALLY APPROXIMATE https://city-tampa.opendata.arcgis.com/datasets?t=Utility

OPTION A - ALT 1 & 2
BASIN 2



OPTION A - ALT 1 & 2
BASIN 3



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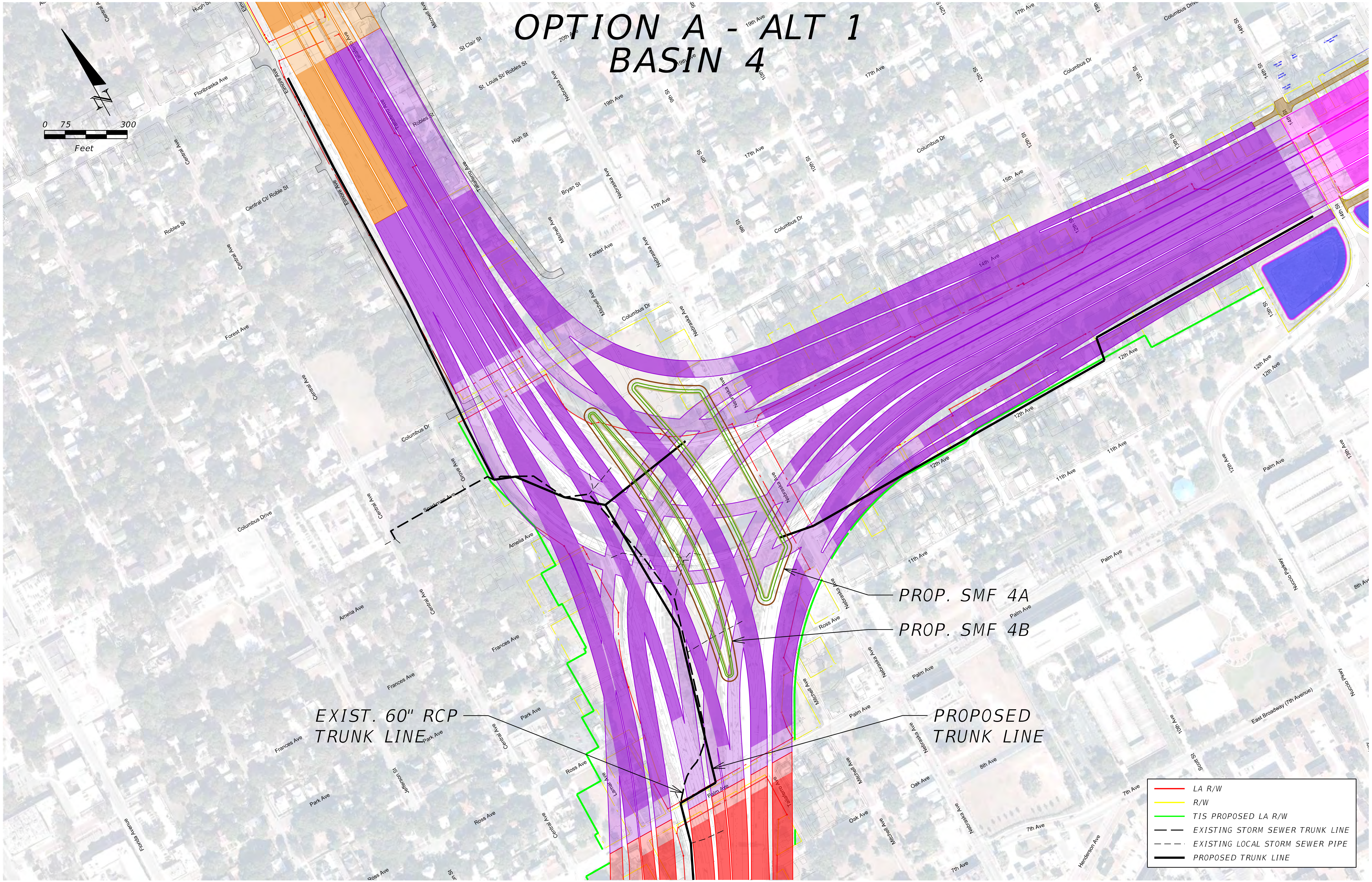
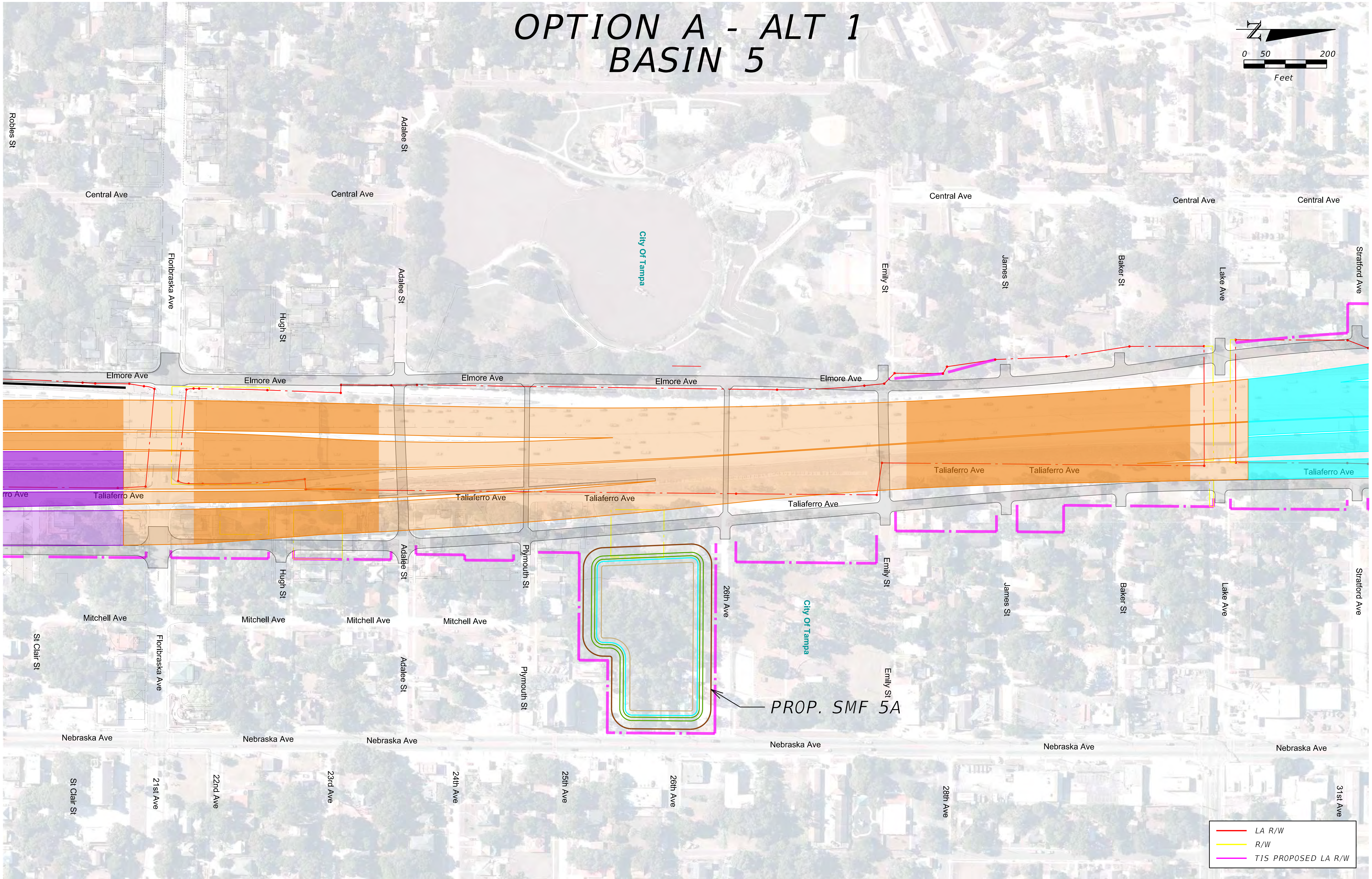
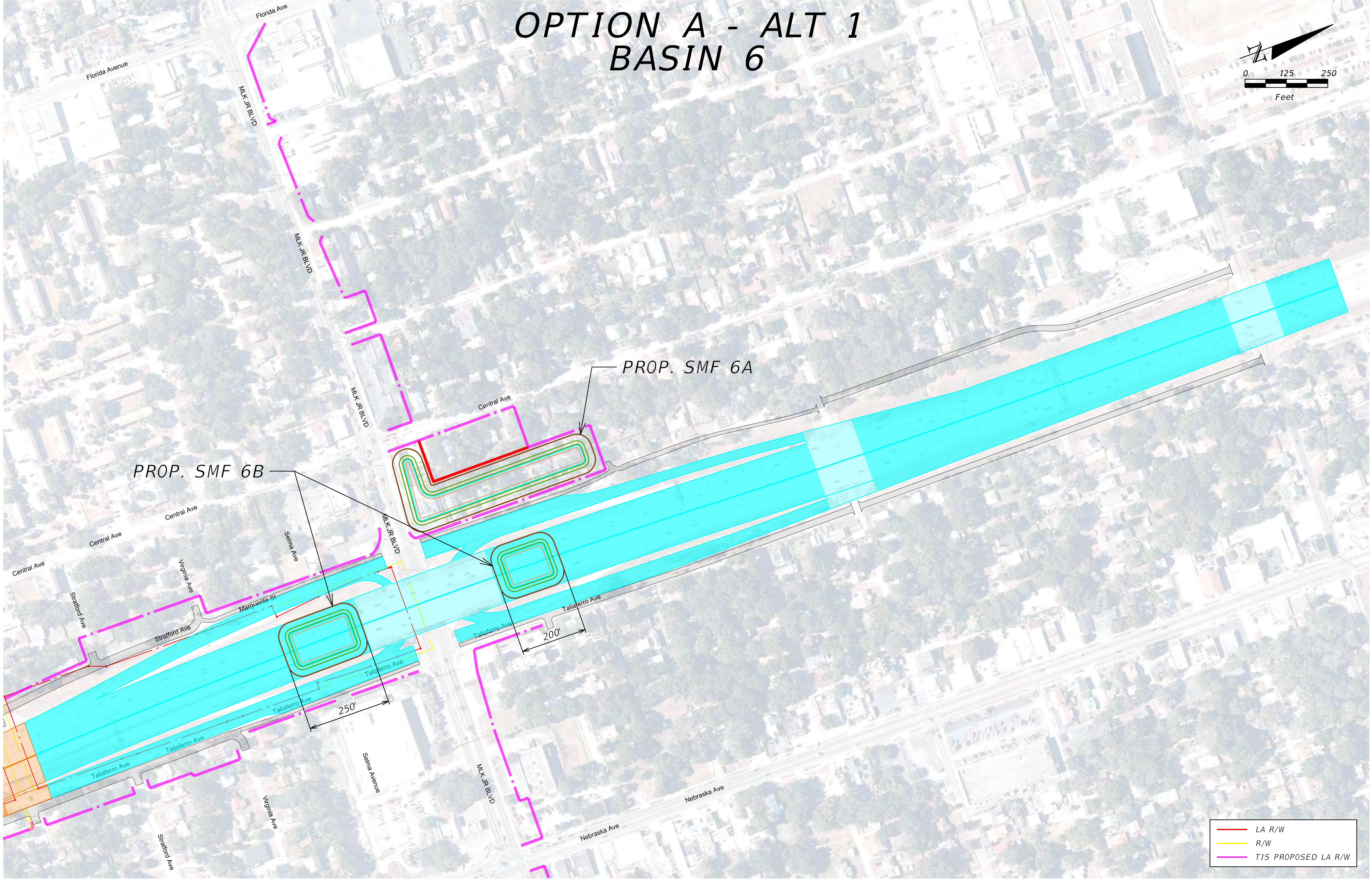
BASIN 4



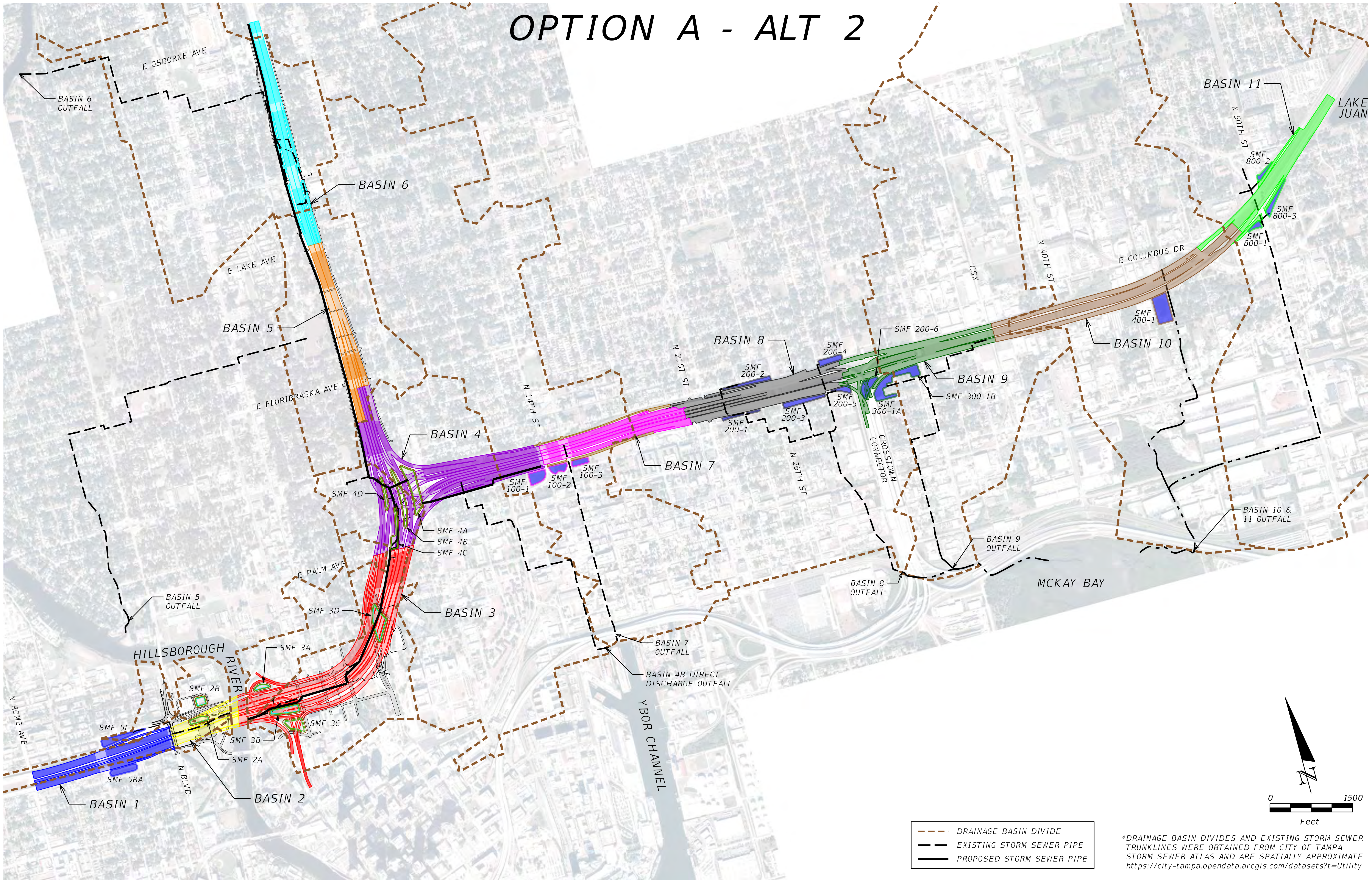
OPTION A - ALT 1
BASIN 5



OPTION A - ALT 1
BASIN 6



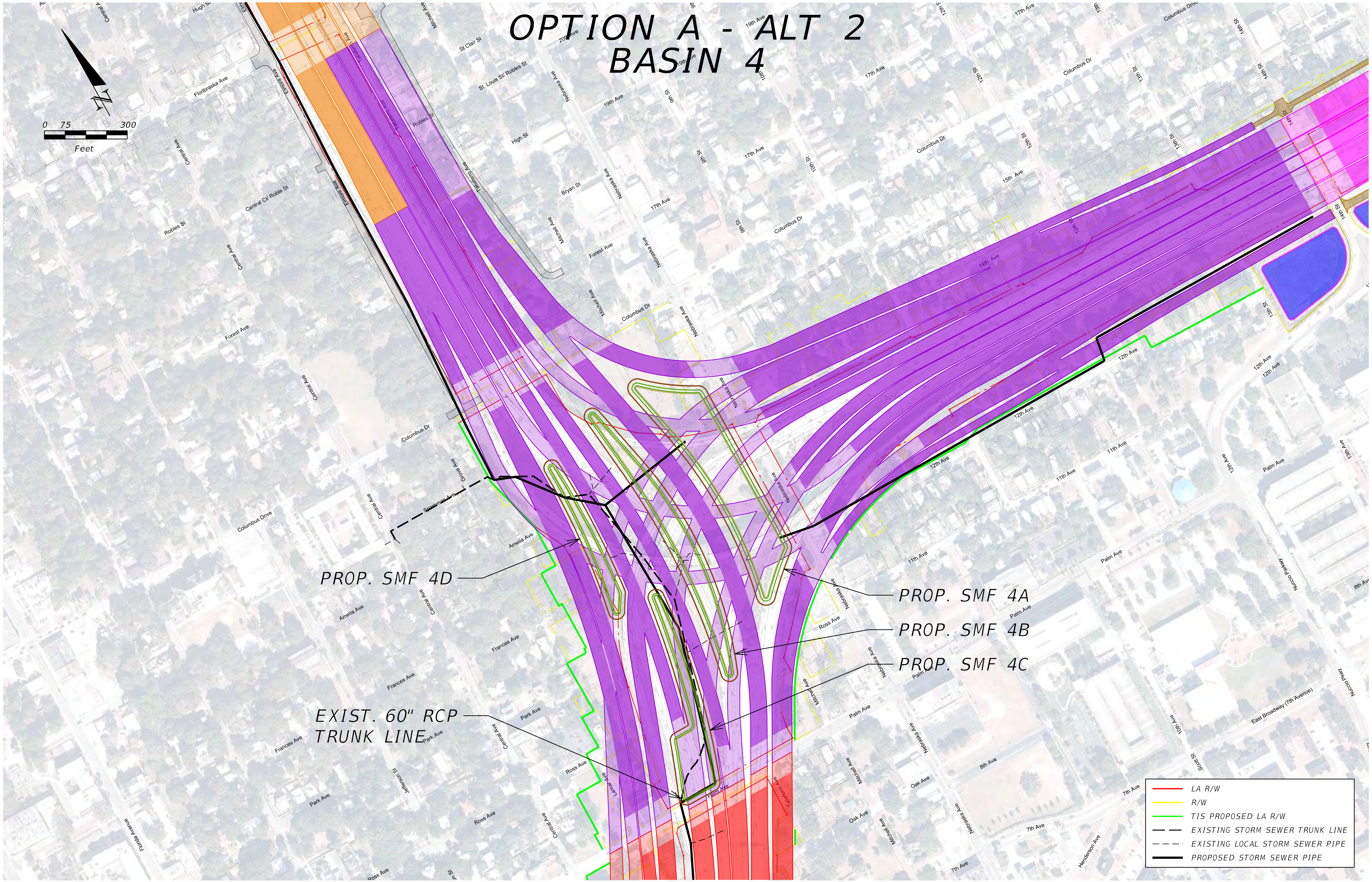
OPTION A - ALT 2



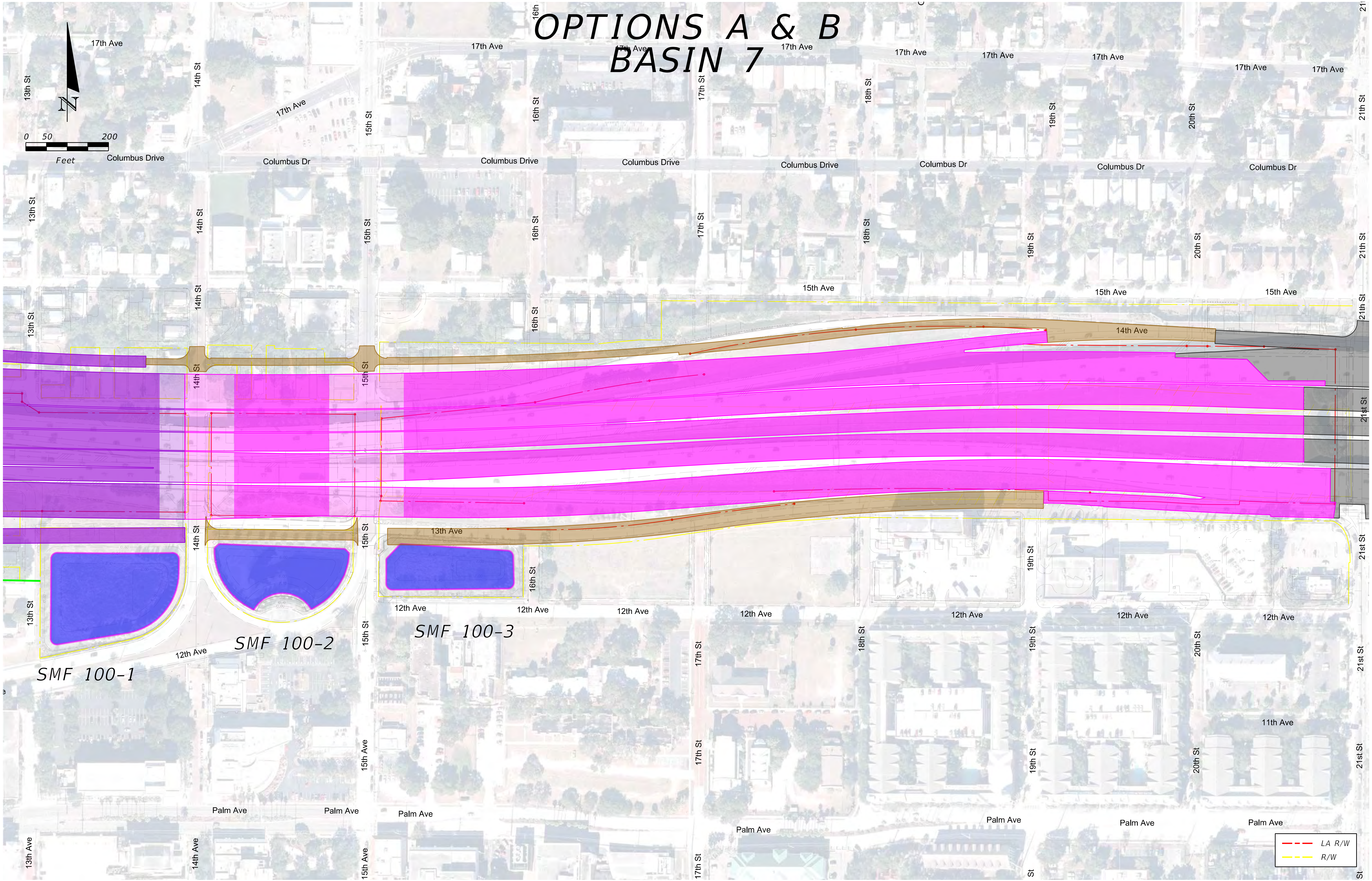
DRAINAGE BASIN DIVIDE
EXISTING STORM SEWER PIPE
PROPOSED STORM SEWER PIPE

*DRAINAGE BASIN DIVIDES AND EXISTING STORM SEWER TRUNKLINES WERE OBTAINED FROM CITY OF TAMPA STORM SEWER ATLAS AND ARE SPATIALLY APPROXIMATE
https://city-tampa.opendata.arcgis.com/datasets?t=Utility

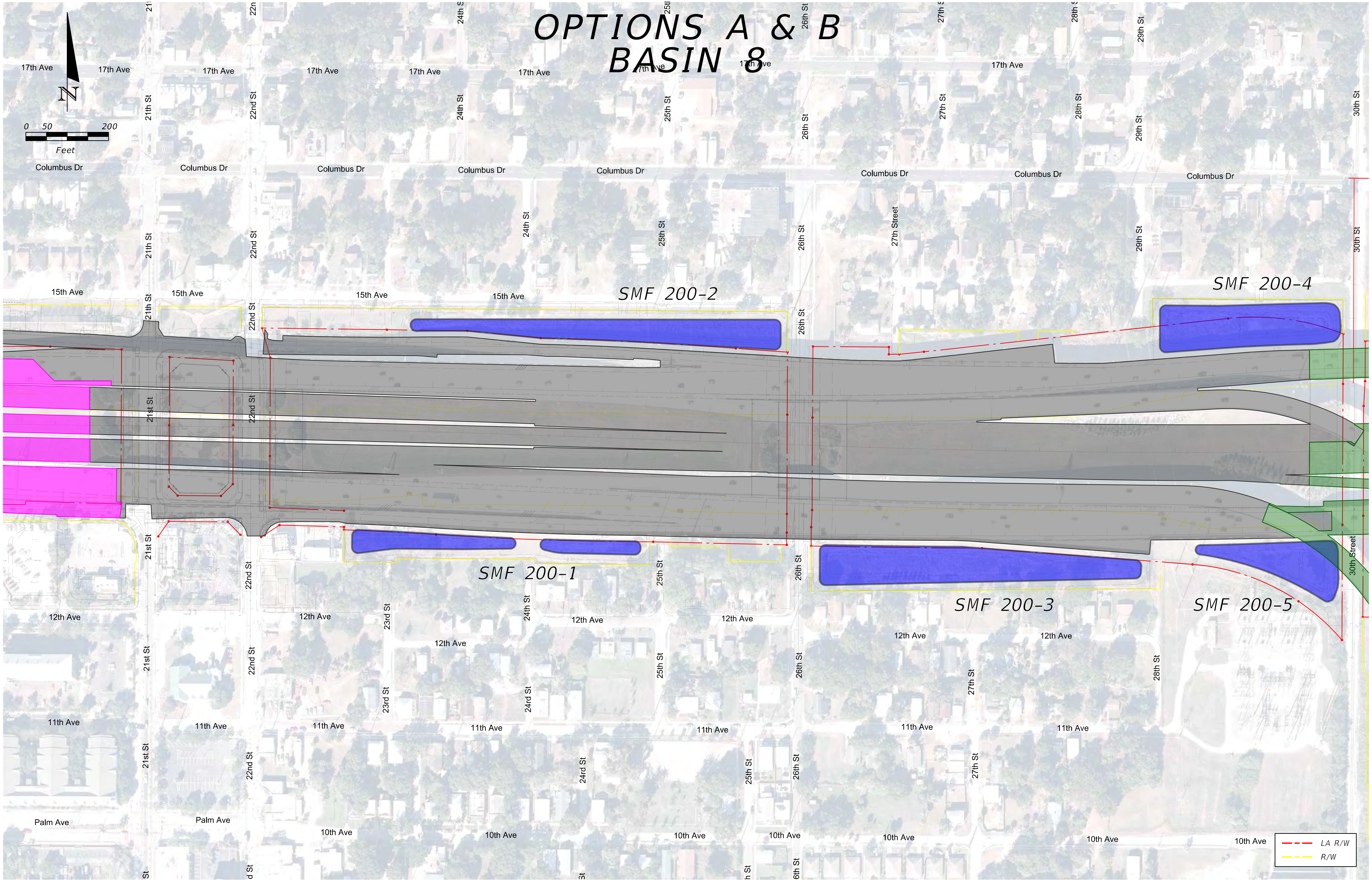
OPTION A - ALT 2
BASIN 4



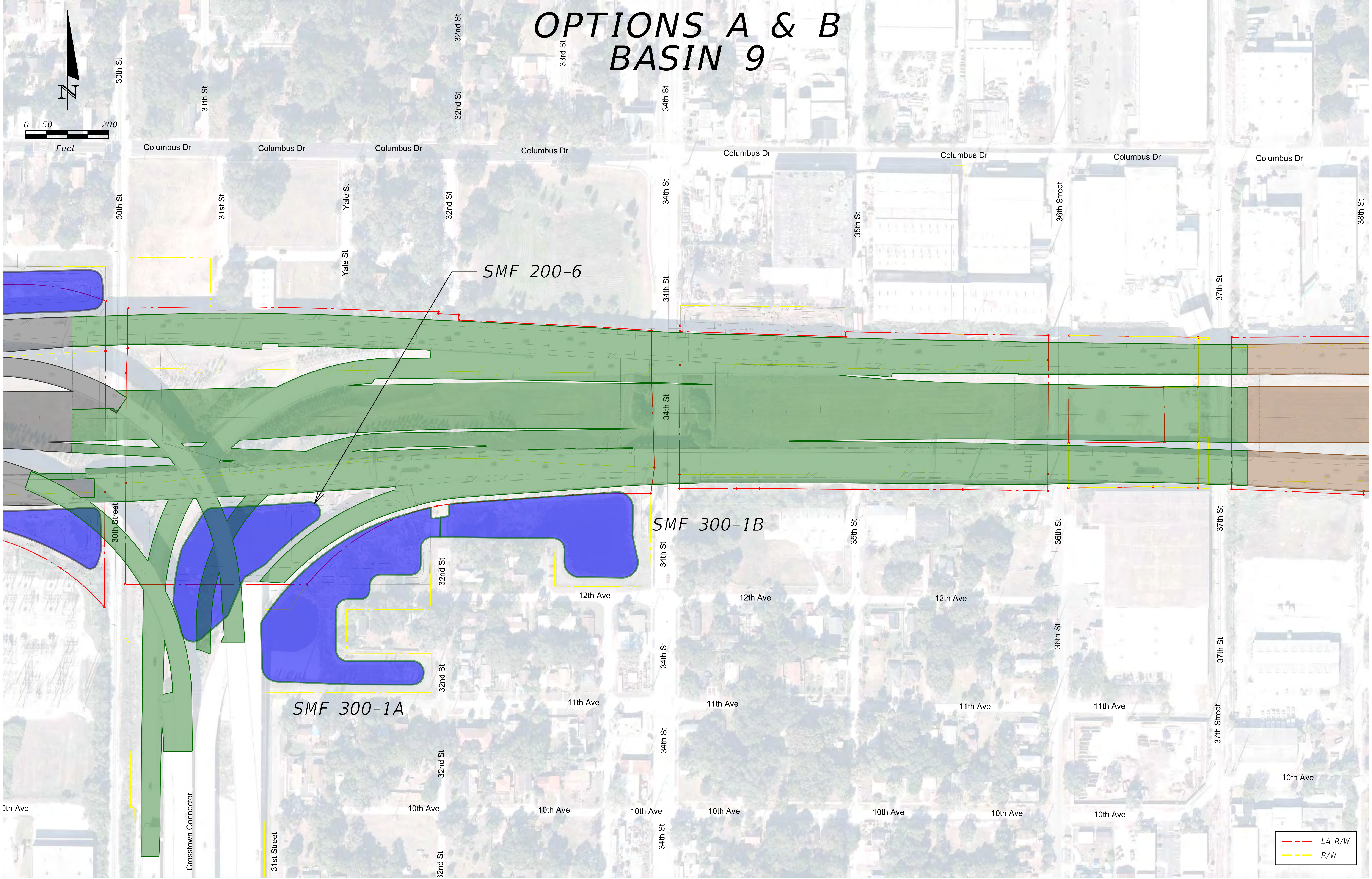
OPTIONS A & B
BASIN 7



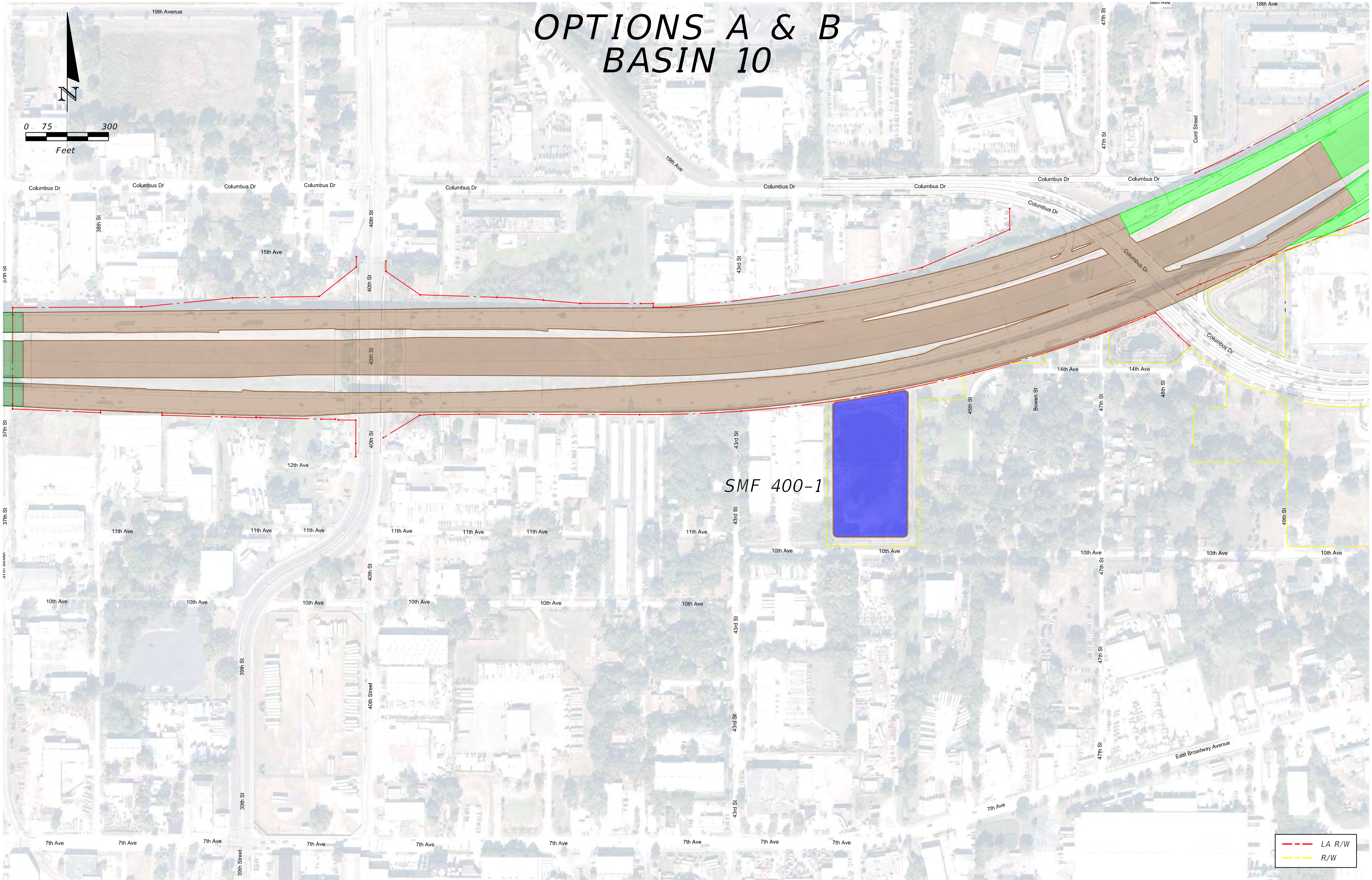
OPTIONS A & B
BASIN 8



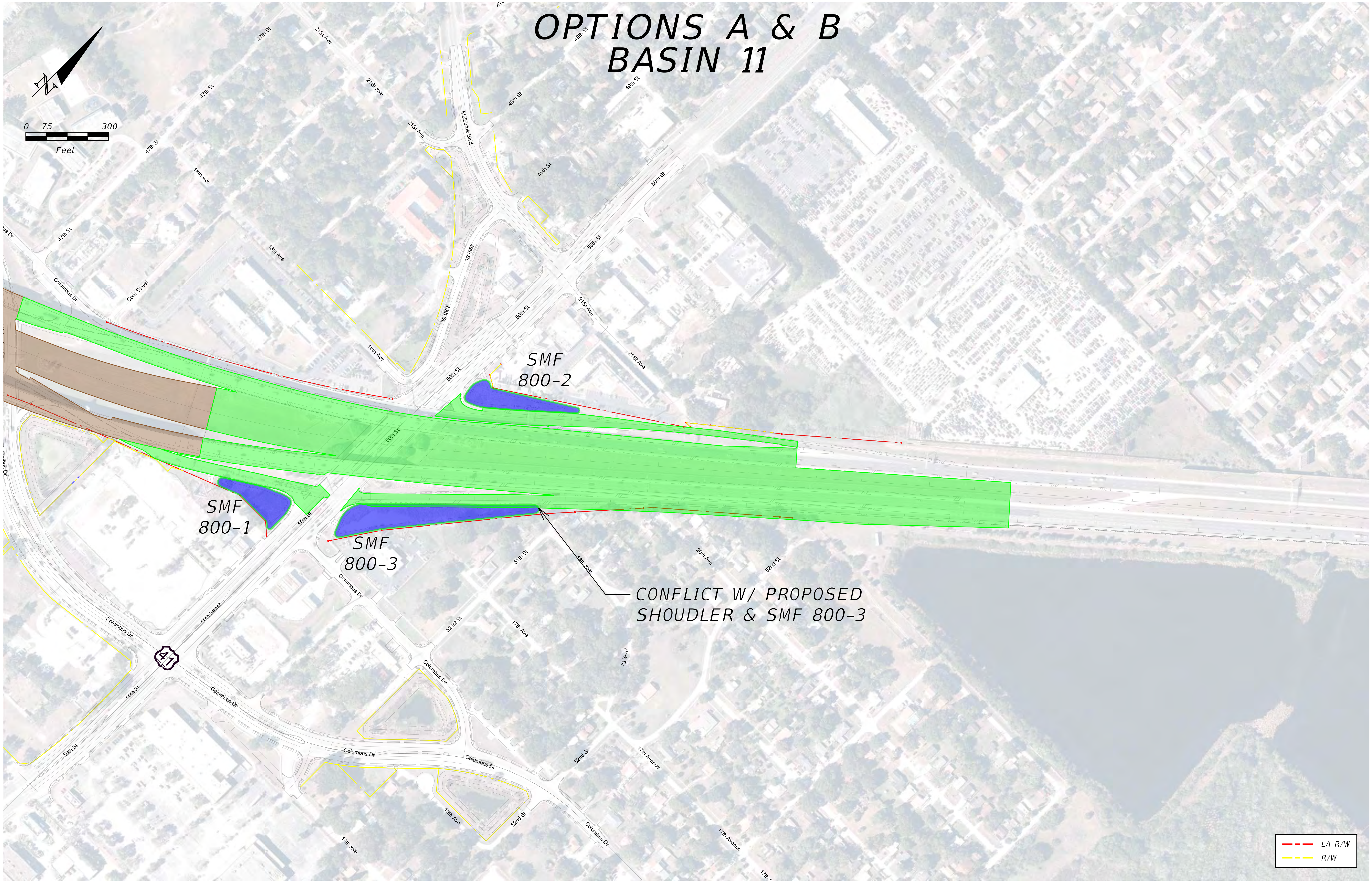
OPTIONS A & B
BASIN 9



OPTIONS A & B
BASIN 10



OPTIONS A & B
BASIN 11



Subject: Option A Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 2 - From N Blvd to Hillsborough River

Impervious Areas Schedule

Existing Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	5.41 ac.
Local Road Impervious:	5.93 ac.
▨	▨
Total Impervious Area:	11.34 ac.

Proposed Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	10.74 ac.
Local Road Impervious:	6.06 ac.
Pond:	0.51 ac.
Total Impervious Area:	17.31 ac.

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	11.34 ac.
Proposed Impervious Area:	17.31 ac.
Δ Impervious Area[1]:	5.97 ac.

Treatment Depth[2]:	1.0 in.
New Required Treatment Volume:	0.50 ac·ft
Existing Required Treatment Volume:	0.00 ac·ft
Total Required Treatment Volume:	0.50 ac·ft

[1] If local road proposed impervious area < existing impervious area, it is not accounted for

[2] Wet Detention Criteria - 1.0 inch over Δ Impervious

Proposed SMF 2A			
Stage Elevation	**Area**	**Incr. Vol.**	**Total Vol.**
Outside T.O.B.	1.153 ac.	-	-
T.O.B. EL: 12.00 ft.	0.744 ac.	0.71 ac.-ft.	2.93 ac.-ft.
DHW EL: 11.00 ft.	0.669 ac.	0.80 ac.-ft.	2.22 ac.-ft.
Weir EL: 9.72 ft.	0.577 ac.	**0.54 ac.-ft.**	1.42 ac.-ft.
Control EL: 8.72 ft.	0.507 ac.	0.88 ac.-ft.	0.88 ac.-ft.
Bottom EL: 6.72 ft.	0.375 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 2A Parameters	
Average Grade EL:	12.00 ft.
Depth to SHWT:	3.28 ft.
SHWT EL:	8.72 ft.

SMF 2B Parameters	
Average Grade EL:	12.00 ft.
Depth to SHWT:	3.28 ft.
SHWT EL:	8.72 ft.

Proposed SMF 2B			
Stage Elevation	**Area**	**Incr. Vol.**	**Total Vol.**
Outside T.O.B.	0.980 ac.	-	-
T.O.B. EL: 12.00 ft.	0.656 ac.	0.63 ac.-ft.	2.70 ac.-ft.
DHW EL: 11.00 ft.	0.598 ac.	0.72 ac.-ft.	2.07 ac.-ft.
Weir EL: 9.72 ft.	0.528 ac.	**0.50 ac.-ft.**	1.35 ac.-ft.
Control EL: 8.72 ft.	0.475 ac.	0.85 ac.-ft.	0.85 ac.-ft.
Bottom EL: 6.72 ft.	0.377 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Volume Summary	Required	Provided
Treatment Volume:	0.50 ac.-ft.	0.54 ac.-ft.
Total:	**0.50 ac.-ft.**	**0.54 ac.-ft.**

Note: Only one SMF alternative is required

Subject: Option A Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 3 - From Hillsborough River to South of I-4 / I-275 Interchange

Impervious Areas Schedule

Existing Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	28.87 ac.
Local Road Impervious:	9.25 ac.
Total Impervious Area:	28.87 ac.

Proposed Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	56.39 ac.
Local Road Impervious:	6.90 ac.
Pond:	4.22 ac.
Total Impervious Area:	60.61 ac.

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	28.87 ac.
Proposed Impervious Area:	60.61 ac.
Δ Impervious Area[1]:	31.74 ac.

Treatment Depth[2]:	1.0 in.
New Required Treatment Volume:	2.65 ac·ft
Existing Required Treatment Volume:	1.06 ac·ft
Total Required Treatment Volume:	3.71 ac·ft

[1] If local road proposed impervious area < existing impervious area, it is not accounted for

[2] Wet Detention Criteria - 1.0 inch over Δ Impervious

SMF 3A Parameters	
Average Grade EL:	10.00 ft.
Depth to SHWT:	N/A
SHWT EL:	7.87 ft.

SMF 3B Parameters	
Average Grade EL:	14.00 ft.
Depth to SHWT:	N/A
SHWT EL:	10.00 ft.

SMF 3C Parameters	
Average Grade EL:	16.00 ft.
Depth to SHWT:	N/A
SHWT EL:	10.00 ft.

SMF 3D Parameters	
Average Grade EL:	45.00 ft.
Depth to SHWT:	3.28 ft.
SHWT EL:	41.72 ft.

Proposed SMF 3A			
Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	0.782 ac.	-	-
T.O.B. EL: 10.80 ft.	0.460 ac.	0.43 ac.-ft.	1.63 ac.-ft.
DHW EL: 9.80 ft.	0.403 ac.	0.35 ac.-ft.	1.20 ac.-ft.
Weir EL: 8.87 ft.	0.351 ac.	**0.32 ac.-ft.**	0.85 ac.-ft.
Control EL: 7.87 ft.	0.298 ac.	0.52 ac.-ft.	0.52 ac.-ft.
Bottom EL: 5.87 ft.	0.223 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Proposed SMF 3B			
Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	2.086 ac.	-	-
T.O.B. EL: 14.00 ft.	1.483 ac.	1.43 ac.-ft.	6.92 ac.-ft.
DHW EL: 13.00 ft.	1.369 ac.	2.52 ac.-ft.	5.49 ac.-ft.
Weir EL: 11.00 ft.	1.149 ac.	**1.10 ac.-ft.**	2.97 ac.-ft.
Control EL: 10.00 ft.	1.042 ac.	1.88 ac.-ft.	1.88 ac.-ft.
Bottom EL: 8.00 ft.	0.836 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Proposed SMF 3C			
Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	1.957 ac.	-	-
T.O.B. EL: 15.00 ft.	1.448 ac.	1.40 ac.-ft.	7.92 ac.-ft.
DHW EL: 14.00 ft.	1.353 ac.	3.65 ac.-ft.	6.52 ac.-ft.
Weir EL: 11.00 ft.	1.083 ac.	**1.04 ac.-ft.**	2.87 ac.-ft.
Control EL: 10.00 ft.	0.997 ac.	1.83 ac.-ft.	1.83 ac.-ft.
Bottom EL: 8.00 ft.	0.833 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Proposed SMF 3D			
Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	3.131 ac.	-	-
T.O.B. EL: 45.00 ft.	2.409 ac.	2.34 ac.-ft.	10.5 ac.-ft.
DHW EL: 44.00 ft.	2.271 ac.	2.74 ac.-ft.	8.20 ac.-ft.
Weir EL: 42.72 ft.	2.014 ac.	**1.95 ac.-ft.**	5.46 ac.-ft.
Control EL: 41.72 ft.	1.883 ac.	3.51 ac.-ft.	3.51 ac.-ft.
Bottom EL: 39.72 ft.	1.629 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Note: SMF 3A and SMF 3B SHWT EL were obtained from ERP 20690.004; SMF 3C SHWT EL was set at the SHWT EL of SMF 3B

Volume Summary	Required	Provided
Treatment Volume:	3.71 ac.-ft.	4.41 ac.-ft.
Total:	**3.71 ac.-ft.**	**4.41 ac.-ft.**

Subject: Option A Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Alt 1 Basin 4 - From South of I-4 / I-275 Interchange to N 14th St / E Floribraska Ave

Impervious Areas Schedule

Existing Impervious Pavement

Description	Area
I-275 Impervious Pavement:	27.26 ac.
Local Road Impervious:	1.52 ac.
▨	▨
Total Impervious Area:	27.26 ac.

Proposed Impervious Pavement

Description	Area
I-275 Impervious Pavement:	53.05 ac.
Local Road Impervious:	1.11 ac.
Pond:	3.14 ac.
Total Impervious Area:	56.19 ac.

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Dry Retention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	27.26 ac.
Proposed Impervious Area:	56.19 ac.
Δ Impervious Area[1]:	28.93 ac.
Treatment Depth[2]:	1.0 in.
New Required Treatment Volume:	2.41 ac·ft
Existing Required Treatment Volume:	0.70 ac·ft
Total Required Treatment Volume:	3.11 ac·ft

[1] If local road proposed impervious area < existing impervious area, it is not accounted for

[2] Dry Retention Criteria - 0.5 inch over Δ Impervious (1.0" Used to Remain Conservative)

Proposed SMF 4A

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	3.588 ac.	-	-
T.O.B. EL: 37.00 ft.	2.864 ac.	2.77 ac.-ft.	8.89 ac.-ft.
DHW EL: 36.00 ft.	2.677 ac.	3.81 ac.-ft.	6.12 ac.-ft.
Weir EL: 34.50 ft.	2.400 ac.	**2.31 ac.-ft.**	2.31 ac.-ft.
Bottom EL: 33.50 ft.	2.219 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Proposed SMF 4B

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	2.210 ac.	-	-
T.O.B. EL: 37.00 ft.	1.426 ac.	1.32 ac.-ft.	2.93 ac.-ft.
DHW EL: 36.00 ft.	1.223 ac.	0.59 ac.-ft.	1.61 ac.-ft.
Weir EL: 35.50 ft.	1.122 ac.	**1.02 ac.-ft.**	1.02 ac.-ft.
Bottom EL: 34.50 ft.	0.922 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 4A Parameters

Average Grade EL:	37.00 ft.
Depth to SHWT:	N/A
SHWT EL:	24.11 ft.

SMF 4B Parameters

Average Grade EL:	37.00 ft.
Depth to SHWT:	N/A
SHWT EL:	24.11 ft.

Volume Summary	Required	Provided
Treatment Volume:	3.11 ac.-ft.	3.33 ac.-ft.
Total:	**3.11 ac.-ft.**	**3.33 ac.-ft.**

Note: SMF 4A & SMF 4B SHWT EL were obtained from ERP 20690.004

Subject: Option A Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Alt 1 Basin 5 - From E Floribraska Ave to E Lake Ave

Basin Areas and CN Calculations

Existing Areas

Description	CN	Area
I-275 Impervious Pavement:	98	12.22 ac.
Local Road Impervious:	98	3.70 ac.
Urban Land:	80	7.52 ac.
▨	▨	▨
Total Impervious Area:	15.92 ac.	
Total Area:	23.44 ac.	
CN:	92.22	

Proposed Areas

Description	CN	Area
I-275 Impervious Pavement:	98	17.17 ac.
Local Road Impervious:	98	4.45 ac.
Pond:	100	1.82 ac.
Urban Land:	80	0.00 ac.
Total Impervious Area:	23.44 ac.	
Total Area:	23.44 ac.	
CN:	98.16	

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Closed
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	15.92 ac.
Proposed Impervious Area:	23.44 ac.
Δ Impervious Area[1]:	7.52 ac.
Treatment Depth[2]:	1.0 in.
New Required Treatment Volume:	0.63 ac·ft
Existing Required Treatment Volume:	0.00 ac·ft
Total Required Treatment Volume:	0.63 ac·ft

[1] If local road proposed impervious area < existing impervious area, it is not accounted for

[2] Wet Detention Criteria - 1.0 inch over Δ Impervious

Proposed SMF 5A

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	2.808 ac.	-	-
T.O.B. EL: 42.00 ft.	2.195 ac.	3.66 ac.-ft.	11.2 ac.-ft.
DHW EL: 40.25 ft.	1.990 ac.	1.98 ac.-ft.	7.55 ac.-ft.
Weir EL: 39.25 ft.	1.966 ac.	**1.01 ac.-ft.**	5.57 ac.-ft.
Control EL: 38.72 ft.	1.824 ac.	4.57 ac.-ft.	4.57 ac.-ft.
Bottom EL: 36.00 ft.	1.536 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 5A Parameters

Average Grade EL:	42.00 ft.	
Depth to SHWT:	3.28 ft.	
SHWT EL:	38.72 ft.	
Volume Summary	**Required**	**Provided**
Treatment Volume:	0.63 ac.-ft.	1.01 ac.-ft.
Attenuation Volume:	1.47 ac.-ft.	1.98 ac.-ft.
Total:	**2.09 ac.-ft.**	**2.98 ac.-ft.**

Subject: Option A Basin Analysis Pre/Post
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Alternative 1 - Basin 5

Runoff Volume Analysis

Treatment Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Closed
New or Existing Roadway:	Reconstruction

Treatment Area:	7.52 ac.
Treatment Depth*:	1.0 in.
Treatment Volume Required:	0.63 ac.-ft.

* Dry Retention Criteria - 0.5 inch over Δ Impervious
(1.0 inch used to remain conservative)
Wet Detention Criteria - 1.0 inch over Δ Impervious

Attenuation Calculations

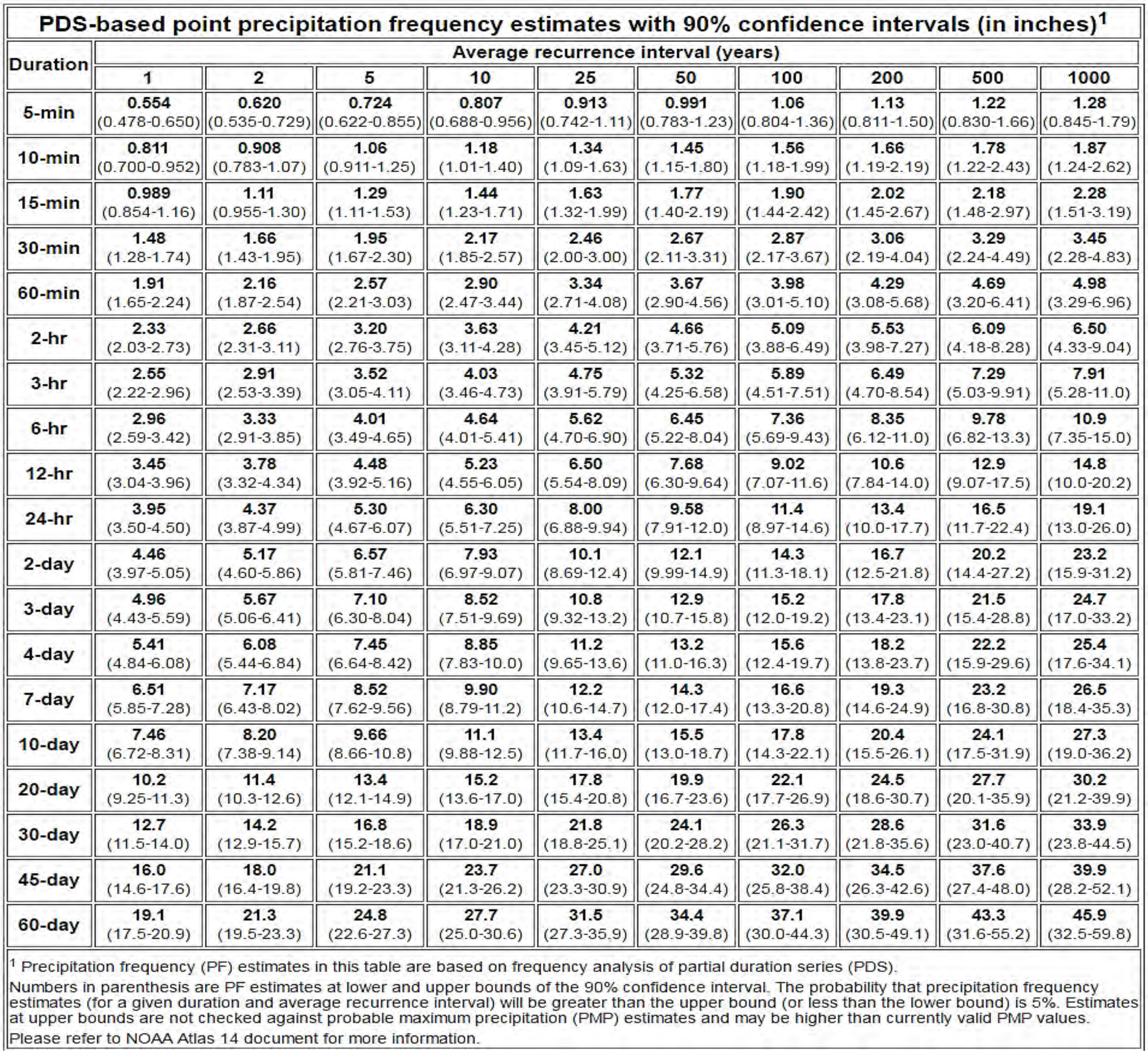
Rainfall Depth**:	17.8 in.	
Summary of Runoff	**Existing**	**Proposed**
Total Basin Area (LT and RT):	23.44 ac.	23.44 ac.
Weighted CN (LT and RT):	92.2	98.2
Soil Retention (S):	0.8 in.	0.2 in.
Runoff Depth (Q_R):	16.8 in.	17.6 in.
Runoff Volume	32.87 ac.-ft.	34.34 ac.-ft.

Post-Pre Attenuation Volume (V_A):	1.47 ac.-ft.

**100 year / 10 Day

Total Runoff Volume Required

Treatment Volume Required:	0.63 ac.-ft.
Attenuation Volume** (V_A):	1.47 ac.-ft.
Total:	**2.09 ac.-ft.**



PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.554 (0.478-0.650)	0.620 (0.535-0.729)	0.724 (0.622-0.855)	0.807 (0.688-0.956)	0.913 (0.742-1.11)	0.991 (0.783-1.23)	1.06 (0.804-1.36)	1.13 (0.811-1.50)	1.22 (0.830-1.66)	1.28 (0.845-1.79)
10-min	0.811 (0.700-0.952)	0.908 (0.783-1.07)	1.06 (0.911-1.25)	1.18 (1.01-1.40)	1.34 (1.09-1.63)	1.45 (1.15-1.80)	1.56 (1.18-1.99)	1.66 (1.19-2.19)	1.78 (1.22-2.43)	1.87 (1.24-2.62)
15-min	0.989 (0.854-1.16)	1.11 (0.955-1.30)	1.29 (1.11-1.53)	1.44 (1.23-1.71)	1.63 (1.32-1.99)	1.77 (1.40-2.19)	1.90 (1.44-2.42)	2.02 (1.45-2.67)	2.18 (1.48-2.97)	2.28 (1.51-3.19)
30-min	1.48 (1.28-1.74)	1.66 (1.43-1.95)	1.95 (1.67-2.30)	2.17 (1.85-2.57)	2.46 (2.00-3.00)	2.67 (2.11-3.31)	2.87 (2.17-3.67)	3.06 (2.19-4.04)	3.29 (2.24-4.49)	3.45 (2.28-4.83)
60-min	1.91 (1.65-2.24)	2.16 (1.87-2.54)	2.57 (2.21-3.03)	2.90 (2.47-3.44)	3.34 (2.71-4.08)	3.67 (2.90-4.56)	3.98 (3.01-5.10)	4.29 (3.08-5.68)	4.69 (3.20-6.41)	4.98 (3.29-6.96)
2-hr	2.33 (2.03-2.73)	2.66 (2.31-3.11)	3.20 (2.76-3.75)	3.63 (3.11-4.28)	4.21 (3.45-5.12)	4.66 (3.71-5.76)	5.09 (3.88-6.49)	5.53 (3.98-7.27)	6.09 (4.18-8.28)	6.50 (4.33-9.04)
3-hr	2.55 (2.22-2.96)	2.91 (2.53-3.39)	3.52 (3.05-4.11)	4.03 (3.46-4.73)	4.75 (3.91-5.79)	5.32 (4.25-6.58)	5.89 (4.51-7.51)	6.49 (4.70-8.54)	7.29 (5.03-9.91)	7.91 (5.28-11.0)
6-hr	2.96 (2.59-3.42)	3.33 (2.91-3.85)	4.01 (3.49-4.65)	4.64 (4.01-5.41)	5.62 (4.70-6.90)	6.45 (5.22-8.04)	7.36 (5.69-9.43)	8.35 (6.12-11.0)	9.78 (6.82-13.3)	10.9 (7.35-15.0)
12-hr	3.45 (3.04-3.96)	3.78 (3.32-4.34)	4.48 (3.92-5.16)	5.23 (4.55-6.05)	6.50 (5.54-8.09)	7.68 (6.30-9.64)	9.02 (7.07-11.6)	10.6 (7.84-14.0)	12.9 (9.07-17.5)	14.8 (10.0-20.2)
24-hr	3.95 (3.50-4.50)	4.37 (3.87-4.99)	5.30 (4.67-6.07)	6.30 (5.51-7.25)	8.00 (6.88-9.94)	9.58 (7.91-12.0)	11.4 (8.97-14.6)	13.4 (10.0-17.7)	16.5 (11.7-22.4)	19.1 (13.0-26.0)
2-day	4.46 (3.97-5.05)	5.17 (4.60-5.86)	6.57 (5.81-7.46)	7.93 (6.97-9.07)	10.1 (8.69-12.4)	12.1 (9.99-14.9)	14.3 (11.3-18.1)	16.7 (12.5-21.8)	20.2 (14.4-27.2)	23.2 (15.9-31.2)
3-day	4.96 (4.43-5.59)	5.67 (5.06-6.41)	7.10 (6.30-8.04)	8.52 (7.51-9.69)	10.8 (9.32-13.2)	12.9 (10.7-15.8)	15.2 (12.0-19.2)	17.8 (13.4-23.1)	21.5 (15.4-28.8)	24.7 (17.0-33.2)
4-day	5.41 (4.84-6.08)	6.08 (5.44-6.84)	7.45 (6.64-8.42)	8.85 (7.83-10.0)	11.2 (9.65-13.6)	13.2 (11.0-16.3)	15.6 (12.4-19.7)	18.2 (13.8-23.7)	22.2 (15.9-29.6)	25.4 (17.6-34.1)
7-day	6.51 (5.85-7.28)	7.17 (6.43-8.02)	8.52 (7.62-9.56)	9.90 (8.79-11.2)	12.2 (10.6-14.7)	14.3 (12.0-17.4)	16.6 (13.3-20.8)	19.3 (14.6-24.9)	23.2 (16.8-30.8)	26.5 (18.4-35.3)
10-day	7.46 (6.72-8.31)	8.20 (7.38-9.14)	9.66 (8.66-10.8)	11.1 (9.88-12.5)	13.4 (11.7-16.0)	15.5 (13.0-18.7)	17.8 (14.3-22.1)	20.4 (15.5-26.1)	24.1 (17.5-31.9)	27.3 (19.0-36.2)
20-day	10.2 (9.25-11.3)	11.4 (10.3-12.6)	13.4 (12.1-14.9)	15.2 (13.6-17.0)	17.8 (15.4-20.8)	19.9 (16.7-23.6)	22.1 (17.7-26.9)	24.5 (18.6-30.7)	27.7 (20.1-35.9)	30.2 (21.2-39.9)
30-day	12.7 (11.5-14.0)	14.2 (12.9-15.7)	16.8 (15.2-18.6)	18.9 (17.0-21.0)	21.8 (18.8-25.1)	24.1 (20.2-28.2)	26.3 (21.1-31.7)	28.6 (21.8-35.6)	31.6 (23.0-40.7)	33.9 (23.8-44.5)
45-day	16.0 (14.6-17.6)	18.0 (16.4-19.8)	21.1 (19.2-23.3)	23.7 (21.3-26.2)	27.0 (23.3-30.9)	29.6 (24.8-34.4)	32.0 (25.8-38.4)	34.5 (26.3-42.6)	37.6 (27.4-48.0)	39.9 (28.2-52.1)
60-day	19.1 (17.5-20.9)	21.3 (19.5-23.3)	24.8 (22.6-27.3)	27.7 (25.0-30.6)	31.5 (27.3-35.9)	34.4 (28.9-39.8)	37.1 (30.0-44.3)	39.9 (30.5-49.1)	43.3 (31.6-55.2)	45.9 (32.5-59.8)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
Please refer to NOAA Atlas 14 document for more information.

Subject: Option A Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Alt 1A Basin 6 - From E Lake Ave to E Osborne Ave

Basin Areas and CN Calculations

Existing Areas

Description	CN	Area
I-275 Impervious Pavement:	98	16.04 ac.
Local Road Impervious:	98	2.61 ac.
Urban Land:	80	5.69 ac.
▨	▨	▨
Total Impervious Area:	16.04 ac.	
Total Area:	24.34 ac.	
CN:	93.79	

Proposed Areas

Description	CN	Area
I-275 Impervious Pavement:	98	21.62 ac.
Local Road Impervious:	98	1.93 ac.
Pond:	100	0.79 ac.
Urban Land:	80	0.00 ac.
Total Impervious Area:	22.41 ac.	
Total Area:	24.34 ac.	
CN:	98.06	

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	16.04 ac.
Proposed Impervious Area:	22.41 ac.
Δ Impervious Area[1]:	6.37 ac.
Treatment Depth[2]:	1.0 in.
New Required Treatment Volume:	0.53 ac·ft
Existing Required Treatment Volume:	0.00 ac·ft
Total Required Treatment Volume:	0.53 ac·ft

[1] If local road proposed impervious area < existing impervious area, it is not accounted for

[2] Wet Detention Criteria - 1.0 inch over Δ Impervious

Proposed SMF 6A

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	1.924 ac.	-	-
T.O.B. EL: 47.00 ft.	1.219 ac.	1.37 ac.-ft.	4.46 ac.-ft.
DHW EL: 45.80 ft.	1.059 ac.	1.27 ac.-ft.	3.09 ac.-ft.
Weir EL: 44.50 ft.	0.890 ac.	**0.66 ac.-ft.**	1.82 ac.-ft.
Control EL: 43.72 ft.	0.788 ac.	1.17 ac.-ft.	1.17 ac.-ft.
Bottom EL: 42.00 ft.	0.572 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 6A Parameters

Average Grade EL:	47.00 ft.	
Depth to SHWT:	3.28 ft.	
SHWT EL:	43.72 ft.	
Volume Summary	**Required**	**Provided**
Treatment Volume:	0.53 ac.-ft.	0.66 ac.-ft.
Attenuation Volume:	1.09 ac.-ft.	1.27 ac.-ft.
Total:	**1.62 ac.-ft.**	**1.92 ac.-ft.**

Subject: Option A Basin Analysis P
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Alternative 1A - Basin 6

Runoff Volume Analysis

Treatment Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Treatment Area:	6.37 ac.
Treatment Depth*:	1.0 in.
Treatment Volume Required:	0.53 ac.-ft.

* Dry Retention Criteria - 0.5 inch over Δ Impervious
(1.0 inch used to remain conservative)
Wet Detention Criteria - 1.0 inch over Δ Impervious

Attenuation Calculations

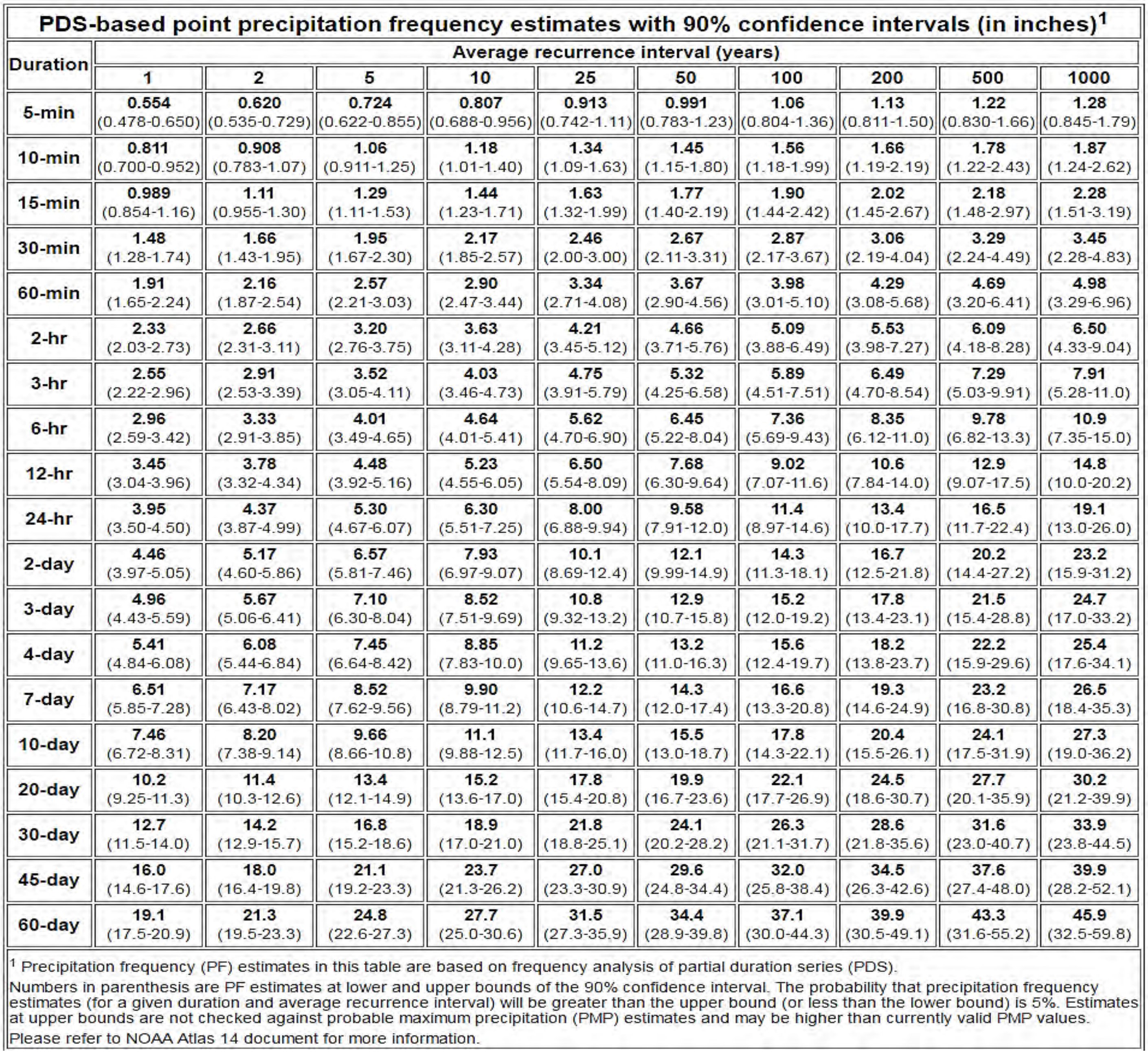
Rainfall Depth**:	17.8 in.	
Summary of Runoff	**Existing**	**Proposed**
Total Basin Area (LT and RT):	24.34 ac.	24.34 ac.
Weighted CN (LT and RT):	93.8	98.1
Soil Retention (S):	0.7 in.	0.2 in.
Runoff Depth (Q_R):	17.0 in.	17.6 in.
Runoff Volume	34.54 ac.-ft.	35.63 ac.-ft.

Post-Pre Attenuation Volume (V_A): 1.09 ac.-ft.

**100 year / 10 Day

Total Runoff Volume Required

Treatment Volume Required:	0.53 ac.-ft.
Attenuation Volume** (V_A):	1.09 ac.-ft.
Total:	**1.62 ac.-ft.**



PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.554 (0.478-0.650)	0.620 (0.535-0.729)	0.724 (0.622-0.855)	0.807 (0.688-0.956)	0.913 (0.742-1.11)	0.991 (0.783-1.23)	1.06 (0.804-1.36)	1.13 (0.811-1.50)	1.22 (0.830-1.66)	1.28 (0.845-1.79)
10-min	0.811 (0.700-0.952)	0.908 (0.783-1.07)	1.06 (0.911-1.25)	1.18 (1.01-1.40)	1.34 (1.09-1.63)	1.45 (1.15-1.80)	1.56 (1.18-1.99)	1.66 (1.19-2.19)	1.78 (1.22-2.43)	1.87 (1.24-2.62)
15-min	0.989 (0.854-1.16)	1.11 (0.955-1.30)	1.29 (1.11-1.53)	1.44 (1.23-1.71)	1.63 (1.32-1.99)	1.77 (1.40-2.19)	1.90 (1.44-2.42)	2.02 (1.45-2.67)	2.18 (1.48-2.97)	2.28 (1.51-3.19)
30-min	1.48 (1.28-1.74)	1.66 (1.43-1.95)	1.95 (1.67-2.30)	2.17 (1.85-2.57)	2.46 (2.00-3.00)	2.67 (2.11-3.31)	2.87 (2.17-3.67)	3.06 (2.19-4.04)	3.29 (2.24-4.49)	3.45 (2.28-4.83)
60-min	1.91 (1.65-2.24)	2.16 (1.87-2.54)	2.57 (2.21-3.03)	2.90 (2.47-3.44)	3.34 (2.71-4.08)	3.67 (2.90-4.56)	3.98 (3.01-5.10)	4.29 (3.08-5.68)	4.69 (3.20-6.41)	4.98 (3.29-6.96)
2-hr	2.33 (2.03-2.73)	2.66 (2.31-3.11)	3.20 (2.76-3.75)	3.63 (3.11-4.28)	4.21 (3.45-5.12)	4.66 (3.71-5.76)	5.09 (3.88-6.49)	5.53 (3.98-7.27)	6.09 (4.18-8.28)	6.50 (4.33-9.04)
3-hr	2.55 (2.22-2.96)	2.91 (2.53-3.39)	3.52 (3.05-4.11)	4.03 (3.46-4.73)	4.75 (3.91-5.79)	5.32 (4.25-6.58)	5.89 (4.51-7.51)	6.49 (4.70-8.54)	7.29 (5.03-9.91)	7.91 (5.28-11.0)
6-hr	2.96 (2.59-3.42)	3.33 (2.91-3.85)	4.01 (3.49-4.65)	4.64 (4.01-5.41)	5.62 (4.70-6.90)	6.45 (5.22-8.04)	7.36 (5.69-9.43)	8.35 (6.12-11.0)	9.78 (6.82-13.3)	10.9 (7.35-15.0)
12-hr	3.45 (3.04-3.96)	3.78 (3.32-4.34)	4.48 (3.92-5.16)	5.23 (4.55-6.05)	6.50 (5.54-8.09)	7.68 (6.30-9.64)	9.02 (7.07-11.6)	10.6 (7.84-14.0)	12.9 (9.07-17.5)	14.8 (10.0-20.2)
24-hr	3.95 (3.50-4.50)	4.37 (3.87-4.99)	5.30 (4.67-6.07)	6.30 (5.51-7.25)	8.00 (6.88-9.94)	9.58 (7.91-12.0)	11.4 (8.97-14.6)	13.4 (10.0-17.7)	16.5 (11.7-22.4)	19.1 (13.0-26.0)
2-day	4.46 (3.97-5.05)	5.17 (4.60-5.86)	6.57 (5.81-7.46)	7.93 (6.97-9.07)	10.1 (8.69-12.4)	12.1 (9.99-14.9)	14.3 (11.3-18.1)	16.7 (12.5-21.8)	20.2 (14.4-27.2)	23.2 (15.9-31.2)
3-day	4.96 (4.43-5.59)	5.67 (5.06-6.41)	7.10 (6.30-8.04)	8.52 (7.51-9.69)	10.8 (9.32-13.2)	12.9 (10.7-15.8)	15.2 (12.0-19.2)	17.8 (13.4-23.1)	21.5 (15.4-28.8)	24.7 (17.0-33.2)
4-day	5.41 (4.84-6.08)	6.08 (5.44-6.84)	7.45 (6.64-8.42)	8.85 (7.83-10.0)	11.2 (9.65-13.6)	13.2 (11.0-16.3)	15.6 (12.4-19.7)	18.2 (13.8-23.7)	22.2 (15.9-29.6)	25.4 (17.6-34.1)
7-day	6.51 (5.85-7.28)	7.17 (6.43-8.02)	8.52 (7.62-9.56)	9.90 (8.79-11.2)	12.2 (10.6-14.7)	14.3 (12.0-17.4)	16.6 (13.3-20.8)	19.3 (14.6-24.9)	23.2 (16.8-30.8)	26.5 (18.4-35.3)
10-day	7.46 (6.72-8.31)	8.20 (7.38-9.14)	9.66 (8.66-10.8)	11.1 (9.88-12.5)	13.4 (11.7-16.0)	15.5 (13.0-18.7)	17.8 (14.3-22.1)	20.4 (15.5-26.1)	24.1 (17.5-31.9)	27.3 (19.0-36.2)
20-day	10.2 (9.25-11.3)	11.4 (10.3-12.6)	13.4 (12.1-14.9)	15.2 (13.6-17.0)	17.8 (15.4-20.8)	19.9 (16.7-23.6)	22.1 (17.7-26.9)	24.5 (18.6-30.7)	27.7 (20.1-35.9)	30.2 (21.2-39.9)
30-day	12.7 (11.5-14.0)	14.2 (12.9-15.7)	16.8 (15.2-18.6)	18.9 (17.0-21.0)	21.8 (18.8-25.1)	24.1 (20.2-28.2)	26.3 (21.1-31.7)	28.6 (21.8-35.6)	31.6 (23.0-40.7)	33.9 (23.8-44.5)
45-day	16.0 (14.6-17.6)	18.0 (16.4-19.8)	21.1 (19.2-23.3)	23.7 (21.3-26.2)	27.0 (23.3-30.9)	29.6 (24.8-34.4)	32.0 (25.8-38.4)	34.5 (26.3-42.6)	37.6 (27.4-48.0)	39.9 (28.2-52.1)
60-day	19.1 (17.5-20.9)	21.3 (19.5-23.3)	24.8 (22.6-27.3)	27.7 (25.0-30.6)	31.5 (27.3-35.9)	34.4 (28.9-39.8)	37.1 (30.0-44.3)	39.9 (30.5-49.1)	43.3 (31.6-55.2)	45.9 (32.5-59.8)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
Please refer to NOAA Atlas 14 document for more information.

Subject: Option A Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Alt 1B Basin 6 - From E Lake Ave to E Osborne Ave

Basin Areas and CN Calculations

Existing Areas

Description	CN	Area
I-275 Impervious Pavement:	98	16.04 ac.
Local Road Impervious:	98	2.61 ac.
Urban Land:	80	4.90 ac.
▨	▨	▨
Total Impervious Area:	16.04 ac.	
Total Area:		
CN:	94.25	

Proposed Areas

Description	CN	Area
I-275 Impervious Pavement:	98	21.62 ac.
Local Road Impervious:	98	1.93 ac.
Pond (Under Bridge):	100	0.00 ac.
Urban Land:	80	0.00 ac.
Total Impervious Area:	21.62 ac.	
Total Area:	23.55 ac.	
CN:	98.00	

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	16.04 ac.
Proposed Impervious Area:	21.62 ac.
Δ Impervious Area[1]:	5.58 ac.
Treatment Depth[2]:	1.0 in.
New Required Treatment Volume:	0.47 ac·ft
Existing Required Treatment Volume:	0.00 ac·ft
Total Required Treatment Volume:	0.47 ac·ft

[1] If local road proposed impervious area < existing impervious area, it is not accounted for

[2] Wet Detention Criteria - 1.0 inch over Δ Impervious

Proposed SMF 6B SOUTH

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	0.935 ac.	-	-
T.O.B. EL: 47.00 ft.	0.614 ac.	0.80 ac.-ft.	2.38 ac.-ft.
DHW EL: 45.60 ft.	0.530 ac.	0.55 ac.-ft.	1.58 ac.-ft.
Weir EL: 44.50 ft.	0.470 ac.	**0.35 ac.-ft.**	1.03 ac.-ft.
Control EL: 43.72 ft.	0.434 ac.	0.67 ac.-ft.	0.67 ac.-ft.
Bottom EL: 42.00 ft.	0.350 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 6B SOUTH Parameters

Average Grade EL:	47.00 ft.
Depth to SHWT:	3.28 ft.
SHWT EL:	43.72 ft.

Proposed SMF 6B NORTH

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	0.729 ac.	-	-
T.O.B. EL: 47.00 ft.	0.456 ac.	0.59 ac.-ft.	1.72 ac.-ft.
DHW EL: 45.60 ft.	0.390 ac.	0.40 ac.-ft.	1.13 ac.-ft.
Weir EL: 44.50 ft.	0.340 ac.	**0.25 ac.-ft.**	0.72 ac.-ft.
Control EL: 43.72 ft.	0.308 ac.	0.47 ac.-ft.	0.47 ac.-ft.
Bottom EL: 42.00 ft.	0.240 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 6B NORTH Parameters

Average Grade EL:	47.00 ft.
Depth to SHWT:	3.28 ft.
SHWT EL:	43.72 ft.

Volume Summary	Required	Provided
Treatment Volume:	0.47 ac.-ft.	0.61 ac.-ft.
Attenuation Volume:	0.92 ac.-ft.	0.95 ac.-ft.
Total:	**1.38 ac.-ft.**	**1.56 ac.-ft.**

Subject: Option A Basin Analysis Pre/Post
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Alternative 1B - Basin 6

Runoff Volume Analysis

Treatment Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Treatment Area:	5.58 ac.
Treatment Depth*:	1.0 in.
Treatment Volume Required:	0.47 ac.-ft.

* Dry Retention Criteria - 0.5 inch over Δ Impervious
(1.0 inch used to remain conservative)
Wet Detention Criteria - 1.0 inch over Δ Impervious

Attenuation Calculations

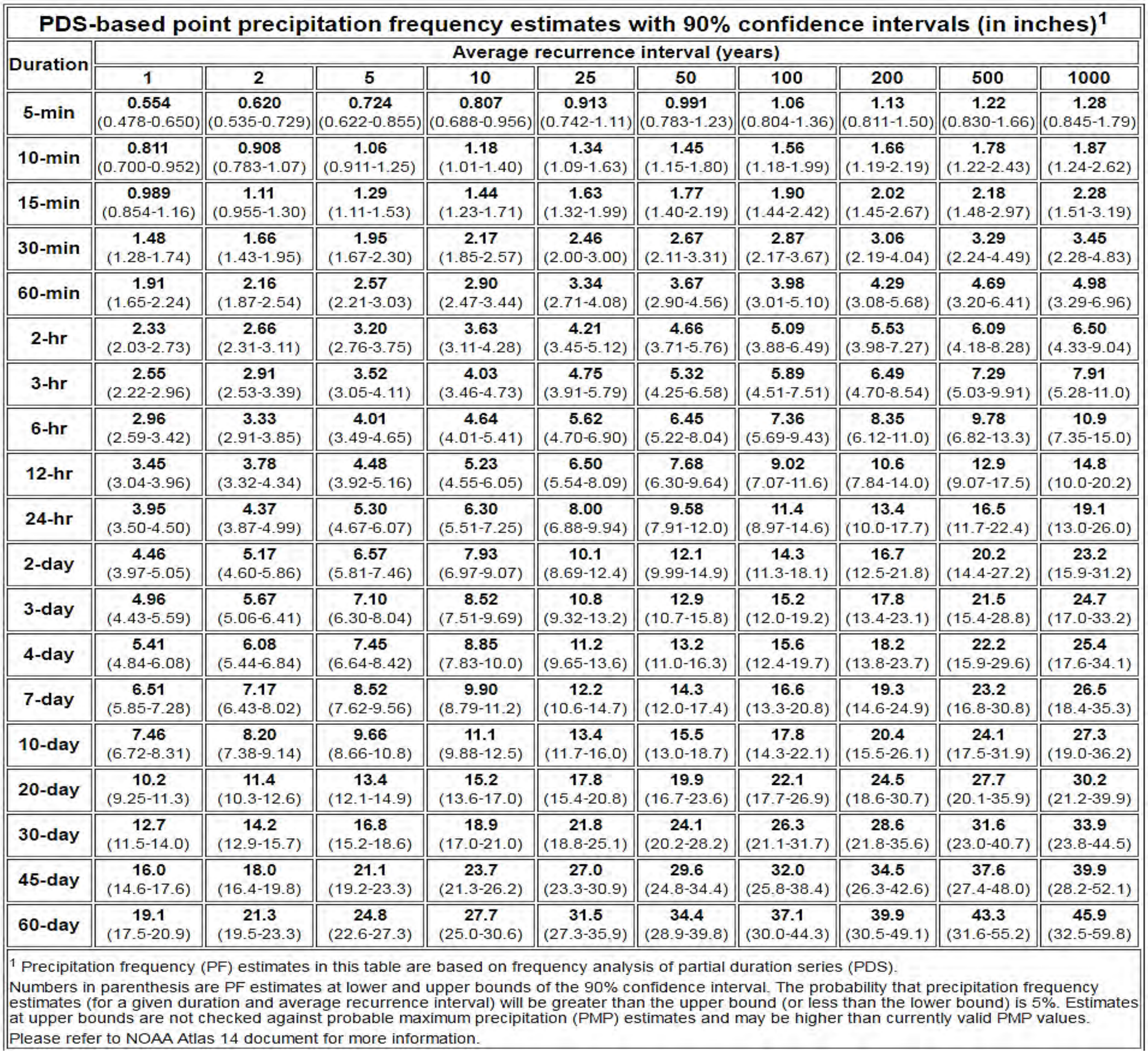
Rainfall Depth**:	17.8 in.	
Summary of Runoff	**Existing**	**Proposed**
Total Basin Area (LT and RT):	23.55 ac.	23.55 ac.
Weighted CN (LT and RT):	94.3	98.0
Soil Retention (S):	0.6 in.	0.2 in.
Runoff Depth (Q_R):	17.1 in.	17.6 in.
Runoff Volume	33.54 ac.-ft.	34.46 ac.-ft.

Post-Pre Attenuation Volume (V_A): 0.92 ac.-ft.

**100 year / 10 Day

Total Runoff Volume Required

Treatment Volume Required:	0.47 ac.-ft.
Attenuation Volume** (V_A):	0.92 ac.-ft.
Total:	**1.38 ac.-ft.**



PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.554 (0.478-0.650)	0.620 (0.535-0.729)	0.724 (0.622-0.855)	0.807 (0.688-0.956)	0.913 (0.742-1.11)	0.991 (0.783-1.23)	1.06 (0.804-1.36)	1.13 (0.811-1.50)	1.22 (0.830-1.66)	1.28 (0.845-1.79)
10-min	0.811 (0.700-0.952)	0.908 (0.783-1.07)	1.06 (0.911-1.25)	1.18 (1.01-1.40)	1.34 (1.09-1.63)	1.45 (1.15-1.80)	1.56 (1.18-1.99)	1.66 (1.19-2.19)	1.78 (1.22-2.43)	1.87 (1.24-2.62)
15-min	0.989 (0.854-1.16)	1.11 (0.955-1.30)	1.29 (1.11-1.53)	1.44 (1.23-1.71)	1.63 (1.32-1.99)	1.77 (1.40-2.19)	1.90 (1.44-2.42)	2.02 (1.45-2.67)	2.18 (1.48-2.97)	2.28 (1.51-3.19)
30-min	1.48 (1.28-1.74)	1.66 (1.43-1.95)	1.95 (1.67-2.30)	2.17 (1.85-2.57)	2.46 (2.00-3.00)	2.67 (2.11-3.31)	2.87 (2.17-3.67)	3.06 (2.19-4.04)	3.29 (2.24-4.49)	3.45 (2.28-4.83)
60-min	1.91 (1.65-2.24)	2.16 (1.87-2.54)	2.57 (2.21-3.03)	2.90 (2.47-3.44)	3.34 (2.71-4.08)	3.67 (2.90-4.56)	3.98 (3.01-5.10)	4.29 (3.08-5.68)	4.69 (3.20-6.41)	4.98 (3.29-6.96)
2-hr	2.33 (2.03-2.73)	2.66 (2.31-3.11)	3.20 (2.76-3.75)	3.63 (3.11-4.28)	4.21 (3.45-5.12)	4.66 (3.71-5.76)	5.09 (3.88-6.49)	5.53 (3.98-7.27)	6.09 (4.18-8.28)	6.50 (4.33-9.04)
3-hr	2.55 (2.22-2.96)	2.91 (2.53-3.39)	3.52 (3.05-4.11)	4.03 (3.46-4.73)	4.75 (3.91-5.79)	5.32 (4.25-6.58)	5.89 (4.51-7.51)	6.49 (4.70-8.54)	7.29 (5.03-9.91)	7.91 (5.28-11.0)
6-hr	2.96 (2.59-3.42)	3.33 (2.91-3.85)	4.01 (3.49-4.65)	4.64 (4.01-5.41)	5.62 (4.70-6.90)	6.45 (5.22-8.04)	7.36 (5.69-9.43)	8.35 (6.12-11.0)	9.78 (6.82-13.3)	10.9 (7.35-15.0)
12-hr	3.45 (3.04-3.96)	3.78 (3.32-4.34)	4.48 (3.92-5.16)	5.23 (4.55-6.05)	6.50 (5.54-8.09)	7.68 (6.30-9.64)	9.02 (7.07-11.6)	10.6 (7.84-14.0)	12.9 (9.07-17.5)	14.8 (10.0-20.2)
24-hr	3.95 (3.50-4.50)	4.37 (3.87-4.99)	5.30 (4.67-6.07)	6.30 (5.51-7.25)	8.00 (6.88-9.94)	9.58 (7.91-12.0)	11.4 (8.97-14.6)	13.4 (10.0-17.7)	16.5 (11.7-22.4)	19.1 (13.0-26.0)
2-day	4.46 (3.97-5.05)	5.17 (4.60-5.86)	6.57 (5.81-7.46)	7.93 (6.97-9.07)	10.1 (8.69-12.4)	12.1 (9.99-14.9)	14.3 (11.3-18.1)	16.7 (12.5-21.8)	20.2 (14.4-27.2)	23.2 (15.9-31.2)
3-day	4.96 (4.43-5.59)	5.67 (5.06-6.41)	7.10 (6.30-8.04)	8.52 (7.51-9.69)	10.8 (9.32-13.2)	12.9 (10.7-15.8)	15.2 (12.0-19.2)	17.8 (13.4-23.1)	21.5 (15.4-28.8)	24.7 (17.0-33.2)
4-day	5.41 (4.84-6.08)	6.08 (5.44-6.84)	7.45 (6.64-8.42)	8.85 (7.83-10.0)	11.2 (9.65-13.6)	13.2 (11.0-16.3)	15.6 (12.4-19.7)	18.2 (13.8-23.7)	22.2 (15.9-29.6)	25.4 (17.6-34.1)
7-day	6.51 (5.85-7.28)	7.17 (6.43-8.02)	8.52 (7.62-9.56)	9.90 (8.79-11.2)	12.2 (10.6-14.7)	14.3 (12.0-17.4)	16.6 (13.3-20.8)	19.3 (14.6-24.9)	23.2 (16.8-30.8)	26.5 (18.4-35.3)
10-day	7.46 (6.72-8.31)	8.20 (7.38-9.14)	9.66 (8.66-10.8)	11.1 (9.88-12.5)	13.4 (11.7-16.0)	15.5 (13.0-18.7)	17.8 (14.3-22.1)	20.4 (15.5-26.1)	24.1 (17.5-31.9)	27.3 (19.0-36.2)
20-day	10.2 (9.25-11.3)	11.4 (10.3-12.6)	13.4 (12.1-14.9)	15.2 (13.6-17.0)	17.8 (15.4-20.8)	19.9 (16.7-23.6)	22.1 (17.7-26.9)	24.5 (18.6-30.7)	27.7 (20.1-35.9)	30.2 (21.2-39.9)
30-day	12.7 (11.5-14.0)	14.2 (12.9-15.7)	16.8 (15.2-18.6)	18.9 (17.0-21.0)	21.8 (18.8-25.1)	24.1 (20.2-28.2)	26.3 (21.1-31.7)	28.6 (21.8-35.6)	31.6 (23.0-40.7)	33.9 (23.8-44.5)
45-day	16.0 (14.6-17.6)	18.0 (16.4-19.8)	21.1 (19.2-23.3)	23.7 (21.3-26.2)	27.0 (23.3-30.9)	29.6 (24.8-34.4)	32.0 (25.8-38.4)	34.5 (26.3-42.6)	37.6 (27.4-48.0)	39.9 (28.2-52.1)
60-day	19.1 (17.5-20.9)	21.3 (19.5-23.3)	24.8 (22.6-27.3)	27.7 (25.0-30.6)	31.5 (27.3-35.9)	34.4 (28.9-39.8)	37.1 (30.0-44.3)	39.9 (30.5-49.1)	43.3 (31.6-55.2)	45.9 (32.5-59.8)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
Please refer to NOAA Atlas 14 document for more information.

Subject: Option A Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Alt 2 Basins 4-6 - From I-4 / I-275 Interchange to E Osborne Ave

Impervious Areas Schedule

Existing Impervious Pavement

Description	Area
I-275 Impervious Pavement:	55.52 ac.
Local Road Impervious:	8.92 ac.
▨	▨
Total Impervious Area:	55.52 ac.

Proposed Impervious Pavement

Description	Area
I-275 Impervious Pavement:	91.84 ac.
Local Road Impervious:	7.49 ac.
Pond:	4.16 ac.
Total Impervious Area:	96.00 ac.

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Dry Retention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	55.52 ac.
Proposed Impervious Area:	96.00 ac.
Δ Impervious Area[1]:	40.48 ac.

Treatment Depth[2]:	1.0 in.
New Required Treatment Volume:	3.37 ac·ft
Existing Required Treatment Volume:	0.70 ac·ft
Total Required Treatment Volume:	4.07 ac·ft

[1] If local road proposed impervious area < existing impervious area, it is not accounted for
[2] Dry Retention Criteria - 0.5 inch over Δ Impervious (1.0" Used to Remain Conservative)

SMF 4A Parameters

Average Grade EL:	37.00 ft.
Depth to SHWT:	N/A
SHWT EL:	24.11 ft.

SMF 4B Parameters

Average Grade EL:	37.00 ft.
Depth to SHWT:	N/A
SHWT EL:	24.11 ft.

SMF 4C Parameters

Average Grade EL:	37.00 ft.
Depth to SHWT:	N/A
SHWT EL:	24.11 ft.

SMF 4D Parameters

Average Grade EL:	37.00 ft.
Depth to SHWT:	N/A
SHWT EL:	24.11 ft.

Proposed SMF 4A

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	3.588 ac.	-	-
T.O.B. EL: 37.00 ft.	2.864 ac.	2.77 ac.-ft.	8.89 ac.-ft.
DHW EL: 36.00 ft.	2.677 ac.	3.81 ac.-ft.	6.12 ac.-ft.
Weir EL: 34.50 ft.	2.400 ac.	**2.31 ac.-ft.**	2.31 ac.-ft.
Bottom EL: 33.50 ft.	2.219 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Proposed SMF 4B

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	2.210 ac.	-	-
T.O.B. EL: 37.00 ft.	1.426 ac.	1.32 ac.-ft.	2.93 ac.-ft.
DHW EL: 36.00 ft.	1.223 ac.	0.59 ac.-ft.	1.61 ac.-ft.
Weir EL: 35.50 ft.	1.122 ac.	**1.02 ac.-ft.**	1.02 ac.-ft.
Bottom EL: 34.50 ft.	0.922 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Proposed SMF 4C

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	1.680 ac.	-	-
T.O.B. EL: 37.00 ft.	1.086 ac.	1.01 ac.-ft.	2.06 ac.-ft.
DHW EL: 36.00 ft.	0.932 ac.	0.45 ac.-ft.	1.05 ac.-ft.
Weir EL: 35.50 ft.	0.857 ac.	**0.60 ac.-ft.**	0.60 ac.-ft.
Bottom EL: 34.75 ft.	0.744 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Proposed SMF 4D

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	0.970 ac.	-	-
T.O.B. EL: 37.00 ft.	0.527 ac.	0.47 ac.-ft.	0.90 ac.-ft.
DHW EL: 36.00 ft.	0.415 ac.	0.19 ac.-ft.	0.43 ac.-ft.
Weir EL: 35.50 ft.	0.359 ac.	**0.24 ac.-ft.**	0.24 ac.-ft.
Bottom EL: 34.75 ft.	0.277 ac.	0.00 ac.-ft.	0.00 ac.-ft.

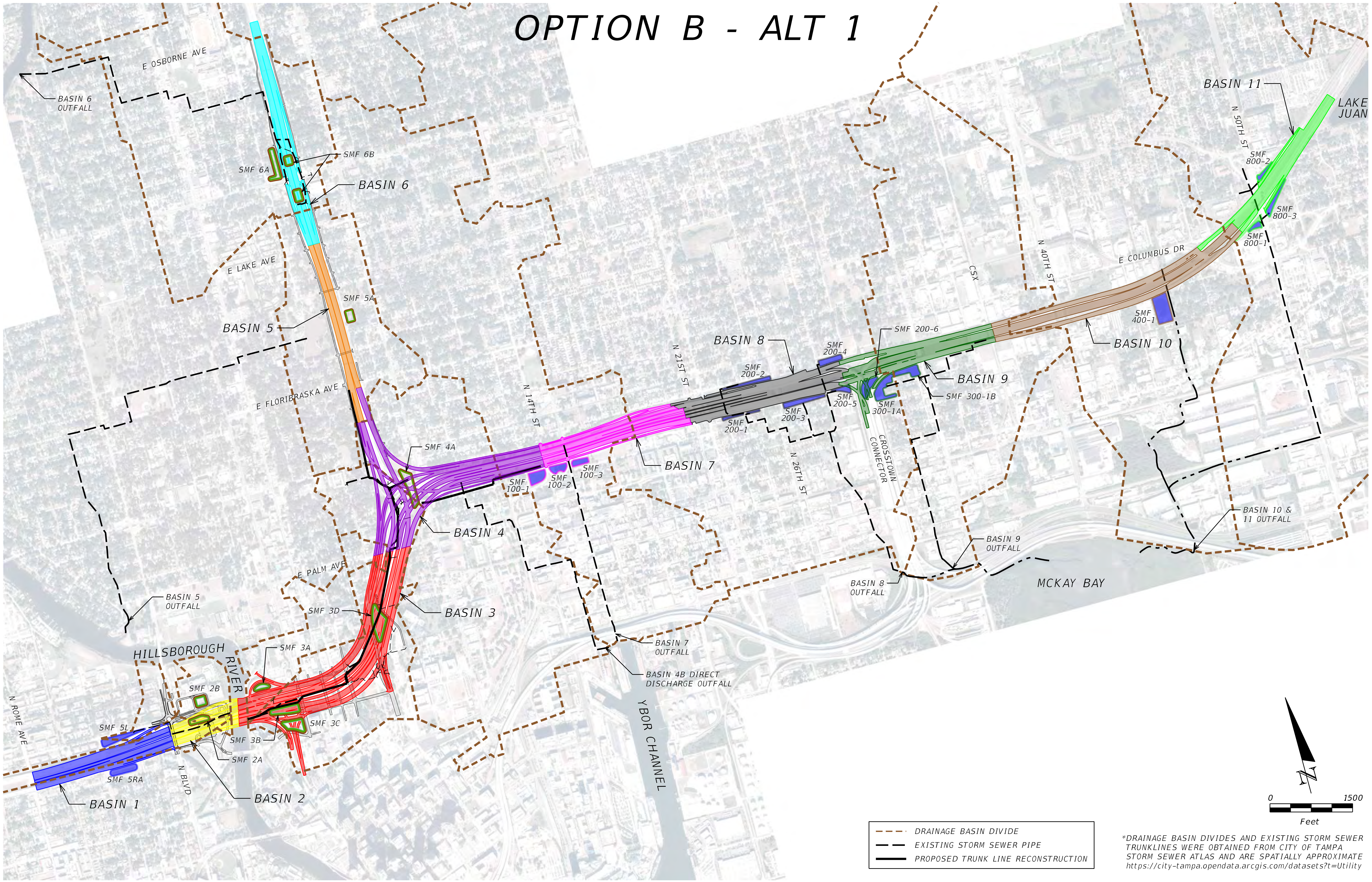
Note: SMF 4A, 4B, 4C, and 4D SHWT elevations were obtained from ERP 20690.004

Volume Summary	Required	Provided
Treatment Volume:	4.07 ac.-ft.	4.17 ac.-ft.
Total:	**4.07 ac.-ft.**	**4.17 ac.-ft.**

APPENDIX D-2

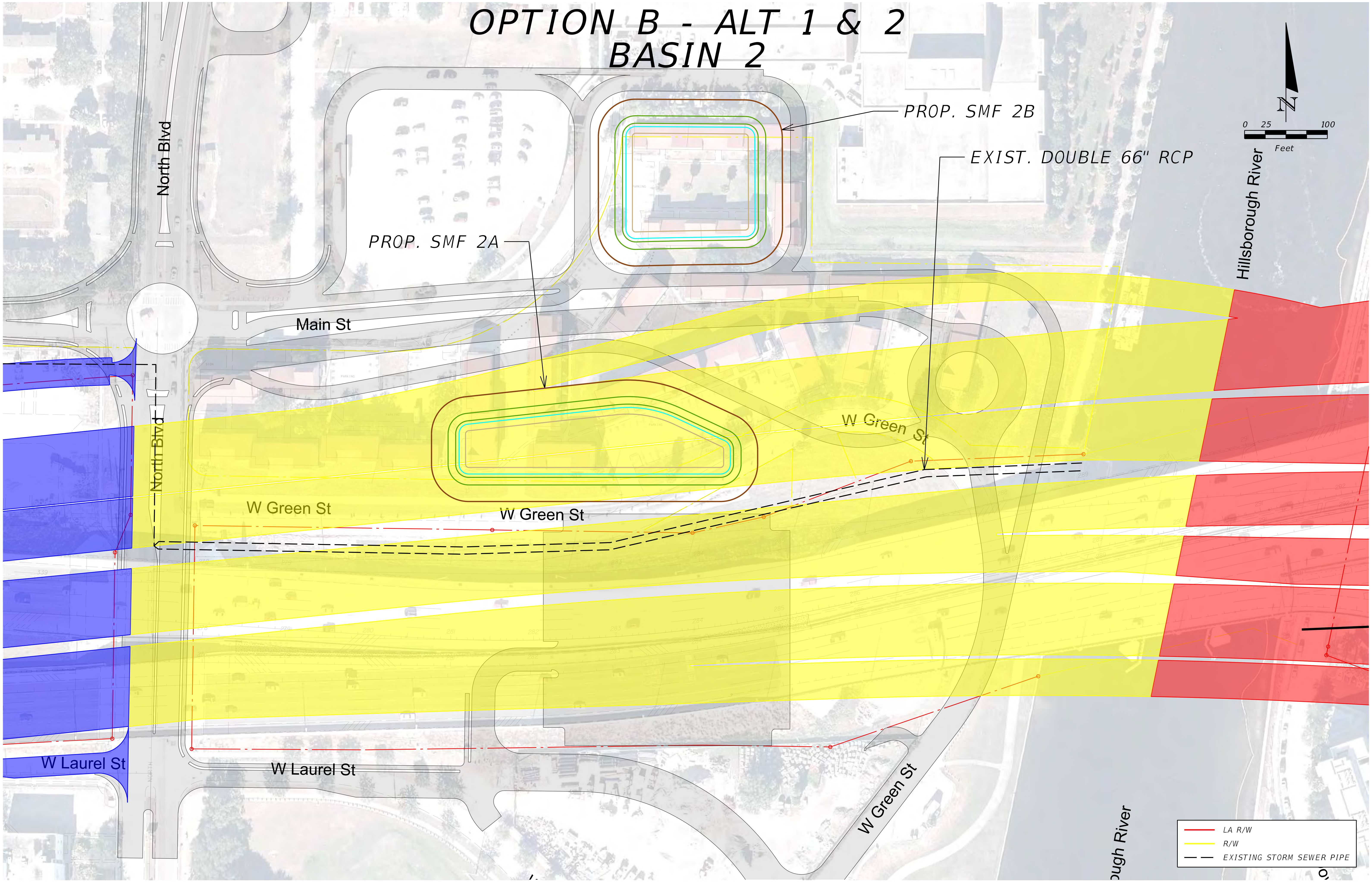
Design Option B

OPTION B - ALT 1

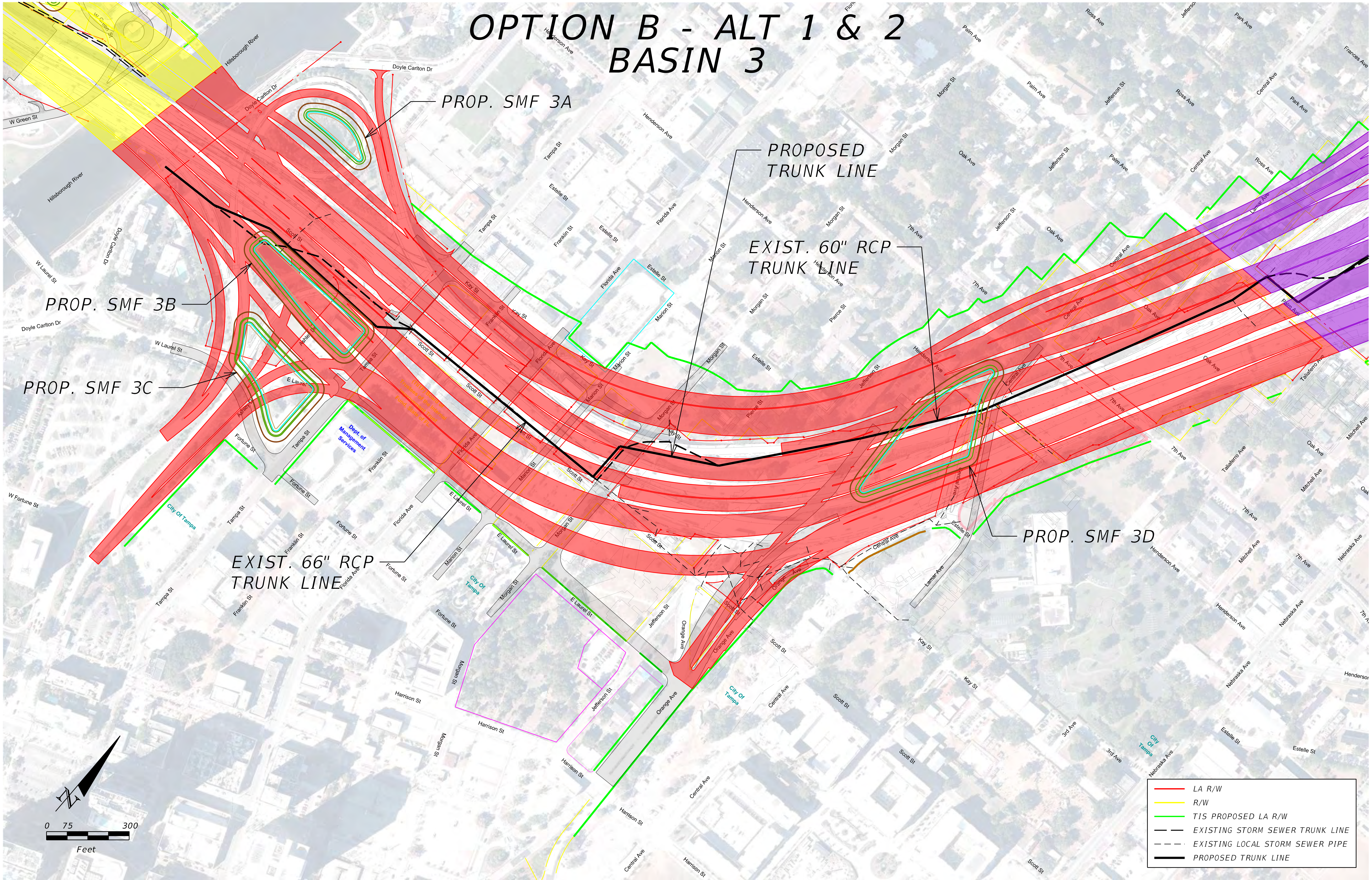


*DRAINAGE BASIN DIVIDES AND EXISTING STORM SEWER TRUNKLINES WERE OBTAINED FROM CITY OF TAMPA STORM SEWER ATLAS AND ARE SPATIALLY APPROXIMATE
https://city-tampa.opendata.arcgis.com/datasets?t=Utility

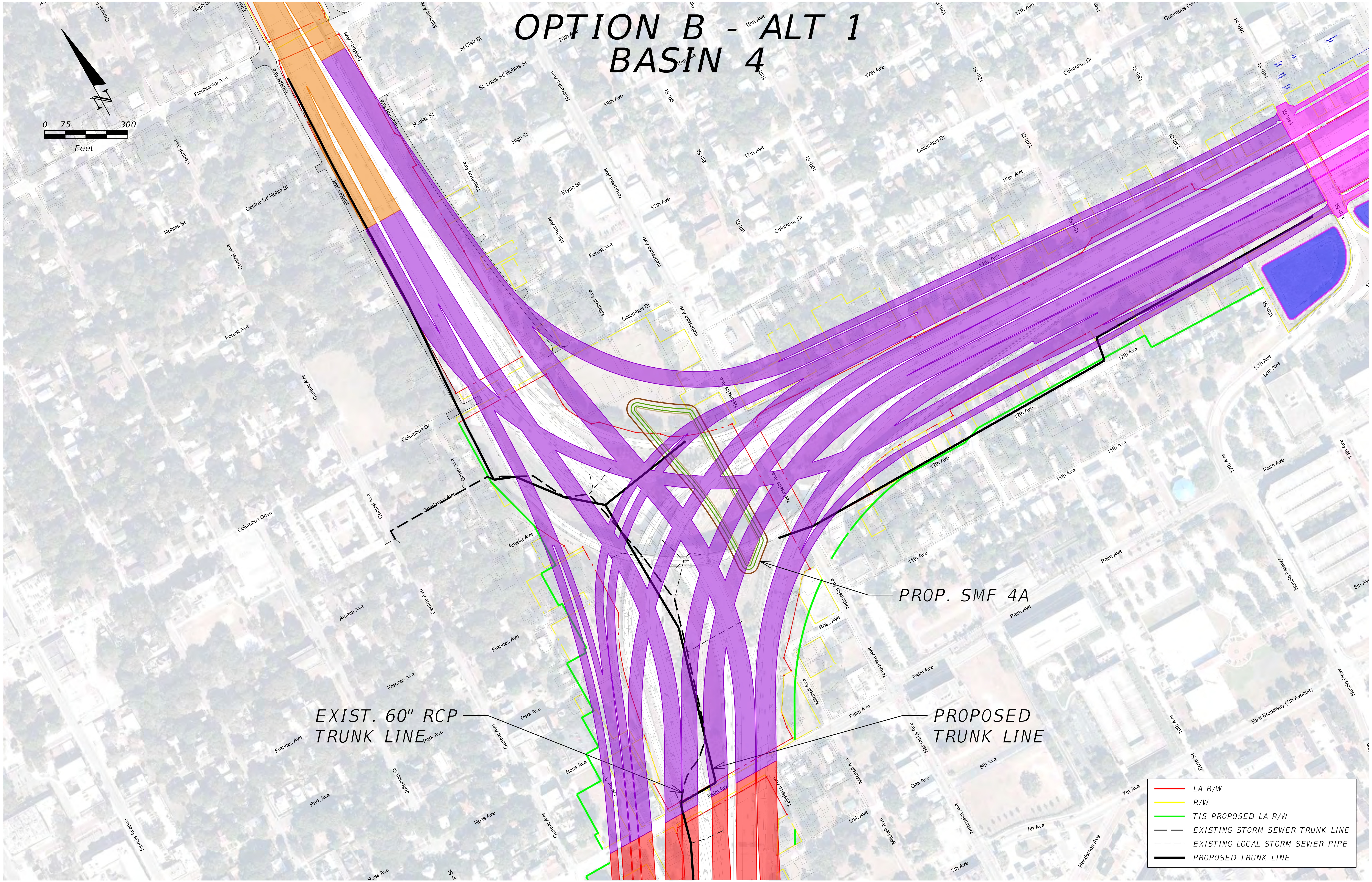
OPTION B - ALT 1 & 2
BASIN 2



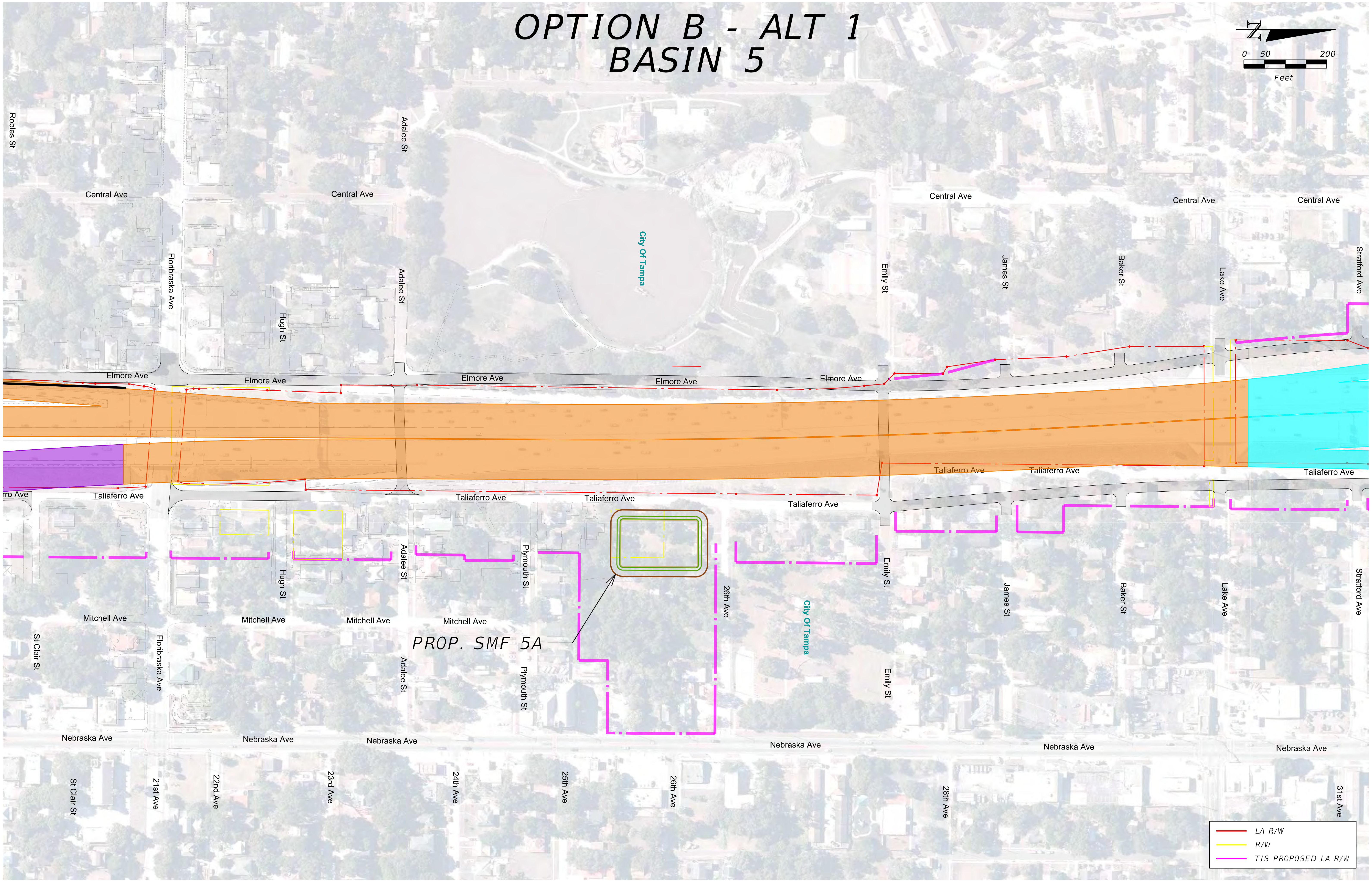
OPTION B - ALT 1 & 2
BASIN 3



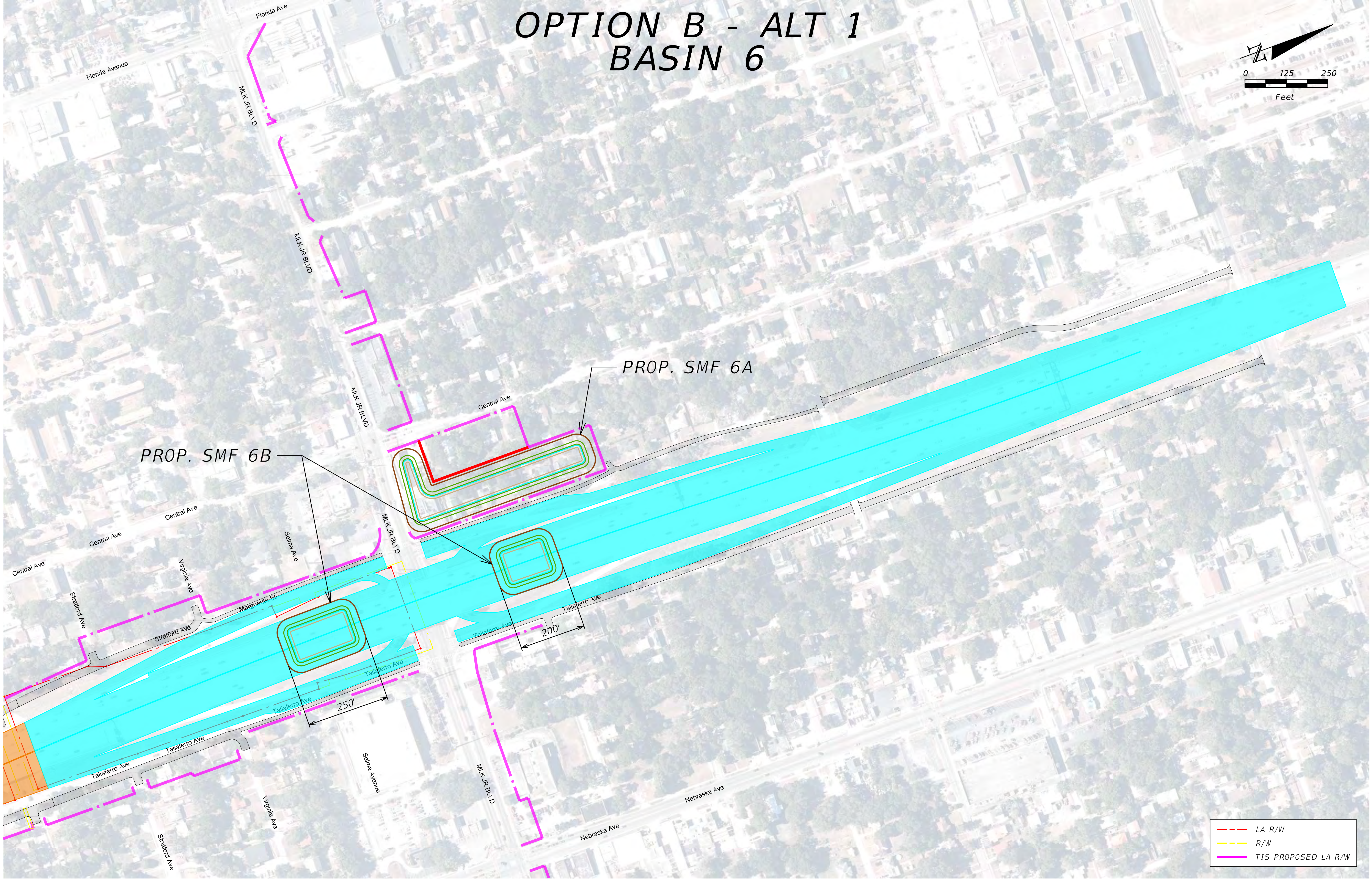
OPTION B - ALT 1
BASIN 4



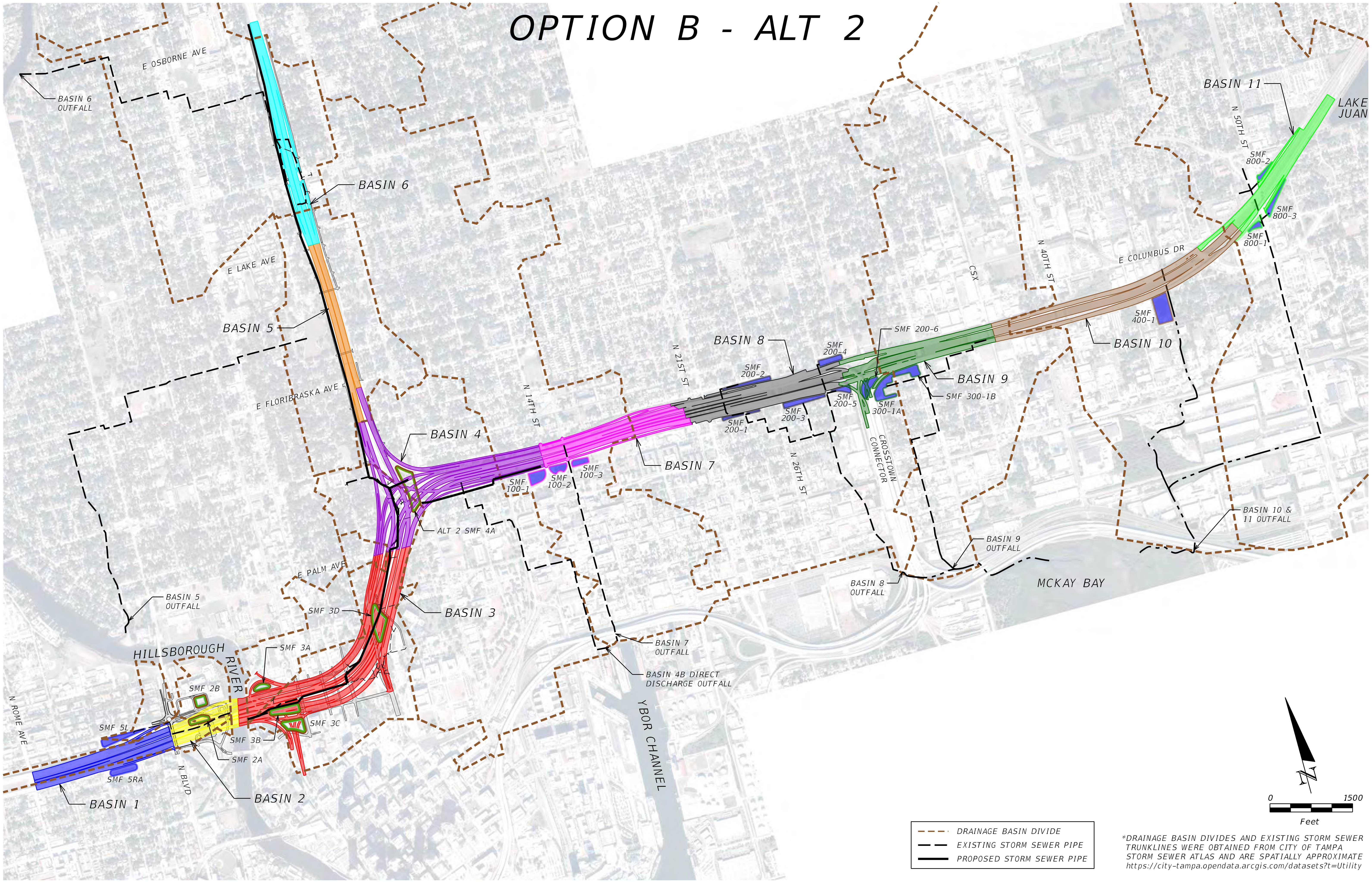
OPTION B - ALT 1
BASIN 5



OPTION B - ALT 1
BASIN 6



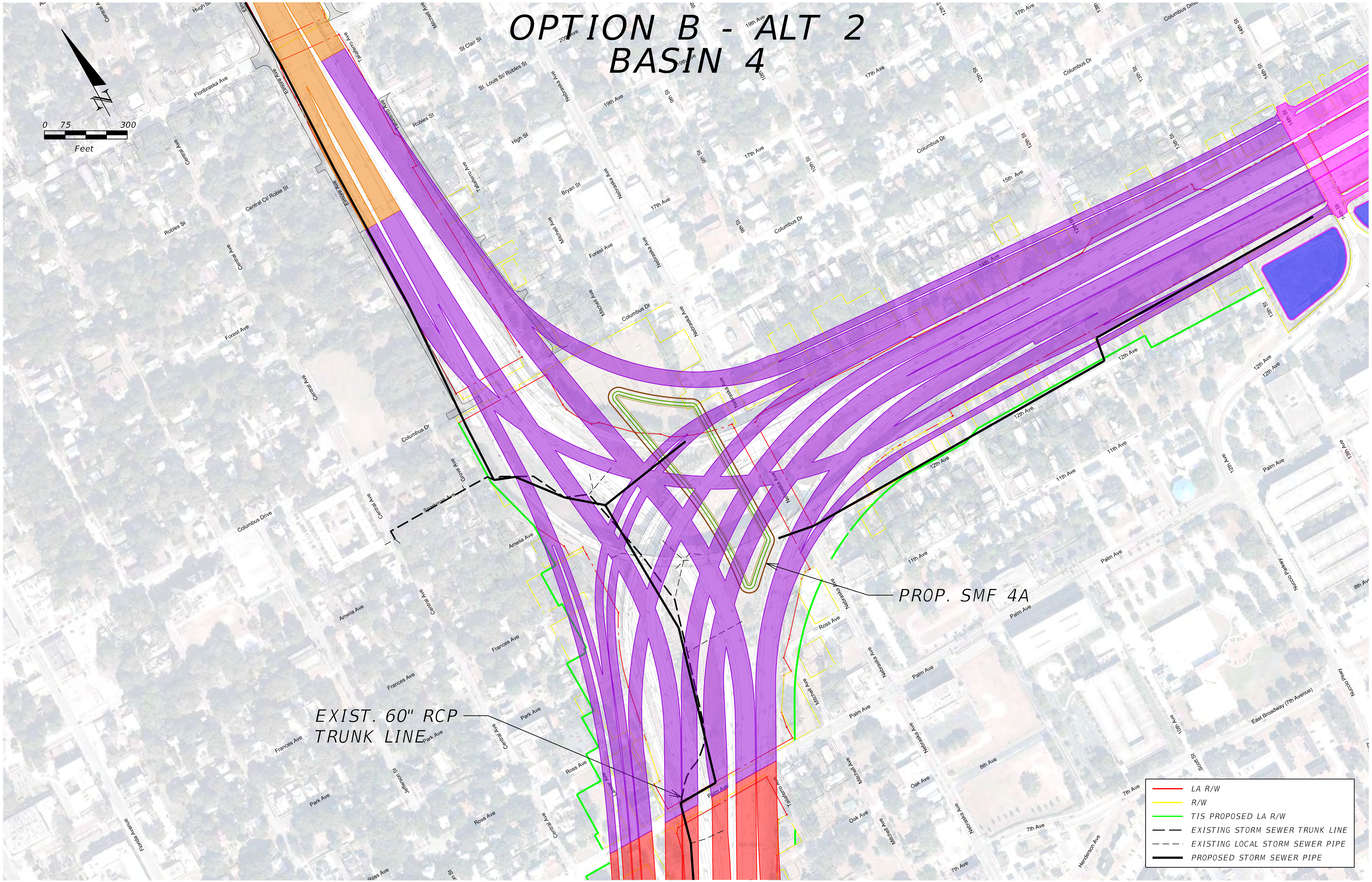
OPTION B - ALT 2



DRAINAGE BASIN DIVIDE
EXISTING STORM SEWER PIPE
PROPOSED STORM SEWER PIPE

*DRAINAGE BASIN DIVIDES AND EXISTING STORM SEWER TRUNKLINES WERE OBTAINED FROM CITY OF TAMPA STORM SEWER ATLAS AND ARE SPATIALLY APPROXIMATE
https://city-tampa.opendata.arcgis.com/datasets?t=Utility

OPTION B - ALT 2
BASIN 4



PROP. SMF 4A

EXIST. 60" RCP
TRUNK LINE

Subject: Option B Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 2 - From N Blvd to Hillsborough River

Impervious Areas Schedule

Existing Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	5.41 ac.
Local Road Impervious:	5.92 ac.
Total Impervious Area:	5.41 ac.

Proposed Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	10.74 ac.
Local Road Impervious:	5.85 ac.
Pond:	0.51 ac.
Total Impervious Area:	11.25 ac.

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	5.41 ac.
Proposed Impervious Area:	11.25 ac.
Δ Impervious Area[1]:	5.84 ac.

Treatment Depth[2]:	1.0 in.
New Required Treatment Volume:	0.49 ac·ft
Existing Required Treatment Volume:	0.00 ac·ft
Total Required Treatment Volume:	0.49 ac·ft

[1] If local road proposed impervious area < existing impervious area, it is not accounted for

[2] Wet Detention Criteria - 1.0 inch over Δ Impervious

Proposed SMF 2A			
Stage Elevation	**Area**	**Incr. Vol.**	**Total Vol.**
Outside T.O.B.	1.153 ac.	-	-
T.O.B. EL: 12.00 ft.	0.744 ac.	0.71 ac.-ft.	2.93 ac.-ft.
DHW EL: 11.00 ft.	0.669 ac.	0.80 ac.-ft.	2.22 ac.-ft.
Weir EL: 9.72 ft.	0.577 ac.	**0.54 ac.-ft.**	1.42 ac.-ft.
Control EL: 8.72 ft.	0.507 ac.	0.88 ac.-ft.	0.88 ac.-ft.
Bottom EL: 6.72 ft.	0.375 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 2A Parameters	
Average Grade EL:	12.00 ft.
Depth to SHWT:	3.28 ft.
SHWT EL:	8.72 ft.

SMF 2B Parameters	
Average Grade EL:	12.00 ft.
Depth to SHWT:	3.28 ft.
SHWT EL:	8.72 ft.

Proposed SMF 2B			
Stage Elevation	**Area**	**Incr. Vol.**	**Total Vol.**
Outside T.O.B.	0.980 ac.	-	-
T.O.B. EL: 12.00 ft.	0.656 ac.	0.63 ac.-ft.	2.70 ac.-ft.
DHW EL: 11.00 ft.	0.598 ac.	0.72 ac.-ft.	2.07 ac.-ft.
Weir EL: 9.72 ft.	0.528 ac.	**0.50 ac.-ft.**	1.35 ac.-ft.
Control EL: 8.72 ft.	0.475 ac.	0.85 ac.-ft.	0.85 ac.-ft.
Bottom EL: 6.72 ft.	0.377 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Volume Summary	Required	Provided
Treatment Volume:	0.49 ac.-ft.	0.54 ac.-ft.
Total:	**0.49 ac.-ft.**	**0.54 ac.-ft.**

Note: Only one SMF alternative is required

Subject: Option B Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 3 - From Hillsborough River to South of I-4 / I-275 Interchange

Impervious Areas Schedule

Existing Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	28.63 ac.
Local Road Impervious:	9.25 ac.
▨	▨
Total Impervious Area:	28.63 ac.

Proposed Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	54.78 ac.
Local Road Impervious:	6.90 ac.
Pond:	4.27 ac.
Total Impervious Area:	59.05 ac.

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	28.63 ac.
Proposed Impervious Area:	59.05 ac.
Δ Impervious Area[1]:	30.42 ac.

Treatment Depth[2]:	1.0 in.
New Required Treatment Volume:	2.54 ac·ft
Existing Required Treatment Volume:	1.06 ac·ft
Total Required Treatment Volume:	3.60 ac·ft

[1] If local road proposed impervious area < existing impervious area, it is not accounted for

[2] Wet Detention Criteria - 1.0 inch over Δ Impervious

SMF 3A Parameters	
Average Grade EL:	10.00 ft.
Depth to SHWT:	N/A
SHWT EL:	7.87 ft.

SMF 3B Parameters	
Average Grade EL:	14.00 ft.
Depth to SHWT:	N/A
SHWT EL:	10.00 ft.

SMF 3C Parameters	
Average Grade EL:	16.00 ft.
Depth to SHWT:	N/A
SHWT EL:	10.00 ft.

SMF 3D Parameters	
Average Grade EL:	45.00 ft.
Depth to SHWT:	3.28 ft.
SHWT EL:	41.72 ft.

Proposed SMF 3A			
Stage Elevation	**Area**	**Incr. Vol.**	**Total Vol.**
Outside T.O.B.	0.782 ac.	-	-
T.O.B. EL: 10.80 ft.	0.460 ac.	0.43 ac.-ft.	1.63 ac.-ft.
DHW EL: 9.80 ft.	0.403 ac.	0.35 ac.-ft.	1.20 ac.-ft.
Weir EL: 8.87 ft.	0.351 ac.	**0.32 ac.-ft.**	0.85 ac.-ft.
Control EL: 7.87 ft.	0.298 ac.	0.52 ac.-ft.	0.52 ac.-ft.
Bottom EL: 5.87 ft.	0.223 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Proposed SMF 3B			
Stage Elevation	**Area**	**Incr. Vol.**	**Total Vol.**
Outside T.O.B.	2.086 ac.	-	-
T.O.B. EL: 14.00 ft.	1.483 ac.	1.43 ac.-ft.	6.92 ac.-ft.
DHW EL: 13.00 ft.	1.369 ac.	2.52 ac.-ft.	5.49 ac.-ft.
Weir EL: 11.00 ft.	1.149 ac.	**1.10 ac.-ft.**	2.97 ac.-ft.
Control EL: 10.00 ft.	1.042 ac.	1.88 ac.-ft.	1.88 ac.-ft.
Bottom EL: 8.00 ft.	0.836 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Proposed SMF 3C			
Stage Elevation	**Area**	**Incr. Vol.**	**Total Vol.**
Outside T.O.B.	2.063 ac.	-	-
T.O.B. EL: 15.00 ft.	1.527 ac.	1.48 ac.-ft.	8.35 ac.-ft.
DHW EL: 14.00 ft.	1.427 ac.	3.85 ac.-ft.	6.87 ac.-ft.
Weir EL: 11.00 ft.	1.140 ac.	**1.09 ac.-ft.**	3.02 ac.-ft.
Control EL: 10.00 ft.	1.049 ac.	1.92 ac.-ft.	1.92 ac.-ft.
Bottom EL: 8.00 ft.	0.874 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Proposed SMF 3D			
Stage Elevation	**Area**	**Incr. Vol.**	**Total Vol.**
Outside T.O.B.	3.131 ac.	-	-
T.O.B. EL: 45.00 ft.	2.409 ac.	2.34 ac.-ft.	10.5 ac.-ft.
DHW EL: 44.00 ft.	2.271 ac.	2.74 ac.-ft.	8.20 ac.-ft.
Weir EL: 42.72 ft.	2.014 ac.	**1.95 ac.-ft.**	5.46 ac.-ft.
Control EL: 41.72 ft.	1.883 ac.	3.51 ac.-ft.	3.51 ac.-ft.
Bottom EL: 39.72 ft.	1.629 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Note: SMF 3A and SMF 3B SHWT EL were obtained from ERP 20690.004; SMF 3C SHWT EL was set at the SHWT EL of SMF 3B

Volume Summary	Required	Provided
Treatment Volume:	3.60 ac.-ft.	4.46 ac.-ft.
Total:	**3.60 ac.-ft.**	**4.46 ac.-ft.**

Subject: Option B Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Alt 1 Basin 4 - From South of I-4 / I-275 Interchange to N 14th St / E Floribraska Ave

Impervious Areas Schedule

Existing Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	27.26 ac.
Local Road Impervious:	1.52 ac.
Total Impervious Area:	27.26 ac.

Proposed Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	41.86 ac.
Local Road Impervious:	1.11 ac.
Pond:	1.37 ac.
Total Impervious Area:	43.23 ac.

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Dry Retention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	27.26 ac.
Proposed Impervious Area:	43.23 ac.
Δ Impervious Area[1]:	15.97 ac.

Treatment Depth[2]:	1.0 in.
New Required Treatment Volume:	1.33 ac·ft
Existing Required Treatment Volume:	0.70 ac·ft
Total Required Treatment Volume:	2.03 ac·ft

[1] If local road proposed impervious area < existing impervious area, it is not accounted for

[2] Dry Retention Criteria - 0.5 inch over Δ Impervious (1.0" Used to Remain Conservative)

Proposed SMF 4A			
Stage Elevation	**Area**	**Incr. Vol.**	**Total Vol.**
Outside T.O.B.	2.590 ac.	-	-
T.O.B. EL: 37.00 ft.	2.015 ac.	1.94 ac.-ft.	7.59 ac.-ft.
DHW EL: 36.00 ft.	1.867 ac.	3.45 ac.-ft.	5.65 ac.-ft.
Weir EL: 34.00 ft.	1.578 ac.	**2.21 ac.-ft.**	2.21 ac.-ft.
Bottom EL: 32.50 ft.	1.367 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 4A Parameters	
Average Grade EL:	37.00 ft.
Depth to SHWT:	N/A
SHWT EL:	24.11 ft.

Volume Summary	Required	Provided
Treatment Volume:	2.03 ac.-ft.	2.21 ac.-ft.
Total:	**2.03 ac.-ft.**	**2.21 ac.-ft.**

Note: SMF 4A SHWT EL was obtained from ERP 20690.004

Subject: Option B Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Alt 1 Basin 5 - From E Floribraska Ave to E Lake Ave

Basin Areas and CN Calculations

Existing Areas

Description	CN	Area
I-275 Impervious Pavement:	98	12.22 ac.
Local Road Impervious:	98	3.70 ac.
Urban Land:	80	0.85 ac.
Total Impervious Area:	12.22 ac.	
Total Area:	16.77 ac.	
CN:	97.09	

Proposed Areas

Description	CN	Area
I-275 Impervious Pavement:	98	13.19 ac.
Local Road Impervious:	98	3.10 ac.
Pond:	100	0.48 ac.
Urban Land:	80	0.00 ac.
Total Impervious Area:	13.67 ac.	
Total Area:	16.77 ac.	
CN:	98.06	

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Dry Retention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Closed
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	12.22 ac.
Proposed Impervious Area:	13.67 ac.
Δ Impervious Area[1]:	1.45 ac.
Treatment Depth[2]:	1.0 in.
New Required Treatment Volume:	0.12 ac·ft
Existing Required Treatment Volume:	0.00 ac·ft
Total Required Treatment Volume:	0.12 ac·ft

[1] If local road proposed impervious area < existing impervious area, it is not accounted for

[2] Dry Retention Criteria - 0.5 inch over Δ Impervious (1.0" Used to Remain Conservative)

Proposed SMF 5A

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	0.845 ac.	-	-
T.O.B. EL: 39.00 ft.	0.607 ac.	0.63 ac.-ft.	1.24 ac.-ft.
DHW EL: 37.90 ft.	0.544 ac.	0.32 ac.-ft.	0.60 ac.-ft.
Weir EL: 37.30 ft.	0.510 ac.	**0.29 ac.-ft.**	0.29 ac.-ft.
Bottom EL: 36.72 ft.	0.478 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 5A Parameters

Average Grade EL:	38.00 ft.	
Depth to SHWT:	3.28 ft.	
SHWT EL:	34.72 ft.	
Volume Summary	**Required**	**Provided**
Treatment Volume:	0.12 ac.-ft.	0.29 ac.-ft.
Attenuation Volume:	0.17 ac.-ft.	0.32 ac.-ft.
Total:	**0.29 ac.-ft.**	**0.60 ac.-ft.**

Subject: Option B Analysis Pre/Post
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Alternative 1 - Basin 5

Runoff Volume Analysis

Treatment Calculations

Governing Agency:	SWFWMD
Treatment Method:	Dry Retention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Closed
New or Existing Roadway:	Reconstruction

Treatment Area:	1.45 ac.
Treatment Depth*:	1.0 in.
Treatment Volume Required:	0.12 ac.-ft.

* Dry Retention Criteria - 0.5 inch over Δ Impervious
(1.0 inch used to remain conservative)
Wet Detention Criteria - 1.0 inch over Δ Impervious

Attenuation Calculations

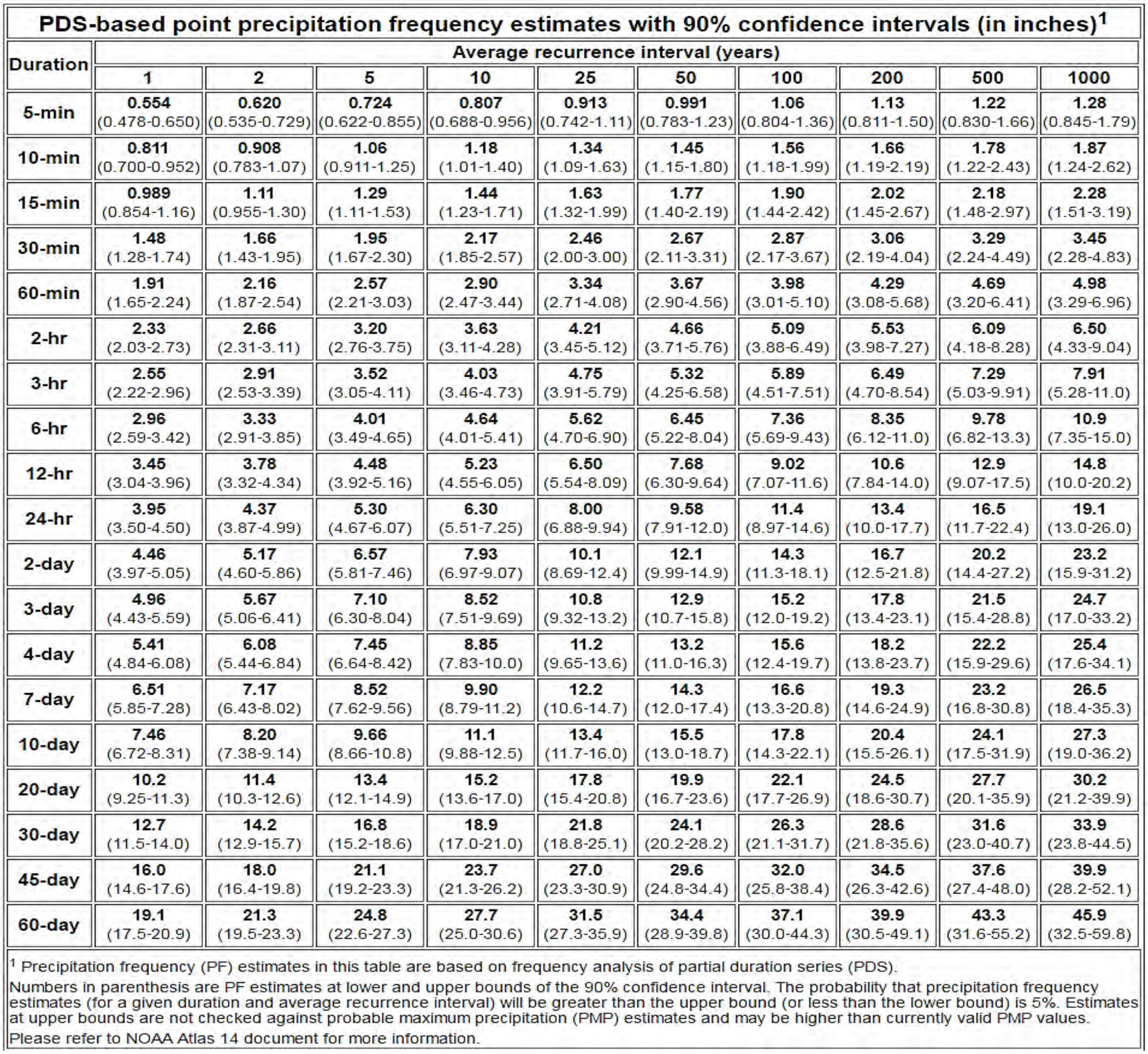
Rainfall Depth**:	17.8 in.	
Summary of Runoff	**Existing**	**Proposed**
Total Basin Area (LT and RT):	16.77 ac.	16.77 ac.
Weighted CN (LT and RT):	97.1	98.1
Soil Retention (S):	0.3 in.	0.2 in.
Runoff Depth (Q_R):	17.4 in.	17.6 in.
Runoff Volume	24.38 ac.-ft.	24.54 ac.-ft.

Post-Pre Attenuation Volume (V_A):	0.17 ac.-ft.

**100 year / 10 Day

Total Runoff Volume Required

Treatment Volume Required:	0.12 ac.-ft.
Attenuation Volume** (V_A):	0.17 ac.-ft.
Total:	**0.29 ac.-ft.**



PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.554 (0.478-0.650)	0.620 (0.535-0.729)	0.724 (0.622-0.855)	0.807 (0.688-0.956)	0.913 (0.742-1.11)	0.991 (0.783-1.23)	1.06 (0.804-1.36)	1.13 (0.811-1.50)	1.22 (0.830-1.66)	1.28 (0.845-1.79)
10-min	0.811 (0.700-0.952)	0.908 (0.783-1.07)	1.06 (0.911-1.25)	1.18 (1.01-1.40)	1.34 (1.09-1.63)	1.45 (1.15-1.80)	1.56 (1.18-1.99)	1.66 (1.19-2.19)	1.78 (1.22-2.43)	1.87 (1.24-2.62)
15-min	0.989 (0.854-1.16)	1.11 (0.955-1.30)	1.29 (1.11-1.53)	1.44 (1.23-1.71)	1.63 (1.32-1.99)	1.77 (1.40-2.19)	1.90 (1.44-2.42)	2.02 (1.45-2.67)	2.18 (1.48-2.97)	2.28 (1.51-3.19)
30-min	1.48 (1.28-1.74)	1.66 (1.43-1.95)	1.95 (1.67-2.30)	2.17 (1.85-2.57)	2.46 (2.00-3.00)	2.67 (2.11-3.31)	2.87 (2.17-3.67)	3.06 (2.19-4.04)	3.29 (2.24-4.49)	3.45 (2.28-4.83)
60-min	1.91 (1.65-2.24)	2.16 (1.87-2.54)	2.57 (2.21-3.03)	2.90 (2.47-3.44)	3.34 (2.71-4.08)	3.67 (2.90-4.56)	3.98 (3.01-5.10)	4.29 (3.08-5.68)	4.69 (3.20-6.41)	4.98 (3.29-6.96)
2-hr	2.33 (2.03-2.73)	2.66 (2.31-3.11)	3.20 (2.76-3.75)	3.63 (3.11-4.28)	4.21 (3.45-5.12)	4.66 (3.71-5.76)	5.09 (3.88-6.49)	5.53 (3.98-7.27)	6.09 (4.18-8.28)	6.50 (4.33-9.04)
3-hr	2.55 (2.22-2.96)	2.91 (2.53-3.39)	3.52 (3.05-4.11)	4.03 (3.46-4.73)	4.75 (3.91-5.79)	5.32 (4.25-6.58)	5.89 (4.51-7.51)	6.49 (4.70-8.54)	7.29 (5.03-9.91)	7.91 (5.28-11.0)
6-hr	2.96 (2.59-3.42)	3.33 (2.91-3.85)	4.01 (3.49-4.65)	4.64 (4.01-5.41)	5.62 (4.70-6.90)	6.45 (5.22-8.04)	7.36 (5.69-9.43)	8.35 (6.12-11.0)	9.78 (6.82-13.3)	10.9 (7.35-15.0)
12-hr	3.45 (3.04-3.96)	3.78 (3.32-4.34)	4.48 (3.92-5.16)	5.23 (4.55-6.05)	6.50 (5.54-8.09)	7.68 (6.30-9.64)	9.02 (7.07-11.6)	10.6 (7.84-14.0)	12.9 (9.07-17.5)	14.8 (10.0-20.2)
24-hr	3.95 (3.50-4.50)	4.37 (3.87-4.99)	5.30 (4.67-6.07)	6.30 (5.51-7.25)	8.00 (6.88-9.94)	9.58 (7.91-12.0)	11.4 (8.97-14.6)	13.4 (10.0-17.7)	16.5 (11.7-22.4)	19.1 (13.0-26.0)
2-day	4.46 (3.97-5.05)	5.17 (4.60-5.86)	6.57 (5.81-7.46)	7.93 (6.97-9.07)	10.1 (8.69-12.4)	12.1 (9.99-14.9)	14.3 (11.3-18.1)	16.7 (12.5-21.8)	20.2 (14.4-27.2)	23.2 (15.9-31.2)
3-day	4.96 (4.43-5.59)	5.67 (5.06-6.41)	7.10 (6.30-8.04)	8.52 (7.51-9.69)	10.8 (9.32-13.2)	12.9 (10.7-15.8)	15.2 (12.0-19.2)	17.8 (13.4-23.1)	21.5 (15.4-28.8)	24.7 (17.0-33.2)
4-day	5.41 (4.84-6.08)	6.08 (5.44-6.84)	7.45 (6.64-8.42)	8.85 (7.83-10.0)	11.2 (9.65-13.6)	13.2 (11.0-16.3)	15.6 (12.4-19.7)	18.2 (13.8-23.7)	22.2 (15.9-29.6)	25.4 (17.6-34.1)
7-day	6.51 (5.85-7.28)	7.17 (6.43-8.02)	8.52 (7.62-9.56)	9.90 (8.79-11.2)	12.2 (10.6-14.7)	14.3 (12.0-17.4)	16.6 (13.3-20.8)	19.3 (14.6-24.9)	23.2 (16.8-30.8)	26.5 (18.4-35.3)
10-day	7.46 (6.72-8.31)	8.20 (7.38-9.14)	9.66 (8.66-10.8)	11.1 (9.88-12.5)	13.4 (11.7-16.0)	15.5 (13.0-18.7)	17.8 (14.3-22.1)	20.4 (15.5-26.1)	24.1 (17.5-31.9)	27.3 (19.0-36.2)
20-day	10.2 (9.25-11.3)	11.4 (10.3-12.6)	13.4 (12.1-14.9)	15.2 (13.6-17.0)	17.8 (15.4-20.8)	19.9 (16.7-23.6)	22.1 (17.7-26.9)	24.5 (18.6-30.7)	27.7 (20.1-35.9)	30.2 (21.2-39.9)
30-day	12.7 (11.5-14.0)	14.2 (12.9-15.7)	16.8 (15.2-18.6)	18.9 (17.0-21.0)	21.8 (18.8-25.1)	24.1 (20.2-28.2)	26.3 (21.1-31.7)	28.6 (21.8-35.6)	31.6 (23.0-40.7)	33.9 (23.8-44.5)
45-day	16.0 (14.6-17.6)	18.0 (16.4-19.8)	21.1 (19.2-23.3)	23.7 (21.3-26.2)	27.0 (23.3-30.9)	29.6 (24.8-34.4)	32.0 (25.8-38.4)	34.5 (26.3-42.6)	37.6 (27.4-48.0)	39.9 (28.2-52.1)
60-day	19.1 (17.5-20.9)	21.3 (19.5-23.3)	24.8 (22.6-27.3)	27.7 (25.0-30.6)	31.5 (27.3-35.9)	34.4 (28.9-39.8)	37.1 (30.0-44.3)	39.9 (30.5-49.1)	43.3 (31.6-55.2)	45.9 (32.5-59.8)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
Please refer to NOAA Atlas 14 document for more information.

Subject: Option B Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Alt 1A Basin 6 - From E Lake Ave to E Osborne Ave

Basin Areas and CN Calculations

Existing Areas

Description	CN	Area
I-275 Impervious Pavement:	98	16.04 ac.
Local Road Impervious:	98	2.61 ac.
Urban Land:	80	6.76 ac.
▨	▨	▨
Total Impervious Area:	18.65 ac.	
Total Area:	25.41 ac.	
CN:	93.21	

Proposed Areas

Description	CN	Area
I-275 Impervious Pavement:	98	21.61 ac.
Local Road Impervious:	98	3.01 ac.
Pond:	100	0.79 ac.
Urban Land:	80	0.00 ac.
Total Impervious Area:	25.41 ac.	
Total Area:	25.41 ac.	
CN:	98.06	

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	18.65 ac.
Proposed Impervious Area:	25.41 ac.
Δ Impervious Area[1]:	6.76 ac.
Treatment Depth[2]:	1.0 in.
New Required Treatment Volume:	0.56 ac·ft
Existing Required Treatment Volume:	0.00 ac·ft
Total Required Treatment Volume:	0.56 ac·ft

[1] If local road proposed impervious area < existing impervious area, it is not accounted for

[2] Wet Detention Criteria - 1.0 inch over Δ Impervious

Proposed SMF 6A

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	1.924 ac.	-	-
T.O.B. EL: 47.00 ft.	1.219 ac.	1.37 ac.-ft.	4.46 ac.-ft.
DHW EL: 45.80 ft.	1.059 ac.	1.27 ac.-ft.	3.09 ac.-ft.
Weir EL: 44.50 ft.	0.890 ac.	**0.66 ac.-ft.**	1.82 ac.-ft.
Control EL: 43.72 ft.	0.788 ac.	1.17 ac.-ft.	1.17 ac.-ft.
Bottom EL: 42.00 ft.	0.572 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 6A Parameters

Average Grade EL:	47.00 ft.	
Depth to SHWT:	3.28 ft.	
SHWT EL:	43.72 ft.	
Volume Summary	**Required**	**Provided**
Treatment Volume:	0.56 ac.-ft.	0.66 ac.-ft.
Attenuation Volume:	1.29 ac.-ft.	1.27 ac.-ft.
Total:	**1.85 ac.-ft.**	**1.92 ac.-ft.**

Subject: Option B Analysis Pre/Post
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Alternative 1 - Basin 6

Runoff Volume Analysis

Treatment Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Treatment Area:	6.76 ac.
Treatment Depth*:	1.0 in.
Treatment Volume Required:	0.56 ac.-ft.

* Dry Retention Criteria - 0.5 inch over Δ Impervious
(1.0 inch used to remain conservative)
Wet Detention Criteria - 1.0 inch over Δ Impervious

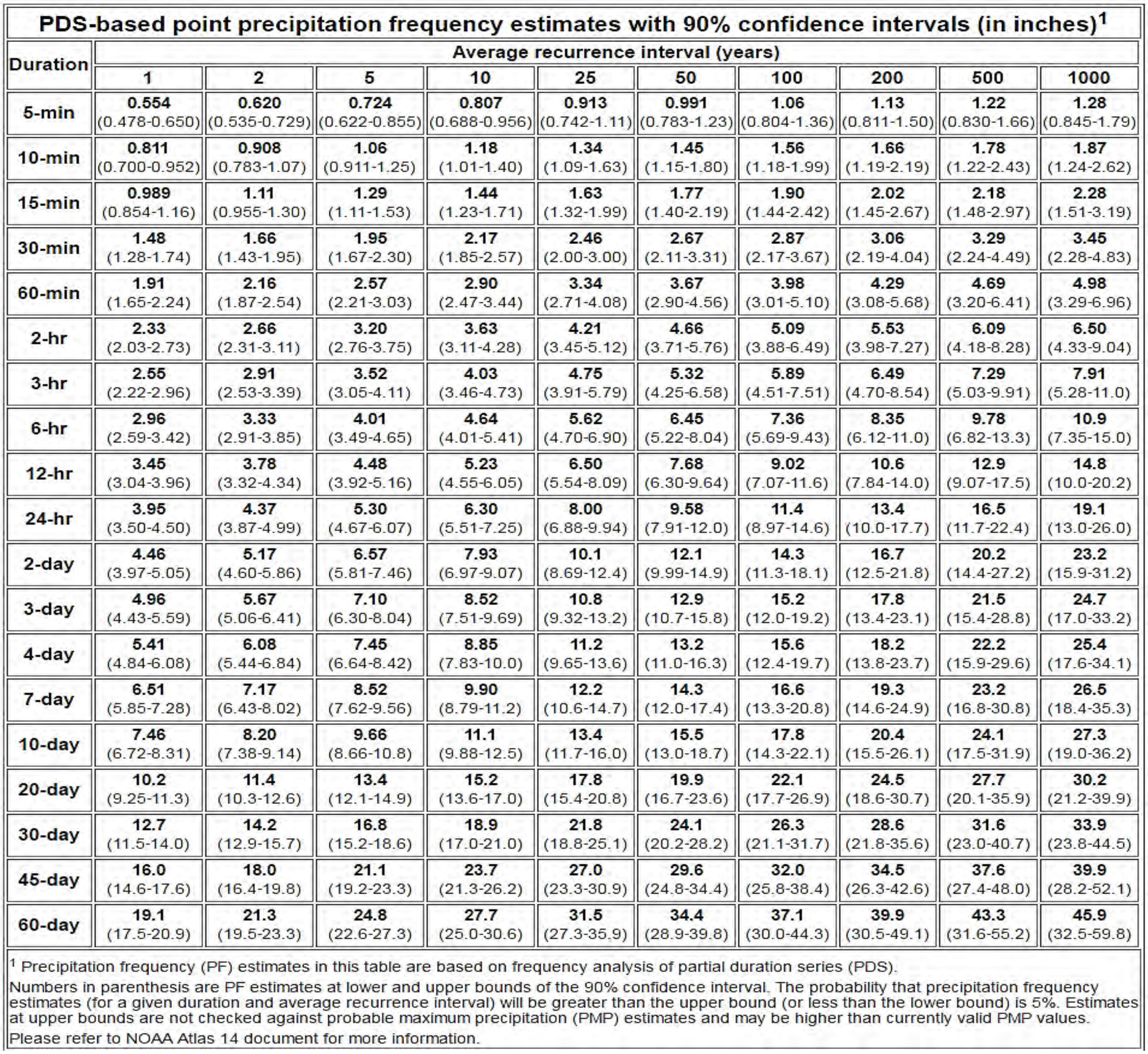
Attenuation Calculations

Rainfall Depth**:	17.8 in.	
Summary of Runoff	**Existing**	**Proposed**
Total Basin Area (LT and RT):	25.41 ac.	25.41 ac.
Weighted CN (LT and RT):	93.2	98.1
Soil Retention (S):	0.7 in.	0.2 in.
Runoff Depth (Q_R):	17.0 in.	17.6 in.
Runoff Volume	35.90 ac.-ft.	37.19 ac.-ft.

Post-Pre Attenuation Volume (V_A): 1.29 ac.-ft.
**100 year / 10 Day

Total Runoff Volume Required

Treatment Volume Required:	0.56 ac.-ft.
Attenuation Volume** (V_A):	1.29 ac.-ft.
Total:	**1.85 ac.-ft.**



PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.554 (0.478-0.650)	0.620 (0.535-0.729)	0.724 (0.622-0.855)	0.807 (0.688-0.956)	0.913 (0.742-1.11)	0.991 (0.783-1.23)	1.06 (0.804-1.36)	1.13 (0.811-1.50)	1.22 (0.830-1.66)	1.28 (0.845-1.79)
10-min	0.811 (0.700-0.952)	0.908 (0.783-1.07)	1.06 (0.911-1.25)	1.18 (1.01-1.40)	1.34 (1.09-1.63)	1.45 (1.15-1.80)	1.56 (1.18-1.99)	1.66 (1.19-2.19)	1.78 (1.22-2.43)	1.87 (1.24-2.62)
15-min	0.989 (0.854-1.16)	1.11 (0.955-1.30)	1.29 (1.11-1.53)	1.44 (1.23-1.71)	1.63 (1.32-1.99)	1.77 (1.40-2.19)	1.90 (1.44-2.42)	2.02 (1.45-2.67)	2.18 (1.48-2.97)	2.28 (1.51-3.19)
30-min	1.48 (1.28-1.74)	1.66 (1.43-1.95)	1.95 (1.67-2.30)	2.17 (1.85-2.57)	2.46 (2.00-3.00)	2.67 (2.11-3.31)	2.87 (2.17-3.67)	3.06 (2.19-4.04)	3.29 (2.24-4.49)	3.45 (2.28-4.83)
60-min	1.91 (1.65-2.24)	2.16 (1.87-2.54)	2.57 (2.21-3.03)	2.90 (2.47-3.44)	3.34 (2.71-4.08)	3.67 (2.90-4.56)	3.98 (3.01-5.10)	4.29 (3.08-5.68)	4.69 (3.20-6.41)	4.98 (3.29-6.96)
2-hr	2.33 (2.03-2.73)	2.66 (2.31-3.11)	3.20 (2.76-3.75)	3.63 (3.11-4.28)	4.21 (3.45-5.12)	4.66 (3.71-5.76)	5.09 (3.88-6.49)	5.53 (3.98-7.27)	6.09 (4.18-8.28)	6.50 (4.33-9.04)
3-hr	2.55 (2.22-2.96)	2.91 (2.53-3.39)	3.52 (3.05-4.11)	4.03 (3.46-4.73)	4.75 (3.91-5.79)	5.32 (4.25-6.58)	5.89 (4.51-7.51)	6.49 (4.70-8.54)	7.29 (5.03-9.91)	7.91 (5.28-11.0)
6-hr	2.96 (2.59-3.42)	3.33 (2.91-3.85)	4.01 (3.49-4.65)	4.64 (4.01-5.41)	5.62 (4.70-6.90)	6.45 (5.22-8.04)	7.36 (5.69-9.43)	8.35 (6.12-11.0)	9.78 (6.82-13.3)	10.9 (7.35-15.0)
12-hr	3.45 (3.04-3.96)	3.78 (3.32-4.34)	4.48 (3.92-5.16)	5.23 (4.55-6.05)	6.50 (5.54-8.09)	7.68 (6.30-9.64)	9.02 (7.07-11.6)	10.6 (7.84-14.0)	12.9 (9.07-17.5)	14.8 (10.0-20.2)
24-hr	3.95 (3.50-4.50)	4.37 (3.87-4.99)	5.30 (4.67-6.07)	6.30 (5.51-7.25)	8.00 (6.88-9.94)	9.58 (7.91-12.0)	11.4 (8.97-14.6)	13.4 (10.0-17.7)	16.5 (11.7-22.4)	19.1 (13.0-26.0)
2-day	4.46 (3.97-5.05)	5.17 (4.60-5.86)	6.57 (5.81-7.46)	7.93 (6.97-9.07)	10.1 (8.69-12.4)	12.1 (9.99-14.9)	14.3 (11.3-18.1)	16.7 (12.5-21.8)	20.2 (14.4-27.2)	23.2 (15.9-31.2)
3-day	4.96 (4.43-5.59)	5.67 (5.06-6.41)	7.10 (6.30-8.04)	8.52 (7.51-9.69)	10.8 (9.32-13.2)	12.9 (10.7-15.8)	15.2 (12.0-19.2)	17.8 (13.4-23.1)	21.5 (15.4-28.8)	24.7 (17.0-33.2)
4-day	5.41 (4.84-6.08)	6.08 (5.44-6.84)	7.45 (6.64-8.42)	8.85 (7.83-10.0)	11.2 (9.65-13.6)	13.2 (11.0-16.3)	15.6 (12.4-19.7)	18.2 (13.8-23.7)	22.2 (15.9-29.6)	25.4 (17.6-34.1)
7-day	6.51 (5.85-7.28)	7.17 (6.43-8.02)	8.52 (7.62-9.56)	9.90 (8.79-11.2)	12.2 (10.6-14.7)	14.3 (12.0-17.4)	16.6 (13.3-20.8)	19.3 (14.6-24.9)	23.2 (16.8-30.8)	26.5 (18.4-35.3)
10-day	7.46 (6.72-8.31)	8.20 (7.38-9.14)	9.66 (8.66-10.8)	11.1 (9.88-12.5)	13.4 (11.7-16.0)	15.5 (13.0-18.7)	17.8 (14.3-22.1)	20.4 (15.5-26.1)	24.1 (17.5-31.9)	27.3 (19.0-36.2)
20-day	10.2 (9.25-11.3)	11.4 (10.3-12.6)	13.4 (12.1-14.9)	15.2 (13.6-17.0)	17.8 (15.4-20.8)	19.9 (16.7-23.6)	22.1 (17.7-26.9)	24.5 (18.6-30.7)	27.7 (20.1-35.9)	30.2 (21.2-39.9)
30-day	12.7 (11.5-14.0)	14.2 (12.9-15.7)	16.8 (15.2-18.6)	18.9 (17.0-21.0)	21.8 (18.8-25.1)	24.1 (20.2-28.2)	26.3 (21.1-31.7)	28.6 (21.8-35.6)	31.6 (23.0-40.7)	33.9 (23.8-44.5)
45-day	16.0 (14.6-17.6)	18.0 (16.4-19.8)	21.1 (19.2-23.3)	23.7 (21.3-26.2)	27.0 (23.3-30.9)	29.6 (24.8-34.4)	32.0 (25.8-38.4)	34.5 (26.3-42.6)	37.6 (27.4-48.0)	39.9 (28.2-52.1)
60-day	19.1 (17.5-20.9)	21.3 (19.5-23.3)	24.8 (22.6-27.3)	27.7 (25.0-30.6)	31.5 (27.3-35.9)	34.4 (28.9-39.8)	37.1 (30.0-44.3)	39.9 (30.5-49.1)	43.3 (31.6-55.2)	45.9 (32.5-59.8)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
Please refer to NOAA Atlas 14 document for more information.

Subject: Option B Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Alt 1B Basin 6 - From E Lake Ave to E Osborne Ave

Basin Areas and CN Calculations

Existing Areas

Description	CN	Area
I-275 Impervious Pavement:	98	16.04 ac.
Local Road Impervious:	98	2.61 ac.
Urban Land:	80	5.97 ac.
▨	▨	▨
Total Impervious Area:	18.65 ac.	
Total Area:	24.62 ac.	

CN:	93.64

Proposed Areas

Description	CN	Area
I-275 Impervious Pavement:	98	21.61 ac.
Local Road Impervious:	98	3.01 ac.
Pond (Under Bridge):	100	0.00 ac.
Urban Land:	80	0.00 ac.
Total Impervious Area:	24.62 ac.	
Total Area:	24.62 ac.	

CN:	98.00

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	18.65 ac.
Proposed Impervious Area:	24.62 ac.
Δ Impervious Area[1]:	5.97 ac.

Treatment Depth[2]:	1.0 in.
New Required Treatment Volume:	0.50 ac·ft
Existing Required Treatment Volume:	0.00 ac·ft
Total Required Treatment Volume:	0.50 ac·ft

[1] If local road proposed impervious area < existing impervious area, it is not accounted for

[2] Wet Detention Criteria - 1.0 inch over Δ Impervious

Proposed SMF 6B SOUTH

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	0.935 ac.	-	-
T.O.B. EL: 47.00 ft.	0.614 ac.	0.70 ac.-ft.	2.38 ac.-ft.
DHW EL: 45.80 ft.	0.545 ac.	0.66 ac.-ft.	1.69 ac.-ft.
Weir EL: 44.50 ft.	0.470 ac.	**0.35 ac.-ft.**	1.03 ac.-ft.
Control EL: 43.72 ft.	0.434 ac.	0.67 ac.-ft.	0.67 ac.-ft.
Bottom EL: 42.00 ft.	0.350 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 6B SOUTH Parameters

Average Grade EL:	47.00 ft.
Depth to SHWT:	3.28 ft.
SHWT EL:	43.72 ft.

SMF 6B NORTH Parameters

Average Grade EL:	47.00 ft.
Depth to SHWT:	3.28 ft.
SHWT EL:	43.72 ft.

Proposed SMF 6B NORTH

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	0.729 ac.	-	-
T.O.B. EL: 47.00 ft.	0.456 ac.	0.51 ac.-ft.	1.72 ac.-ft.
DHW EL: 45.80 ft.	0.399 ac.	0.48 ac.-ft.	1.20 ac.-ft.
Weir EL: 44.50 ft.	0.340 ac.	**0.25 ac.-ft.**	0.72 ac.-ft.
Control EL: 43.72 ft.	0.308 ac.	0.47 ac.-ft.	0.47 ac.-ft.
Bottom EL: 42.00 ft.	0.240 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Volume Summary	Required	Provided
Treatment Volume:	0.50 ac.-ft.	0.61 ac.-ft.
Attenuation Volume:	1.12 ac.-ft.	1.14 ac.-ft.
Total:	**1.62 ac.-ft.**	**1.75 ac.-ft.**

Subject: Option B Analysis Pre/Post
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Alternative 1 - Basin 6

Runoff Volume Analysis

Treatment Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Treatment Area:	5.97 ac.
Treatment Depth*:	1.0 in.
Treatment Volume Required:	0.50 ac.-ft.

* Dry Retention Criteria - 0.5 inch over Δ Impervious
(1.0 inch used to remain conservative)
Wet Detention Criteria - 1.0 inch over Δ Impervious

Attenuation Calculations

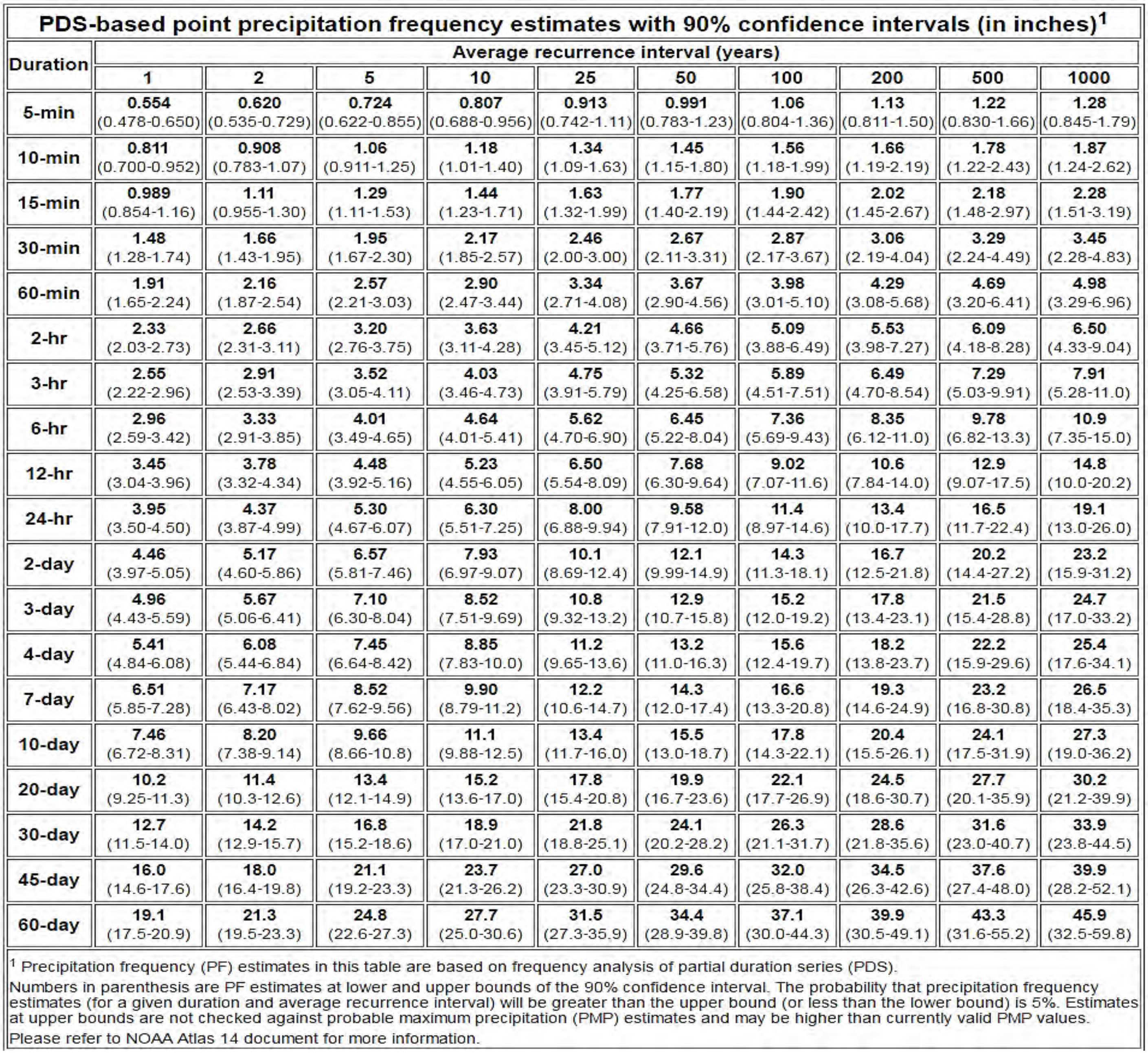
Rainfall Depth**:	17.8 in.	
Summary of Runoff	**Existing**	**Proposed**
Total Basin Area (LT and RT):	24.62 ac.	24.62 ac.
Weighted CN (LT and RT):	93.6	98.0
Soil Retention (S):	0.7 in.	0.2 in.
Runoff Depth (Q_R):	17.0 in.	17.6 in.
Runoff Volume	34.90 ac.-ft.	36.02 ac.-ft.

Post-Pre Attenuation Volume (V_A): 1.12 ac.-ft.

**100 year / 10 Day

Total Runoff Volume Required

Treatment Volume Required:	0.50 ac.-ft.
Attenuation Volume** (V_A):	1.12 ac.-ft.
Total:	**1.62 ac.-ft.**



PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.554 (0.478-0.650)	0.620 (0.535-0.729)	0.724 (0.622-0.855)	0.807 (0.688-0.956)	0.913 (0.742-1.11)	0.991 (0.783-1.23)	1.06 (0.804-1.36)	1.13 (0.811-1.50)	1.22 (0.830-1.66)	1.28 (0.845-1.79)
10-min	0.811 (0.700-0.952)	0.908 (0.783-1.07)	1.06 (0.911-1.25)	1.18 (1.01-1.40)	1.34 (1.09-1.63)	1.45 (1.15-1.80)	1.56 (1.18-1.99)	1.66 (1.19-2.19)	1.78 (1.22-2.43)	1.87 (1.24-2.62)
15-min	0.989 (0.854-1.16)	1.11 (0.955-1.30)	1.29 (1.11-1.53)	1.44 (1.23-1.71)	1.63 (1.32-1.99)	1.77 (1.40-2.19)	1.90 (1.44-2.42)	2.02 (1.45-2.67)	2.18 (1.48-2.97)	2.28 (1.51-3.19)
30-min	1.48 (1.28-1.74)	1.66 (1.43-1.95)	1.95 (1.67-2.30)	2.17 (1.85-2.57)	2.46 (2.00-3.00)	2.67 (2.11-3.31)	2.87 (2.17-3.67)	3.06 (2.19-4.04)	3.29 (2.24-4.49)	3.45 (2.28-4.83)
60-min	1.91 (1.65-2.24)	2.16 (1.87-2.54)	2.57 (2.21-3.03)	2.90 (2.47-3.44)	3.34 (2.71-4.08)	3.67 (2.90-4.56)	3.98 (3.01-5.10)	4.29 (3.08-5.68)	4.69 (3.20-6.41)	4.98 (3.29-6.96)
2-hr	2.33 (2.03-2.73)	2.66 (2.31-3.11)	3.20 (2.76-3.75)	3.63 (3.11-4.28)	4.21 (3.45-5.12)	4.66 (3.71-5.76)	5.09 (3.88-6.49)	5.53 (3.98-7.27)	6.09 (4.18-8.28)	6.50 (4.33-9.04)
3-hr	2.55 (2.22-2.96)	2.91 (2.53-3.39)	3.52 (3.05-4.11)	4.03 (3.46-4.73)	4.75 (3.91-5.79)	5.32 (4.25-6.58)	5.89 (4.51-7.51)	6.49 (4.70-8.54)	7.29 (5.03-9.91)	7.91 (5.28-11.0)
6-hr	2.96 (2.59-3.42)	3.33 (2.91-3.85)	4.01 (3.49-4.65)	4.64 (4.01-5.41)	5.62 (4.70-6.90)	6.45 (5.22-8.04)	7.36 (5.69-9.43)	8.35 (6.12-11.0)	9.78 (6.82-13.3)	10.9 (7.35-15.0)
12-hr	3.45 (3.04-3.96)	3.78 (3.32-4.34)	4.48 (3.92-5.16)	5.23 (4.55-6.05)	6.50 (5.54-8.09)	7.68 (6.30-9.64)	9.02 (7.07-11.6)	10.6 (7.84-14.0)	12.9 (9.07-17.5)	14.8 (10.0-20.2)
24-hr	3.95 (3.50-4.50)	4.37 (3.87-4.99)	5.30 (4.67-6.07)	6.30 (5.51-7.25)	8.00 (6.88-9.94)	9.58 (7.91-12.0)	11.4 (8.97-14.6)	13.4 (10.0-17.7)	16.5 (11.7-22.4)	19.1 (13.0-26.0)
2-day	4.46 (3.97-5.05)	5.17 (4.60-5.86)	6.57 (5.81-7.46)	7.93 (6.97-9.07)	10.1 (8.69-12.4)	12.1 (9.99-14.9)	14.3 (11.3-18.1)	16.7 (12.5-21.8)	20.2 (14.4-27.2)	23.2 (15.9-31.2)
3-day	4.96 (4.43-5.59)	5.67 (5.06-6.41)	7.10 (6.30-8.04)	8.52 (7.51-9.69)	10.8 (9.32-13.2)	12.9 (10.7-15.8)	15.2 (12.0-19.2)	17.8 (13.4-23.1)	21.5 (15.4-28.8)	24.7 (17.0-33.2)
4-day	5.41 (4.84-6.08)	6.08 (5.44-6.84)	7.45 (6.64-8.42)	8.85 (7.83-10.0)	11.2 (9.65-13.6)	13.2 (11.0-16.3)	15.6 (12.4-19.7)	18.2 (13.8-23.7)	22.2 (15.9-29.6)	25.4 (17.6-34.1)
7-day	6.51 (5.85-7.28)	7.17 (6.43-8.02)	8.52 (7.62-9.56)	9.90 (8.79-11.2)	12.2 (10.6-14.7)	14.3 (12.0-17.4)	16.6 (13.3-20.8)	19.3 (14.6-24.9)	23.2 (16.8-30.8)	26.5 (18.4-35.3)
10-day	7.46 (6.72-8.31)	8.20 (7.38-9.14)	9.66 (8.66-10.8)	11.1 (9.88-12.5)	13.4 (11.7-16.0)	15.5 (13.0-18.7)	17.8 (14.3-22.1)	20.4 (15.5-26.1)	24.1 (17.5-31.9)	27.3 (19.0-36.2)
20-day	10.2 (9.25-11.3)	11.4 (10.3-12.6)	13.4 (12.1-14.9)	15.2 (13.6-17.0)	17.8 (15.4-20.8)	19.9 (16.7-23.6)	22.1 (17.7-26.9)	24.5 (18.6-30.7)	27.7 (20.1-35.9)	30.2 (21.2-39.9)
30-day	12.7 (11.5-14.0)	14.2 (12.9-15.7)	16.8 (15.2-18.6)	18.9 (17.0-21.0)	21.8 (18.8-25.1)	24.1 (20.2-28.2)	26.3 (21.1-31.7)	28.6 (21.8-35.6)	31.6 (23.0-40.7)	33.9 (23.8-44.5)
45-day	16.0 (14.6-17.6)	18.0 (16.4-19.8)	21.1 (19.2-23.3)	23.7 (21.3-26.2)	27.0 (23.3-30.9)	29.6 (24.8-34.4)	32.0 (25.8-38.4)	34.5 (26.3-42.6)	37.6 (27.4-48.0)	39.9 (28.2-52.1)
60-day	19.1 (17.5-20.9)	21.3 (19.5-23.3)	24.8 (22.6-27.3)	27.7 (25.0-30.6)	31.5 (27.3-35.9)	34.4 (28.9-39.8)	37.1 (30.0-44.3)	39.9 (30.5-49.1)	43.3 (31.6-55.2)	45.9 (32.5-59.8)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
Please refer to NOAA Atlas 14 document for more information.

Subject: Option B Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Alt 2 Basins 4-6 - From I-4 / I-275 Interchange to E Osborne Ave

Impervious Areas Schedule

Existing Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	55.52 ac.
Local Road Impervious:	7.83 ac.
▨	▨
Total Impervious Area:	55.52 ac.

Proposed Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	76.66 ac.
Local Road Impervious:	7.22 ac.
Pond:	2.26 ac.
Total Impervious Area:	78.92 ac.

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Dry Retention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	55.52 ac.
Proposed Impervious Area:	78.92 ac.
Δ Impervious Area[1]:	23.40 ac.
Treatment Depth[2]:	1.0 in.
New Required Treatment Volume:	1.95 ac·ft
Existing Required Treatment Volume:	0.70 ac·ft
Total Required Treatment Volume:	2.65 ac·ft

[1] If local road proposed impervious area < existing impervious area, it is not accounted for

[2] Dry Retention Criteria - 0.5 inch over Δ Impervious (1.0" Used to Remain Conservative)

Proposed SMF 4A			
Stage Elevation	**Area**	**Incr. Vol.**	**Total Vol.**
Outside T.O.B.	3.724 ac.	-	-
T.O.B. EL: 37.00 ft.	3.040 ac.	2.95 ac.-ft.	11.9 ac.-ft.
DHW EL: 36.00 ft.	2.863 ac.	5.38 ac.-ft.	8.96 ac.-ft.
Weir EL: 34.00 ft.	2.516 ac.	**3.58 ac.-ft.**	3.58 ac.-ft.
Bottom EL: 32.50 ft.	2.262 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 4A Parameters	
Average Grade EL:	37.00 ft.
Depth to SHWT:	N/A
SHWT EL:	24.11 ft.

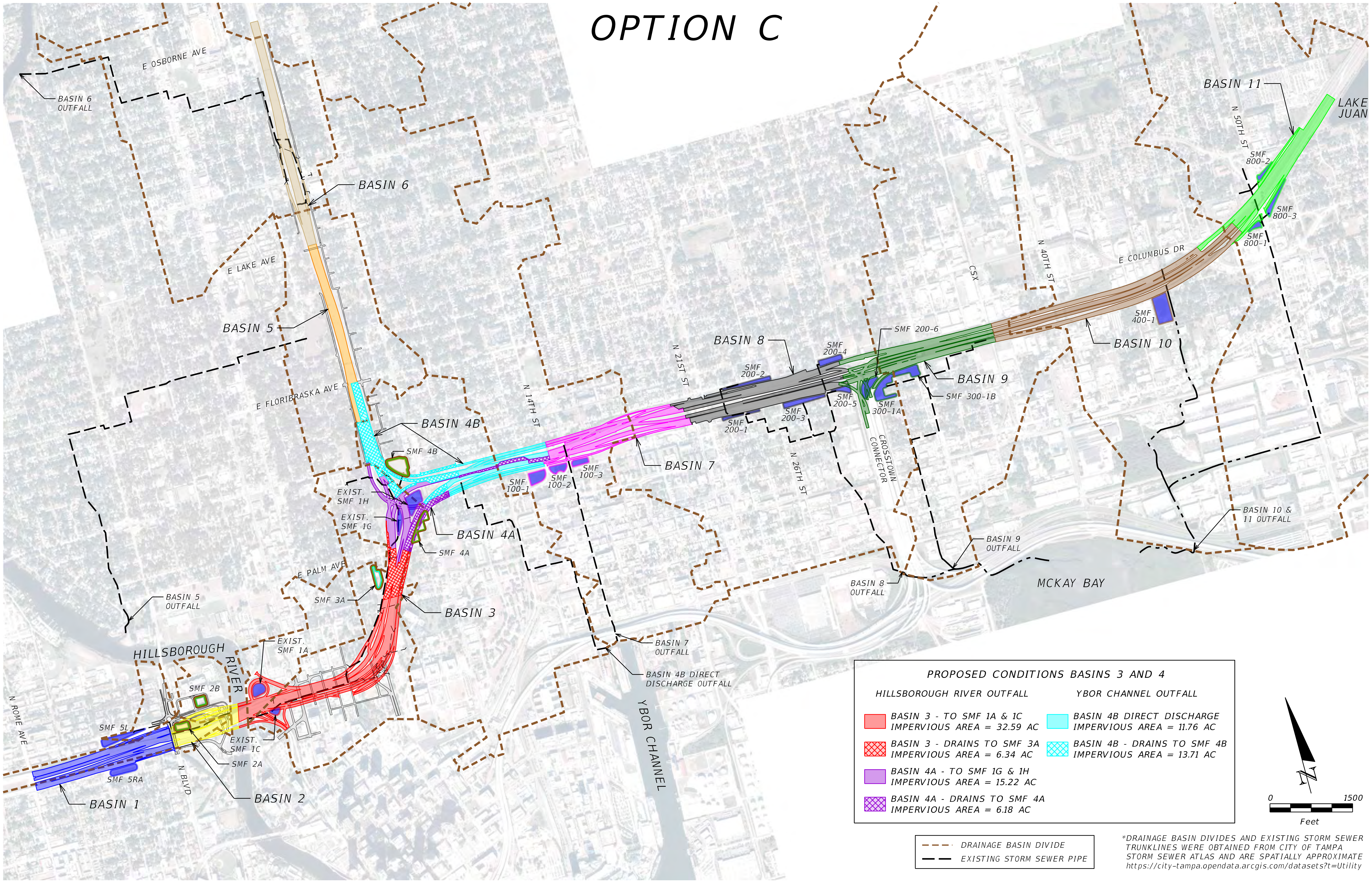
Volume Summary	Required	Provided
Treatment Volume:	2.65 ac.-ft.	3.58 ac.-ft.
Total:	**2.65 ac.-ft.**	**3.58 ac.-ft.**

Note: SMF 4A SHWT EL was obtained from ERP 20690.004

APPENDIX D-3

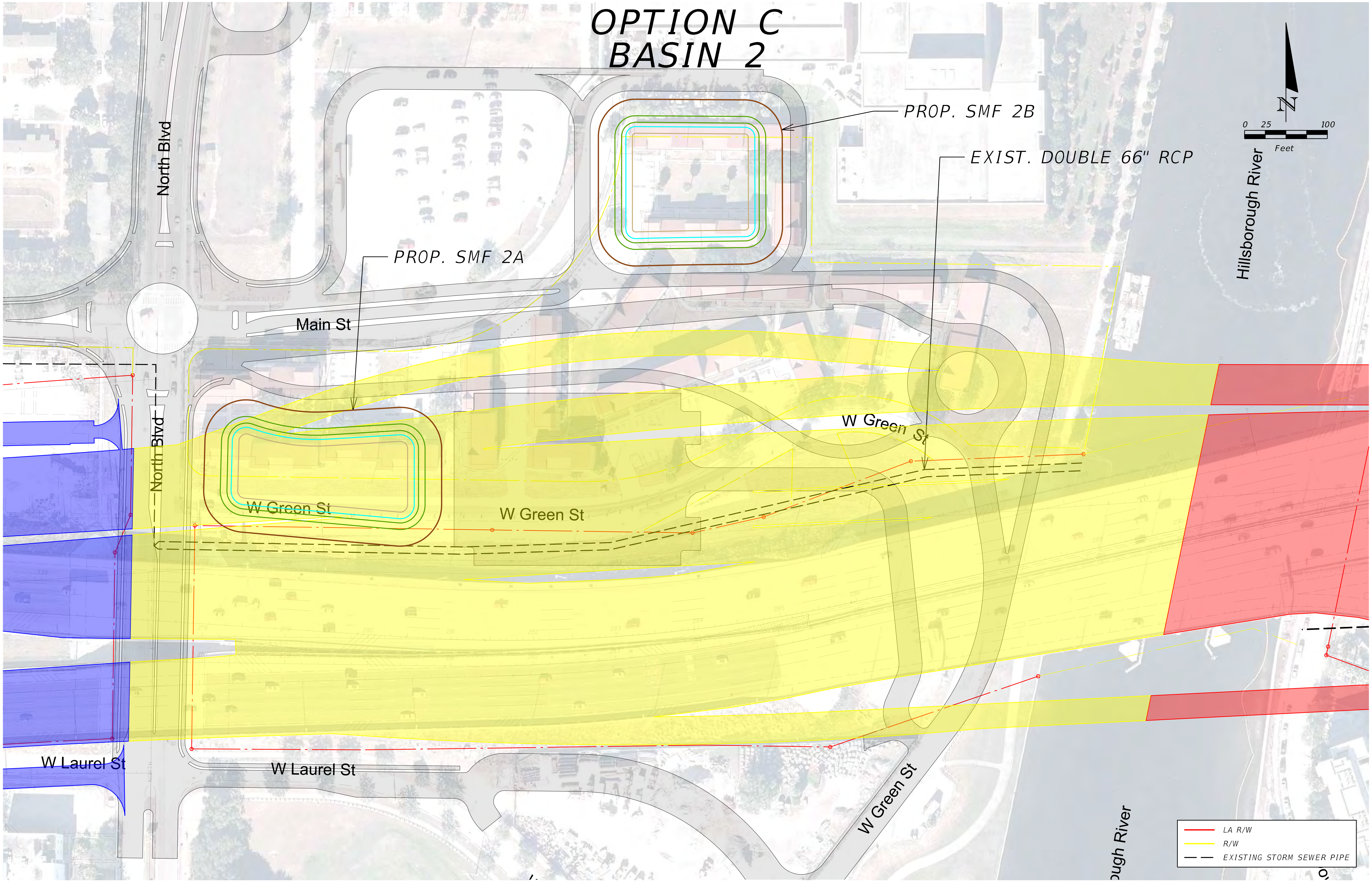
Design Option C

OPTION C

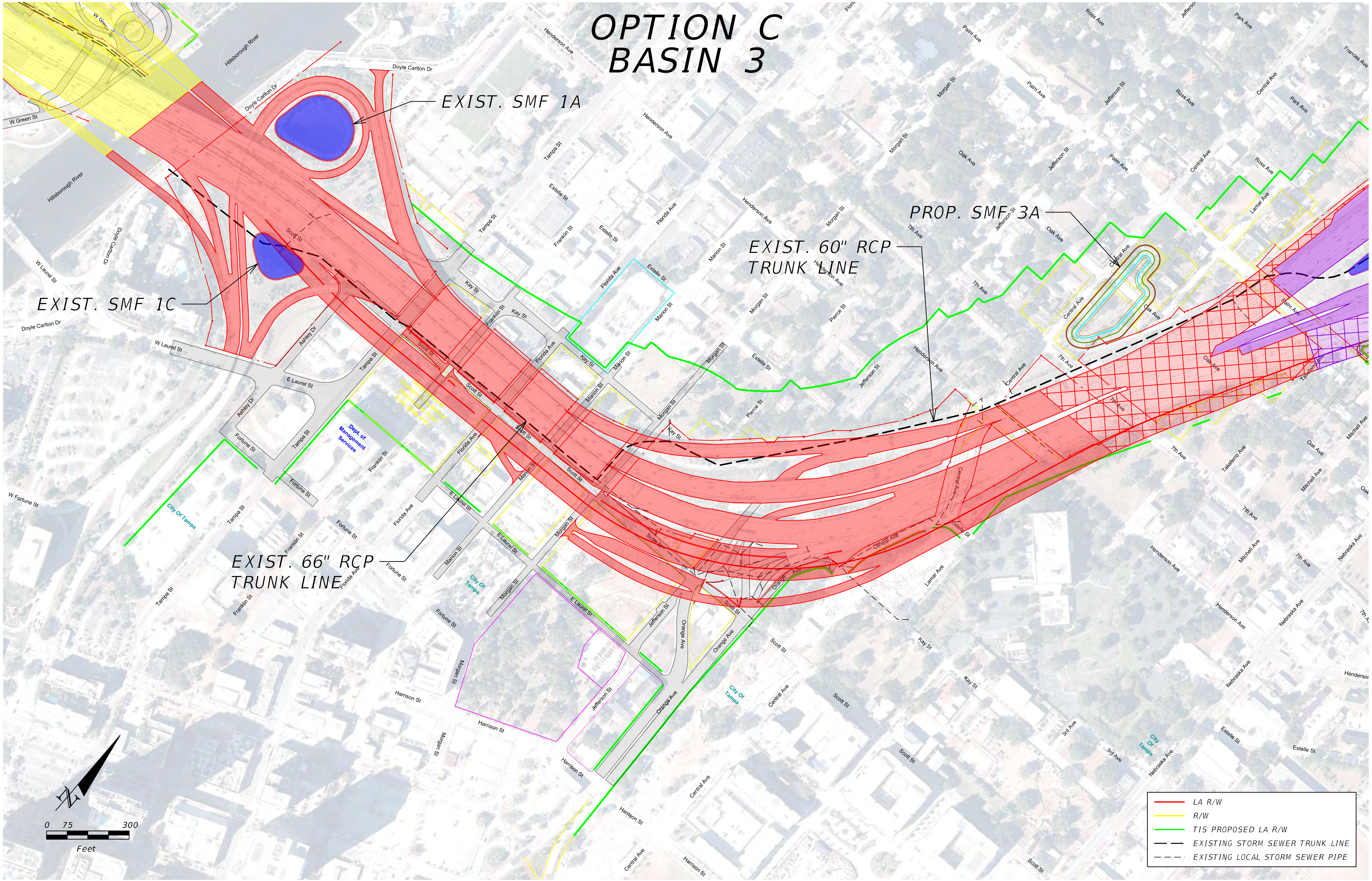


*DRAINAGE BASIN DIVIDES AND EXISTING STORM SEWER TRUNKLINES WERE OBTAINED FROM CITY OF TAMPA STORM SEWER ATLAS AND ARE SPATIALLY APPROXIMATE
https://city-tampa.opendata.arcgis.com/datasets?t=Utility

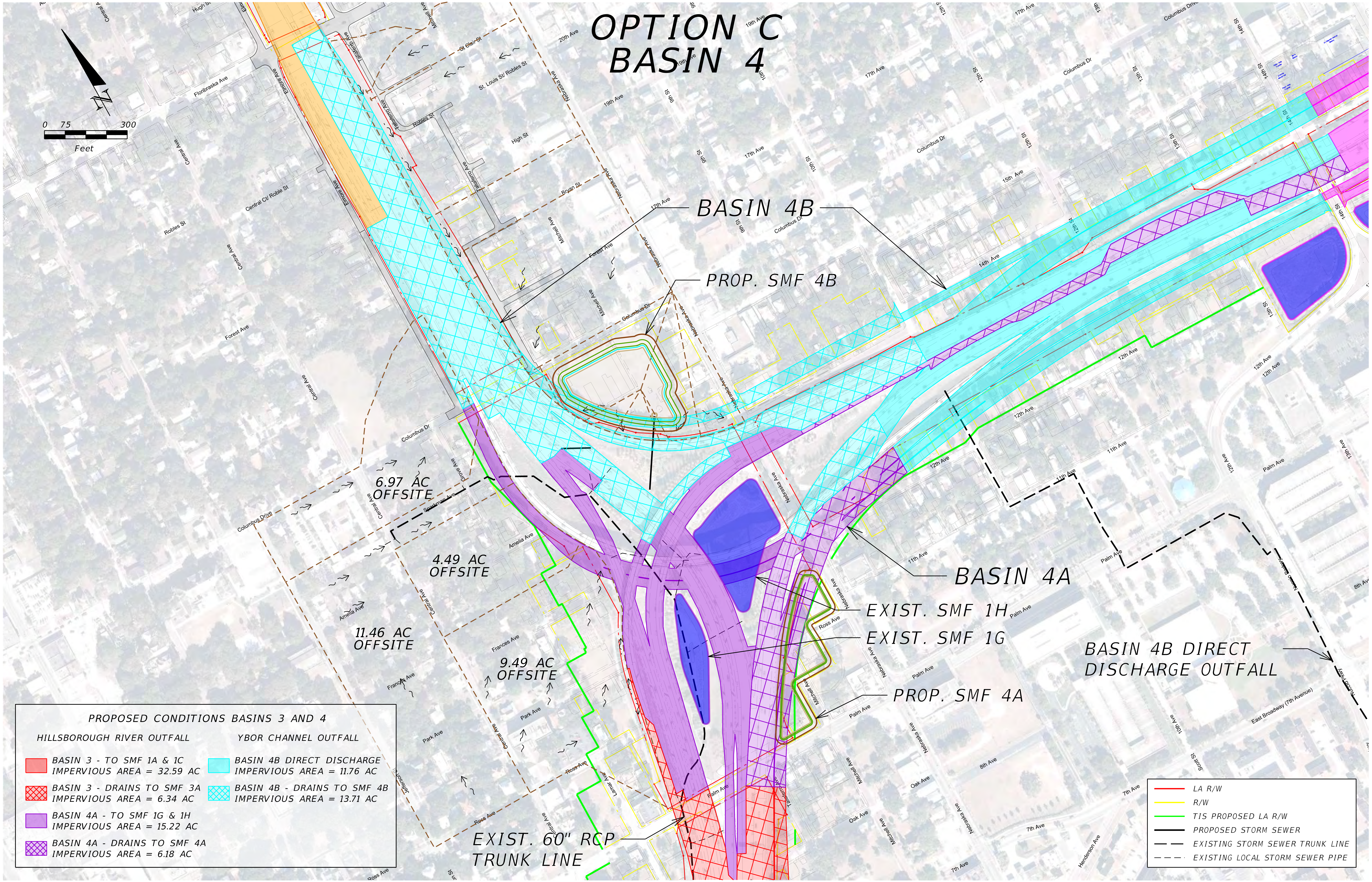
OPTION C
BASIN 2



OPTION C
BASIN 3



OPTION C
BASIN 4



PROPOSED CONDITIONS BASINS 3 AND 4

HILLSBOROUGH RIVER OUTFALL	YBOR CHANNEL OUTFALL
🟥 BASIN 3 - TO SMF 1A & 1C IMPERVIOUS AREA = 32.59 AC	🟦 BASIN 4B DIRECT DISCHARGE IMPERVIOUS AREA = 11.76 AC
▨ BASIN 3 - DRAINS TO SMF 3A IMPERVIOUS AREA = 6.34 AC	▨ BASIN 4B - DRAINS TO SMF 4B IMPERVIOUS AREA = 13.71 AC
🟪 BASIN 4A - TO SMF 1G & 1H IMPERVIOUS AREA = 15.22 AC	
▨ BASIN 4A - DRAINS TO SMF 4A IMPERVIOUS AREA = 6.18 AC	

- LA R/W
- R/W
- TIS PROPOSED LA R/W
- PROPOSED STORM SEWER
- EXISTING STORM SEWER TRUNK LINE
- EXISTING LOCAL STORM SEWER PIPE

Subject: Option D Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 2 - From N Blvd to Hillsborough River

Impervious Areas Schedule

Existing Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	5.41 ac.
Local Road Impervious:	5.92 ac.
▨	▨
Total Impervious Area:	11.33 ac.

Proposed Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	8.90 ac.
Local Road Impervious:	6.52 ac.
Pond:	0.46 ac.
Total Impervious Area:	15.88 ac.

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	11.33 ac.
Proposed Impervious Area:	15.88 ac.
Δ Impervious Area[1]:	4.55 ac.

Treatment Depth[2]:	1.0 in.
New Required Treatment Volume:	0.38 ac·ft
Existing Required Treatment Volume:	0.00 ac·ft
Total Required Treatment Volume:	0.38 ac·ft

[1] If local road proposed impervious area < existing impervious area, it is not accounted for

[2] Wet Detention Criteria - 1.0 inch over Δ Impervious

Proposed SMF 2A			
Stage Elevation	**Area**	**Incr. Vol.**	**Total Vol.**
Outside T.O.B.	1.004 ac.	-	-
T.O.B. EL: 12.00 ft.	0.657 ac.	0.63 ac.-ft.	2.64 ac.-ft.
DHW EL: 11.00 ft.	0.595 ac.	0.57 ac.-ft.	2.02 ac.-ft.
Weir EL: 10.00 ft.	0.535 ac.	**0.64 ac.-ft.**	1.45 ac.-ft.
Control EL: 8.72 ft.	0.461 ac.	0.82 ac.-ft.	0.82 ac.-ft.
Bottom EL: 6.72 ft.	0.354 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 2A Parameters	
Average Grade EL:	12.00 ft.
Depth to SHWT:	3.28 ft.
SHWT EL:	8.72 ft.

SMF 2B Parameters	
Average Grade EL:	12.00 ft.
Depth to SHWT:	3.28 ft.
SHWT EL:	8.72 ft.

Proposed SMF 2B			
Stage Elevation	**Area**	**Incr. Vol.**	**Total Vol.**
Outside T.O.B.	0.980 ac.	-	-
T.O.B. EL: 12.00 ft.	0.656 ac.	0.63 ac.-ft.	2.70 ac.-ft.
DHW EL: 11.00 ft.	0.598 ac.	0.57 ac.-ft.	2.07 ac.-ft.
Weir EL: 10.00 ft.	0.543 ac.	**0.65 ac.-ft.**	1.50 ac.-ft.
Control EL: 8.72 ft.	0.475 ac.	0.85 ac.-ft.	0.85 ac.-ft.
Bottom EL: 6.72 ft.	0.377 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Volume Summary	Required	Provided
Treatment Volume:	0.38 ac.-ft.	0.64 ac.-ft.
Total:	**0.38 ac.-ft.**	**0.64 ac.-ft.**

Note: Only one SMF alternative is required

Subject: Option D Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 3 - From Hillsborough River to South of I-4 / I-275 Interchange

Impervious Areas Schedule

Existing Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	28.27 ac.
Total Impervious Area:	28.27 ac.

Proposed Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	41.52 ac.
Total Impervious Area:	41.52 ac.

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	-
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	28.27 ac.
Proposed Impervious Area:	41.52 ac.
Δ Impervious Area:	13.25 ac.
Treatment Depth[1]:	1.0 in.
New Required Treatment Volume:	1.10 ac·ft
Total Required Treatment Volume:	1.10 ac·ft

[1] Wet Detention Criteria - 1.0 inch over Δ Impervious

Subject: Option D Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 4A - From E Palm Ave to I-4 / I-275 Interchange

Impervious Areas Schedule

Existing Impervious Pavement

Description	Area
I-275 Impervious Pavement:	15.06 ac.
Total Impervious Area:	15.06 ac.

Proposed Impervious Pavement

Description	Area
I-275 Impervious Pavement:	19.33 ac.
Total Impervious Area:	19.33 ac.

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	-
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	15.06 ac.
Proposed Impervious Area:	19.33 ac.
Δ Impervious Area:	4.27 ac.

Treatment Depth[1]:	1.0 in.
New Required Treatment Volume:	0.36 ac·ft
Total Required Treatment Volume:	0.36 ac·ft

[1] Wet Detention Criteria - 1.0 inch over Δ Impervious

Subject: Option D Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 4B - From N Nebraska Ave to N 14th St & E Columbus Dr to E Floribraska Ave

Basin Areas and CN Calculations

Existing Areas

Description	CN	Area
Interstate Impervious Pavmt:	98	12.20 ac.
Empty Lot for SMF:	39	1.58 ac.
Urban Land:	80	10.65 ac.
Total Impervious Area:	12.20 ac.	
Total Area:	24.43 ac.	
CN:	86.34	

Proposed Areas

Description	CN	Area
Interstate Impervious Pavmt:	98	22.85 ac.
Pond:	100	1.58 ac.
Urban Land:	80	0.00 ac.
Total Impervious Area:	24.43 ac.	
Total Area:	24.43 ac.	
CN:	98.13	

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	12.20 ac.
Proposed Impervious Area:	24.43 ac.
Δ Impervious Area:	12.23 ac.

Treatment Depth[1]:	1.0 in.
New Required Treatment Volume:	1.02 ac·ft
Total Required Treatment Volume:	1.02 ac·ft

[1] Wet Detention Criteria - 1.0 inch over Δ Impervious

Proposed SMF 4B

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	2.690 ac.	-	-
T.O.B. EL: 42.00 ft.	2.111 ac.	2.55 ac.-ft.	12.4 ac.-ft.
DHW EL: 40.75 ft.	1.975 ac.	4.36 ac.-ft.	9.81 ac.-ft.
Weir EL: 38.40 ft.	1.730 ac.	**2.48 ac.-ft.**	5.45 ac.-ft.
Control EL: 36.90 ft.	1.580 ac.	2.97 ac.-ft.	2.97 ac.-ft.
Bottom EL: 34.90 ft.	1.388 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 4B Parameters

Average Grade EL:	41.00 ft.
Depth to SHWT:	4.10 ft.
SHWT EL:	36.90 ft.

Volume Summary	Required	Provided
Treatment Volume:	1.02 ac.-ft.	2.48 ac.-ft.
Attenuation Volume:	3.00 ac.-ft.	4.36 ac.-ft.
Total:	**4.02 ac.-ft.**	**6.84 ac.-ft.**

Subject: Option D Basin Analysis Pre/Post
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 4B

Runoff Volume Analysis

Treatment Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Treatment Area:	12.23 ac.
Treatment Depth*:	1.0 in.
Treatment Volume Required:	1.02 ac.-ft.

* Dry Retention Criteria - 0.5 inch over Δ Impervious
(1.0 inch used to remain conservative)
Wet Detention Criteria - 1.0 inch over Δ Impervious

Attenuation Calculations

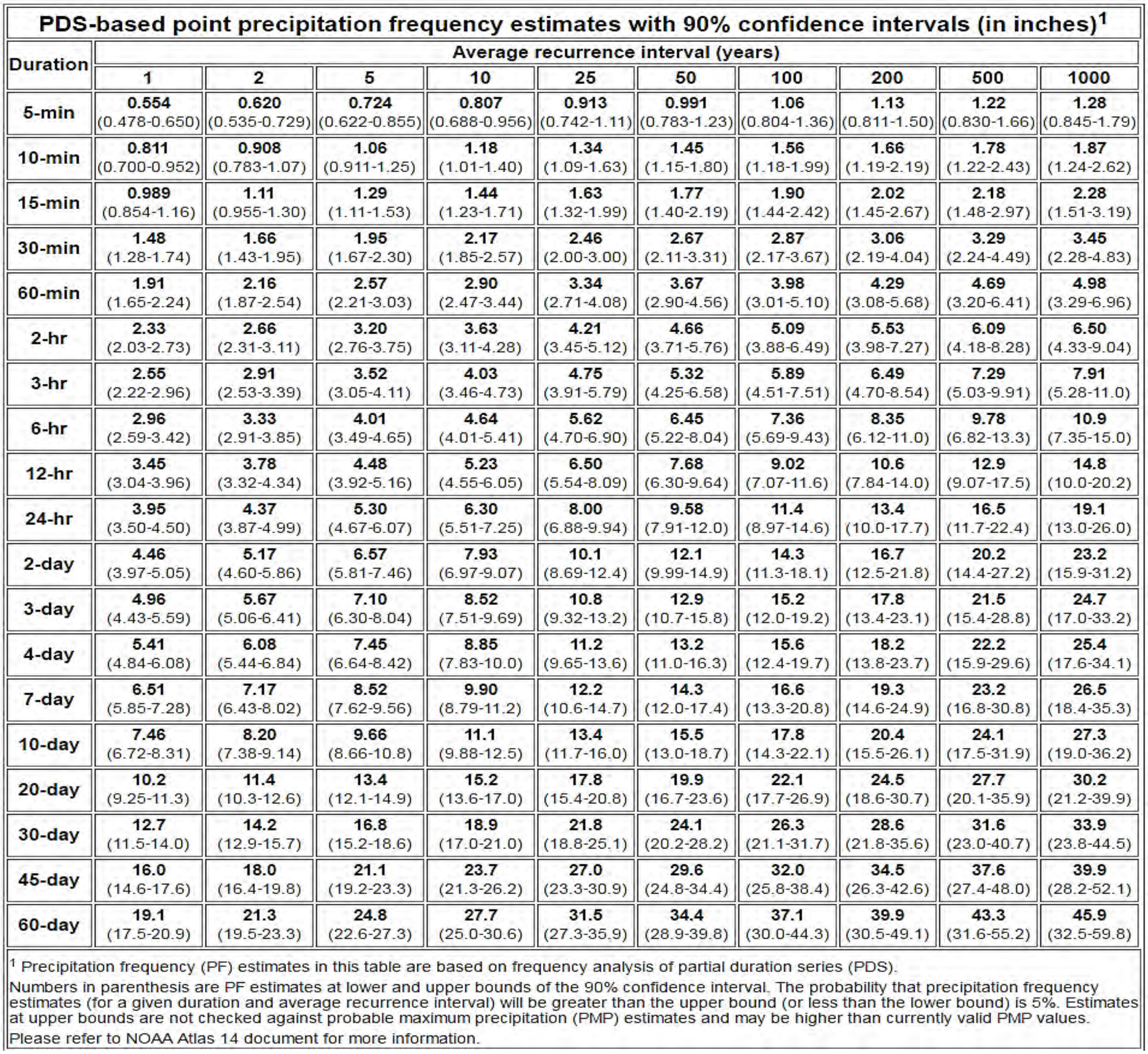
Rainfall Depth**:	11.4 in.	
Summary of Runoff	**Existing**	**Proposed**
Total Basin Area (LT and RT):	24.43 ac.	24.43 ac.
Weighted CN (LT and RT):	86.3	98.1
Soil Retention (S):	1.6 in.	0.2 in.
Runoff Depth (Q_R):	9.7 in.	11.2 in.
Runoff Volume	19.75 ac.-ft.	22.75 ac.-ft.

Post-Pre Attenuation Volume (V_A): 3.00 ac.-ft.

**100 year / 24 hr

Total Runoff Volume Required

Treatment Volume Required:	1.02 ac.-ft.
Attenuation Volume** (V_A):	3.00 ac.-ft.
Total:	**4.02 ac.-ft.**



PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

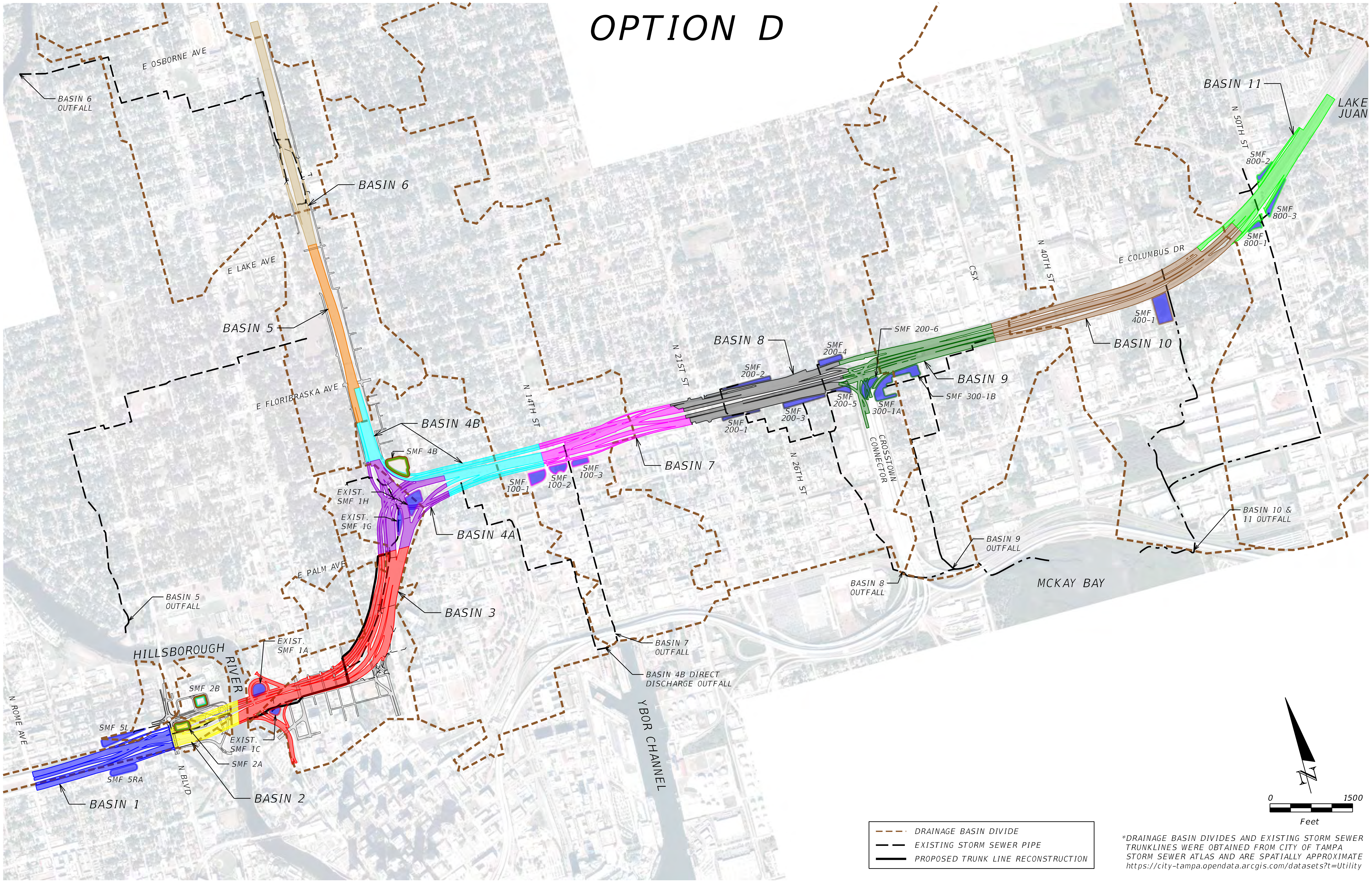
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.554** (0.478-0.650)	**0.620** (0.535-0.729)	**0.724** (0.622-0.855)	**0.807** (0.688-0.956)	**0.913** (0.742-1.11)	**0.991** (0.783-1.23)	**1.06** (0.804-1.36)	**1.13** (0.811-1.50)	**1.22** (0.830-1.66)	**1.28** (0.845-1.79)
10-min	**0.811** (0.700-0.952)	**0.908** (0.783-1.07)	**1.06** (0.911-1.25)	**1.18** (1.01-1.40)	**1.34** (1.09-1.63)	**1.45** (1.15-1.80)	**1.56** (1.18-1.99)	**1.66** (1.19-2.19)	**1.78** (1.22-2.43)	**1.87** (1.24-2.62)
15-min	**0.989** (0.854-1.16)	**1.11** (0.955-1.30)	**1.29** (1.11-1.53)	**1.44** (1.23-1.71)	**1.63** (1.32-1.99)	**1.77** (1.40-2.19)	**1.90** (1.44-2.42)	**2.02** (1.45-2.67)	**2.18** (1.48-2.97)	**2.28** (1.51-3.19)
30-min	**1.48** (1.28-1.74)	**1.66** (1.43-1.95)	**1.95** (1.67-2.30)	**2.17** (1.85-2.57)	**2.46** (2.00-3.00)	**2.67** (2.11-3.31)	**2.87** (2.17-3.67)	**3.06** (2.19-4.04)	**3.29** (2.24-4.49)	**3.45** (2.28-4.83)
60-min	**1.91** (1.65-2.24)	**2.16** (1.87-2.54)	**2.57** (2.21-3.03)	**2.90** (2.47-3.44)	**3.34** (2.71-4.08)	**3.67** (2.90-4.56)	**3.98** (3.01-5.10)	**4.29** (3.08-5.68)	**4.69** (3.20-6.41)	**4.98** (3.29-6.96)
2-hr	**2.33** (2.03-2.73)	**2.66** (2.31-3.11)	**3.20** (2.76-3.75)	**3.63** (3.11-4.28)	**4.21** (3.45-5.12)	**4.66** (3.71-5.76)	**5.09** (3.88-6.49)	**5.53** (3.98-7.27)	**6.09** (4.18-8.28)	**6.50** (4.33-9.04)
3-hr	**2.55** (2.22-2.96)	**2.91** (2.53-3.39)	**3.52** (3.05-4.11)	**4.03** (3.46-4.73)	**4.75** (3.91-5.79)	**5.32** (4.25-6.58)	**5.89** (4.51-7.51)	**6.49** (4.70-8.54)	**7.29** (5.03-9.91)	**7.91** (5.28-11.0)
6-hr	**2.96** (2.59-3.42)	**3.33** (2.91-3.85)	**4.01** (3.49-4.65)	**4.64** (4.01-5.41)	**5.62** (4.70-6.90)	**6.45** (5.22-8.04)	**7.36** (5.69-9.43)	**8.35** (6.12-11.0)	**9.78** (6.82-13.3)	**10.9** (7.35-15.0)
12-hr	**3.45** (3.04-3.96)	**3.78** (3.32-4.34)	**4.48** (3.92-5.16)	**5.23** (4.55-6.05)	**6.50** (5.54-8.09)	**7.68** (6.30-9.64)	**9.02** (7.07-11.6)	**10.6** (7.84-14.0)	**12.9** (9.07-17.5)	**14.8** (10.0-20.2)
24-hr	**3.95** (3.50-4.50)	**4.37** (3.87-4.99)	**5.30** (4.67-6.07)	**6.30** (5.51-7.25)	**8.00** (6.88-9.94)	**9.58** (7.91-12.0)	**11.4** (8.97-14.6)	**13.4** (10.0-17.7)	**16.5** (11.7-22.4)	**19.1** (13.0-26.0)
2-day	**4.46** (3.97-5.05)	**5.17** (4.60-5.86)	**6.57** (5.81-7.46)	**7.93** (6.97-9.07)	**10.1** (8.69-12.4)	**12.1** (9.99-14.9)	**14.3** (11.3-18.1)	**16.7** (12.5-21.8)	**20.2** (14.4-27.2)	**23.2** (15.9-31.2)
3-day	**4.96** (4.43-5.59)	**5.67** (5.06-6.41)	**7.10** (6.30-8.04)	**8.52** (7.51-9.69)	**10.8** (9.32-13.2)	**12.9** (10.7-15.8)	**15.2** (12.0-19.2)	**17.8** (13.4-23.1)	**21.5** (15.4-28.8)	**24.7** (17.0-33.2)
4-day	**5.41** (4.84-6.08)	**6.08** (5.44-6.84)	**7.45** (6.64-8.42)	**8.85** (7.83-10.0)	**11.2** (9.65-13.6)	**13.2** (11.0-16.3)	**15.6** (12.4-19.7)	**18.2** (13.8-23.7)	**22.2** (15.9-29.6)	**25.4** (17.6-34.1)
7-day	**6.51** (5.85-7.28)	**7.17** (6.43-8.02)	**8.52** (7.62-9.56)	**9.90** (8.79-11.2)	**12.2** (10.6-14.7)	**14.3** (12.0-17.4)	**16.6** (13.3-20.8)	**19.3** (14.6-24.9)	**23.2** (16.8-30.8)	**26.5** (18.4-35.3)
10-day	**7.46** (6.72-8.31)	**8.20** (7.38-9.14)	**9.66** (8.66-10.8)	**11.1** (9.88-12.5)	**13.4** (11.7-16.0)	**15.5** (13.0-18.7)	**17.8** (14.3-22.1)	**20.4** (15.5-26.1)	**24.1** (17.5-31.9)	**27.3** (19.0-36.2)
20-day	**10.2** (9.25-11.3)	**11.4** (10.3-12.6)	**13.4** (12.1-14.9)	**15.2** (13.6-17.0)	**17.8** (15.4-20.8)	**19.9** (16.7-23.6)	**22.1** (17.7-26.9)	**24.5** (18.6-30.7)	**27.7** (20.1-35.9)	**30.2** (21.2-39.9)
30-day	**12.7** (11.5-14.0)	**14.2** (12.9-15.7)	**16.8** (15.2-18.6)	**18.9** (17.0-21.0)	**21.8** (18.8-25.1)	**24.1** (20.2-28.2)	**26.3** (21.1-31.7)	**28.6** (21.8-35.6)	**31.6** (23.0-40.7)	**33.9** (23.8-44.5)
45-day	**16.0** (14.6-17.6)	**18.0** (16.4-19.8)	**21.1** (19.2-23.3)	**23.7** (21.3-26.2)	**27.0** (23.3-30.9)	**29.6** (24.8-34.4)	**32.0** (25.8-38.4)	**34.5** (26.3-42.6)	**37.6** (27.4-48.0)	**39.9** (28.2-52.1)
60-day	**19.1** (17.5-20.9)	**21.3** (19.5-23.3)	**24.8** (22.6-27.3)	**27.7** (25.0-30.6)	**31.5** (27.3-35.9)	**34.4** (28.9-39.8)	**37.1** (30.0-44.3)	**39.9** (30.5-49.1)	**43.3** (31.6-55.2)	**45.9** (32.5-59.8)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
Please refer to NOAA Atlas 14 document for more information.

APPENDIX D-4

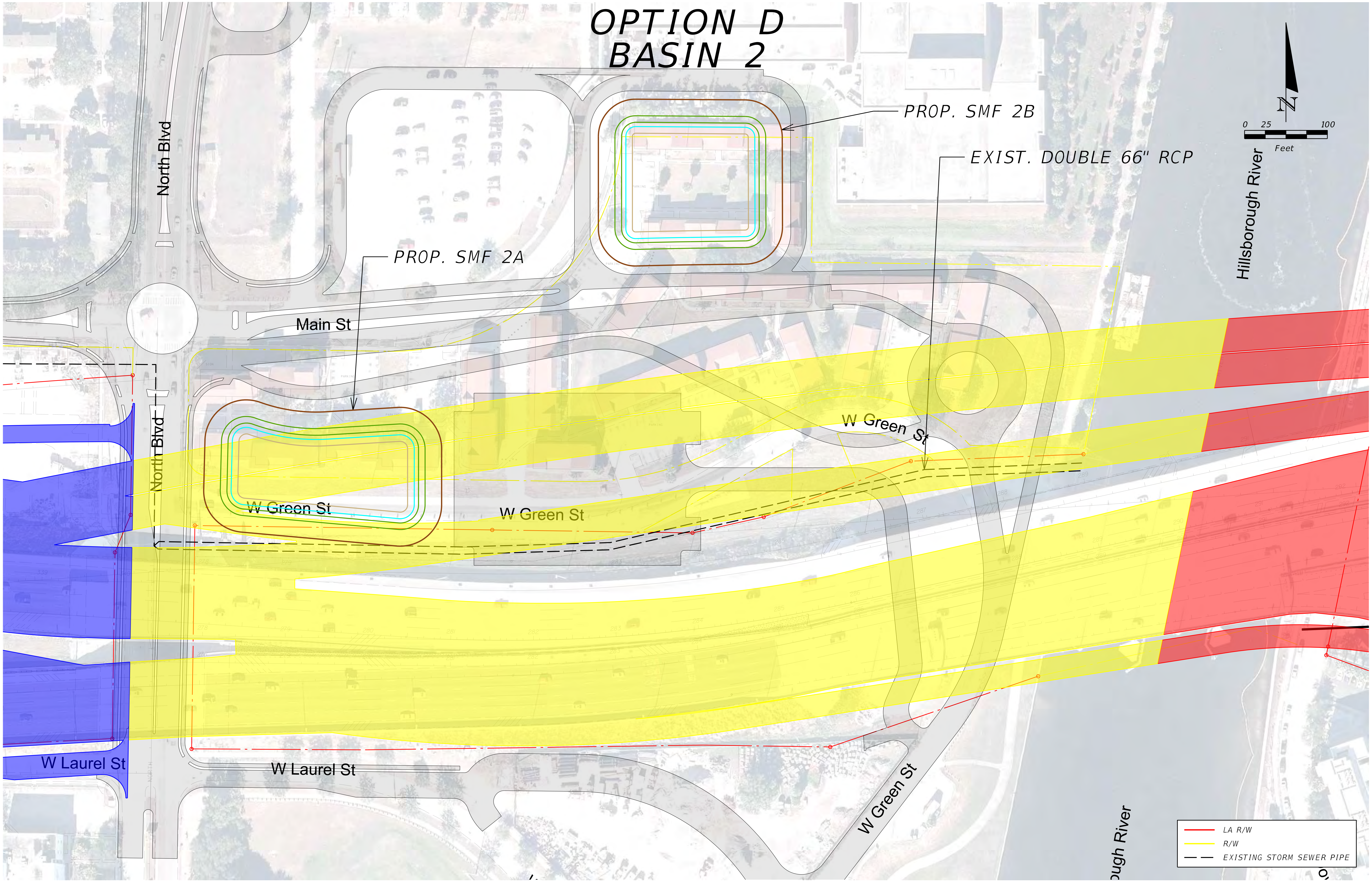
Design Option D

OPTION D

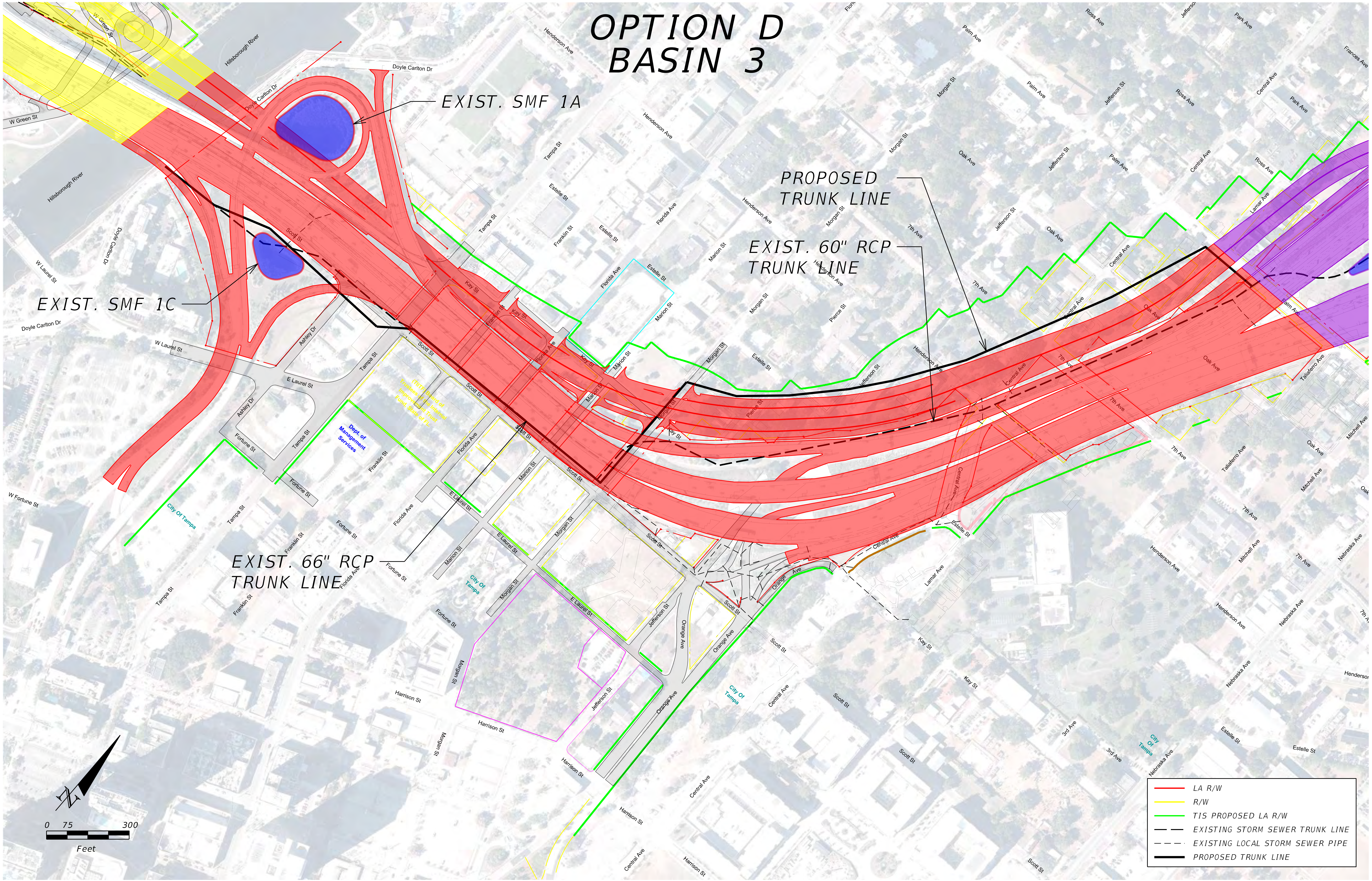


*DRAINAGE BASIN DIVIDES AND EXISTING STORM SEWER TRUNKLINES WERE OBTAINED FROM CITY OF TAMPA STORM SEWER ATLAS AND ARE SPATIALLY APPROXIMATE https://city-tampa.opendata.arcgis.com/datasets?t=Utility

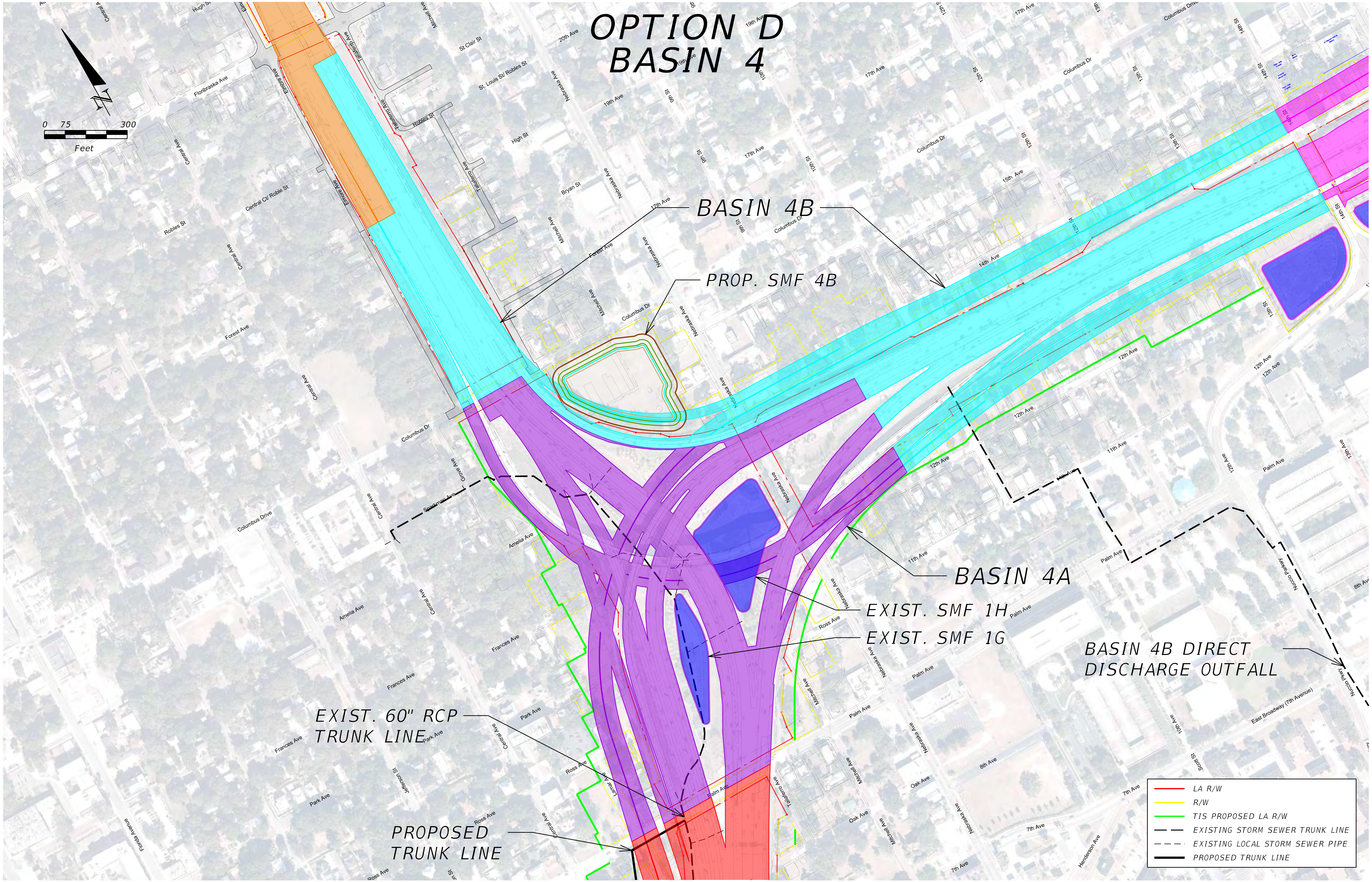
OPTION D
BASIN 2



OPTION D
BASIN 3



OPTION D
BASIN 4



Subject: Option D Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 2 - From N Blvd to Hillsborough River

Impervious Areas Schedule

Existing Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	5.41 ac.
Local Road Impervious:	5.92 ac.
Total Impervious Area:	11.33 ac.

Proposed Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	8.90 ac.
Local Road Impervious:	6.52 ac.
Pond:	0.46 ac.
Total Impervious Area:	15.88 ac.

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	11.33 ac.
Proposed Impervious Area:	15.88 ac.
Δ Impervious Area[1]:	4.55 ac.

Treatment Depth[2]:	1.0 in.
New Required Treatment Volume:	0.38 ac·ft
Existing Required Treatment Volume:	0.00 ac·ft
Total Required Treatment Volume:	0.38 ac·ft

[1] If local road proposed impervious area < existing impervious area, it is not accounted for

[2] Wet Detention Criteria - 1.0 inch over Δ Impervious

Proposed SMF 2A			
Stage Elevation	**Area**	**Incr. Vol.**	**Total Vol.**
Outside T.O.B.	1.004 ac.	-	-
T.O.B. EL: 12.00 ft.	0.657 ac.	0.63 ac.-ft.	2.64 ac.-ft.
DHW EL: 11.00 ft.	0.595 ac.	0.57 ac.-ft.	2.02 ac.-ft.
Weir EL: 10.00 ft.	0.535 ac.	**0.64 ac.-ft.**	1.45 ac.-ft.
Control EL: 8.72 ft.	0.461 ac.	0.82 ac.-ft.	0.82 ac.-ft.
Bottom EL: 6.72 ft.	0.354 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 2A Parameters	
Average Grade EL:	12.00 ft.
Depth to SHWT:	3.28 ft.
SHWT EL:	8.72 ft.

SMF 2B Parameters	
Average Grade EL:	12.00 ft.
Depth to SHWT:	3.28 ft.
SHWT EL:	8.72 ft.

Proposed SMF 2B			
Stage Elevation	**Area**	**Incr. Vol.**	**Total Vol.**
Outside T.O.B.	0.980 ac.	-	-
T.O.B. EL: 12.00 ft.	0.656 ac.	0.63 ac.-ft.	2.70 ac.-ft.
DHW EL: 11.00 ft.	0.598 ac.	0.57 ac.-ft.	2.07 ac.-ft.
Weir EL: 10.00 ft.	0.543 ac.	**0.65 ac.-ft.**	1.50 ac.-ft.
Control EL: 8.72 ft.	0.475 ac.	0.85 ac.-ft.	0.85 ac.-ft.
Bottom EL: 6.72 ft.	0.377 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Volume Summary	Required	Provided
Treatment Volume:	0.38 ac.-ft.	0.64 ac.-ft.
Total:	**0.38 ac.-ft.**	**0.64 ac.-ft.**

Note: Only one SMF alternative is required

Subject: Option D Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 3 - From Hillsborough River to South of I-4 / I-275 Interchange

Impervious Areas Schedule

Existing Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	28.27 ac.
Total Impervious Area:	28.27 ac.

Proposed Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	41.52 ac.
Total Impervious Area:	41.52 ac.

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	-
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	28.27 ac.
Proposed Impervious Area:	41.52 ac.
Δ Impervious Area:	13.25 ac.
Treatment Depth[1]:	1.0 in.
New Required Treatment Volume:	1.10 ac·ft
Total Required Treatment Volume:	1.10 ac·ft

[1] Wet Detention Criteria - 1.0 inch over Δ Impervious

Subject: Option D Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 4A - From E Palm Ave to I-4 / I-275 Interchange

Impervious Areas Schedule

Existing Impervious Pavement

Description	Area
I-275 Impervious Pavement:	15.06 ac.
Total Impervious Area:	15.06 ac.

Proposed Impervious Pavement

Description	Area
I-275 Impervious Pavement:	19.33 ac.
Total Impervious Area:	19.33 ac.

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	-
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	15.06 ac.
Proposed Impervious Area:	19.33 ac.
Δ Impervious Area:	4.27 ac.
Treatment Depth[1]:	1.0 in.
New Required Treatment Volume:	0.36 ac·ft
Total Required Treatment Volume:	0.36 ac·ft

[1] Wet Detention Criteria - 1.0 inch over Δ Impervious

Subject: Option D Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 4B - From N Nebraska Ave to N 14th St & E Columbus Dr to E Floribraska Ave

Basin Areas and CN Calculations

Existing Areas

Description	CN	Area
Interstate Impervious Pavmt:	98	12.20 ac.
Empty Lot for SMF:	39	1.58 ac.
Urban Land:	80	10.65 ac.
Total Impervious Area:	12.20 ac.	
Total Area:	24.43 ac.	
CN:	86.34	

Proposed Areas

Description	CN	Area
Interstate Impervious Pavmt:	98	22.85 ac.
Pond:	100	1.58 ac.
Urban Land:	80	0.00 ac.
Total Impervious Area:	24.43 ac.	
Total Area:	24.43 ac.	
CN:	98.13	

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	12.20 ac.
Proposed Impervious Area:	24.43 ac.
Δ Impervious Area:	12.23 ac.
Treatment Depth[1]:	1.0 in.
New Required Treatment Volume:	1.02 ac·ft
Total Required Treatment Volume:	1.02 ac·ft

[1] Wet Detention Criteria - 1.0 inch over Δ Impervious

Proposed SMF 4B

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	2.690 ac.	-	-
T.O.B. EL: 42.00 ft.	2.111 ac.	2.55 ac.-ft.	12.4 ac.-ft.
DHW EL: 40.75 ft.	1.975 ac.	4.36 ac.-ft.	9.81 ac.-ft.
Weir EL: 38.40 ft.	1.730 ac.	**2.48 ac.-ft.**	5.45 ac.-ft.
Control EL: 36.90 ft.	1.580 ac.	2.97 ac.-ft.	2.97 ac.-ft.
Bottom EL: 34.90 ft.	1.388 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 4B Parameters

Average Grade EL:	41.00 ft.
Depth to SHWT:	4.10 ft.
SHWT EL:	36.90 ft.

Volume Summary	Required	Provided
Treatment Volume:	1.02 ac.-ft.	2.48 ac.-ft.
Attenuation Volume:	3.00 ac.-ft.	4.36 ac.-ft.
Total:	**4.02 ac.-ft.**	**6.84 ac.-ft.**

Subject: Option D Basin Analysis Pre/Post
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 4B

Runoff Volume Analysis

Treatment Calculations	
Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Treatment Area:	12.23 ac.
Treatment Depth*:	1.0 in.
Treatment Volume Required:	1.02 ac.-ft.

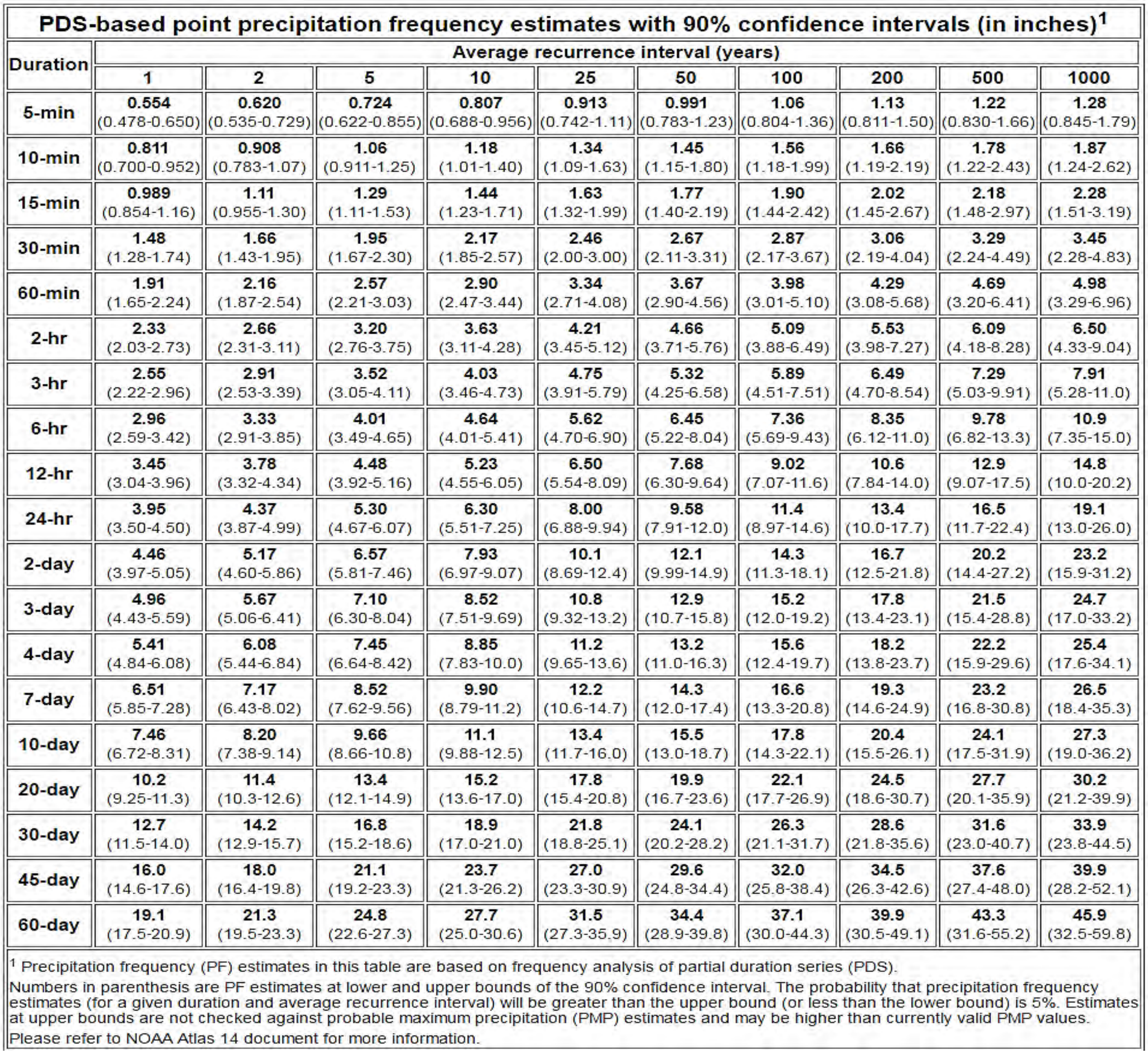
* Dry Retention Criteria - 0.5 inch over Δ Impervious
(1.0 inch used to remain conservative)
Wet Detention Criteria - 1.0 inch over Δ Impervious

Attenuation Calculations		
Rainfall Depth**:	11.4 in.	
Summary of Runoff	**Existing**	**Proposed**
Total Basin Area (LT and RT):	24.43 ac.	24.43 ac.
Weighted CN (LT and RT):	86.3	98.1
Soil Retention (S):	1.6 in.	0.2 in.
Runoff Depth (Q_R):	9.7 in.	11.2 in.
Runoff Volume	19.75 ac.-ft.	22.75 ac.-ft.

Post-Pre Attenuation Volume (V_A):	3.00 ac.-ft.

**100 year / 24 hr

Total Runoff Volume Required	
Treatment Volume Required:	1.02 ac.-ft.
Attenuation Volume** (V_A):	3.00 ac.-ft.
Total:	**4.02 ac.-ft.**



PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

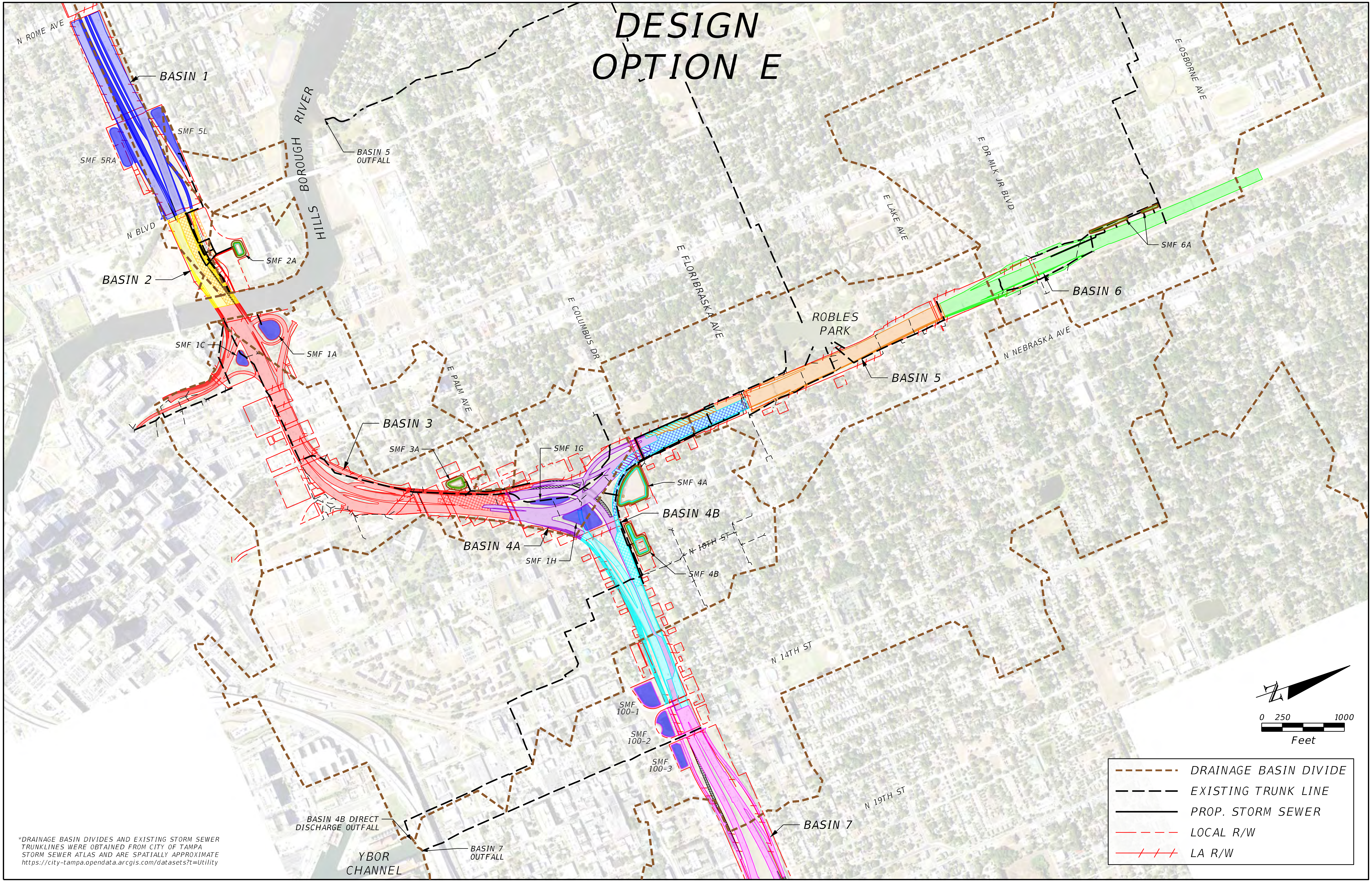
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.554 (0.478-0.650)	0.620 (0.535-0.729)	0.724 (0.622-0.855)	0.807 (0.688-0.956)	0.913 (0.742-1.11)	0.991 (0.783-1.23)	1.06 (0.804-1.36)	1.13 (0.811-1.50)	1.22 (0.830-1.66)	1.28 (0.845-1.79)
10-min	0.811 (0.700-0.952)	0.908 (0.783-1.07)	1.06 (0.911-1.25)	1.18 (1.01-1.40)	1.34 (1.09-1.63)	1.45 (1.15-1.80)	1.56 (1.18-1.99)	1.66 (1.19-2.19)	1.78 (1.22-2.43)	1.87 (1.24-2.62)
15-min	0.989 (0.854-1.16)	1.11 (0.955-1.30)	1.29 (1.11-1.53)	1.44 (1.23-1.71)	1.63 (1.32-1.99)	1.77 (1.40-2.19)	1.90 (1.44-2.42)	2.02 (1.45-2.67)	2.18 (1.48-2.97)	2.28 (1.51-3.19)
30-min	1.48 (1.28-1.74)	1.66 (1.43-1.95)	1.95 (1.67-2.30)	2.17 (1.85-2.57)	2.46 (2.00-3.00)	2.67 (2.11-3.31)	2.87 (2.17-3.67)	3.06 (2.19-4.04)	3.29 (2.24-4.49)	3.45 (2.28-4.83)
60-min	1.91 (1.65-2.24)	2.16 (1.87-2.54)	2.57 (2.21-3.03)	2.90 (2.47-3.44)	3.34 (2.71-4.08)	3.67 (2.90-4.56)	3.98 (3.01-5.10)	4.29 (3.08-5.68)	4.69 (3.20-6.41)	4.98 (3.29-6.96)
2-hr	2.33 (2.03-2.73)	2.66 (2.31-3.11)	3.20 (2.76-3.75)	3.63 (3.11-4.28)	4.21 (3.45-5.12)	4.66 (3.71-5.76)	5.09 (3.88-6.49)	5.53 (3.98-7.27)	6.09 (4.18-8.28)	6.50 (4.33-9.04)
3-hr	2.55 (2.22-2.96)	2.91 (2.53-3.39)	3.52 (3.05-4.11)	4.03 (3.46-4.73)	4.75 (3.91-5.79)	5.32 (4.25-6.58)	5.89 (4.51-7.51)	6.49 (4.70-8.54)	7.29 (5.03-9.91)	7.91 (5.28-11.0)
6-hr	2.96 (2.59-3.42)	3.33 (2.91-3.85)	4.01 (3.49-4.65)	4.64 (4.01-5.41)	5.62 (4.70-6.90)	6.45 (5.22-8.04)	7.36 (5.69-9.43)	8.35 (6.12-11.0)	9.78 (6.82-13.3)	10.9 (7.35-15.0)
12-hr	3.45 (3.04-3.96)	3.78 (3.32-4.34)	4.48 (3.92-5.16)	5.23 (4.55-6.05)	6.50 (5.54-8.09)	7.68 (6.30-9.64)	9.02 (7.07-11.6)	10.6 (7.84-14.0)	12.9 (9.07-17.5)	14.8 (10.0-20.2)
24-hr	3.95 (3.50-4.50)	4.37 (3.87-4.99)	5.30 (4.67-6.07)	6.30 (5.51-7.25)	8.00 (6.88-9.94)	9.58 (7.91-12.0)	11.4 (8.97-14.6)	13.4 (10.0-17.7)	16.5 (11.7-22.4)	19.1 (13.0-26.0)
2-day	4.46 (3.97-5.05)	5.17 (4.60-5.86)	6.57 (5.81-7.46)	7.93 (6.97-9.07)	10.1 (8.69-12.4)	12.1 (9.99-14.9)	14.3 (11.3-18.1)	16.7 (12.5-21.8)	20.2 (14.4-27.2)	23.2 (15.9-31.2)
3-day	4.96 (4.43-5.59)	5.67 (5.06-6.41)	7.10 (6.30-8.04)	8.52 (7.51-9.69)	10.8 (9.32-13.2)	12.9 (10.7-15.8)	15.2 (12.0-19.2)	17.8 (13.4-23.1)	21.5 (15.4-28.8)	24.7 (17.0-33.2)
4-day	5.41 (4.84-6.08)	6.08 (5.44-6.84)	7.45 (6.64-8.42)	8.85 (7.83-10.0)	11.2 (9.65-13.6)	13.2 (11.0-16.3)	15.6 (12.4-19.7)	18.2 (13.8-23.7)	22.2 (15.9-29.6)	25.4 (17.6-34.1)
7-day	6.51 (5.85-7.28)	7.17 (6.43-8.02)	8.52 (7.62-9.56)	9.90 (8.79-11.2)	12.2 (10.6-14.7)	14.3 (12.0-17.4)	16.6 (13.3-20.8)	19.3 (14.6-24.9)	23.2 (16.8-30.8)	26.5 (18.4-35.3)
10-day	7.46 (6.72-8.31)	8.20 (7.38-9.14)	9.66 (8.66-10.8)	11.1 (9.88-12.5)	13.4 (11.7-16.0)	15.5 (13.0-18.7)	17.8 (14.3-22.1)	20.4 (15.5-26.1)	24.1 (17.5-31.9)	27.3 (19.0-36.2)
20-day	10.2 (9.25-11.3)	11.4 (10.3-12.6)	13.4 (12.1-14.9)	15.2 (13.6-17.0)	17.8 (15.4-20.8)	19.9 (16.7-23.6)	22.1 (17.7-26.9)	24.5 (18.6-30.7)	27.7 (20.1-35.9)	30.2 (21.2-39.9)
30-day	12.7 (11.5-14.0)	14.2 (12.9-15.7)	16.8 (15.2-18.6)	18.9 (17.0-21.0)	21.8 (18.8-25.1)	24.1 (20.2-28.2)	26.3 (21.1-31.7)	28.6 (21.8-35.6)	31.6 (23.0-40.7)	33.9 (23.8-44.5)
45-day	16.0 (14.6-17.6)	18.0 (16.4-19.8)	21.1 (19.2-23.3)	23.7 (21.3-26.2)	27.0 (23.3-30.9)	29.6 (24.8-34.4)	32.0 (25.8-38.4)	34.5 (26.3-42.6)	37.6 (27.4-48.0)	39.9 (28.2-52.1)
60-day	19.1 (17.5-20.9)	21.3 (19.5-23.3)	24.8 (22.6-27.3)	27.7 (25.0-30.6)	31.5 (27.3-35.9)	34.4 (28.9-39.8)	37.1 (30.0-44.3)	39.9 (30.5-49.1)	43.3 (31.6-55.2)	45.9 (32.5-59.8)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
Please refer to NOAA Atlas 14 document for more information.

APPENDIX D-5

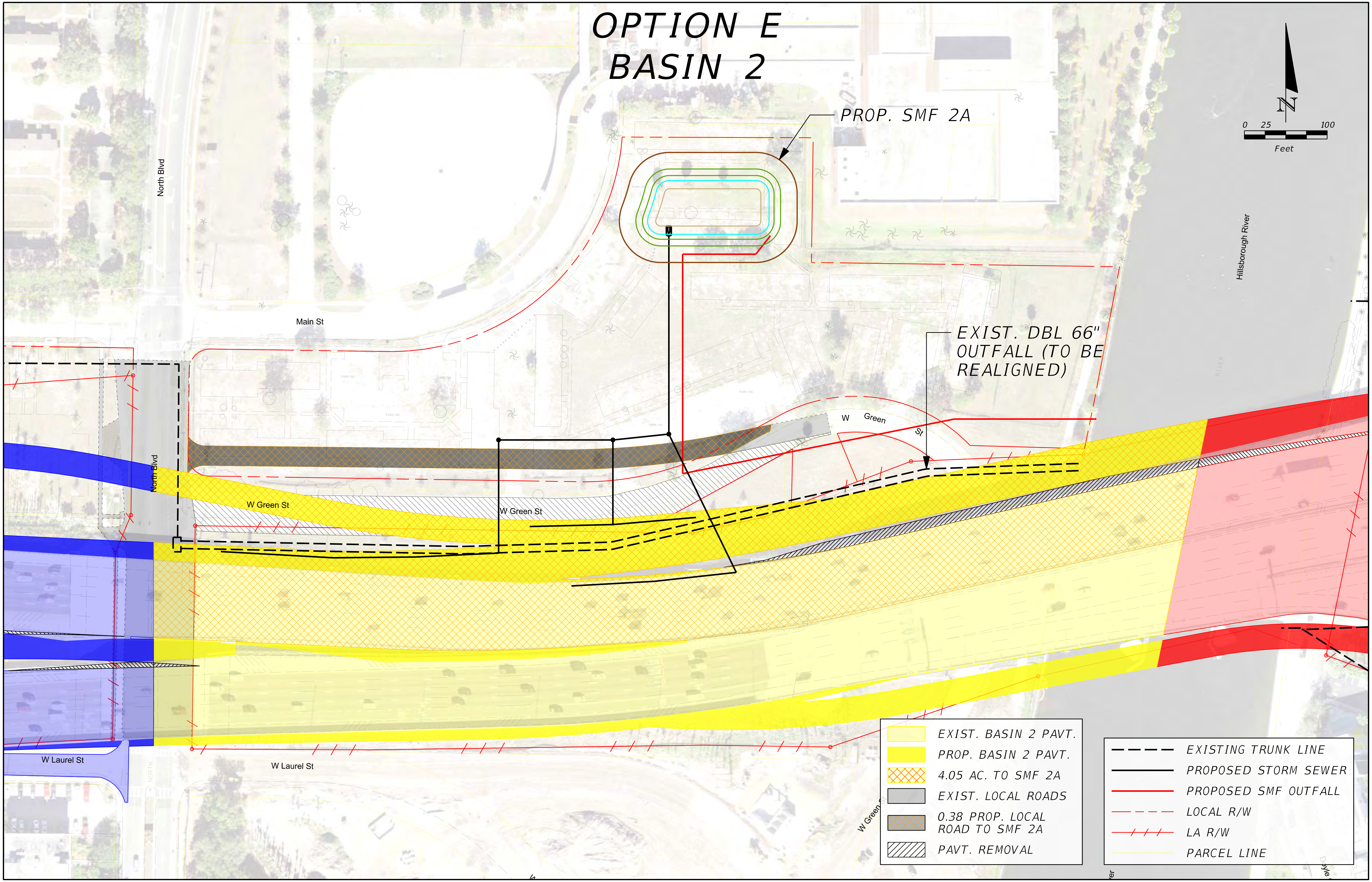
Design Option E

DESIGN OPTION E

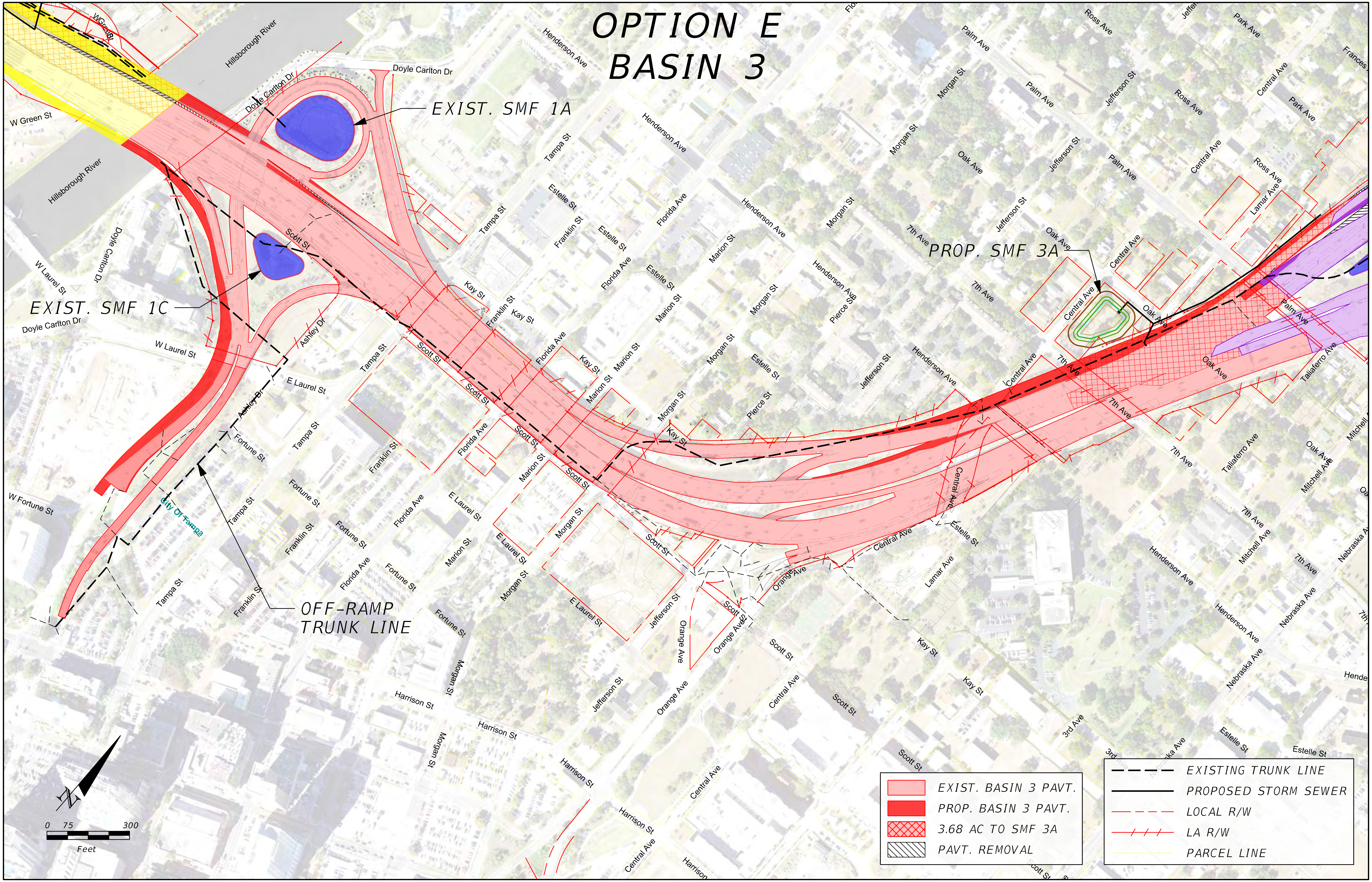


*DRAINAGE BASIN DIVIDES AND EXISTING STORM SEWER TRUNKLINES WERE OBTAINED FROM CITY OF TAMPA STORM SEWER ATLAS AND ARE SPATIALLY APPROXIMATE
https://city-tampa.opendata.arcgis.com/datasets?t=Utility

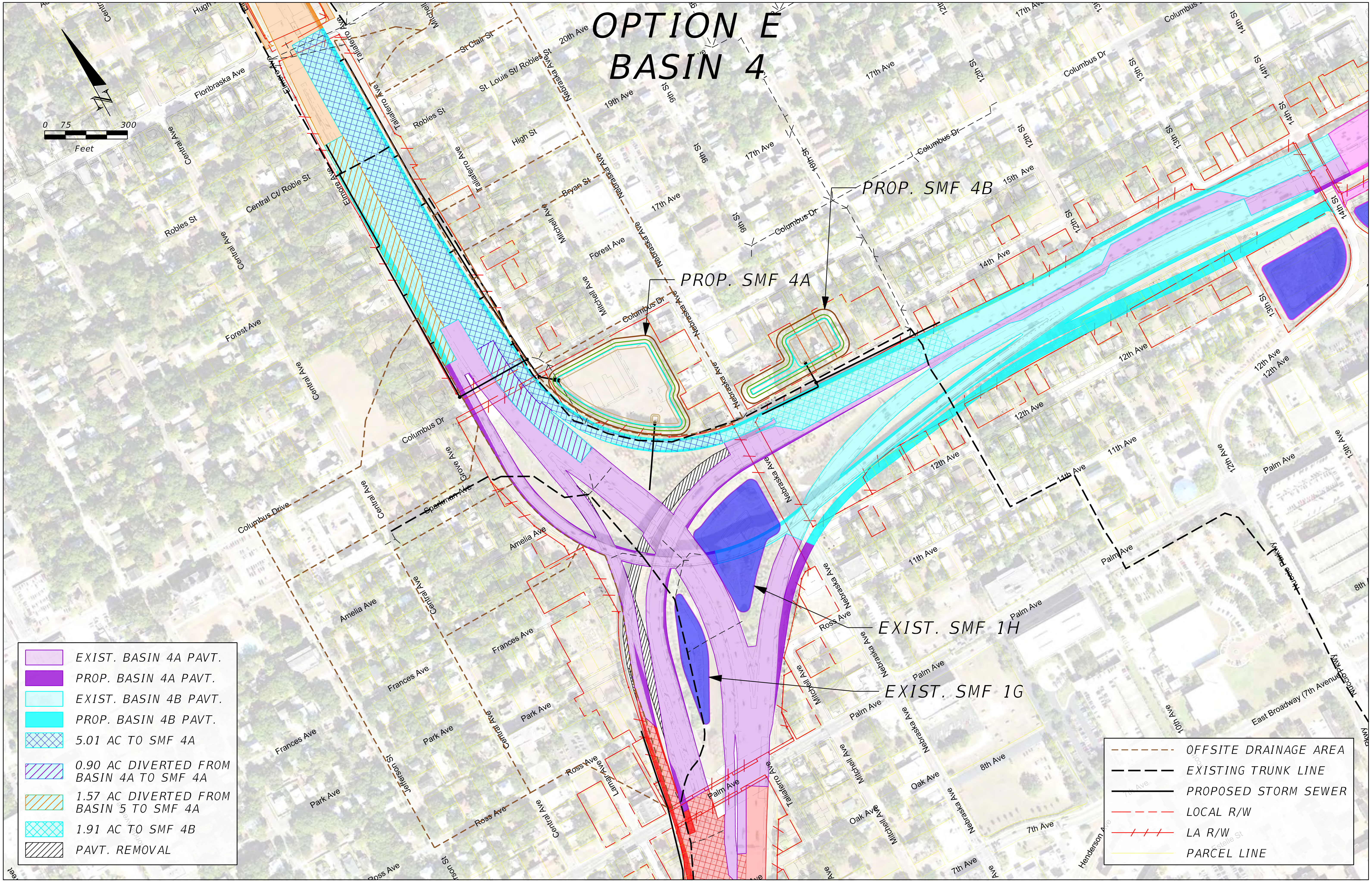
OPTION E
BASIN 2



OPTION E
BASIN 3

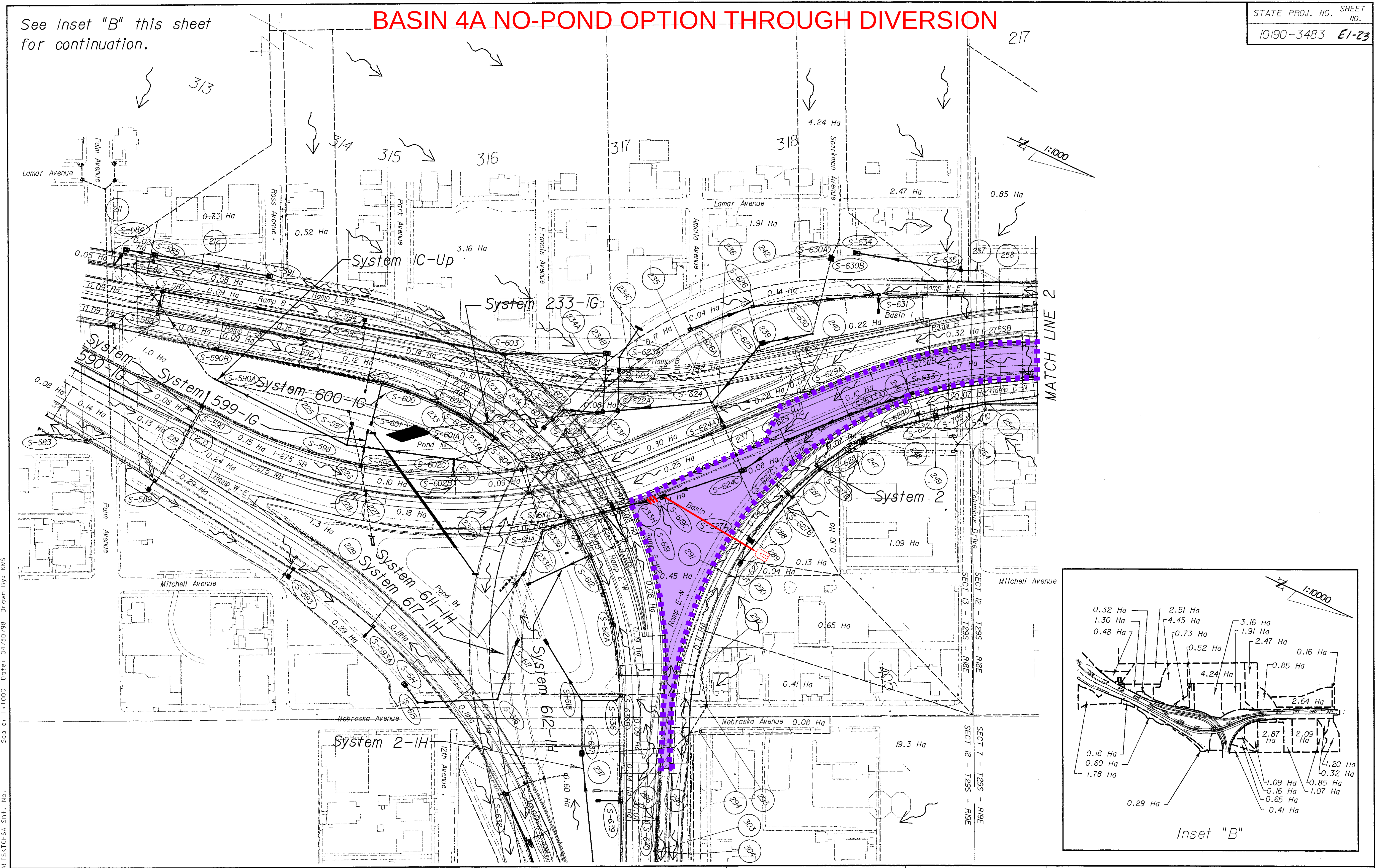


OPTION E
BASIN 4



BASIN 4A NO-POND OPTION THROUGH DIVERSION

STATE PROJ. NO.	SHEET NO.
10190-3483	E1-23



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

REVISIONS

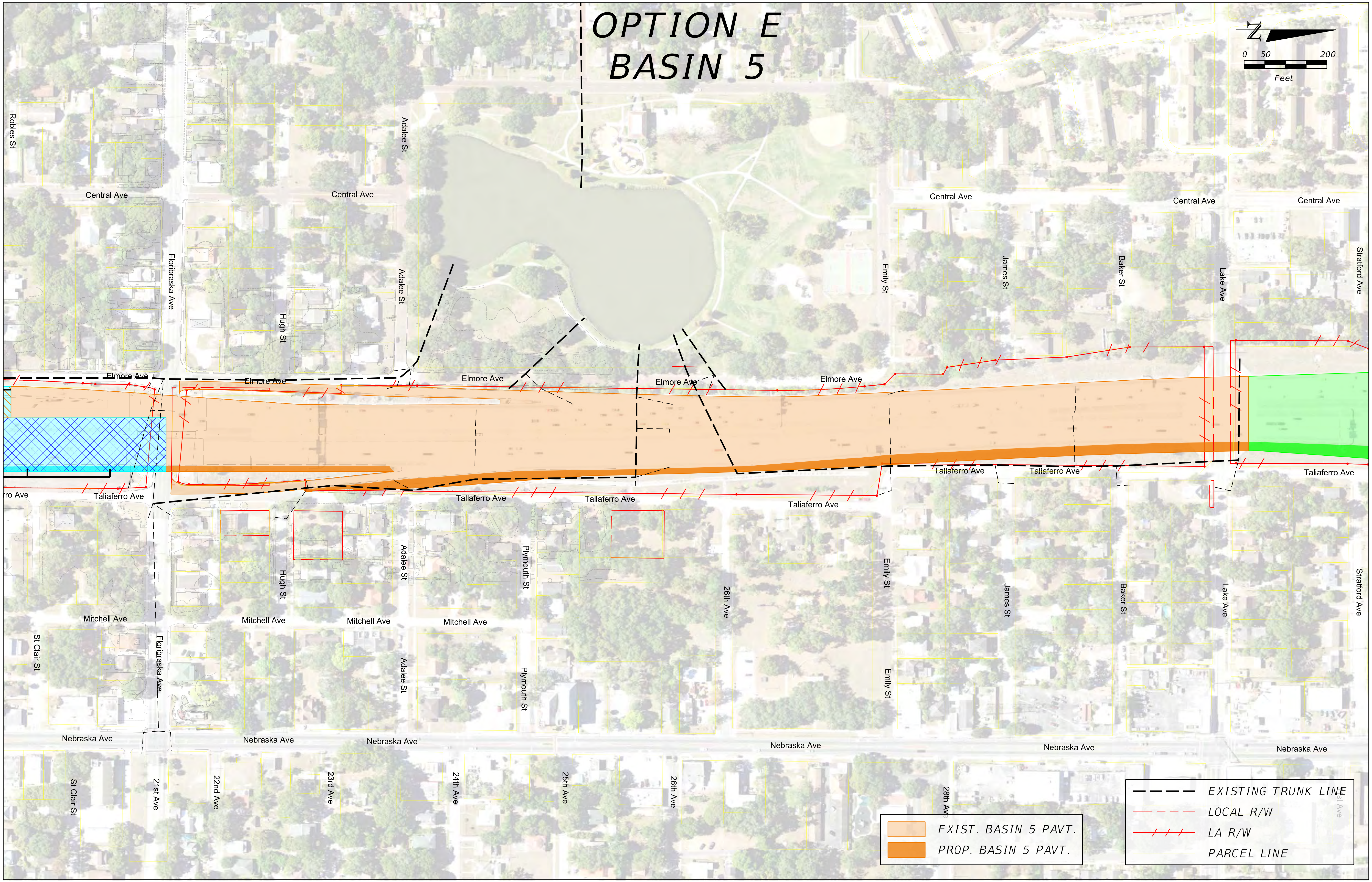
Kisinger Campo & Associates Corporation

FLORIDA DEPARTMENT OF TRANSPORTATION

NODE DIAGRAMS FOR PROPOSED SYSTEMS IN BASIN 1 & 2

Rev. No. 03 Date: 12/17/99 Drawn By: KDM Scale: 1:1000 Date: 04/30/98 Drawn By: KMS
File No.: ALISKTCH6A Sht. No.

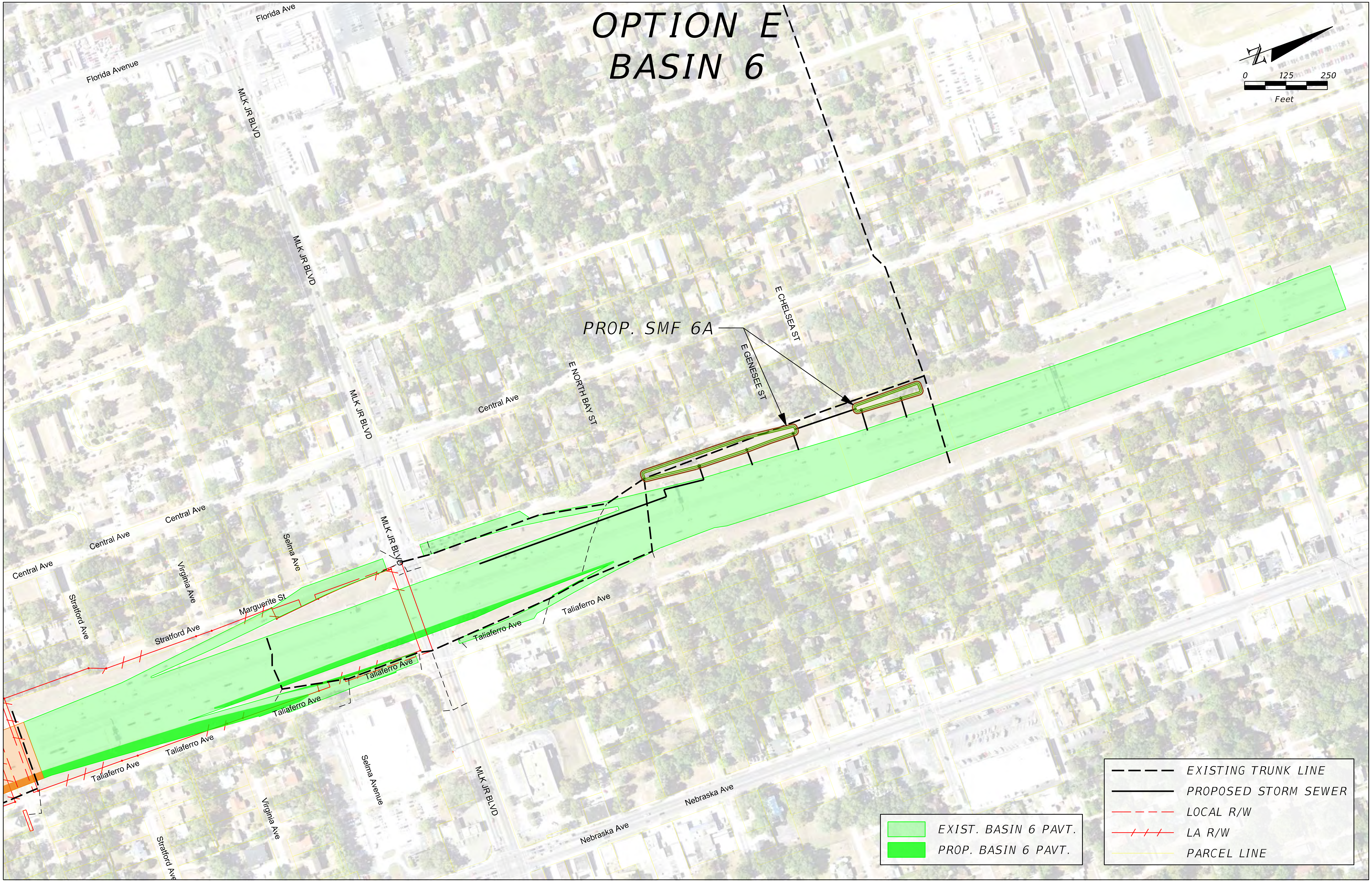
OPTION E
BASIN 5



EXIST. BASIN 5 PAVT.
PROP. BASIN 5 PAVT.

EXISTING TRUNK LINE
LOCAL R/W
LA R/W
PARCEL LINE

OPTION E
BASIN 6



- EXIST. BASIN 6 PAVT.
- PROP. BASIN 6 PAVT.
- EXISTING TRUNK LINE
- PROPOSED STORM SEWER
- LOCAL R/W
- LA R/W
- PARCEL LINE

Subject: Option E Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 2 - From N Blvd to Hillsborough River

Impervious Areas Schedule

Existing Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	5.41 ac.
Total Impervious Area:	5.41 ac.

Proposed Impervious Pavement	
Description	Area
I-275 Impervious Pavement:	7.40 ac.
Pond:	0.21 ac.
Total Impervious Area:	7.61 ac.

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	5.41 ac.
Proposed Impervious Area:	7.61 ac.
Δ Impervious Area:	2.20 ac.

Treatment Depth[1]:	1.0 in.
New Required Treatment Volume:	0.18 ac·ft
Existing Required Treatment Volume:	0.00 ac·ft
Total Required Treatment Volume:	0.18 ac·ft

[1] Wet Detention Criteria - 1.0 inch over Δ Impervious

Proposed SMF 2A			
Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	0.593 ac.	-	-
T.O.B. EL: 12.00 ft.	0.345 ac.	0.32 ac.-ft.	1.37 ac.-ft.
DHW EL: 11.00 ft.	0.303 ac.	0.28 ac.-ft.	1.05 ac.-ft.
Weir EL: 10.00 ft.	0.263 ac.	**0.35 ac.-ft.**	0.77 ac.-ft.
Control EL: 8.50 ft.	0.207 ac.	0.42 ac.-ft.	0.42 ac.-ft.
Bottom EL: 6.00 ft.	0.125 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 2A Parameters	
Average Grade EL:	12.00 ft.
Depth to SHWT:	3.50 ft.
SHWT EL:	8.50 ft.

Volume Summary	Required	Provided
Treatment Volume:	0.18 ac.-ft.	0.35 ac.-ft. *
Total:	**0.18 ac.-ft.**	**0.35 ac.-ft.**

Note: No attenuation required (direct discharge to river.)
*0.17 ac-ft excess treatment available for Basin 3 via compensatory treatment.

Subject: Option E Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 3 - From Hillsborough River to E Palm Ave

Basin Areas and CN Calculations

Existing Areas

Description	CN	Area
I-275 Impervious Pavement:	98	27.56 ac.
I-275 Off-Ramp	98	1.36 ac.
Urban Land:	80	3.47 ac.
▨	▨	▨
Total Impervious Area:	28.92 ac.	
Total Area:	32.39 ac.	
CN:	96.1	

Proposed Areas

Description	CN	Area
I-275 Impervious Pavement:	98	30.18 ac.
I-275 Off-Ramp	98	1.90 ac.
Pond:	100	0.31 ac.
Urban Land:	80	0.00 ac.
Total Impervious Area:	32.39 ac.	
Total Area:	32.39 ac.	
CN:	98.0	

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	28.92 ac.
Proposed Impervious Area:	32.39 ac.
Δ Impervious Area:	3.47 ac.

Treatment Depth[1]:	1.0 in.
New Required Treatment Volume:	0.29 ac·ft
Total Required Treatment Volume:	0.29 ac·ft

[1] Wet Detention Criteria - 1.0 inch over Δ Impervious

Proposed SMF 3A

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	0.733 ac.	-	-
T.O.B. EL: 45.00 ft.	0.452 ac.	0.43 ac.-ft.	1.93 ac.-ft.
DHW EL: 44.00 ft.	0.403 ac.	0.75 ac.-ft.	1.50 ac.-ft.
Weir EL: 41.90 ft.	0.312 ac.	**0.12 ac.-ft.**	0.75 ac.-ft.
Control EL: 41.50 ft.	0.312 ac.	0.62 ac.-ft.	0.62 ac.-ft.
Bottom EL: 39.00 ft.	0.187 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 3A Parameters

Average Grade EL:	45.00 ft.
Depth to SHWT:	3.50 ft.
SHWT EL:	41.50 ft.

Volume Summary	Required	Provided
Treatment Volume:	0.29 ac.-ft.	0.12 ac.-ft.
Attenuation Volume:	0.63 ac.-ft.	0.75 ac.-ft.
Total:	**0.91 ac.-ft.**	**0.88 ac.-ft.** *

*Note: Treatment not fully provided in SMF 3A. Additional treatment provided in SMF 2A.

Subject: Option E Basin Analysis Pre/Post
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 3

Runoff Volume Analysis

Treatment Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Treatment Area:	3.47 ac.
Treatment Depth*:	1.0 in.
Treatment Volume Required:	0.29 ac.-ft.

* Dry Retention Criteria - 0.5 inch over Δ Impervious
(1.0 inch used to remain conservative)
Wet Detention Criteria - 1.0 inch over Δ Impervious

Attenuation Calculations

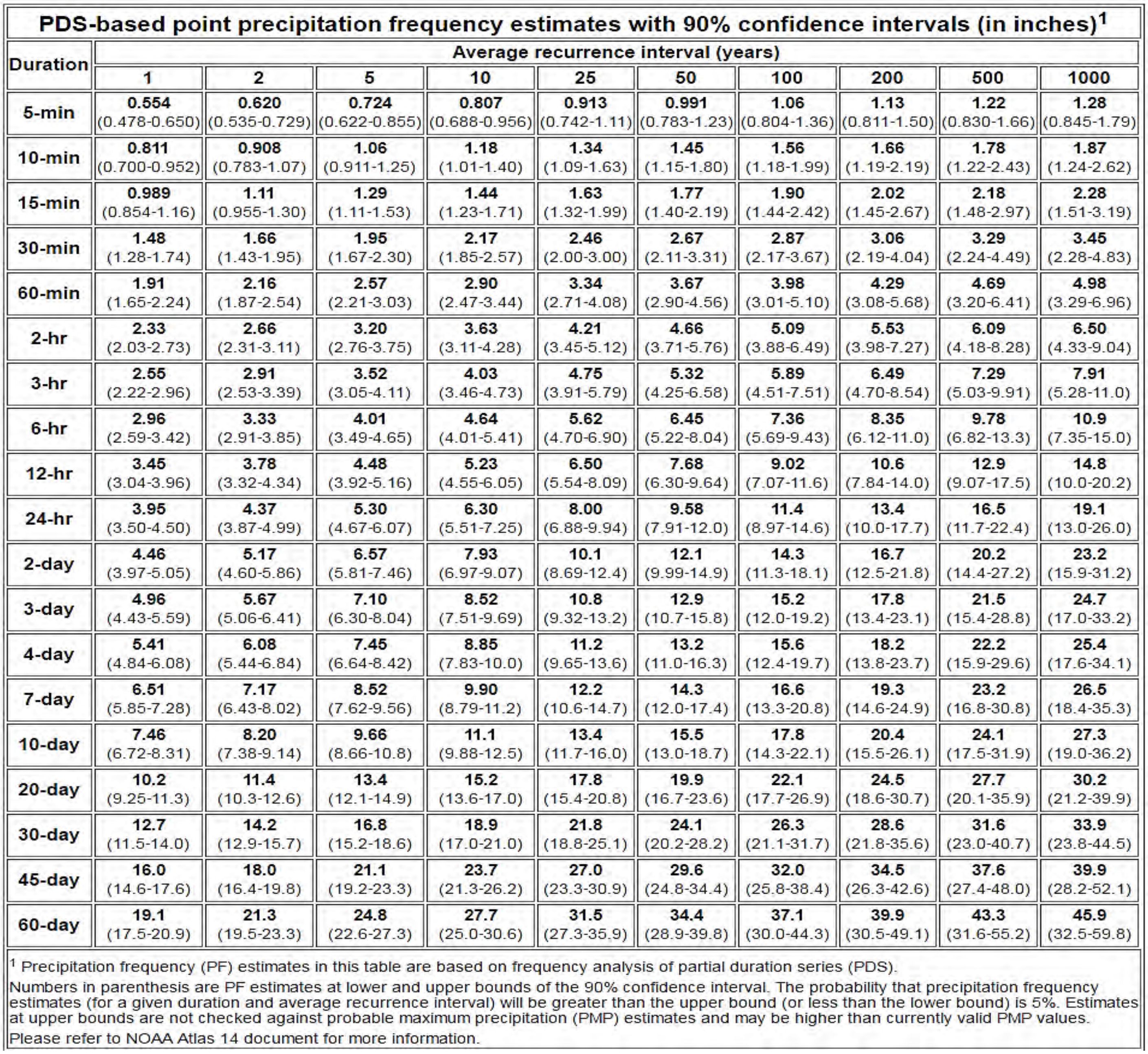
Rainfall Depth**:	11.4 in.	
Summary of Runoff	**Existing**	**Proposed**
Total Basin Area (LT and RT):	32.39 ac.	32.39 ac.
Weighted CN (LT and RT):	96.1	98.0
Soil Retention (S):	0.4 in.	0.2 in.
Runoff Depth (Q_R):	10.9 in.	11.2 in.
Runoff Volume	29.50 ac.-ft.	30.12 ac.-ft.

Post-Pre Attenuation Volume (V_A): 0.63 ac.-ft.

**100 year / 24 hr

Total Runoff Volume Required

Treatment Volume Required:	0.29 ac.-ft.
Attenuation Volume (V_A):	0.63 ac.-ft.
Total:	**0.91 ac.-ft.**



PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
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10-min	0.811 (0.700-0.952)	0.908 (0.783-1.07)	1.06 (0.911-1.25)	1.18 (1.01-1.40)	1.34 (1.09-1.63)	1.45 (1.15-1.80)	1.56 (1.18-1.99)	1.66 (1.19-2.19)	1.78 (1.22-2.43)	1.87 (1.24-2.62)
15-min	0.989 (0.854-1.16)	1.11 (0.955-1.30)	1.29 (1.11-1.53)	1.44 (1.23-1.71)	1.63 (1.32-1.99)	1.77 (1.40-2.19)	1.90 (1.44-2.42)	2.02 (1.45-2.67)	2.18 (1.48-2.97)	2.28 (1.51-3.19)
30-min	1.48 (1.28-1.74)	1.66 (1.43-1.95)	1.95 (1.67-2.30)	2.17 (1.85-2.57)	2.46 (2.00-3.00)	2.67 (2.11-3.31)	2.87 (2.17-3.67)	3.06 (2.19-4.04)	3.29 (2.24-4.49)	3.45 (2.28-4.83)
60-min	1.91 (1.65-2.24)	2.16 (1.87-2.54)	2.57 (2.21-3.03)	2.90 (2.47-3.44)	3.34 (2.71-4.08)	3.67 (2.90-4.56)	3.98 (3.01-5.10)	4.29 (3.08-5.68)	4.69 (3.20-6.41)	4.98 (3.29-6.96)
2-hr	2.33 (2.03-2.73)	2.66 (2.31-3.11)	3.20 (2.76-3.75)	3.63 (3.11-4.28)	4.21 (3.45-5.12)	4.66 (3.71-5.76)	5.09 (3.88-6.49)	5.53 (3.98-7.27)	6.09 (4.18-8.28)	6.50 (4.33-9.04)
3-hr	2.55 (2.22-2.96)	2.91 (2.53-3.39)	3.52 (3.05-4.11)	4.03 (3.46-4.73)	4.75 (3.91-5.79)	5.32 (4.25-6.58)	5.89 (4.51-7.51)	6.49 (4.70-8.54)	7.29 (5.03-9.91)	7.91 (5.28-11.0)
6-hr	2.96 (2.59-3.42)	3.33 (2.91-3.85)	4.01 (3.49-4.65)	4.64 (4.01-5.41)	5.62 (4.70-6.90)	6.45 (5.22-8.04)	7.36 (5.69-9.43)	8.35 (6.12-11.0)	9.78 (6.82-13.3)	10.9 (7.35-15.0)
12-hr	3.45 (3.04-3.96)	3.78 (3.32-4.34)	4.48 (3.92-5.16)	5.23 (4.55-6.05)	6.50 (5.54-8.09)	7.68 (6.30-9.64)	9.02 (7.07-11.6)	10.6 (7.84-14.0)	12.9 (9.07-17.5)	14.8 (10.0-20.2)
24-hr	3.95 (3.50-4.50)	4.37 (3.87-4.99)	5.30 (4.67-6.07)	6.30 (5.51-7.25)	8.00 (6.88-9.94)	9.58 (7.91-12.0)	11.4 (8.97-14.6)	13.4 (10.0-17.7)	16.5 (11.7-22.4)	19.1 (13.0-26.0)
2-day	4.46 (3.97-5.05)	5.17 (4.60-5.86)	6.57 (5.81-7.46)	7.93 (6.97-9.07)	10.1 (8.69-12.4)	12.1 (9.99-14.9)	14.3 (11.3-18.1)	16.7 (12.5-21.8)	20.2 (14.4-27.2)	23.2 (15.9-31.2)
3-day	4.96 (4.43-5.59)	5.67 (5.06-6.41)	7.10 (6.30-8.04)	8.52 (7.51-9.69)	10.8 (9.32-13.2)	12.9 (10.7-15.8)	15.2 (12.0-19.2)	17.8 (13.4-23.1)	21.5 (15.4-28.8)	24.7 (17.0-33.2)
4-day	5.41 (4.84-6.08)	6.08 (5.44-6.84)	7.45 (6.64-8.42)	8.85 (7.83-10.0)	11.2 (9.65-13.6)	13.2 (11.0-16.3)	15.6 (12.4-19.7)	18.2 (13.8-23.7)	22.2 (15.9-29.6)	25.4 (17.6-34.1)
7-day	6.51 (5.85-7.28)	7.17 (6.43-8.02)	8.52 (7.62-9.56)	9.90 (8.79-11.2)	12.2 (10.6-14.7)	14.3 (12.0-17.4)	16.6 (13.3-20.8)	19.3 (14.6-24.9)	23.2 (16.8-30.8)	26.5 (18.4-35.3)
10-day	7.46 (6.72-8.31)	8.20 (7.38-9.14)	9.66 (8.66-10.8)	11.1 (9.88-12.5)	13.4 (11.7-16.0)	15.5 (13.0-18.7)	17.8 (14.3-22.1)	20.4 (15.5-26.1)	24.1 (17.5-31.9)	27.3 (19.0-36.2)
20-day	10.2 (9.25-11.3)	11.4 (10.3-12.6)	13.4 (12.1-14.9)	15.2 (13.6-17.0)	17.8 (15.4-20.8)	19.9 (16.7-23.6)	22.1 (17.7-26.9)	24.5 (18.6-30.7)	27.7 (20.1-35.9)	30.2 (21.2-39.9)
30-day	12.7 (11.5-14.0)	14.2 (12.9-15.7)	16.8 (15.2-18.6)	18.9 (17.0-21.0)	21.8 (18.8-25.1)	24.1 (20.2-28.2)	26.3 (21.1-31.7)	28.6 (21.8-35.6)	31.6 (23.0-40.7)	33.9 (23.8-44.5)
45-day	16.0 (14.6-17.6)	18.0 (16.4-19.8)	21.1 (19.2-23.3)	23.7 (21.3-26.2)	27.0 (23.3-30.9)	29.6 (24.8-34.4)	32.0 (25.8-38.4)	34.5 (26.3-42.6)	37.6 (27.4-48.0)	39.9 (28.2-52.1)
60-day	19.1 (17.5-20.9)	21.3 (19.5-23.3)	24.8 (22.6-27.3)	27.7 (25.0-30.6)	31.5 (27.3-35.9)	34.4 (28.9-39.8)	37.1 (30.0-44.3)	39.9 (30.5-49.1)	43.3 (31.6-55.2)	45.9 (32.5-59.8)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
Please refer to NOAA Atlas 14 document for more information.

Subject: Option E Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 4A - From E Palm Ave to I-4 / I-275 Interchange

Basin Areas and CN Calculations

Existing Areas

Description	Area
I-275 Impervious Pavement:	14.87 ac.
Infield to be Diverted:	1.41 ac.
Total Impervious Area:	14.87 ac.
Total Area:	16.28 ac.

Proposed Areas

Description	Area
I-275 Impervious Pavement:	14.35 ac.
▨	▨
Total Impervious Area:	14.35 ac.
Total Area:	14.35 ac.

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	None
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	14.87 ac.
Proposed Impervious Area:	14.35 ac.
Δ Impervious Area:	-0.52 ac.

Treatment Depth:	N/A
New Required Treatment Volume:	0.00 ac·ft
Total Required Treatment Volume:	0.00 ac·ft

Note: 0.90 ac of pavement diverted to SMF 4A.

Subject: Option E Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 4B - From N 14th St to I-275 / I-4 Interchange to E Floribraska Ave

Basin Areas and CN Calculations

Existing Areas

Description	CN	Area
Interstate Impervious Pavmt:	98	12.20 ac.
Empty Lot for SMF:	39	2.50 ac.
Urban Land:	80	4.11 ac.
▨	▨	▨
▨	▨	▨
▨	▨	▨
Total Impervious Area:	12.20 ac.	
Total Area:	18.81 ac.	
CN:	86.2	

Proposed Areas

Description	CN	Area
Interstate Impervious Pavmt:	98	16.31 ac.
Diverted from Basin 4A:	98	0.90 ac.
Basin 4A Infield:	80	1.41 ac.
Diverted from Basin 5:	98	1.57 ac.
Pond:	100	2.50 ac.
Urban Land:	80	0.00 ac.
Total Impervious Area:	21.28 ac.	
Total Area:	22.69 ac.	
CN:	97.1	

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	Yes
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	12.20 ac.
Proposed Impervious Area:	21.28 ac.
Δ Impervious Area:	9.08 ac.

Treatment Depth[1]:	1.0 in.
New Required Treatment Volume:	0.76 ac·ft
Total Required Treatment Volume:	0.76 ac·ft

[1] Wet Detention Criteria - 1.0 inch over Δ Impervious

Proposed SMF 4A

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	2.805 ac.	-	-
T.O.B. EL: 41.00 ft.	2.349 ac.	2.29 ac.-ft.	12.9 ac.-ft.
DHW EL: 40.00 ft.	2.232 ac.	4.64 ac.-ft.	10.6 ac.-ft.
Weir EL: 37.80 ft.	1.984 ac.	**0.59 ac.-ft.**	5.97 ac.-ft.
Control EL: 37.50 ft.	1.951 ac.	5.38 ac.-ft.	5.38 ac.-ft.
Bottom EL: 34.50 ft.	1.633 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 4A Parameters

Average Grade EL:	41.00 ft.
Depth to SHWT:	3.50 ft.
SHWT EL:	37.50 ft.

SMF 4B Parameters

Average Grade EL:	41.00 ft.
Depth to SHWT:	3.50 ft.
SHWT EL:	37.50 ft.

Proposed SMF 4B

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	1.352 ac.	-	-
T.O.B. EL: 41.00 ft.	0.857 ac.	0.81 ac.-ft.	3.6 ac.-ft.
DHW EL: 40.00 ft.	0.765 ac.	1.41 ac.-ft.	2.8 ac.-ft.
Weir EL: 37.90 ft.	0.580 ac.	**0.22 ac.-ft.**	1.38 ac.-ft.
Control EL: 37.50 ft.	0.545 ac.	0.00 ac.-ft.	1.16 ac.-ft.
Shelf 37.50 ft.	0.457 ac.	1.16 ac.-ft.	1.16 ac.-ft.
Bottom EL: 34.50 ft.	0.316 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Volume Summary	Required	Provided
Treatment Volume:	0.76 ac.-ft.	0.82 ac.-ft.
Attenuation Volume:	5.72 ac.-ft.	6.05 ac.-ft.
Total:	**6.47 ac.-ft.**	**6.87 ac.-ft.**

Subject: Option E Basin Analysis Pre/Post
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 4B

Runoff Volume Analysis

Treatment Calculations

Governing Agency:	SWFWMD
Treatment Method:	Wet Detention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	Yes
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Treatment Area:	9.08 ac.
Treatment Depth*:	1.0 in.
Treatment Volume Required:	0.76 ac.-ft.

* Dry Retention Criteria - 0.5 inch over Δ Impervious
(1.0 inch used to remain conservative)
Wet Detention Criteria - 1.0 inch over Δ Impervious

Attenuation Calculations

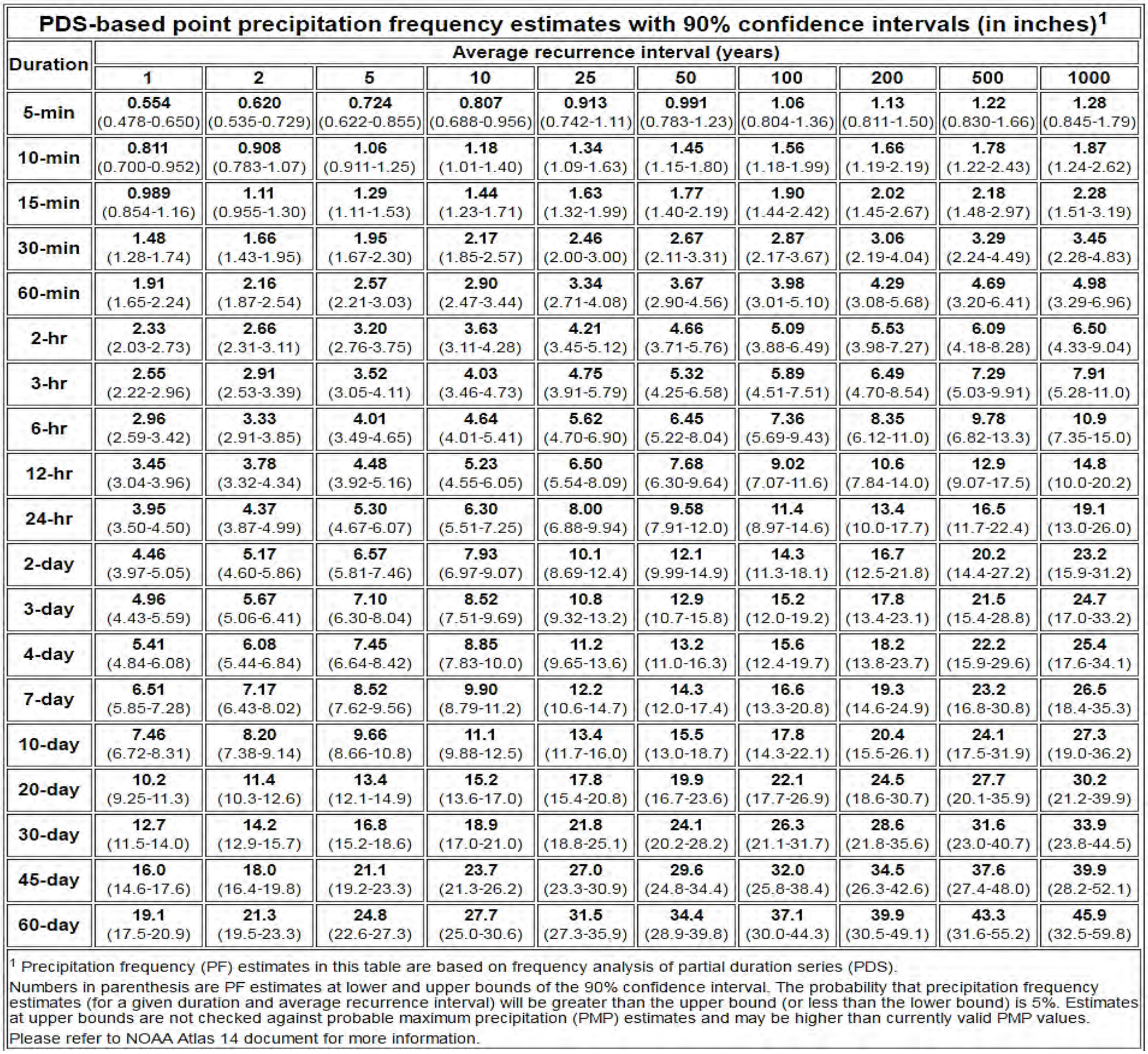
Rainfall Depth**:	11.4 in.	
Summary of Runoff	**Existing**	**Proposed**
Total Basin Area:	18.81 ac.	22.69 ac.
Weighted CN:	86.2	97.1
Soil Retention (S):	1.6 in.	0.3 in.
Runoff Depth (Q_R):	9.7 in.	11.0 in.
Runoff Volume	15.17 ac.-ft.	20.89 ac.-ft.

Post-Pre Attenuation Volume (V_A): 5.72 ac.-ft.

**100 year / 24 hr

Total Runoff Volume Required

Treatment Volume Required:	0.76 ac.-ft.
Attenuation Volume (V_A):	5.72 ac.-ft.
Total:	**6.47 ac.-ft.**



PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.554 (0.478-0.650)	0.620 (0.535-0.729)	0.724 (0.622-0.855)	0.807 (0.688-0.956)	0.913 (0.742-1.11)	0.991 (0.783-1.23)	1.06 (0.804-1.36)	1.13 (0.811-1.50)	1.22 (0.830-1.66)	1.28 (0.845-1.79)
10-min	0.811 (0.700-0.952)	0.908 (0.783-1.07)	1.06 (0.911-1.25)	1.18 (1.01-1.40)	1.34 (1.09-1.63)	1.45 (1.15-1.80)	1.56 (1.18-1.99)	1.66 (1.19-2.19)	1.78 (1.22-2.43)	1.87 (1.24-2.62)
15-min	0.989 (0.854-1.16)	1.11 (0.955-1.30)	1.29 (1.11-1.53)	1.44 (1.23-1.71)	1.63 (1.32-1.99)	1.77 (1.40-2.19)	1.90 (1.44-2.42)	2.02 (1.45-2.67)	2.18 (1.48-2.97)	2.28 (1.51-3.19)
30-min	1.48 (1.28-1.74)	1.66 (1.43-1.95)	1.95 (1.67-2.30)	2.17 (1.85-2.57)	2.46 (2.00-3.00)	2.67 (2.11-3.31)	2.87 (2.17-3.67)	3.06 (2.19-4.04)	3.29 (2.24-4.49)	3.45 (2.28-4.83)
60-min	1.91 (1.65-2.24)	2.16 (1.87-2.54)	2.57 (2.21-3.03)	2.90 (2.47-3.44)	3.34 (2.71-4.08)	3.67 (2.90-4.56)	3.98 (3.01-5.10)	4.29 (3.08-5.68)	4.69 (3.20-6.41)	4.98 (3.29-6.96)
2-hr	2.33 (2.03-2.73)	2.66 (2.31-3.11)	3.20 (2.76-3.75)	3.63 (3.11-4.28)	4.21 (3.45-5.12)	4.66 (3.71-5.76)	5.09 (3.88-6.49)	5.53 (3.98-7.27)	6.09 (4.18-8.28)	6.50 (4.33-9.04)
3-hr	2.55 (2.22-2.96)	2.91 (2.53-3.39)	3.52 (3.05-4.11)	4.03 (3.46-4.73)	4.75 (3.91-5.79)	5.32 (4.25-6.58)	5.89 (4.51-7.51)	6.49 (4.70-8.54)	7.29 (5.03-9.91)	7.91 (5.28-11.0)
6-hr	2.96 (2.59-3.42)	3.33 (2.91-3.85)	4.01 (3.49-4.65)	4.64 (4.01-5.41)	5.62 (4.70-6.90)	6.45 (5.22-8.04)	7.36 (5.69-9.43)	8.35 (6.12-11.0)	9.78 (6.82-13.3)	10.9 (7.35-15.0)
12-hr	3.45 (3.04-3.96)	3.78 (3.32-4.34)	4.48 (3.92-5.16)	5.23 (4.55-6.05)	6.50 (5.54-8.09)	7.68 (6.30-9.64)	9.02 (7.07-11.6)	10.6 (7.84-14.0)	12.9 (9.07-17.5)	14.8 (10.0-20.2)
24-hr	3.95 (3.50-4.50)	4.37 (3.87-4.99)	5.30 (4.67-6.07)	6.30 (5.51-7.25)	8.00 (6.88-9.94)	9.58 (7.91-12.0)	11.4 (8.97-14.6)	13.4 (10.0-17.7)	16.5 (11.7-22.4)	19.1 (13.0-26.0)
2-day	4.46 (3.97-5.05)	5.17 (4.60-5.86)	6.57 (5.81-7.46)	7.93 (6.97-9.07)	10.1 (8.69-12.4)	12.1 (9.99-14.9)	14.3 (11.3-18.1)	16.7 (12.5-21.8)	20.2 (14.4-27.2)	23.2 (15.9-31.2)
3-day	4.96 (4.43-5.59)	5.67 (5.06-6.41)	7.10 (6.30-8.04)	8.52 (7.51-9.69)	10.8 (9.32-13.2)	12.9 (10.7-15.8)	15.2 (12.0-19.2)	17.8 (13.4-23.1)	21.5 (15.4-28.8)	24.7 (17.0-33.2)
4-day	5.41 (4.84-6.08)	6.08 (5.44-6.84)	7.45 (6.64-8.42)	8.85 (7.83-10.0)	11.2 (9.65-13.6)	13.2 (11.0-16.3)	15.6 (12.4-19.7)	18.2 (13.8-23.7)	22.2 (15.9-29.6)	25.4 (17.6-34.1)
7-day	6.51 (5.85-7.28)	7.17 (6.43-8.02)	8.52 (7.62-9.56)	9.90 (8.79-11.2)	12.2 (10.6-14.7)	14.3 (12.0-17.4)	16.6 (13.3-20.8)	19.3 (14.6-24.9)	23.2 (16.8-30.8)	26.5 (18.4-35.3)
10-day	7.46 (6.72-8.31)	8.20 (7.38-9.14)	9.66 (8.66-10.8)	11.1 (9.88-12.5)	13.4 (11.7-16.0)	15.5 (13.0-18.7)	17.8 (14.3-22.1)	20.4 (15.5-26.1)	24.1 (17.5-31.9)	27.3 (19.0-36.2)
20-day	10.2 (9.25-11.3)	11.4 (10.3-12.6)	13.4 (12.1-14.9)	15.2 (13.6-17.0)	17.8 (15.4-20.8)	19.9 (16.7-23.6)	22.1 (17.7-26.9)	24.5 (18.6-30.7)	27.7 (20.1-35.9)	30.2 (21.2-39.9)
30-day	12.7 (11.5-14.0)	14.2 (12.9-15.7)	16.8 (15.2-18.6)	18.9 (17.0-21.0)	21.8 (18.8-25.1)	24.1 (20.2-28.2)	26.3 (21.1-31.7)	28.6 (21.8-35.6)	31.6 (23.0-40.7)	33.9 (23.8-44.5)
45-day	16.0 (14.6-17.6)	18.0 (16.4-19.8)	21.1 (19.2-23.3)	23.7 (21.3-26.2)	27.0 (23.3-30.9)	29.6 (24.8-34.4)	32.0 (25.8-38.4)	34.5 (26.3-42.6)	37.6 (27.4-48.0)	39.9 (28.2-52.1)
60-day	19.1 (17.5-20.9)	21.3 (19.5-23.3)	24.8 (22.6-27.3)	27.7 (25.0-30.6)	31.5 (27.3-35.9)	34.4 (28.9-39.8)	37.1 (30.0-44.3)	39.9 (30.5-49.1)	43.3 (31.6-55.2)	45.9 (32.5-59.8)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
Please refer to NOAA Atlas 14 document for more information.

Subject: Option E Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 5 - From E Floribraska Ave to E Lake Ave

Basin Areas and CN Calculations

Existing Areas

Description	CN	Area
Interstate Impervious Pavmt:	98	12.21 ac.
Urban Land:	80	0.00 ac.
Total Impervious Area:	12.21 ac.	
Total Area:	12.21 ac.	
CN:	98.0	

Proposed Areas

Description	CN	Area
Interstate Impervious Pavmt:	98	12.19 ac.
Urban Land:	80	0.00 ac.
Total Impervious Area:	12.19 ac.	
Total Area:	12.19 ac.	
CN:	98.0	

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	None
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Closed
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	12.21 ac.
Proposed Impervious Area:	12.19 ac.
Δ Impervious Area:	-0.02 ac.
Treatment Depth:	N/A
New Required Treatment Volume:	0.00 ac·ft
Total Required Treatment Volume:	0.00 ac·ft

Note: 1.57 ac of pavement diverted to SMF 4A.

Subject: Option E Pond Siting Analysis
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 6 - From E Lake Ave to North of E Osborne Ave

Basin Areas and CN Calculations

Existing Areas

Description	CN	Area
Interstate Impervious Pavmt:	98	16.04 ac.
Urban Land:	80	0.99 ac.
Total Impervious Area:	16.04 ac.	
Total Area:	17.03 ac.	
CN:	97.0	

Proposed Areas

Description	CN	Area
Interstate Impervious Pavmt:	98	17.03 ac.
Urban Land:	80	0.00 ac.
Total Impervious Area:	17.03 ac.	
Total Area:	17.03 ac.	
CN:	98.0	

Treatment Criteria and Calculations

Governing Agency:	SWFWMD
Treatment Method:	Dry Retention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Existing Impervious Area:	16.04 ac.
Proposed Impervious Area:	17.03 ac.
Δ Impervious Area:	0.99 ac.

Treatment Depth[1]:	1.0 in.
New Required Treatment Volume:	0.08 ac·ft
Total Required Treatment Volume:	0.08 ac·ft

[1] Dry Retention Criteria - 0.5 inch over Δ Impervious (1.0" Used to Remain Conservative)

Proposed SMF 6A North

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	0.186 ac.	-	-
T.O.B. EL: 49.25 ft.	0.132 ac.	0.12 ac.-ft.	0.2 ac.-ft.
DHW EL: 48.25 ft.	0.101 ac.	0.05 ac.-ft.	0.1 ac.-ft.
Weir EL: 47.75 ft.	0.086 ac.	**0.02 ac.-ft.**	0.02 ac.-ft.
Control EL: 47.50 ft.	0.078 ac.	0.00 ac.-ft.	0.00 ac.-ft.
Bottom EL: 47.50 ft.	0.078 ac.	0.00 ac.-ft.	0.00 ac.-ft.

SMF 6B North Parameters

Average Grade EL:	49.00 ft.
Depth to SHWT:	3.50 ft.
SHWT EL:	45.50 ft.

SMF 6B South Parameters

Average Grade EL:	49.00 ft.
Depth to SHWT:	3.50 ft.
SHWT EL:	45.50 ft.

Proposed SMF 6A South

Stage Elevation	Area	Incr. Vol.	Total Vol.
Outside T.O.B.	0.502 ac.	-	-
T.O.B. EL: 49.25 ft.	0.384 ac.	0.35 ac.-ft.	0.6 ac.-ft.
DHW EL: 48.25 ft.	0.315 ac.	0.15 ac.-ft.	0.2 ac.-ft.
Weir EL: 47.75 ft.	0.282 ac.	**0.07 ac.-ft.**	0.07 ac.-ft.
Control EL: 47.50 ft.	0.265 ac.	0.00 ac.-ft.	0.00 ac.-ft.
Bottom EL: 47.50 ft.	0.265 ac.	0.00 ac.-ft.	0.00 ac.-ft.

Volume Summary	Required	Provided
Treatment Volume:	0.08 ac.-ft.	0.09 ac.-ft.
Attenuation Volume:	0.17 ac.-ft.	0.20 ac.-ft.
Total:	**0.26 ac.-ft.**	**0.28 ac.-ft.**

Subject: Option E Basin Analysis Pre/Post
Project: TIS SEIS Segment 2B Pond Siting Report
Location: Basin 6

Runoff Volume Analysis

Treatment Calculations

Governing Agency:	SWFWMD
Treatment Method:	Dry Retention
Online or Offline:	Online
OFW:	No
Impaired Waterbody:	No
Open or Closed Basin	Open
New or Existing Roadway:	Reconstruction

Treatment Area:	0.99 ac.
Treatment Depth*:	1.0 in.
Treatment Volume Required:	0.08 ac.-ft.

* Dry Retention Criteria - 0.5 inch over Δ Impervious
(1.0 inch used to remain conservative)
Wet Detention Criteria - 1.0 inch over Δ Impervious

Attenuation Calculations

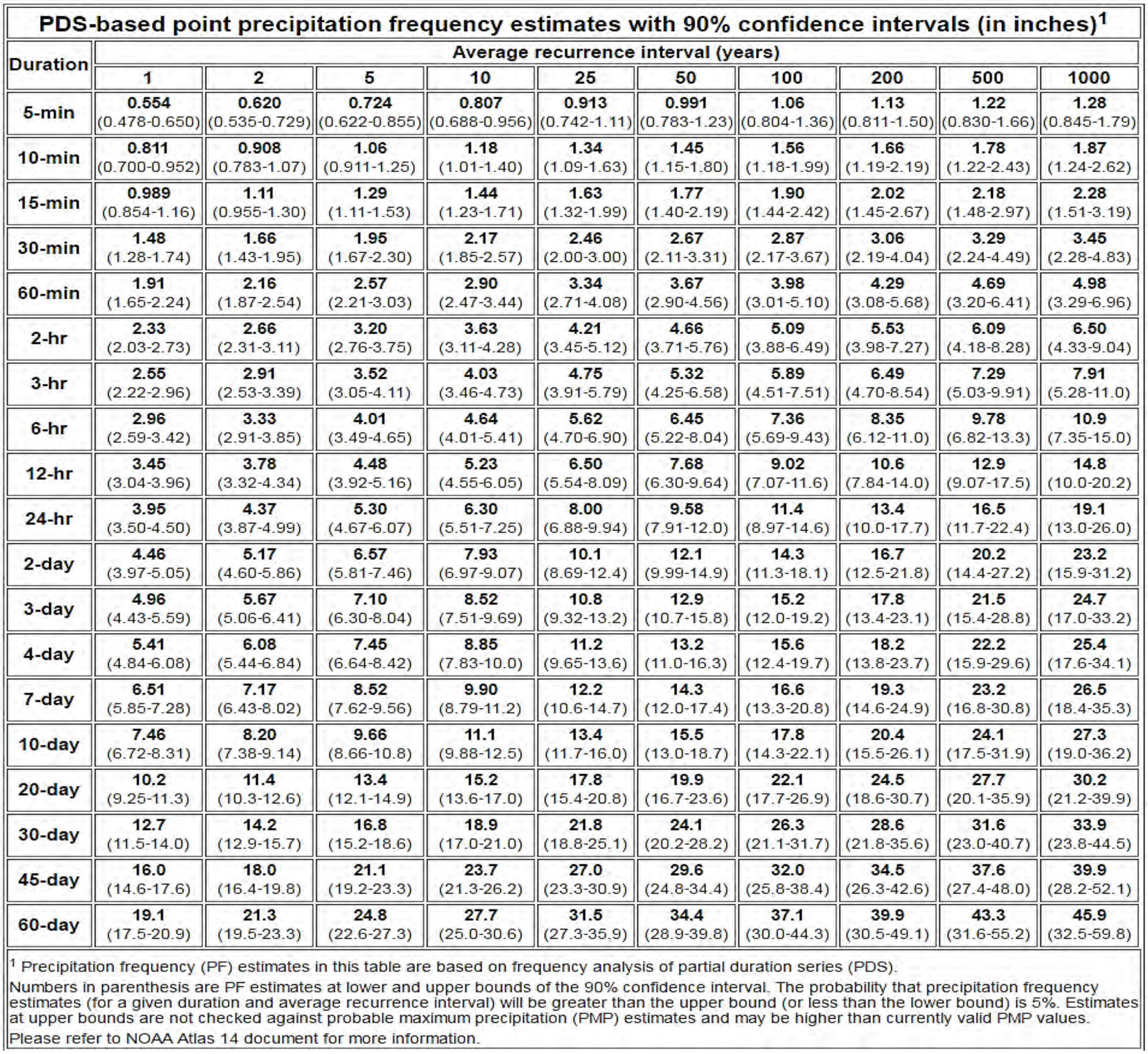
Rainfall Depth**:	11.4 in.	
Summary of Runoff	**Existing**	**Proposed**
Total Basin Area (LT and RT):	17.03 ac.	17.03 ac.
Weighted CN (LT and RT):	97.0	98.0
Soil Retention (S):	0.3 in.	0.2 in.
Runoff Depth (Q_R):	11.0 in.	11.2 in.
Runoff Volume	15.66 ac.-ft.	15.84 ac.-ft.

Post-Pre Attenuation Volume (V_A):	0.17 ac.-ft.

**100 year / 24 hr

Total Runoff Volume Required

Treatment Volume Required:	0.08 ac.-ft.
Attenuation Volume (V_A):	0.17 ac.-ft.
Total:	**0.26 ac.-ft.**



PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.554 (0.478-0.650)	0.620 (0.535-0.729)	0.724 (0.622-0.855)	0.807 (0.688-0.956)	0.913 (0.742-1.11)	0.991 (0.783-1.23)	1.06 (0.804-1.36)	1.13 (0.811-1.50)	1.22 (0.830-1.66)	1.28 (0.845-1.79)
10-min	0.811 (0.700-0.952)	0.908 (0.783-1.07)	1.06 (0.911-1.25)	1.18 (1.01-1.40)	1.34 (1.09-1.63)	1.45 (1.15-1.80)	1.56 (1.18-1.99)	1.66 (1.19-2.19)	1.78 (1.22-2.43)	1.87 (1.24-2.62)
15-min	0.989 (0.854-1.16)	1.11 (0.955-1.30)	1.29 (1.11-1.53)	1.44 (1.23-1.71)	1.63 (1.32-1.99)	1.77 (1.40-2.19)	1.90 (1.44-2.42)	2.02 (1.45-2.67)	2.18 (1.48-2.97)	2.28 (1.51-3.19)
30-min	1.48 (1.28-1.74)	1.66 (1.43-1.95)	1.95 (1.67-2.30)	2.17 (1.85-2.57)	2.46 (2.00-3.00)	2.67 (2.11-3.31)	2.87 (2.17-3.67)	3.06 (2.19-4.04)	3.29 (2.24-4.49)	3.45 (2.28-4.83)
60-min	1.91 (1.65-2.24)	2.16 (1.87-2.54)	2.57 (2.21-3.03)	2.90 (2.47-3.44)	3.34 (2.71-4.08)	3.67 (2.90-4.56)	3.98 (3.01-5.10)	4.29 (3.08-5.68)	4.69 (3.20-6.41)	4.98 (3.29-6.96)
2-hr	2.33 (2.03-2.73)	2.66 (2.31-3.11)	3.20 (2.76-3.75)	3.63 (3.11-4.28)	4.21 (3.45-5.12)	4.66 (3.71-5.76)	5.09 (3.88-6.49)	5.53 (3.98-7.27)	6.09 (4.18-8.28)	6.50 (4.33-9.04)
3-hr	2.55 (2.22-2.96)	2.91 (2.53-3.39)	3.52 (3.05-4.11)	4.03 (3.46-4.73)	4.75 (3.91-5.79)	5.32 (4.25-6.58)	5.89 (4.51-7.51)	6.49 (4.70-8.54)	7.29 (5.03-9.91)	7.91 (5.28-11.0)
6-hr	2.96 (2.59-3.42)	3.33 (2.91-3.85)	4.01 (3.49-4.65)	4.64 (4.01-5.41)	5.62 (4.70-6.90)	6.45 (5.22-8.04)	7.36 (5.69-9.43)	8.35 (6.12-11.0)	9.78 (6.82-13.3)	10.9 (7.35-15.0)
12-hr	3.45 (3.04-3.96)	3.78 (3.32-4.34)	4.48 (3.92-5.16)	5.23 (4.55-6.05)	6.50 (5.54-8.09)	7.68 (6.30-9.64)	9.02 (7.07-11.6)	10.6 (7.84-14.0)	12.9 (9.07-17.5)	14.8 (10.0-20.2)
24-hr	3.95 (3.50-4.50)	4.37 (3.87-4.99)	5.30 (4.67-6.07)	6.30 (5.51-7.25)	8.00 (6.88-9.94)	9.58 (7.91-12.0)	11.4 (8.97-14.6)	13.4 (10.0-17.7)	16.5 (11.7-22.4)	19.1 (13.0-26.0)
2-day	4.46 (3.97-5.05)	5.17 (4.60-5.86)	6.57 (5.81-7.46)	7.93 (6.97-9.07)	10.1 (8.69-12.4)	12.1 (9.99-14.9)	14.3 (11.3-18.1)	16.7 (12.5-21.8)	20.2 (14.4-27.2)	23.2 (15.9-31.2)
3-day	4.96 (4.43-5.59)	5.67 (5.06-6.41)	7.10 (6.30-8.04)	8.52 (7.51-9.69)	10.8 (9.32-13.2)	12.9 (10.7-15.8)	15.2 (12.0-19.2)	17.8 (13.4-23.1)	21.5 (15.4-28.8)	24.7 (17.0-33.2)
4-day	5.41 (4.84-6.08)	6.08 (5.44-6.84)	7.45 (6.64-8.42)	8.85 (7.83-10.0)	11.2 (9.65-13.6)	13.2 (11.0-16.3)	15.6 (12.4-19.7)	18.2 (13.8-23.7)	22.2 (15.9-29.6)	25.4 (17.6-34.1)
7-day	6.51 (5.85-7.28)	7.17 (6.43-8.02)	8.52 (7.62-9.56)	9.90 (8.79-11.2)	12.2 (10.6-14.7)	14.3 (12.0-17.4)	16.6 (13.3-20.8)	19.3 (14.6-24.9)	23.2 (16.8-30.8)	26.5 (18.4-35.3)
10-day	7.46 (6.72-8.31)	8.20 (7.38-9.14)	9.66 (8.66-10.8)	11.1 (9.88-12.5)	13.4 (11.7-16.0)	15.5 (13.0-18.7)	17.8 (14.3-22.1)	20.4 (15.5-26.1)	24.1 (17.5-31.9)	27.3 (19.0-36.2)
20-day	10.2 (9.25-11.3)	11.4 (10.3-12.6)	13.4 (12.1-14.9)	15.2 (13.6-17.0)	17.8 (15.4-20.8)	19.9 (16.7-23.6)	22.1 (17.7-26.9)	24.5 (18.6-30.7)	27.7 (20.1-35.9)	30.2 (21.2-39.9)
30-day	12.7 (11.5-14.0)	14.2 (12.9-15.7)	16.8 (15.2-18.6)	18.9 (17.0-21.0)	21.8 (18.8-25.1)	24.1 (20.2-28.2)	26.3 (21.1-31.7)	28.6 (21.8-35.6)	31.6 (23.0-40.7)	33.9 (23.8-44.5)
45-day	16.0 (14.6-17.6)	18.0 (16.4-19.8)	21.1 (19.2-23.3)	23.7 (21.3-26.2)	27.0 (23.3-30.9)	29.6 (24.8-34.4)	32.0 (25.8-38.4)	34.5 (26.3-42.6)	37.6 (27.4-48.0)	39.9 (28.2-52.1)
60-day	19.1 (17.5-20.9)	21.3 (19.5-23.3)	24.8 (22.6-27.3)	27.7 (25.0-30.6)	31.5 (27.3-35.9)	34.4 (28.9-39.8)	37.1 (30.0-44.3)	39.9 (30.5-49.1)	43.3 (31.6-55.2)	45.9 (32.5-59.8)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
Please refer to NOAA Atlas 14 document for more information.

APPENDIX E

Existing SWFWMD ERP Excerpts

APPENDIX E-1

ERP 5619.005
FDOT - 1-275, Himes Avenue to Hillsborough River

SWFWMD ENGINEERING WORKSHEET

Page 1 of 1

Permit No.:

Permit Name:

	BASIN No. – POND No.	O or C	Pond 5L				
POND DATA	POND BOTTOM ELEVATION		9.70				
	SEASONAL HIGH WATER ELEVATION		n/a (Pond Lined)				
	CONTROL DEVICE ELEVATION		9.70				
	DESIGN LOW WATER ELEVATION		12.6				
	WEIR INVERT ELEVATION		12.6				
	DESIGN HIGH WATER ELEVATION		13.26				
	TOP OF BANK ELEVATION		13.70				
	AREA @ TOP OF BANK [Ac.]		1.659				
	VOLUME @ DHW [Ac.-Ft.]		3.80				
	VOLUME @ TOP OF BANK [Ac.-Ft.]		4.49				
QUANTITY	25YR/24HR DISCHARGE RATES	WEIR WIDTH [FT.]	110.0				
		PREDEVELOPED [CFS]	n/a (tidal)				
		POSTDEVELOPED [CFS]	189.06				
	100YR/24HR RETENTION VOLUMES	PROVIDED [Ac.-Ft.]	n/a				
		REQUIRED [Ac.-Ft.]	n/a				
QUALITY	TREATMENT AREA [Ac.]	OFW? Y or N	67.23	N			
	TREATMENT VOLUME REQUIRED [Ac.-Ft.]		2.80				
	TREATMENT VOLUME PROVIDED [Ac.-Ft.]		2.90				
	METHOD OF TREATMENT		Effluent Filtration		[1]	[1]	
	CONTROL DEVICE TYPE		Underdrain				
	CONTROL DEVICE DIMENSIONS		363’ @ 10” 369’ @ 12” 369’ @ 14” 366’ @ 16”				
	RECOVERY TIME [HRS]		18.7				
100 YEAR FLOODPLAIN	ENCROACMENT [Ac.-Ft.]		n/a				
	COMPENSATION [Ac.-Ft.]		n/a				
	COMPENSATION TYPE		n/a				
	ENCROACHMENT RESULT [Feet]		n/a				

EE = Equivalent Excavation/Compensation [Cup for Cup] SM = Storage Modeled MI = Minimal Impact
NE = No Encroachment NA = Not Applicable

Comments: These numbers represent a minor modification to ERP #44005619.001.

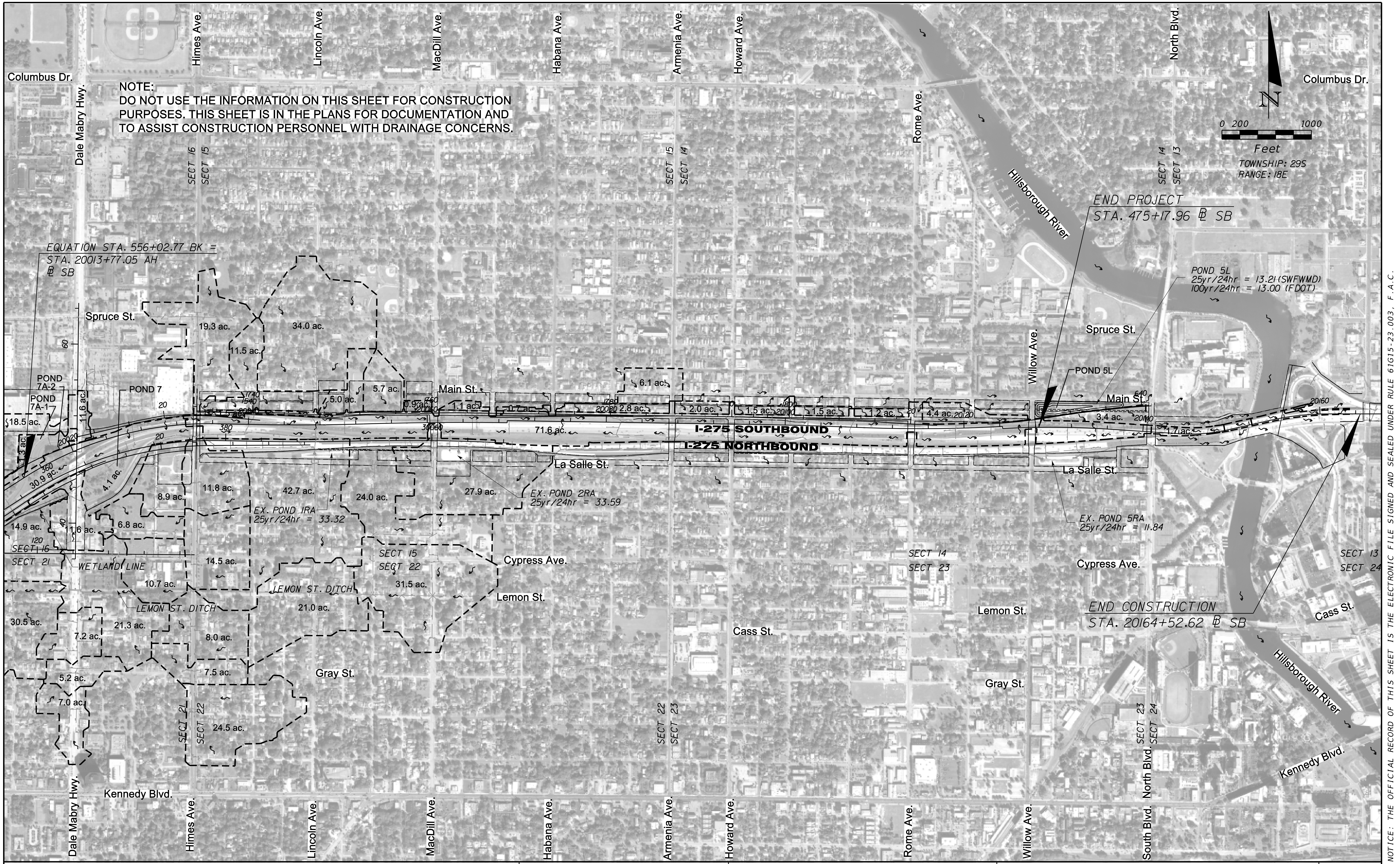
Evaluator:
Supervisor:

Land Use Area Summary Table

Land Use	Total Area (ac)	Imp. Area (ac)
Roadway	51.54	51.54
Park / Open Space	8.20	0.00
Residential / Commercial	22.11	14.37
Pond 5L	2.66	1.32
Total	84.51	67.23

In conclusion, the amount of impervious calculated for the Ultimate Condition is 67.23 acres (2.80 ac-ft of treatment) and is less than the total amount permitted (69.6 acres). Therefore, no changes to the permitted Pond 5L water quality treatment volume (69.6 acres / 2.90 ac-ft) are proposed.

A copy of the SWFWMD Engineering Worksheet summarizing the pond design is provided on the following page.



NOTE:
DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES. THIS SHEET IS IN THE PLANS FOR DOCUMENTATION AND TO ASSIST CONSTRUCTION PERSONNEL WITH DRAINAGE CONCERNS.

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION
200			

ICON
CONSULTANT GROUP
INCORPORATED
10006 N. DALE MABRY HIGHWAY
SUITE 201
TAMPA, FLORIDA 33618
(813) 962-8689

CERTIFICATE OF AUTHORIZATION NO. 8230
MICHAEL E. MILLS, P.E. NO. 43359

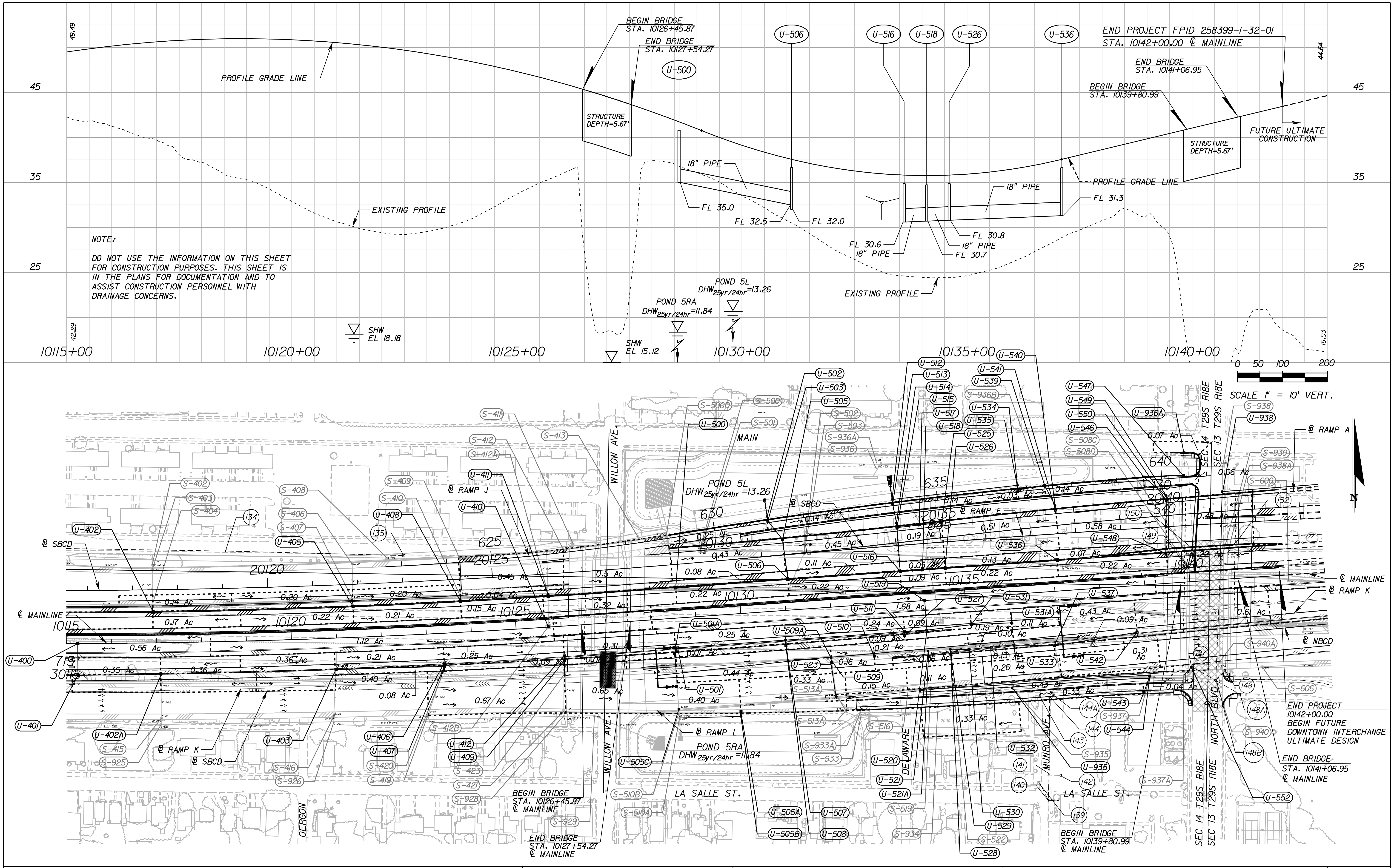
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
93	HILLSBOROUGH	258398-5-52-01

DRAINAGE MAP
REGIONAL (2 OF 2)

SHEET NO.

jtownsend 4/18/2013 10:13:23 AM F:\Projects\25839855201\drainage\drmprdl6.dgn



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$$$$$SYTIME$$$$$

DGN$$$$$$$$SPECIFICATION$$

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

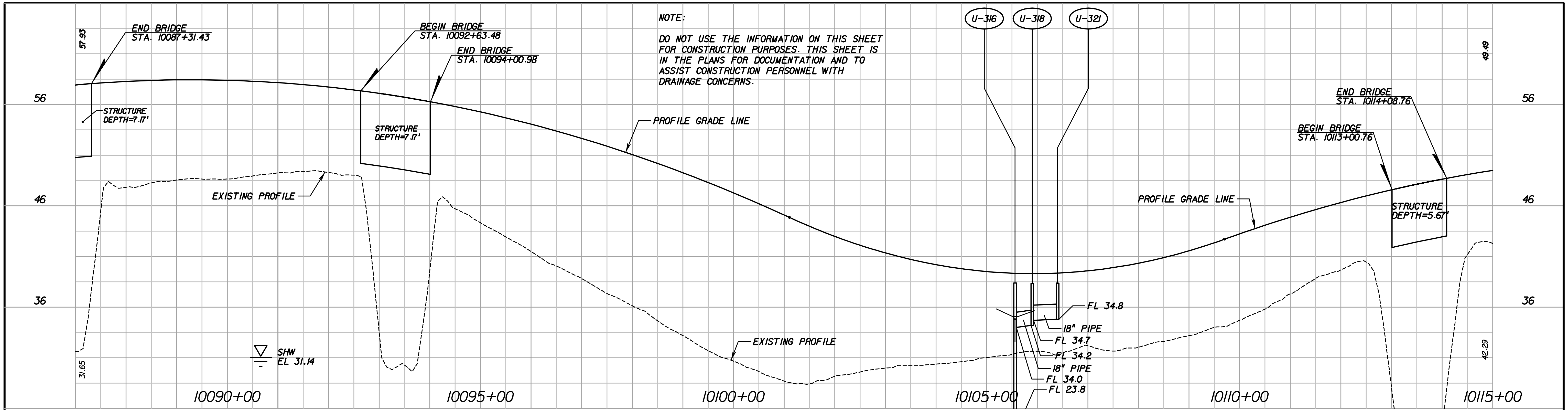
PBSJ
5300 West Cypress Street
Suite 200
Tampa, Florida 33607-1768
FBPR Certificate of
Authorization No. 24
Shayne Paynter, P.E. #58136

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	HILLSBOROUGH	258399-1-32-01

ULTIMATE DRAINAGE MAP
(SHEET 4 OF 5)

SHEET NO.
4



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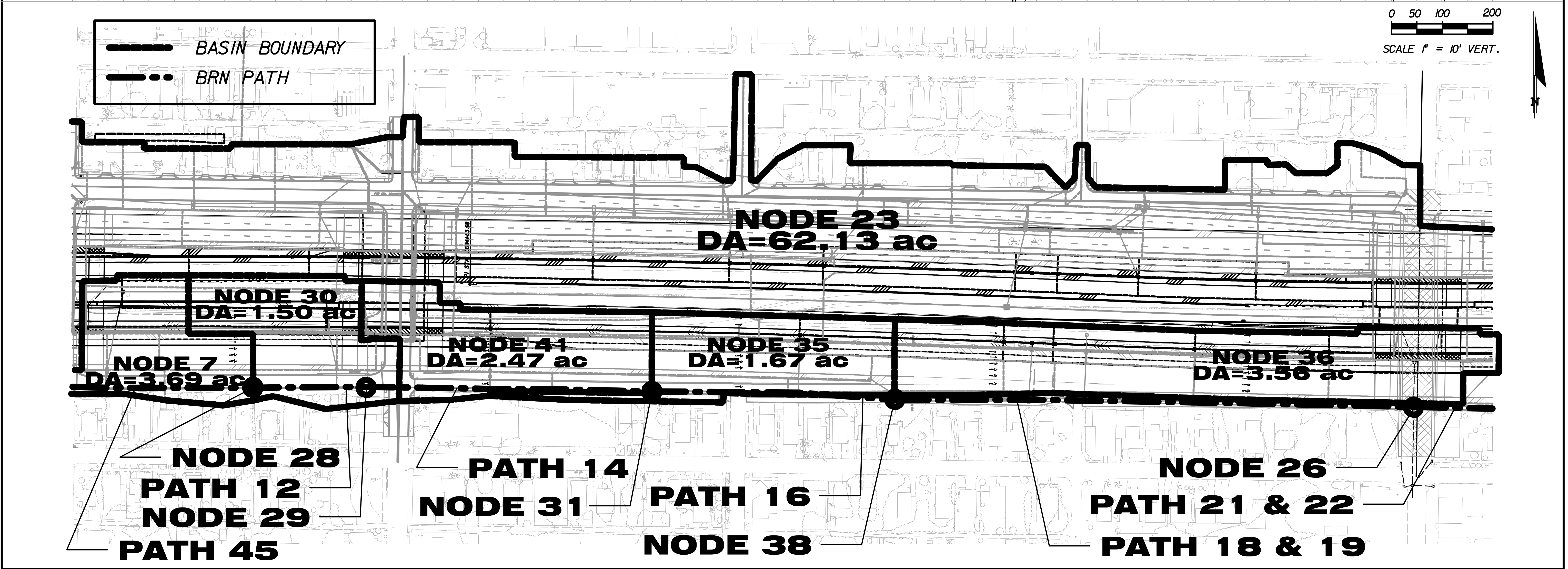

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30					

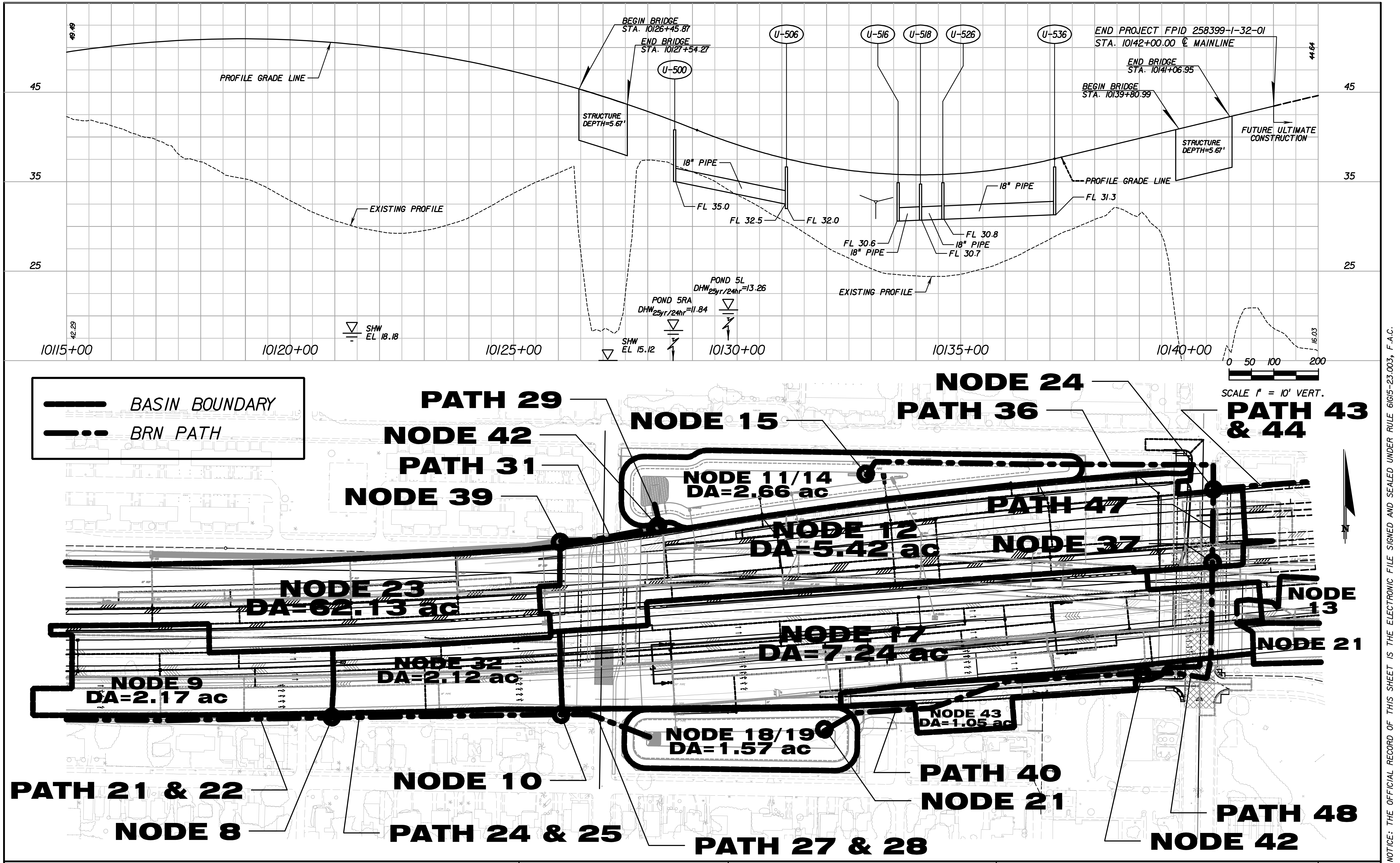
PBS&J
5300 West Cypress Street
Suite 200
Tampa, Florida 33607-1768
FBPE Certificate of
Authorization No. 24
Shayne Paynter, P.E. #58136

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	258399-1-52-01

SUPPLEMENTAL NODE DIAGRAM (3)

SHEET NO.
A-30



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
31					

PBS&J
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	258399-1-52-01

SUPPLEMENTAL NODE
DIAGRAM (4)

SHEET NO.
A-31

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APPENDIX E-2

ERP 20690.001
DOT-SR 400 (I4) SEC 3 W 14TH TO E 50TH

4.1 BASIN DRAINAGE SYSTEMS

total? [illegible] only? [illegible]

?

4.1.1 BASIN 100

Basin 100 extends from approximately 14th Street to west of 20th Street. The basin drains into an existing 1500 x 2100 (5' x 7') CBC which ultimately drains south to Ybor Channel. This basin consists of approximately 3.92 ha (9.68 ac) that requires 0.29 ha-m (2.32 ac-ft) of treatment volume for the onsite runoff. This runoff will be treated in Ponds 100-1, 100-2, and 100-3. The outfall system will discharge into the existing 1500 x 2100 (5'x7') CBC.

4.1.2 BASIN 200

Basin 200 extends from 22nd Street to 34th Street and south to 7th Avenue along the proposed Crosstown Connector. The basin drains into an existing 2700 x 1800 (9' x 6') CBC east of 22nd Street, 3000 x 1800 (10' x 6') CBC east of 26th Street which ultimately connects downstream and drains south to McKay Bay. In addition, Ponds 200 drains to the existing 7th Avenue Outfall system which ultimately connects to McKay Bay. This basin consists of approximately 13.41 ha (33.11 ac) that requires 0.63 ha-m (5.09 ac-ft) of treatment volume for the onsite runoff. This runoff will be treated in Ponds 200-1, 200-2, 200-3, 200-4, 200-5, 200-6, 200-7, and 200-8. The outfall system will discharge into the existing 2700 x 1800 (9'x6') CBC, 3000 x 1800 (10' x 6') CBC, and the 7th Avenue Outfall.

[illegible] ?

4.1.3 BASIN 300

Basin 300 extends from 34th Street to CSX. The basin drains into an existing 1800 (72") RCP near 34th Street which ultimately drains into McKay Bay. ~~In addition,~~ This basin consists of approximately 4.11 ha (10.15 ac) that requires 0.20 ha-m (1.62 ac-ft) of treatment volume for the onsite runoff. This runoff will be treated and attenuated in Pond 300-1.

?

4.1.4 BASIN 400

Basin 400 extends from CSX to just west of 50th Street. A portion of the onsite drainage area from the CSX railroad to 40th Street is collected and conveyed to an existing stormsewer system at the CSX railroad. The drainage area to the west of 40th Street is collected and conveyed into a proposed 3600 x 1200 (12' x 4') CBC. This box culvert replaces the volume of the existing ditch and stormwater facility which are being impacted by the proposed typical section. It outfalls through a proposed 900 mm (36") Pipe into an existing wetland north of I-4. The drainage area from 40th Street to just west of 50th Street will drain to Pond 400-1.The basin drains into an existing

3x

ditch which ultimately drains into McKay Bay. In addition, This basin consists of approximately 8.26 ha (20.40 ac) that requires 0.37 ha-m (3.01 ac-ft) of treatment volume for the onsite runoff. This runoff will be treated and attenuated in Pond 400-1.

4.1.5 BASIN 800

Basin 800 includes the areas along the interstate extends east and west of 50th Street. The drainage area is collected and conveyed into a proposed stormsewer system that drains ultimately to the 50th Street Outfall System. The basin drains into an existing ditch which ultimately rains into McKay Bay. In addition, This basin consists of approximately 4.24 ha (10.47 ac) that requires 0.17 ha-m (1.23 ac-ft) of treatment volume for the onsite runoff. This runoff will be treated and attenuated in Ponds 800-1, 800-2, and 800-3.

4.1.6 BASIN 900

Basin 900 extends east of 50th Street. The drainage area is collected and conveyed into a proposed stormsewer system that connects to an existing system that drains to a stormwater facility ultimately discharging to Lake Juan in the adjacent project. The adjacent project had originally been designed to handle 5.26 ac of impervious area from mainline I-4 east of 50th Street. The proposed impervious area being diverted to Section 1 is 5.10 ac.

5.0 DESIGN CALCULATIONS

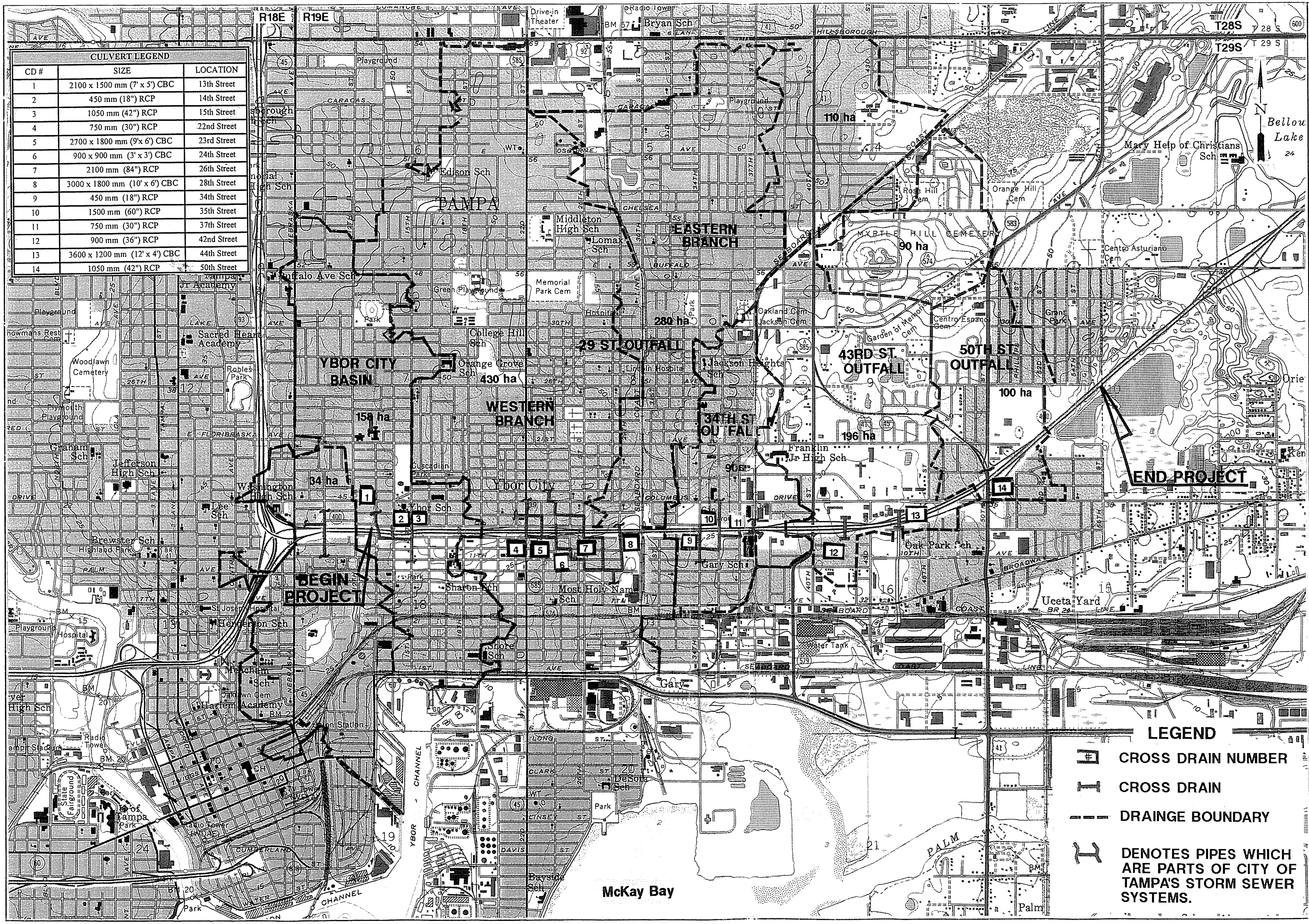
5.1 POND DESIGN

The ponds were designed using AdICPR, a pond routing program, to determine the SWFWMD 25-year/24-hour analysis and critical duration, to determine FDOT Rule 14-86 FAC. To accurately model the pre- and post volume attenuations, for the AdICPR program SCS peak factor of 256 and SCS Type II Florida modified rainfall distribution was used to generate runoff hydrograph. The AdICPR program was used for the FDOT critical storm duration analysis. The program simulates runoff hydrographs resulting from storms of different frequencies (2-year thru 100-year) with different durations (1-hour thru 10-day). The results were compared and complied with the above set requirements for each pond.

5.2 CULVERT DESIGN

Fourteen cross-drain culverts exists within the project limits. The proposed profile and regional drainage boundaries at I-4 (SR 400) were used to determine the Interstate drainage basins. The existing drainage boundaries at the interstate are shown in the Drainage Maps on Figure 2. The existing drainage system within the project corridor consists of a

65



CULVERT LEGEND		
CD #	SIZE	LOCATION
1	2100 x 1500 mm (7' x 5') CBC	13th Street
2	450 mm (18") RCP	14th Street
3	1050 mm (42") RCP	15th Street
4	750 mm (30") RCP	.22nd Street
5	2700 x 1800 mm (9'x 6') CBC	23rd Street
6	900 x 900 mm (3' x 3') CBC	24th Street
7	2100 mm (84") RCP	26th Street
8	3000 x 1800 mm (10' x 6') CBC	28th Street
9	450 mm (18") RCP	34th Street
10	1500 mm (60") RCP	35th Street
11	750 mm (30") RCP	37th Street
12	900 mm (36") RCP	42nd Street
13	3600 x 1200 mm (12' x 4') CBC	44th Street
14	1050 mm (42") RCP	50th Street

LEGEND

#	CROSS DRAIN NUMBER
⊢⊣	CROSS DRAIN
— — —	DRAINGE BOUNDARY
⊐⊏	DENOTES PIPES WHICH ARE PARTS OF CITY OF TAMPA'S STORM SEWER SYSTEMS.

Source: Tampa, Florida; 7.5 minute series; 1956, Photorevised 1981

APPROX. SCALE: 1:24000

I-4 (3A/3B)
HILLSBOROUGH COUNTY

USGS
QUADRANGLE MAP

FIGURE
2

STORMWATER MANAGEMENT SUMMARY WORKSHEET (ENGLISH UNITS)

			100		200A		200B	200C		200D	300	400	800			PROJECT
POND #			100-1 / -2	100-3	200-1	200-2	200-3	200-4	200-5	N/A	300-1	400-1	800-1	800-2	800-3	TOTAL
	POND STATION / SIDE		1142+70 / RT	1145+25 / RT	1154+50 / RT	1155+25 / LT	1158+00 / RT	1152+50 / LT	91+00 / LT	N/A	1162+25 / RT	1178+25 / RT	1185+00 / RT	1187+00 / LT	1187+00 / RT	-
P	AVERAGE GROUND ELEVATION (ft)		35.60	36.75	24.44	36.91	20.51	27.89	16.08	-	24.61	26.74	36.42	36.42	34.12	-
O	POND BOTTOM EL. (ft)		19.69	22.97	22.97	26.25	11.48	17.39	9.84	-	12.47	15.26	30.18	30.18	28.87	-
N	SEASONAL HIGH WATER / ORIFICE EL. (ft)		28.54	29.53	20.67	31.17	17.39	23.29	14.76	-	20.67	25.92	33.46	33.14	31.50	-
D	36-HOUR DRAWDOWN EL. (ft)		29.56	30.74	N/A	31.86	18.41	24.34	16.01	-	21.65	26.90	33.46	33.14	31.50	-
	WEIR CREST EL. (ft)		29.56	30.74	24.38	31.86	18.41	24.34	16.01	-	21.65	26.90	33.46	33.14	31.50	-
D	FDOT CRITICAL DHW (10-YR) EL. (ft)		32.81	33.40	25.36	33.17	20.37	26.74	17.81	-	23.85	28.58	34.55	34.74	32.91	-
A	FDOT CRITICAL DHW (25-YR) EL. (ft)		33.20	33.60	25.52	33.33	20.67	27.07	18.08	-	24.21	28.81	34.71	34.97	33.17	-
T	FDOT CRITICAL DHW (100-YR) EL. (ft)		33.76	33.86	25.79	33.60	21.06	27.56	18.41	-	24.70	29.17	34.91	35.30	33.53	-
A	BERM EL. (ft)		34.78	34.78	26.90	34.78	21.98	28.54	19.36	-	25.59	29.86	36.09	36.09	34.78	-
	AREA AT BERM EL. (ac)		2.57	1.01	1.06	1.68	1.93	1.33	0.91	-	3.43	3.75	0.44	0.42	1.14	19.69
	VOLUME AT BERM EL. (ac-ft)		23.55	5.58	2.38	5.93	9.68	7.30	3.92	-	27.12	33.89	2.43	2.30	6.19	130.27
Q	SWFWMD FLMOD															
U	24-HOUR / 25-YEAR	EXISTING (ft^3/s)	55.09		74.51		38.14	41.67		29.31	85.11	151.85	95.00			570.69
A	DISCHARGE	PROPOSED (ft^3/s)	36.02		27.90		21.19	25.07		0.00	49.09	105.24	57.56			322.07
N	RATES															
T	FDOT 8HR / 100YR															
I	CRITICAL STORM	EXISTING (ft^3/s)	58.98		78.40		36.02	40.26		28.96	83.34	145.14	88.64			559.74
T	DISCHARGE	PROPOSED (ft^3/s)	48.03		33.55		27.90	32.84		0.00	66.74	133.49	69.92			412.48
Y	RATES															
		WEIR LENGTH (in)	14.06	27.01	60.00	24.02	24.02	10.00	17.99	-	44.02	120.39	35.98	24.02	42.01	443.50
	METHOD OF TREATMENT *		WD	WD	DRY	WD	WD	WD	WD	N/A	WD	WD	WD	WD	WD	-
	EXISTING BASIN AREA (ac)		21.71		25.19		10.03	11.83		8.89	23.93	41.13	24.38			167.10
Q	PROPOSED BASIN AREA (ac)		20.16	7.71	6.42	6.50	12.40	8.60	6.69	0.00	31.62	43.18	4.87	6.59	12.37	167.10
U	EXISTING ROADWAY AREA (ac)		4.82		4.54		0.82	2.07		-	7.51	12.57	1.63			33.96 [1]
A	PROPOSED IMPERVIOUS AREA (ac)		23.98		10.18		10.47	13.04		-	28.18	39.42	13.61			138.89 [2]
L	TOTAL AREA DRAINING TO POND (ha)		20.16	7.71	6.42	6.50	12.40	8.60	6.69	-	27.89	34.68	4.87	6.59	12.37	154.87 [3]
I	TREATMENT AREA REQUIRED (ac)		19.17		5.63		9.66	10.97		-	20.67	26.85	11.98			104.93 [4]
T	TREATMENT AREA PROVIDED (ac)		20.16	7.71	6.42	6.50	12.40	8.60	6.69	-	27.89	34.68	0.00	0.00	0.00	131.03 [5]
Y	TREATMENT VOLUME REQUIRED (ac-ft)		1.68	0.64	0.54	0.54	1.03	0.72	0.56	-	2.32	2.89	0.41	0.55	1.03	12.91 [6]
	TREATMENT VOLUME PROVIDED (ac-ft)		1.85	0.65	0.52	0.54	1.05	0.73	0.54	-	2.37	2.96	0.00	0.00	0.00	11.21 [7]
	LITTORAL ZONE REQUIRED (ac-ft)		2.02	0.57	N/A	0.82	1.11	0.74	0.45	-	2.67	3.38	0.48	0.45	1.19	13.88
	LITTORAL ZONE PROVIDED (ac-ft)		1.94	0.73	N/A	0.81	1.38	0.81	0.49	-	3.32	4.46	0.00	0.00	0.00	13.94
	ORIFICE DIAMETER (in)		2.50	1.50	N/A	1.50	2.00	1.50	1.50	-	3.25	3.50	N/A	N/A	N/A	-
	100-YEAR	ENCROACHMENT (ac-ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FLOODPLAIN	COMPENSATION (ac-ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	WETLANDS	ENCROACHMENT (ac)	-	-	-	-	-	-	-	-	1.13	5.59	-	-	-	6.73
		COMPENSATION (ac)	-	-	-	-	-	-	-	-	1.13	5.59	-	-	-	6.73
	EXISTING PONDS	ENCROACHMENT (ac-ft)	-	-	-	-	-	-	-	-	1.40	0.41	-	-	-	1.81
		COMPENSATION (ac-ft)	-	-	-	-	-	-	-	-	1.79	0.00	-	-	-	1.79

* WD = Wet Detention ; Dry = Dry Detention

[1] The pre-existing, unpermitted and untreated I-4 pavement.

[2] The proposed, total I-4 pavement.

[3] The total area draining to the ponds.

[4] The net increase in I-4 pavement; the pavement area required to be treated not including the pond sites.

[5] The treatment area provided; (131.03 ac) x (1 ft/ 12 in) = 10.92 ac-ft.

[6] This volume is what would be required if all 154.87 ac were to be treated; (154.87 ac) x (1 ft/ 12 in) = 12.91 ac-ft. All 154.87 ac is not required to be treated, and this number should be the volume for the 104.93 ac of increased pavement, 19.96 ac for the pond sites, and 6.27 ac of additional treatment for improvements to N 50th St.

[7] The treatment volume provided; the improvements to Basin 300 (Basin 9 in this report) in ERP 20690.007 increase this volume to 11.77 ac-ft.

Parsons Brinckerhoff

Project:	I-4 SEGMENT 3	Designed By:	JLL	Date:	18-Dec-99
		Checked By :	BA	Date:	21-Dec-99
Subject:	BASIN 100				

I. EXISTING CONDITIONS CALCULATIONS:

Basin Name: B100

A. *Area Calculations (A):*

I-4 Impervious Areas	1.95 ha	4.82 (ac)
Other Impervious Areas	2.53 ha	6.25 (ac)
Existing Pervious Area	4.31 ha	10.65 (ac)
Total Drainage Area	8.79 ha	21.71 (ac)

B. *Curve Number Calculations (CN):*

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	4.48	98	439.04
Pervious Area	Tavares (UL)	A	55	3.88	39	151.32
Pervious Area (1:2 Sloped Embankments)		-	-	0.43	90	38.70
				8.79		71.57

C. *Time of Concentration Calculations (Tc):*

18 minutes (see attached Tc calculation)

4
9

Project: I-4 SEGMENT 3
Designed By: JLL
Date: 18-Dec-99
Checked By : BA
Date: 21-Dec-99
Subject: BASIN 100

II. PROPOSED CONDITIONS CALCULATIONS:

Basin Name: B100-1

A. *Area Calculations (A):*

Impervious Area	0.47 ha	1.16 (ac)
Pervious Area	0.00 ha	0.00 (ac)
Pond Site Area	0.67 ha	1.65 (ac)
Total Drainage Area	1.14 ha	2.82 (ac)

B. *Curve Number Calculations (CN):*

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	1.14	98	111.72
				1.14		98.00

C. *Time of Concentration Calculations (Tc):* Assume 10 minutes.

Basin Name: B100-2

A. *Area Calculations (A):*

Impervious Area	6.53 ha	16.13 (ac)
Pervious Area	0.00 ha	0.00 (ac)
Pond Site Area	0.49 ha	1.21 (ac)
Total Drainage Area	7.02 ha	17.34 (ac)

B. *Curve Number Calculations (CN):*

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	7.02	98	687.96
				7.02		98.00

C. *Time of Concentration Calculations (Tc):* 17.0 minutes. See the P100-2B Storm sewer Printout.

a

Project:	I-4 SEGMENT 3	Designed By:	JLL	Date:	18-Dec-99
		Checked By :	BA	Date:	21-Dec-99
Subject:	BASIN 100				

Basin Name: B100-3

A. *Area Calculations (A):*

Impervious Area	2.71 ha	6.69 (ac)
Pervious Area	0.00 ha	0.00 (ac)
Pond Site Area	0.41 ha	1.01 (ac)
Total Drainage Area	3.12 ha	7.71 (ac)

B. *Curve Number Calculations (CN):*

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	3.12	98	305.76
				3.12		98.00

C. *Time of Concentration Calculations (Tc):* 16.0 minutes. See the P100-3 Storm sewer Printout.

Parsons Brinckerhoff

Project:	I-4 SEGMENT 3	**Designed By:**	JLL	**Date:**	18-Dec-99
		Checked By :	BA	**Date:**	21-Dec-99
Subject:	BASIN 200A				

I. EXISTING CONDITIONS CALCULATIONS:

Basin Name: B200A

A. *Area Calculations (A):*

I-4 Impervious Areas	1.84 ha	4.54 (ac)
Other Impervious Areas	5.01 ha	12.37 (ac)
Existing Pervious Area	3.35 ha	8.27 (ac)
Total Drainage Area	**10.20 ha**	**25.19 (ac)**

B. *Curve Number Calculations (CN):*

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	6.85	98	671.30
Pervious Area	Cander (UL)	A	9	1.94	39	75.66
Pervious Area	Myakka (UL)	B/D	32	0.48	80	38.40
Pervious Area (1:2 Sloped Embankments)		-	-	0.93	90	83.70
				10.20		**85.20**

C. *Time of Concentration Calculations (Tc):*

23 minutes (see attached Tc calculation)

Project:	I-4 SEGMENT 3	**Designed By:**	JLL
		Date:	18-Dec-99
		Checked By :	BA
		Date:	21-Dec-99
Subject:	BASIN 200A		

II. PROPOSED CONDITIONS CALCULATIONS:

Basin Name: B200-1

A. ***Area Calculations (A):***

Impervious Area	2.17 ha	5.36 (ac)
Pervious Area	0.00 ha	0.00 (ac)
Pond Site Area	0.43 ha	1.06 (ac)
Total Drainage Area	**2.60 ha**	**6.42 (ac)**

B. ***Curve Number Calculations (CN):***

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	2.60	98	254.80
				2.60		**98.00**

C. ***Time of Concentration Calculations (Tc):*** 15.0 minutes. See the P200-1 Storm Sewer Printout.

Basin Name: B200-2

A. ***Area Calculations (A):***

Impervious Area	1.95 ha	4.82 (ac)
Pervious Area	0.00 ha	0.00 (ac)
Pond Site Area	0.68 ha	1.68 (ac)
Total Drainage Area	**2.63** ha	**6.50 (ac)**

B. ***Curve Number Calculations (CN):***

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	2.63	98	257.74
				2.63		**98.00**

C. ***Time of Concentration Calculations (Tc):*** 16.0 minutes. See the P200-2 Storm sewer Printout.

Parsons Brinckerhoff

Project:	I-4 SEGMENT 3	**Designed By:**	JLL	**Date:**	18-Dec-99
		Checked By :	BA	**Date:**	21-Dec-99
Subject:	BASIN 200B				

I. EXISTING CONDITIONS CALCULATIONS:

Basin Name: B200B

A. *Area Calculations (A):*

I-4 Impervious Areas	0.33 ha	0.82 (ac)
Other Impervious Areas	1.29 ha	3.19 (ac)
Existing Pervious Area	2.44 ha	6.03 (ac)
Total Drainage Area	**4.06 ha**	**10.03 (ac)**

B. *Curve Number Calculations (CN):*

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	1.62	98	158.76
Pervious Area	Myakka (UL)	B/D	32	1.85	80	148.00
Pervious Area (1:2 Sloped Embankments)		-	-	0.59	90	53.10
				4.06		**88.64**

C. *Time of Concentration Calculations (Tc):* 15 minutes (see attached Tc calculation)

Project:	I-4 SEGMENT 3	**Designed By:**	JLL	**Date:**	18-Dec-99
		Checked By :	BA	Date:	21-Dec-99
Subject:	BASIN 200B				

II. PROPOSED CONDITIONS CALCULATIONS:

Basin Name: B200-3

A. *Area Calculations (A):*

Impervious Area	4.24 ha	10.47 (ac)
Pervious Area	0.00 ha	0.00 (ac)
Pond Site Area	0.78 ha	1.93 (ac)
Total Drainage Area	**5.02 ha**	**12.40 (ac)**

B. *Curve Number Calculations (CN):*

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	5.02	98	491.96
				5.02		98.00

C. *Time of Concentration Calculations (Tc):* 15.0 minutes. See the P200-3 Storm sewer Printout.

Project:	I-4 SEGMENT 3	**Designed By:**	JLL	**Date:**	18-Dec-99
		Checked By :	BA	**Date:**	21-Dec-99
Subject:	BASIN 200C				

I. EXISTING CONDITIONS CALCULATIONS:

Basin Name: B200C

A. *Area Calculations (A):*

I-4 Impervious Areas	0.84 ha	2.07 (ac)
Other Impervious Areas	1.20 ha	2.96 (ac)
Existing Pervious Area	2.75 ha	6.79 (ac)
Total Drainage Area	**4.79 ha**	**11.83 (ac)**

B. *Curve Number Calculations (CN):*

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	2.04	98	199.92
Pervious Area	Tavares (UL)	A	55	0.74	39	28.86
Pervious Area	Myakka (UL)	B/D	32	1.10	80	88.00
Pervious Area (1:2 Sloped Embankments)		-	-	0.91	90	81.90
				4.79		83.23

C. *Time of Concentration Calculations (Tc):* 15 minutes (see attached Tc calculation)

Project:	I-4 SEGMENT 3	**Designed By:**	JLL	**Date:**	18-Dec-99
		Checked By :	BA	**Date:**	21-Dec-99
Subject:	BASIN 200C				

II. PROPOSED CONDITIONS CALCULATIONS:

Basin Name: B200-4

A. *Area Calculations (A):*

Impervious Area	2.94 ha	7.26 (ac)
Pervious Area	0.00 ha	0.00 (ac)
Pond Site Area	0.54 ha	1.33 (ac)
Total Drainage Area	**3.48 ha**	**8.60 (ac)**

B. *Curve Number Calculations (CN):*

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	3.48	98	341.04
				3.48		**98.00**

C. *Time of Concentration Calculations (Tc):* 16.0 minutes. See the P200-4 Storm sewer Printout.

Basin Name: B200-5

A. *Area Calculations (A):*

Impervious Area	2.34 ha	5.78 (ac)
Pervious Area	0.00 ha	0.00 (ac)
Pond Site Area	0.37 ha	0.91 (ac)
Total Drainage Area	2.71 **ha**	**6.69 (ac)**

B. *Curve Number Calculations (CN):*

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	2.71	98	265.58
				2.71		**98.00**

C. *Time of Concentration Calculations (Tc):* 18.0 minutes. See the P200-5 Storm sewer Printout.

Parsons Brinckerhoff

Project:	I-4 SEGMENT 3	Designed By:	JLL	Date:	18-Dec-99
		Checked By :	BA	Date:	21-Dec-99
Subject:	BASIN 200D				

I. EXISTING CONDITIONS CALCULATIONS:

Basin Name: B200D

A. *Area Calculations (A):*

I-4 Impervious Areas	0.32 ha	0.79 (ac)
Other Impervious Areas	1.81 ha	4.47 (ac)
Existing Pervious Area	1.47 ha	3.63 (ac)
Total Drainage Area	**3.60 ha**	**8.89 (ac)**

B. *Curve Number Calculations (CN):*

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	2.13	98	208.74
Pervious Area	Tavares (UL)	A	55	0.93	39	36.27
Pervious Area (1:2 Sloped Embankments)		-	-	0.54	90	48.60
				3.60		**81.56**

C. *Time of Concentration Calculations (Tc):*

16 minutes (see attached Tc calculation)

Parsons Brinckerhoff

Project:	**I-4 SEGMENT 3**	**Designed By:**	**JLL**	**Date:**	**18-Dec-99**
		Checked By :	**BA**	**Date:**	**21-Dec-99**
Subject:	**BASIN 300**				

I. EXISTING CONDITIONS CALCULATIONS: Superseded in ERP 20690.007

Basin Name: B300

A. *Area Calculations (A):*

I-4 Impervious Areas	3.04 ha	7.51 (ac)
Other Impervious Areas	1.48 ha	3.66 (ac)
Existing Pervious Area	5.17 ha	12.77 (ac)
Total Drainage Area	**9.69 ha**	**23.93 (ac)**

B. *Curve Number Calculations (CN):*

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	4.52	98	442.96
Pervious Area	Myakka (UL)	B/D	32	3.08	80	246.40
Pervious Area	Tavares (UL)	A	55	0.16	39	6.24
Pervious Area (1:2 Sloped Embankments)		-	-	1.93	90	173.70
				9.69		89.71

C. *Time of Concentration Colculations (Tc):*

18 minutes (see attached Tc calculation)

150

Project:	I-4 SEGMENT 3	**Designed By:**	JLL	**Date:**	18-Dec-99
		Checked By :	BA	**Date:**	21-Dec-99
Subject:	BASIN 300				

II. PROPOSED CONDITIONS CALCULATIONS:

Superseded in ERP 20690.007

Basin Name: B300-1

A. *Area Calculations (A):*

Impervious Area	9.90 ha	24.45 (ac)
Pervious Area	0.00 ha	0.00 (ac)
Pond Site Area	1.39 ha	3.43 (ac)
Total Drainage Area	**11.29 ha**	**27.89 (ac)**

B. *Curve Number Calculations (CN):*

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	11.29	98	1106.42
				11.29		**98.00**

C. *Time of Concentration Calculations (Tc):*

16.0 minutes. See the P300-1B Storm sewer Printout.

Basin Name: B300 (Untreated Onsite Areas draining directly to the outfall)

A. *Area Calculations (A):*

Impervious Area	1.51 ha	3.73 (ac)
Pervious Area	0.00 ha	0.00 (ac)
Total Drainage Area	**1.51 ha**	**3.73 (ac)**

B. *Curve Number Calculations (CN):*

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	1.51	98	147.98
				1.51		**98.00**

C. *Time of Concentration Calculations (Tc):*

Assume same time as in the Existing Conditions (18 minutes)

Parsons Brinckerhoff

Project:	**I-4 SEGMENT 3**	**Designed By:**	**JLL**	**Date:**	**18-Dec-99**
		Checked By :	**BA**	**Date:**	**21-Dec-99**
Subject:	**BASIN 400**				

I. EXISTING CONDITIONS CALCULATIONS:

Basin Name: B400A

A. ***Area Calculations (A):***

I-4 Impervious Areas	2.11 ha	5.21 (ac)
Other Impervious Areas	0.71 ha	1.75 (ac)
Existing Pervious Area	4.55 ha	11.24 (ac)
Total Drainage Area	**7.37 ha**	**18.20 (ac)**

B. ***Curve Number Calculations (CN):***

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	2.82	98	276.36
Pervious Area	Myakka (UL)	B/D	32	3.58	80	286.40
Pervious Area (1:2 Sloped Embankments)		-	-	0.97	90	87.30
				7.37		**88.20**

C. ***Time of Concentration Calculations (Tc):*** Use 14.0 minutes (same as the proposed conditions).

Basin Name: B400B

A. ***Area Calculations (A):***

I-4 Impervious Areas	2.98 ha	7.36 (ac)
Other Impervious Areas	1.20 ha	2.96 (ac)
Existing Pervious Area	5.10 ha	12.60 (ac)
Total Drainage Area	**9.28 ha**	**22.92 (ac)**

B. ***Curve Number Calculations (CN):***

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	4.18	98	409.64
Pervious Area	Myakka (UL)	B/D	32	4.06	80	324.80
Pervious Area (1:2 Sloped Embankments)		-	-	1.04	90	93.60
				9.28		**89.23**

C. ***Time of Concentration Calculations (Tc):*** Use 18.0 minutes (same as the proposed conditions)

Project:	I-4 SEGMENT 3	**Designed By:**	JLL	**Date:**	18-Dec-99
		Checked By :	BA	**Date:**	21-Dec-99
Subject:	BASIN 400				

II. PROPOSED CONDITIONS CALCULATIONS:

Basin Name: B400-1

A. ***Area Calculations (A):***

Impervious Area	12.52 ha	30.92 (ac)
Pervious Area	0.00 ha	0.00 (ac)
Pond Site Area	1.52 ha	3.75 (ac)
Total Drainage Area	**14.04 ha**	**34.68 (ac)**

B. ***Curve Number Calculations (CN):***

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	14.04	98	1375.92
				14.04		**98.00**

C. ***Time of Concentration Calculations (Tc):*** See the P400-1A = 17.12 min. and P400-1B = 20.97 min. Storm sewer Printout.

Use 18.0 minutes.

Basin Name: B400 (Areas draining directly to the outfall)

A. ***Area Calculations (A):***

Impervious Area	3.44 ha	8.50 (ac)
Pervious Area	0.00 ha	0.00 (ac)
Total Drainage Area	**3.44 ha**	**8.50 (ac)**

B. ***Curve Number Calculations (CN):***

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	3.44	98	337.12
				3.44		**98.00**

C. ***Time of Concentration Calculations (Tc):*** 14.0 minutes. See the SYS416 Storm sewer Printout.

Project: I-4 SEGMENT 3
Designed By: JLL **Date:** 18-Dec-99
Checked By : BA **Date:** 21-Dec-99

Subject: BASIN 800

I. EXISTING CONDITIONS CALCULATIONS:

Basin Name: B800

A. *Area Calculations (A):*

Onsite Areas (Based on Proposed R/W):

Existing Roadway Areas	0.66 ha	1.63 (ac)
Other Impervious Areas	1.50 ha	3.71 (ac)
Existing Pervious Area	3.16 ha	7.81 (ac)
Total Onsite Area	**5.32 ha**	**13.14 (ac)**

Offsite Areas (Includes areas being collected by the project):

Existing Impervious Area	3.55 ha	8.77 (ac)
Existing Pervious Area	1.00 ha	2.47 (ac)
Total Offsite Area	**4.55 ha**	**11.24 (ac)**

Total Drainage Area	**9.87 ha**	**24.38 (ac)**

B. *Curve Number Calculations (CN):*

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	5.71	98	559.58
Pervious Area	Myakka (UL)	B/D	32	3.56	80	284.80
Pervious Area (1:2 Sloped Embankments)		-	-	0.60	90	54.00
				9.87		**91.02**

C. *Time of Concentration Calculations (Tc):*

Assume 15 minutes.

Project:	I-4 SEGMENT 3	**Designed By:**	JLL	**Date:**	18-Dec-99
		Checked By :	BA	**Date:**	21-Dec-99
Subject:	BASIN 800				

II. PROPOSED CONDITIONS CALCULATIONS:

Basin Name: B800-1

A. ***Area Calculations (A):***

Impervious Area	1.79 ha	4.42 (ac)
Pond Site Area	0.18 ha	0.44 (ac)
Total Drainage Area	**1.97 ha**	**4.87 (ac)**

B. ***Curve Number Calculations (CN):***

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	1.97	98	193.06
				1.97		98.00

C. ***Time of Concentration Calculations (Tc):*** 13.0 minutes. See the P800-1 Storm sewer Printout.

Basin Name: B800-2

A. ***Area Calculations (A):***

Impervious Area	2.15 ha	5.31 (ac)
Pervious Area	0.35 ha	0.86 (ac)
Pond Site Area	0.17 ha	0.42 (ac)
Total Drainage Area	**2.67 ha**	**6.59 (ac)**

B. ***Curve Number Calculations (CN):***

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	2.32	98	227.36
Pervious Area	Myakka (UL)	B/D	32	0.35	80	28.00
				2.67		95.64

C. ***Time of Concentration Calculations (Tc):*** 19.0 minutes. See the SYS 822 Storm sewer Printout.

233

Project:	I-4 SEGMENT 3	**Designed By:**	JLL	**Date:**	18-Dec-99
		Checked By :	BA	**Date:**	21-Dec-99
Subject:	BASIN 800				

Basin Name: B800-3

A. ***Area Calculations (A):***

Impervious Area	1.57 ha	3.88 (ac)
Pervious Area	2.98 ha	7.36 (ac)
Pond Site Area	0.46 ha	1.14 (ac)
Total Drainage Area	**5.01 ha**	**12.37 (ac)**

B. ***Curve Number Calculations (CN):***

Land Use	Soil Name	Hyd. Grp.	Map Symbol	Area (ha)	CN	Weighted CN
Impervious Area	N/A	-	-	2.03	98	198.94
Pervious Area	Myakka (UL)	B/D	32	2.98	80	238.40
				5.01		**87.29**

C. ***Time of Concentration Calculations (Tc):*** 15 minutes. See Off-site Time of Concentration Printout.

23X

Project:	I-4 SEGMENT 3	**Designed By:**	JLL	**Date:**	18-Dec-99
		Checked By :	BA	**Date:**	21-Dec-99
Subject:	BASIN 800				

V. *WATER QUALITY TREATMENT CALCULATIONS:*

Treatment Area Required:		
Existing Onsite Roadway Area	0.66 ha	1.63 (ac)
Proposed Impervious Area	5.51 ha	13.61 (ac)
Additional Impervious Area	**4.85 ha**	**11.98 (ac)**

Treatment Area Provided:		
Area Draining to Pond 800-1	0.00 ha	0.00 (ac)
Area Draining to Pond 800-2	0.00 ha	0.00 (ac)
Area Draining to Pond 800-3	0.00 ha	0.00 (ac)
Total Area Draining to the Ponds	**0.00 ha**	**0.00 (ac)**

Treatment Volume Required:		
1 in of Total Area Draining to Pond 800-1	0.05 ha-m	0.41 (ac-ft)
1 in of Total Area Draining to Pond 800-2	0.07 ha-m	0.55 (ac-ft)
1 in of Total Area Draining to Pond 800-3	0.13 ha-m	1.03 (ac-ft)
Total Treatment Volume Required	**0.25 ha-m**	**1.99 (ac-ft)**

Treatment Volume Provided:		
Volume provided in Pond 800-1	0.00 ha-m	0.00 (ac-ft)
Volume provided in Pond 800-2	0.00 ha-m	0.00 (ac-ft)
Volume provided in Pond 800-3	0.00 ha-m	0.00 (ac-ft)
Total Treatment Volume Provided	**0.00 ha-m**	**0.00 (ac-ft)**

VI. *LITTORAL ZONE CALCULATION:*

A. *POND 800-1*

Littoral Zone Required:	**0.06 ha**	**0.15 (ac)**
Littoral Zone Provided:	**0.00 ha**	**0.00 (ac)**

B. *POND 800-2*

Littoral Zone Required:	**0.06 ha**	**0.14 (ac)**
Littoral Zone Provided:	**0.00 ha**	**0.00 (ac)**

C. *POND 800-3*

Littoral Zone Required:	**0.15 ha**	**0.36 (ac)**
Littoral Zone Provided:	**0.00 ha**	**0.00 (ac)**

VII. *ORIFICE CALCULATION:*

A. *POND 800-1*

Since the weir is set at the SHWT,an orifice is not required for this pond.

B. *POND 800-2*

Since the weir is set at the SHWT,an orifice is not required for this pond.

B. *POND 800-3*

Since the weir is set at the SHWT,an orifice is not required for this pond.

VIII. *WATER ELEVATION AT TIME 36-HOUR:*

A. *POND 800-1*

The initial routing elevation for this pond is set at the weir elevation.

B. *POND 800-2*

The initial routing elevation for this pond is set at the weir elevation.

B. *POND 800-3*

The initial routing elevation for this pond is set at the weir elevation.

IX. *POND TAILWATER CONDITION:*

The following factors were used to determine the Tailwater at the Pond Outfall.

A. *POND 800-1*

HGL at Structure S-709 on 50th Street	8.97 m	29.43 (ft)
Estimated Tailwater at the Pond Outfall =	**8.97 m**	**29.43 (ft)**

B. *POND 800-2*

HGL at Structure S-718 on 50th Street	9.90 m	32.48 (ft)
Estimated Tailwater at the Pond Outfall =	**9.90 m**	**32.48 (ft)**

C. *POND 800-3*

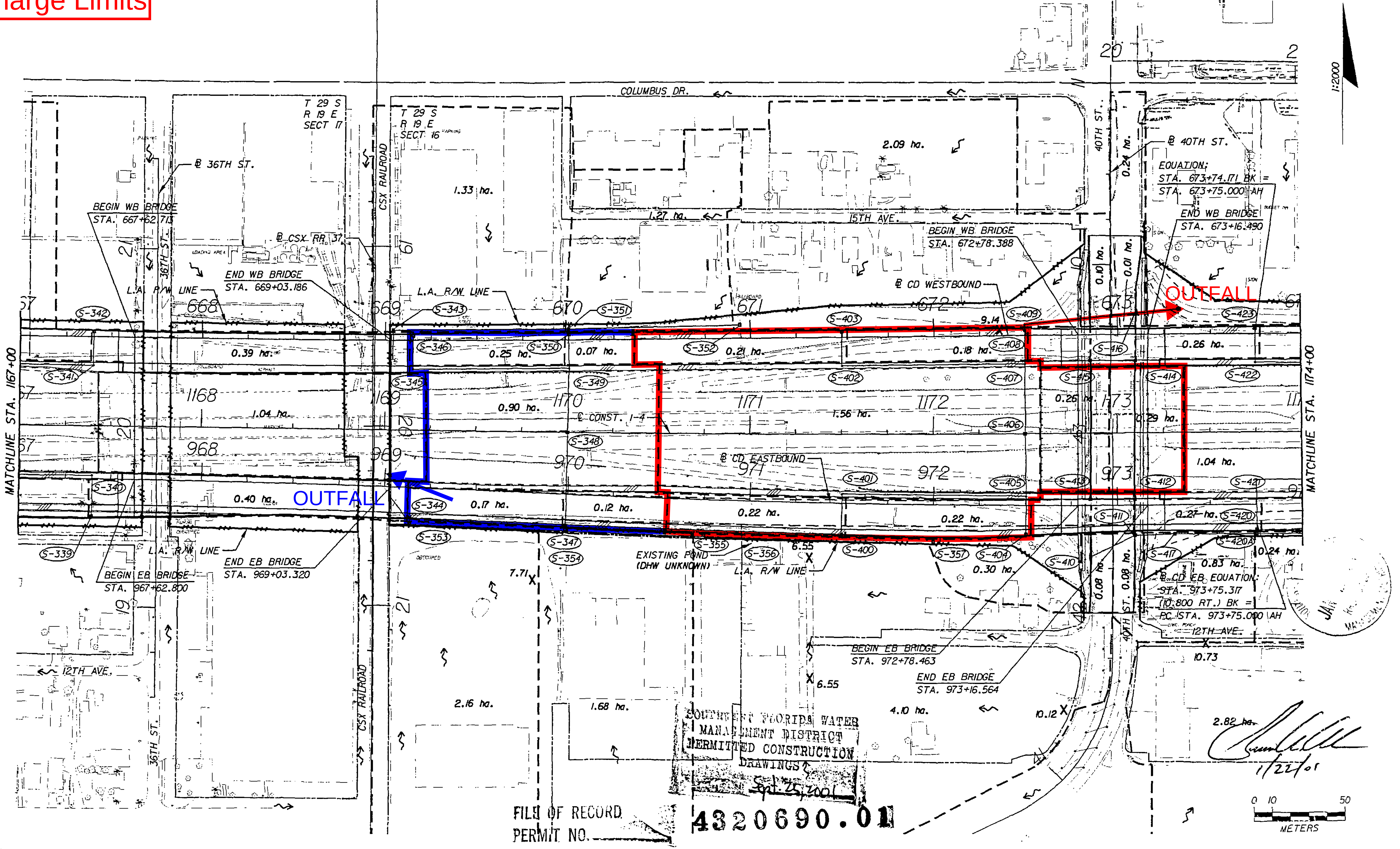
HGL at Structure S-710 on 50th Street	9.05 m	29.69 (ft)
Estimated Tailwater at the Pond Outfall =	**9.05 m**	**29.69 (ft)**

X. *WETLANDS:*

Wetland Encroachment in this Basin:	**0.00 ha**	**0.00 ac**
Wetland Compensation Provided:	**0.00 ha**	**0.00 ac**

Basin 10 Direct Discharge Limits

FINANCIAL PROJ. ID	STATE PROJECT NO.	SHEET NO.
258401-1-52-01	10190-3451	16



SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
PERMITTED CONSTRUCTION DRAWINGS
Sept. 25, 2001

FILE OF RECORD
PERMIT NO. 4320690.01

1/22/01

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

REVISIONS

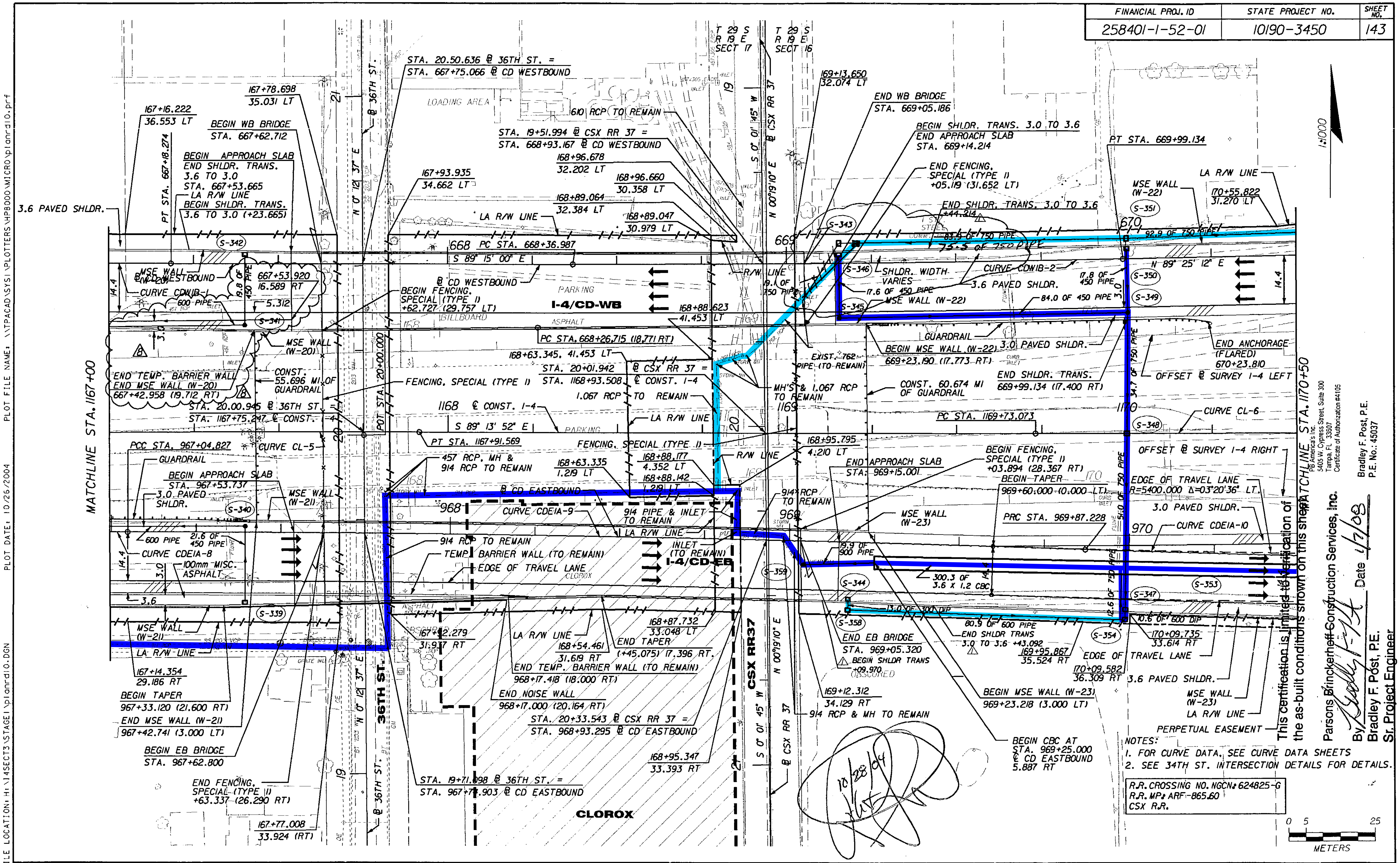
FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY:
DATE:

PB

DRAINAGE MAP (5)

PLOT FILE NAME: G:\PLOTTERS\HP8000\MICRO\drmprd05.prf
PLOT DATE: 12/19/00
DESIGN FILE LOCATION: h:\14sect3\stage1\drmprd05.dgn

FINANCIAL PROJ. ID	STATE PROJECT NO.	SHEET NO.
258401-1-52-01	10190-3450	143



10/28/04

NOTES:
1. FOR CURVE DATA, SEE CURVE DATA SHEETS
2. SEE 34TH ST. INTERSECTION DETAILS FOR DETAILS.

R.R. CROSSING NO. NGCN# 624825-G
R.R. MP# ARF-865.60
CSX R.R.

This certification is limited to verification of the as-built conditions shown on this sheet.
Parsons Brinckerhoff Construction Services, Inc.
By Bradley F. Post Date 1/7/08
Bradley F. Post, P.E.
Sr. Project Engineer

PB Americas Inc.
5405 W. Cypress Street, Suite 300
Tampa, FL 33607
Certificate of Authorization #4105
Bradley F. Post, P.E.
P.E. No.: 45037

PLOT FILE NAME: \\TPACAD\SYS\PLOTTERS\HP8000\MICRO\planrd10.prf
PLOT DATE: 10/26/2004
DESIGN FILE LOCATION: H:\I4SECT3\STAGE1\planrd10.DGN

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY
2/28/02	MJQ	Added shldr taper note.	10/28/04	JPM	REVISED CONC. PAVT. LIMITS FOR FUTURE RAMP 'E' FROM 34TH ST. TO 36TH ST.								

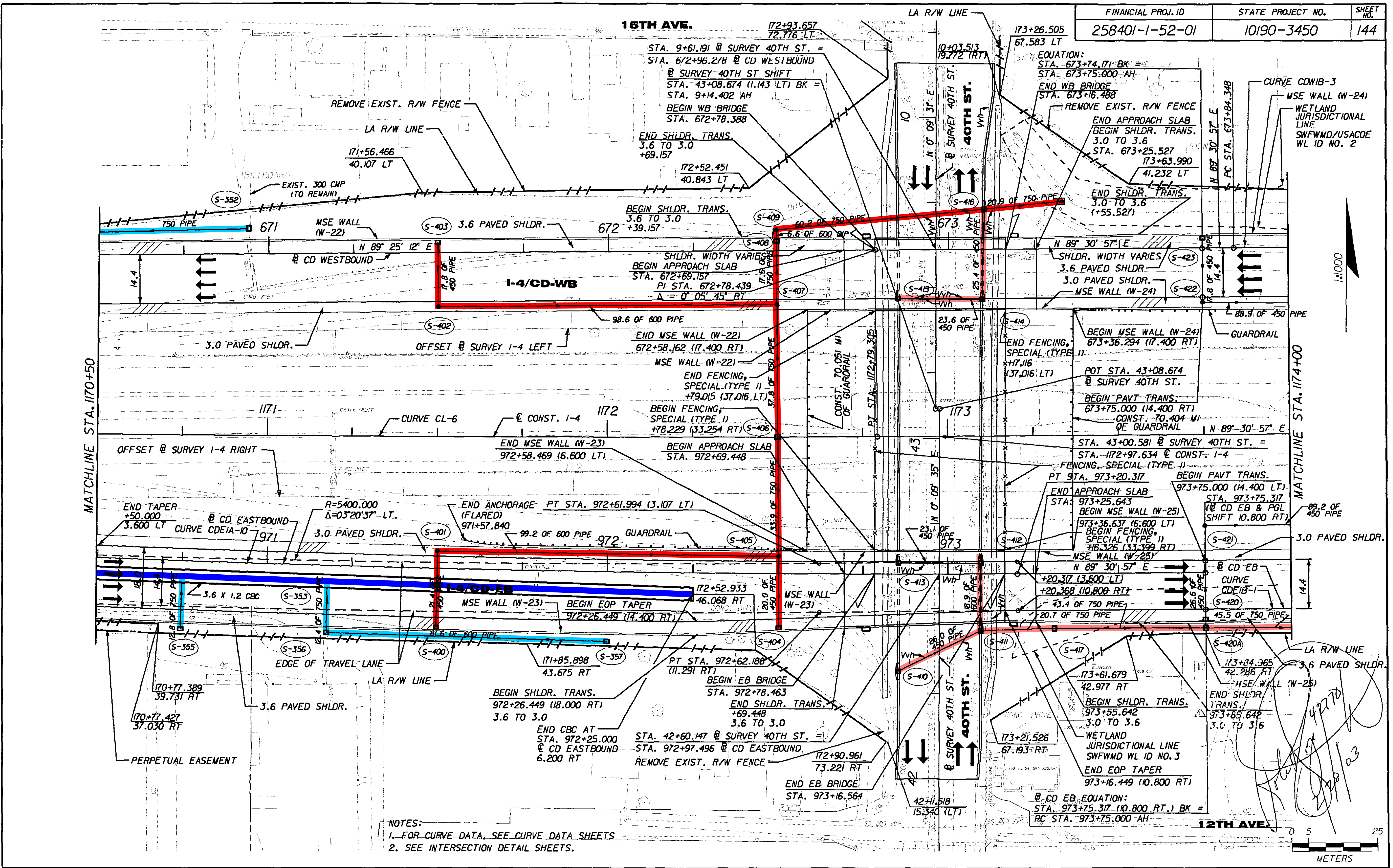
Parsons Brinckerhoff
Quade & Douglas, Inc.
5405 West Cypress St. Suite 300
Tampa, Fl. 33607
(813) 289-5300
Certificate of Authorization No. 01462

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY :
DATE :

PB 100

PLAN SHEET (10)
STA. 1167+00 TO STA. 1170+50

FINANCIAL PROJ. ID	STATE PROJECT NO.	SHEET NO.
258401-1-52-01	10190-3450	144



NOTES:
1. FOR CURVE DATA, SEE CURVE DATA SHEETS
2. SEE INTERSECTION DETAIL SHEETS.

2/28/03

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY
2/28/02	MJQ	△ Rev shldr trans station											

REVISIONS

Parsons Brinckerhoff
Quade & Douglas, Inc.
5405 West Cypress St. Suite 300
Tampa, Fl. 33607
(813) 289-5300
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FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY :
DATE :

PLAN SHEET (11)
STA. 1170+50 TO STA. 1174+00

DESIGN FILE LOCATION: H:\I4SECT3\STAGE1\planrd11.DGN PLOT DATE: 2/26/2003 PLOT FILE NAME: \\TPACAD\SYS1\PLOTTERS\HP800\MICRO\planrd11.prf

DESIGNED BY: ZOUHEIR FARAH

PLOT FILE NAME: G:\PLOTTERS\HP8000\MICRO\planrd12.prf

PLOT DATE: 1/11/03

DESIGN FILE LOCATION: H:\I4SECT3\STAGE1\planrd12.DGN

FINANCIAL PROJ. ID	STATE PROJECT NO.	SHEET NO.
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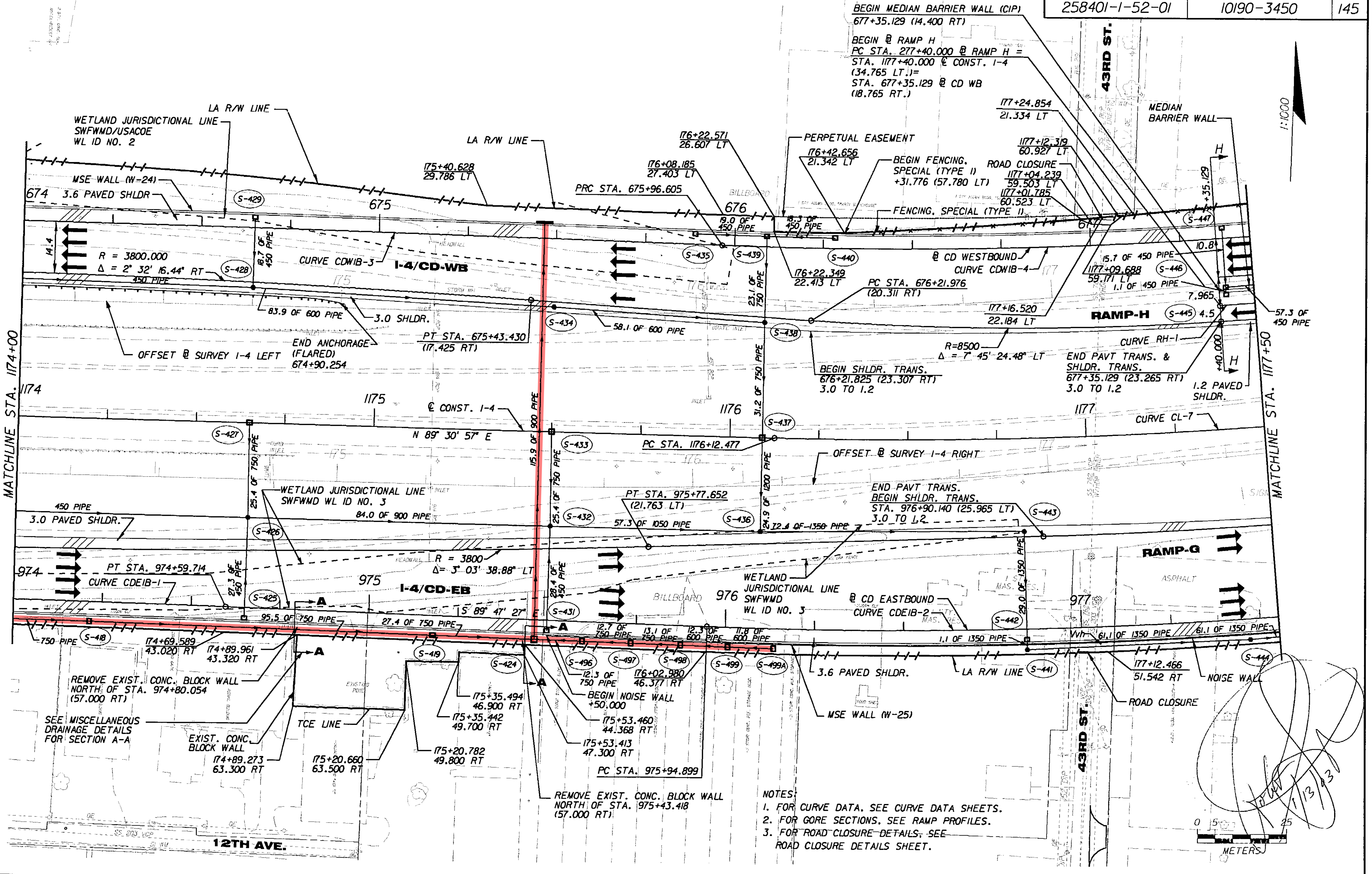


NOTES:
1. FOR CURVE DATA, SEE CURVE DATA SHEETS.
2. FOR GORE SECTIONS, SEE RAMP PROFILES.
3. FOR ~~ROAD CLOSURE DETAILS, SEE~~
ROAD CLOSURE DETAILS SHEET.

1/13/03

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY

Parsons Brinckerhoff
Quade & Douglas, Inc.
5405 West Cypress St. Suite 300
Tampa, Fl. 33607
(813) 289-5300
Certificate of Authorization No. 01462

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY :
DATE :

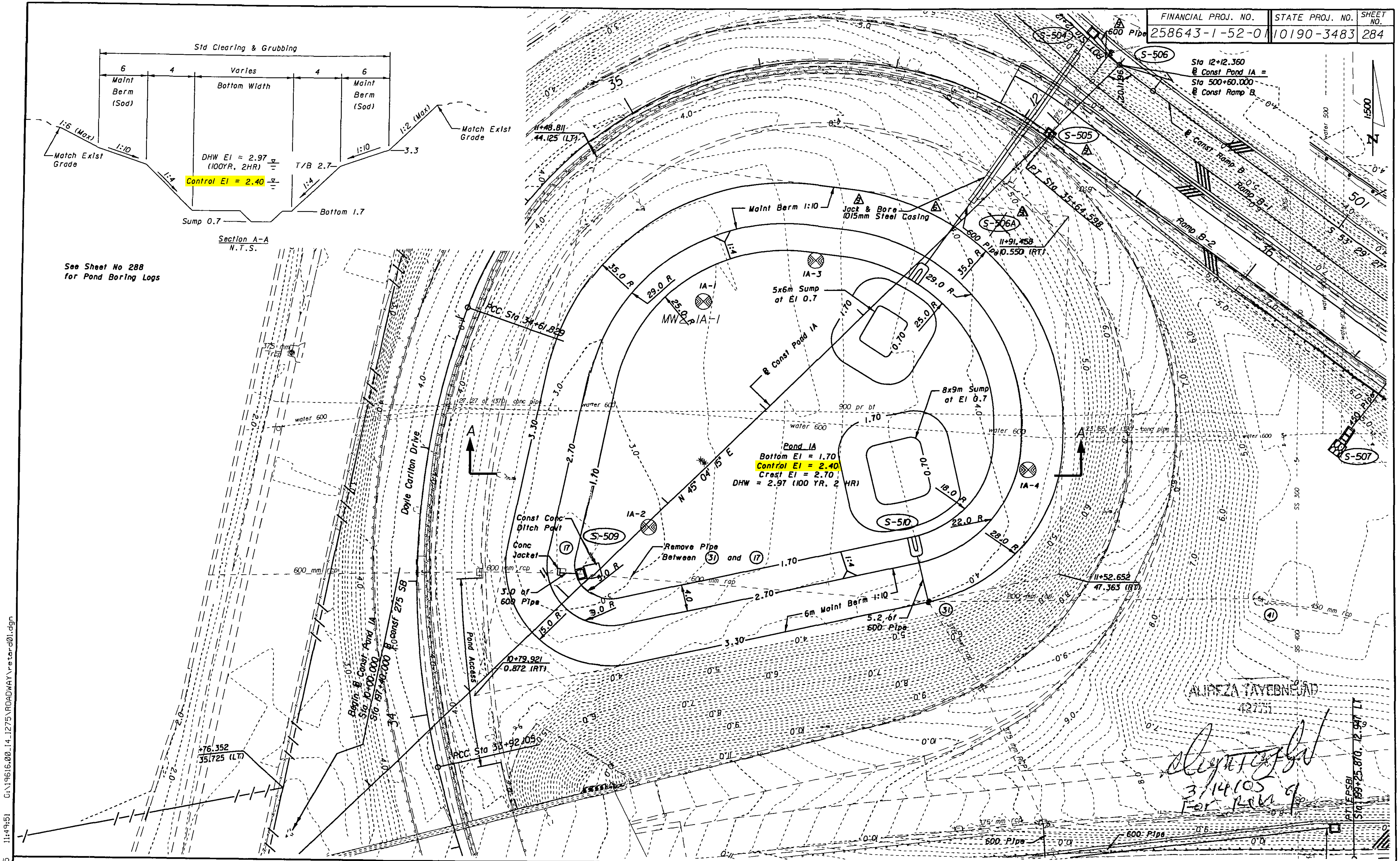
PB 100 YEARS

PLAN SHEET (12)
STA. 1174+00 TO STA. 1177+50

APPENDIX E-3

ERP 20690.004
DOT I-275 & I-4 Interchange Mod.

FINANCIAL PROJ. NO.	STATE PROJ. NO.	SHEET NO.
258643-1-52-01	10190-3483	284



Section A-A
N.T.S.

See Sheet No 288
for Pond Boring Logs

ALIREZA TAYEBNEJAD
42751

3/14/05
For Rev 9

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
3/9/04	VHG	Revised S-506 Location Added Jack & Bore									
3/3/05	VHG	Revised S-504, S-505, S-506 & S-508. Extended J&B; Deleted S-506A									

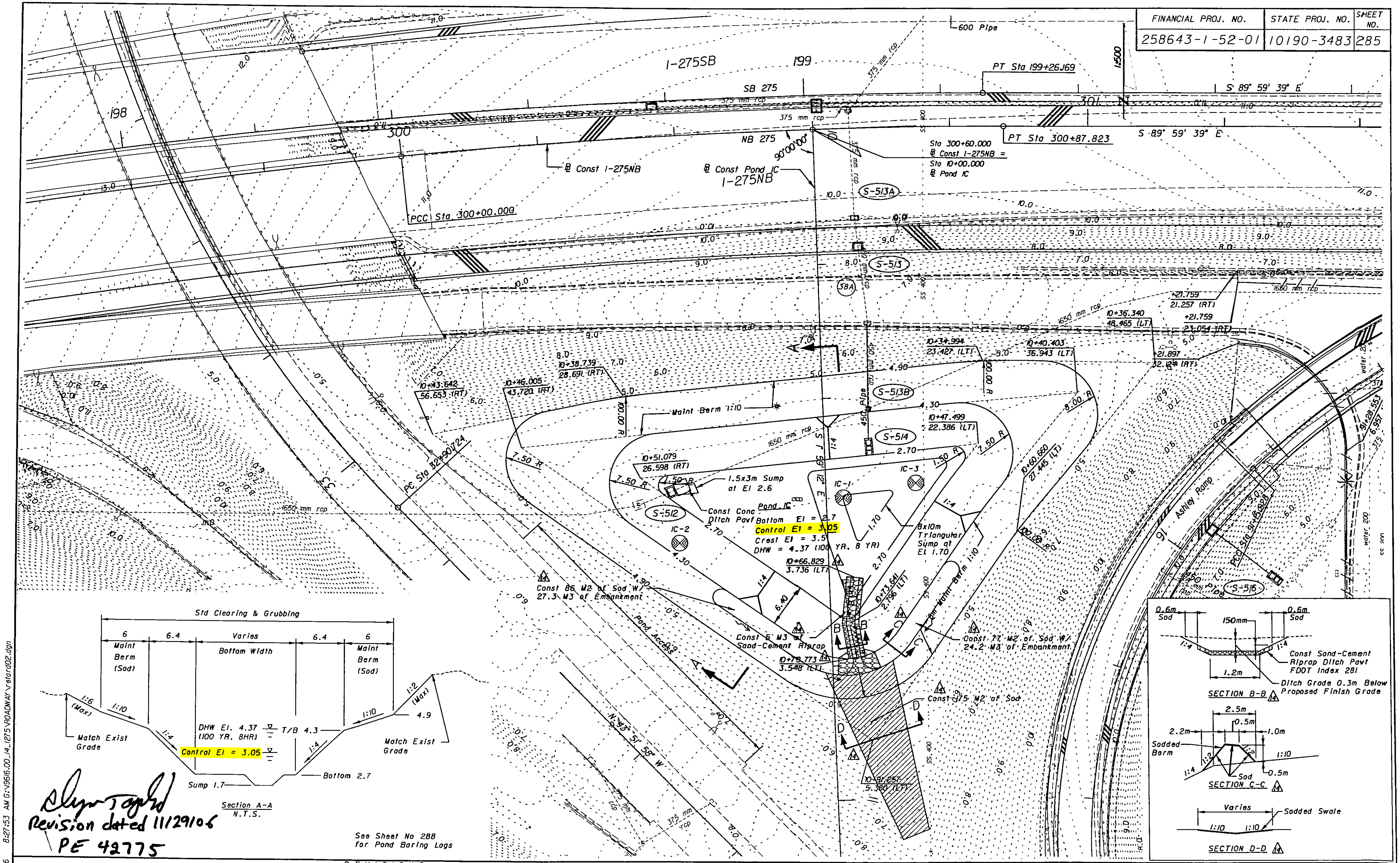
Kisinger Campo & Associates Corp.
2203 N. Lois Avenue, Suite 1200
Tampa, Florida 33607
FL Certificate of Authorization No. 02317

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

Pond Detail Sheet
Pond IA

G:\19616.00.14.1275\ROADWAY\retard01.dgn 11:49:51 3/11/2005

FINANCIAL PROJ. NO.	STATE PROJ. NO.	SHEET NO.
258643-1-52-01	10190-3483	285



Alyn Taylor
Revision dated 11/29/06
PE 42775

See Sheet No 288
for Pond Boring Logs

11/29/2006 8:27:53 AM G:\9616.00_I4_I275\ROADWAY\relard02.dgn

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
10/31/06	VHG	14 Added Sand-Cement Riprap Added Sod & Sodded Berm Added Details									

Kisinger Campo & Associates Corp.
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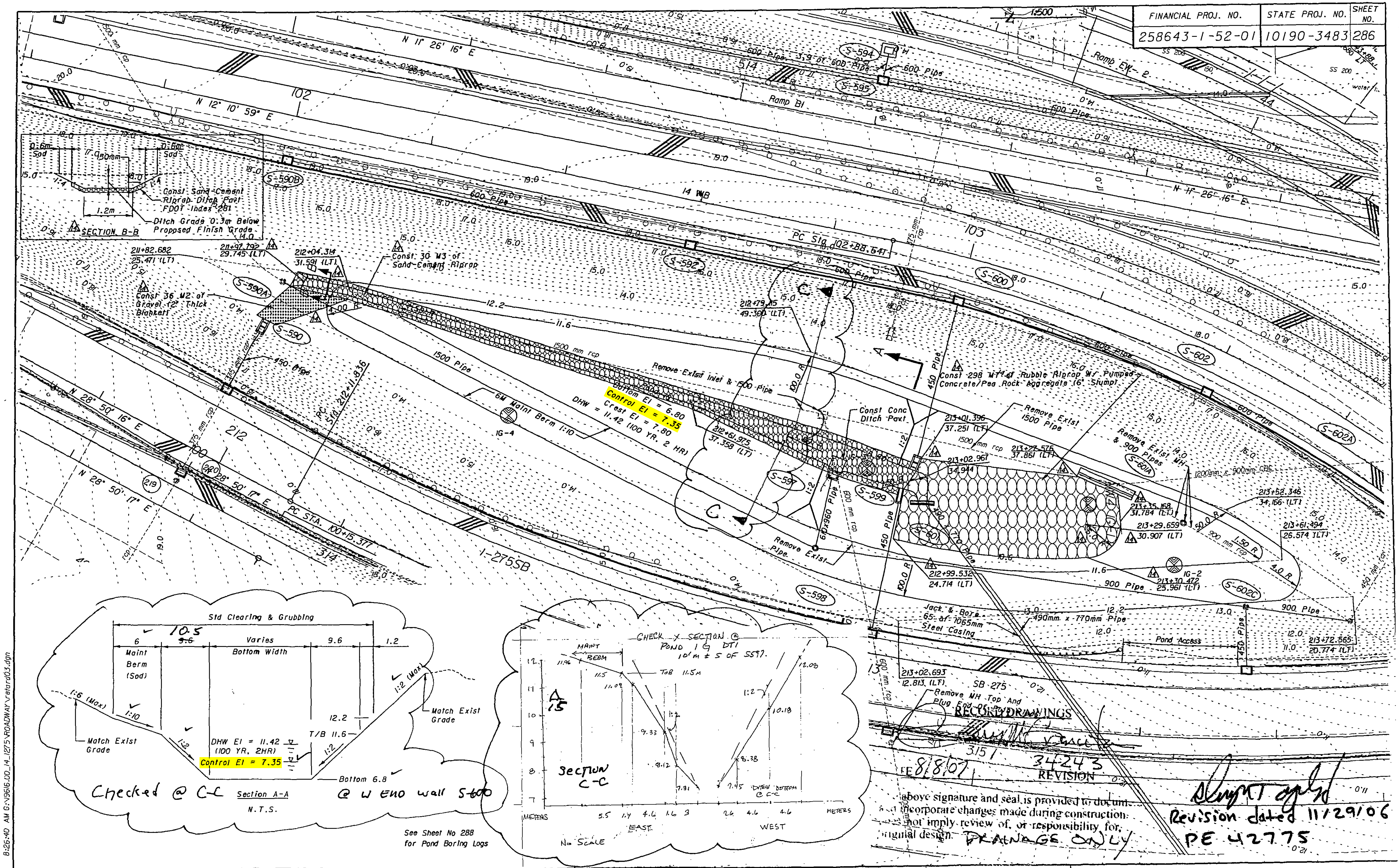
Tampa, Florida 33607
FL Certificate of Authorization No. 02317

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

Pond Detail Sheet

Pond IC

FINANCIAL PROJ. NO.	STATE PROJ. NO.	SHEET NO.
258643-1-52-01	10190-3483	286



See Sheet No 288
for Pond Boring Logs

RECORD DRAWINGS

3151 34243

FE 8/8/07

REVISION

The above signature and seal is provided to document and incorporate changes made during construction. Does not imply review of, or responsibility for, original design. DRAINAGE ONLY

Revision dated 11/29/06
PE 42775

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
10/31/06	VHG	14 Added Sand-Cement Riprap, Rubble Riprap, Detail & Gravel									
8/8/07	CG	15 ADD AS BUILT DATA									

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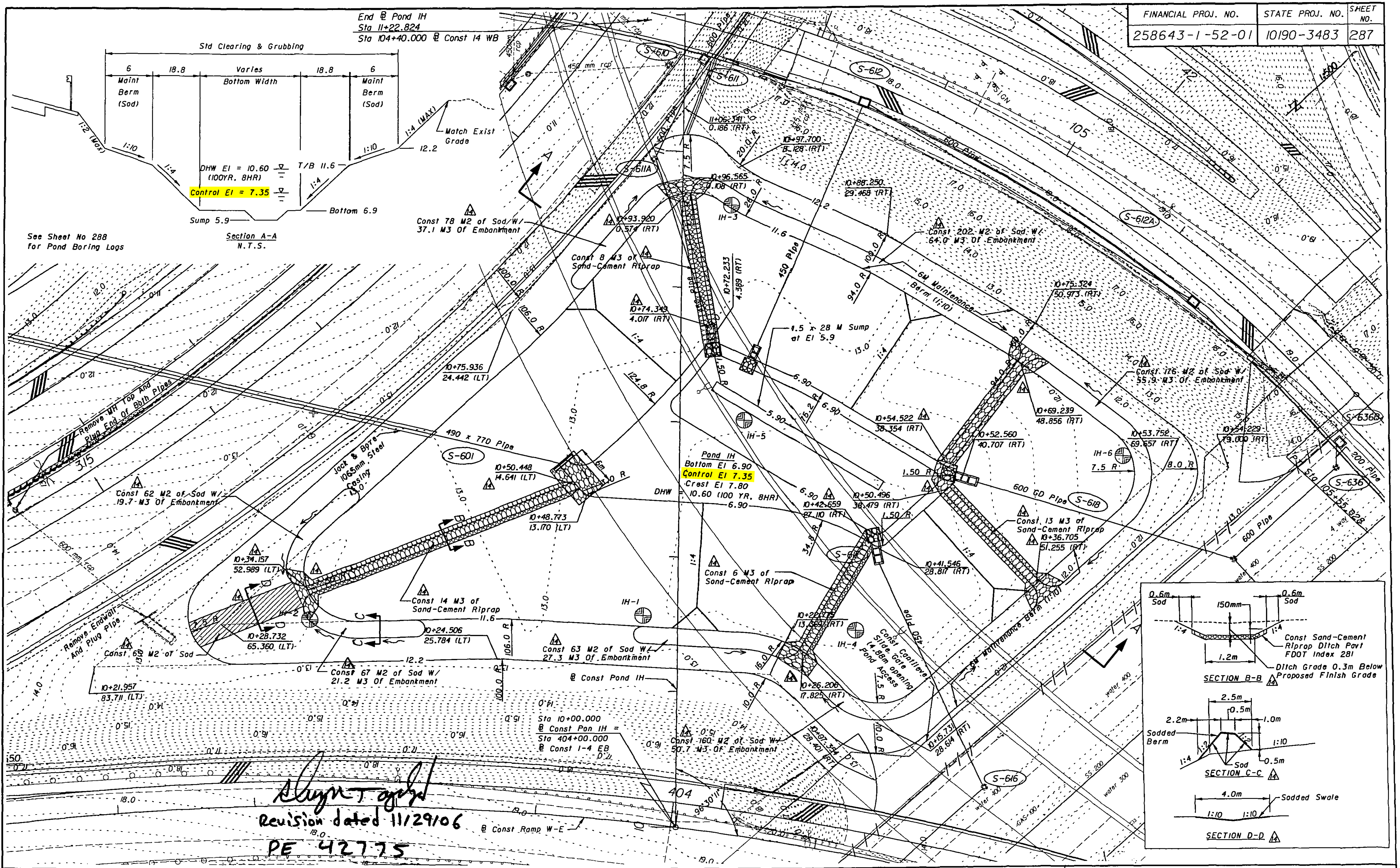
Tampa, Florida 33607
FL Certificate of Authorization No. 02317

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

Pond Detail Sheet
Pond IG

11/29/2006 8:26:40 AM G:\9616\00_14_1275\ROADWAY\retard03.dgn



Revision dated 11/29/06

PE 42775

8:27:13 AM G:\9616.00_I4_I275\ROADWAY\etard04.dgn

11/29/2006

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
10/31/06	VHG	Added Sand-Cement Riprap Added Sod & Sodded Berm Added Details									

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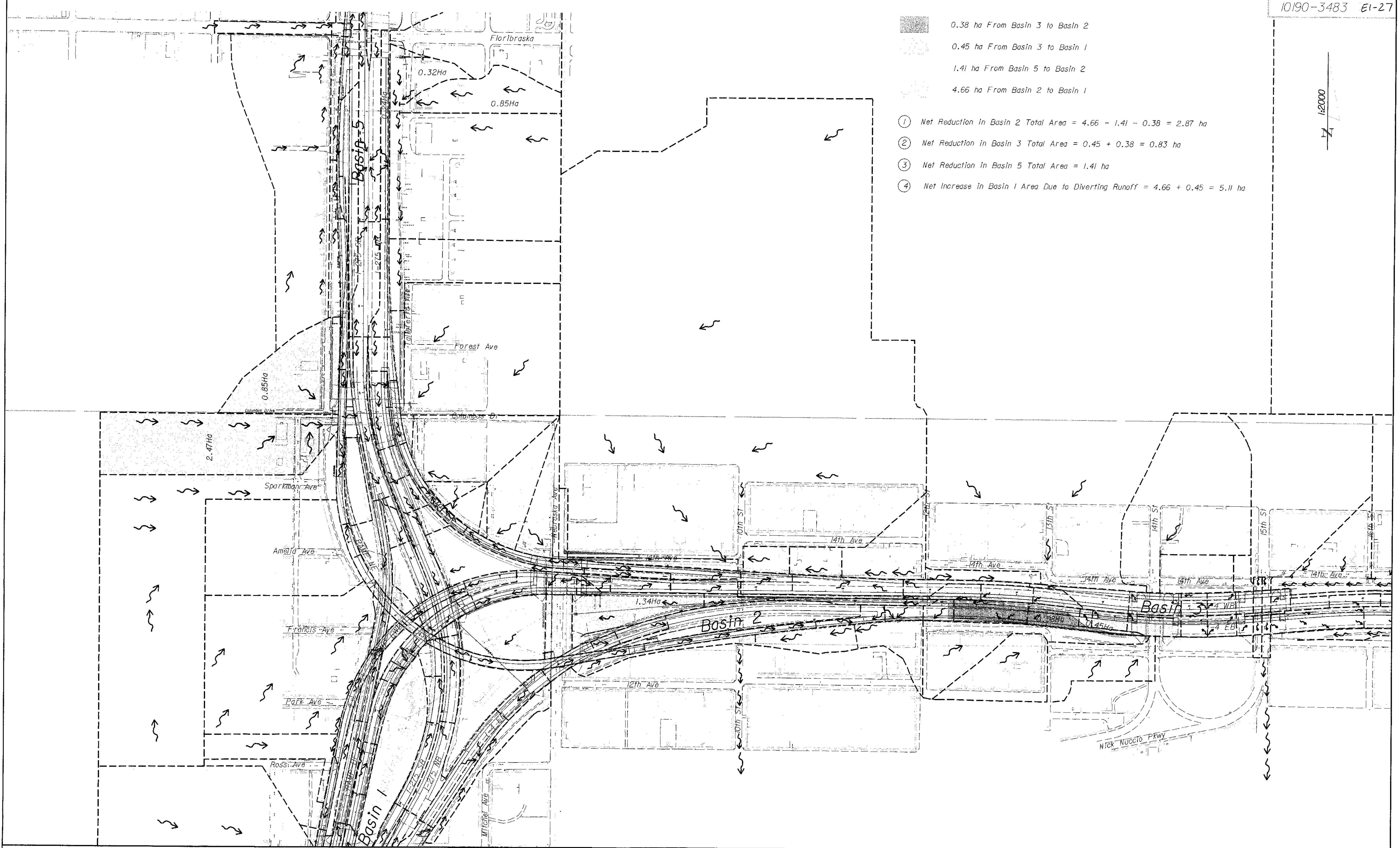
Tampa, Florida 33607
FL Certificate of Authorization No. 02317

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

Pond Detail Sheet
Pond IH

STATE PROJ. NO.	SHEET NO.
10190-3483	E1-27



▨ 0.38 ha From Basin 3 to Basin 2

0.45 ha From Basin 3 to Basin 1

1.41 ha From Basin 5 to Basin 2

4.66 ha From Basin 2 to Basin 1

① Net Reduction in Basin 2 Total Area = 4.66 - 1.41 - 0.38 = 2.87 ha

② Net Reduction in Basin 3 Total Area = 0.45 + 0.38 = 0.83 ha

③ Net Reduction in Basin 5 Total Area = 1.41 ha

④ Net Increase in Basin 1 Area Due to Diverting Runoff = 4.66 + 0.45 = 5.11 ha

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

KCA Kisinger Campo & Associates Corporation

FLORIDA DEPARTMENT OF TRANSPORTATION

Drainage Area Diversion Diagram

existing and proposed conditions. The results of the BRN analysis for the 10 year 2 hour storm at some critical nodes are included in Table 1c. The complete input/output data is included in Appendix 1.

PROPOSED CONDITION

It is proposed to provide water quality treatment in the Ponds 1A, 1C, 1G, and 1H. These ponds were recommended in the Pond Siting Report prepared under the Tampa Interstate Study for the I-275/I-4 Downtown Interchange Operational and Safety Improvement. These ponds will provide treatment volume for the entire project including equivalent treatment of existing pavement to compensate for not providing treatment ponds in Basins 2, 3, and 5 due to right of way constraints. The treatment volume provided in these wet ponds will be greater than the 25 millimeters (one inch) of runoff over the area of the new pavement (5.21 hectares) for the entire project. This is calculated to be 1303 m^3 and is the minimum requirement of the Southwest Florida Water Management District (SWFWMD) for water quality on this project. Table 1a shows the provided treatment volumes in Basin 1.

Table 1a. Water Quality data in basin 1

Location	Pond Bottom Elevation m	SHW Elevation* m	Control Elevation** m	Weir Elevation m	Treatment Volume m^3	
Pond 1A	**1.70**	**3.0**	**2.40**	**2.70**	**891**	0.722 ac-ft
Pond 1C	**2.70**	**3.9**	**3.05**	**3.50**	**421**	0.341 ac-ft
Pond 1G	**6.80**	**6.0**	**7.35**	**7.80**	**149**	0.121 ac-ft
Pond 1H	**6.90**	**7.3**	**7.35**	**7.80**	**718**	0.582 ac-ft
Total	**-**	**-**	**-**	**-**	**2179**	1.767 ac-ft

*** See page A3-14 of Appendix 3 for documentation on SHW elevations.**

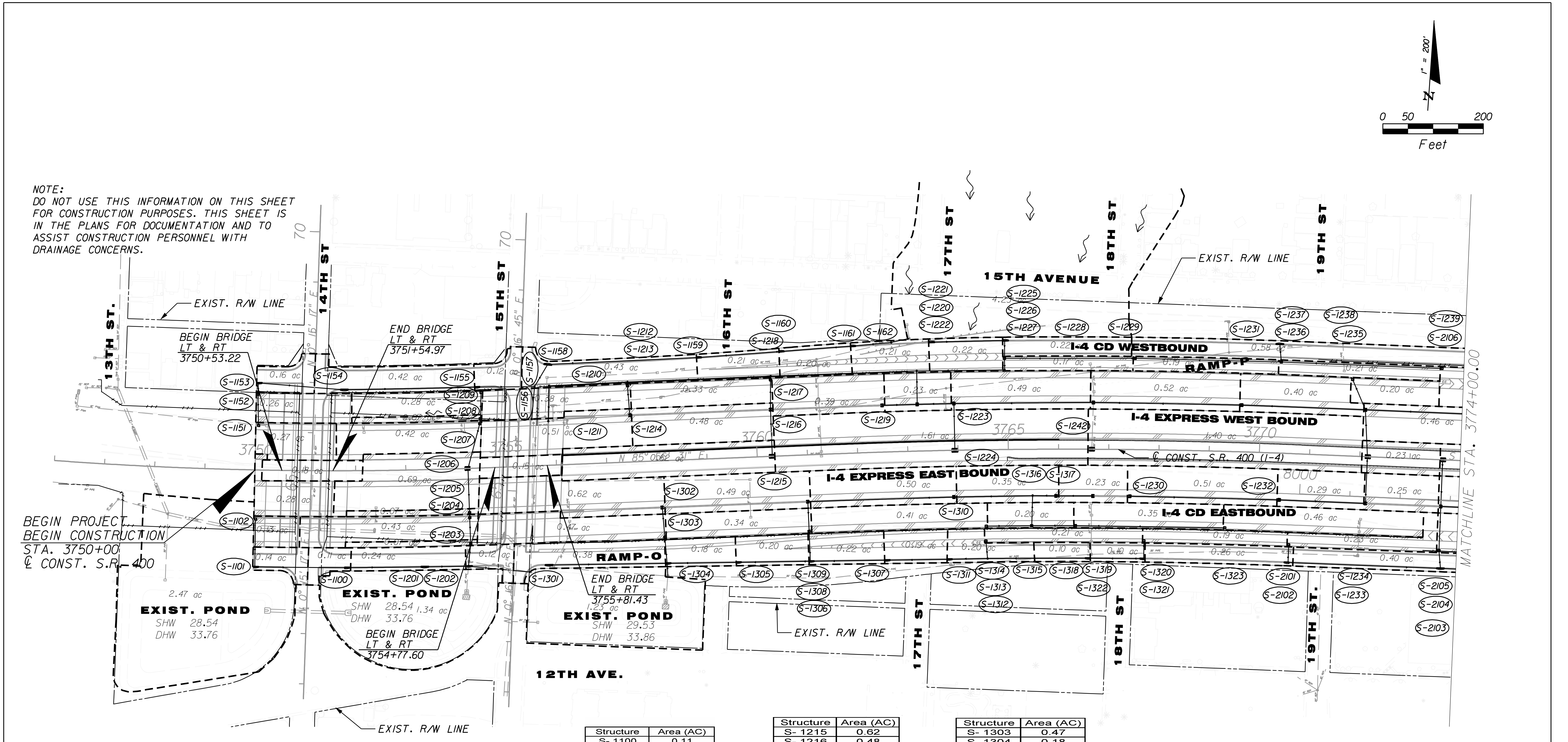
****The Control elevations for Ponds 1A and 1C are set below the SHW elevations to provide the required minimum clearances to the base of the adjacent roads at these ponds. These control elevations are above the Hillsborough River mean high water elevation of 0.55 meter and will not have any adverse effect on the properties outside of the right-of-way since these ponds are located in the infield areas bounded by the mainline I-275 and the ramps.**

The stage area data for ponds and Bleed-Down calculations are included in Appendix 2 (see page A2-15 Through A2-36). Pond 1G and 1H are modeled as one pond for Bleed-Down calculations since these two ponds are interconnected and have one control structure (S-597). The Bleed-Down calculations indicate that less than half of the treatment volume bleeds down in 60 hours.

APPENDIX E-4

ERP 20690.007
SR400 I-4 Lee Roy Selmon Interchange

NOTE:
DO NOT USE THIS INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES. THIS SHEET IS IN THE PLANS FOR DOCUMENTATION AND TO ASSIST CONSTRUCTION PERSONNEL WITH DRAINAGE CONCERNS.



LEGEND

---- DRAINAGE BOUNDARY

THE ENTIRE PROJECT IS LOCATED WITHIN SECTIONS 15, 16, 17 AND 18, TOWNSHIP 29S, RANGE 19E

Structure	Area (AC)
S- 1100	0.11
S- 1101	0.14
S- 1102	0.13
S- 1151	0.27
S- 1152	0.26
S- 1153	0.16
S- 1154	0.42
S- 1155	0.12
S-1158	0.43
S- 1159	0.21
S- 1160	0.20
S- 1161	0.21
S- 1201	0.24
S- 1202	0.12
S- 1203	0.07
S- 1204	0.43
S- 1205	0.07
S- 1206	0.69
S- 1207	0.42
S- 1208	0.07
S- 1209	0.28
S- 1213	0.38
S- 1214	0.51

Structure	Area (AC)
S- 1215	0.62
S- 1216	0.48
S- 1217	0.33
S- 1219	0.39
S- 1221	0.22
S- 1222	0.23
S- 1223	0.49
S- 1224	1.61
S- 1225	0.22
S- 1226	0.17
S- 1228	0.52
S- 1229	0.19
S- 1230	0.51
S- 1231	0.40
S- 1232	0.29
S- 1233	0.25
S- 1234	0.23
S- 1235	0.46
S- 1236	0.21
S- 1237	0.58
S- 1238	0.20
S- 1239	0.86
S- 1242	1.40
S- 1301	0.38
S- 1302	0.62

Structure	Area (AC)
S- 1303	0.47
S- 1304	0.18
S- 1305	0.20
S- 1306	0.22
S- 1307	0.19
S- 1308	0.34
S- 1309	0.49
S- 1310	0.50
S- 1311	0.20
S- 1313	0.21
S- 1314	0.41
S- 1315	0.20
S- 1317	0.35
S- 1318	0.35
S- 1319	0.23
S- 1320	0.19
S- 1321	0.10
S- 1322	0.10
S- 1323	0.46
S- 2101	0.23
S- 2102	0.26
S- 2103	0.40
S- 2104	0.53
S- 2105	0.55
S- 2106	0.66

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

PB Americas, Inc.
5405 West Cypress St. Suite 300
Tampa, Florida 33607
(813) 289-5300
Cert. of Auth. No. 01462
EOR: Robert Szatynski, P.E. No. 42770

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

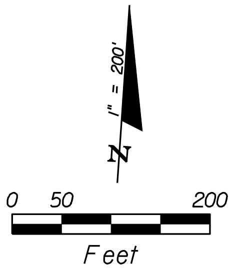
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	HILLSBOROUGH	258415-2-52-01

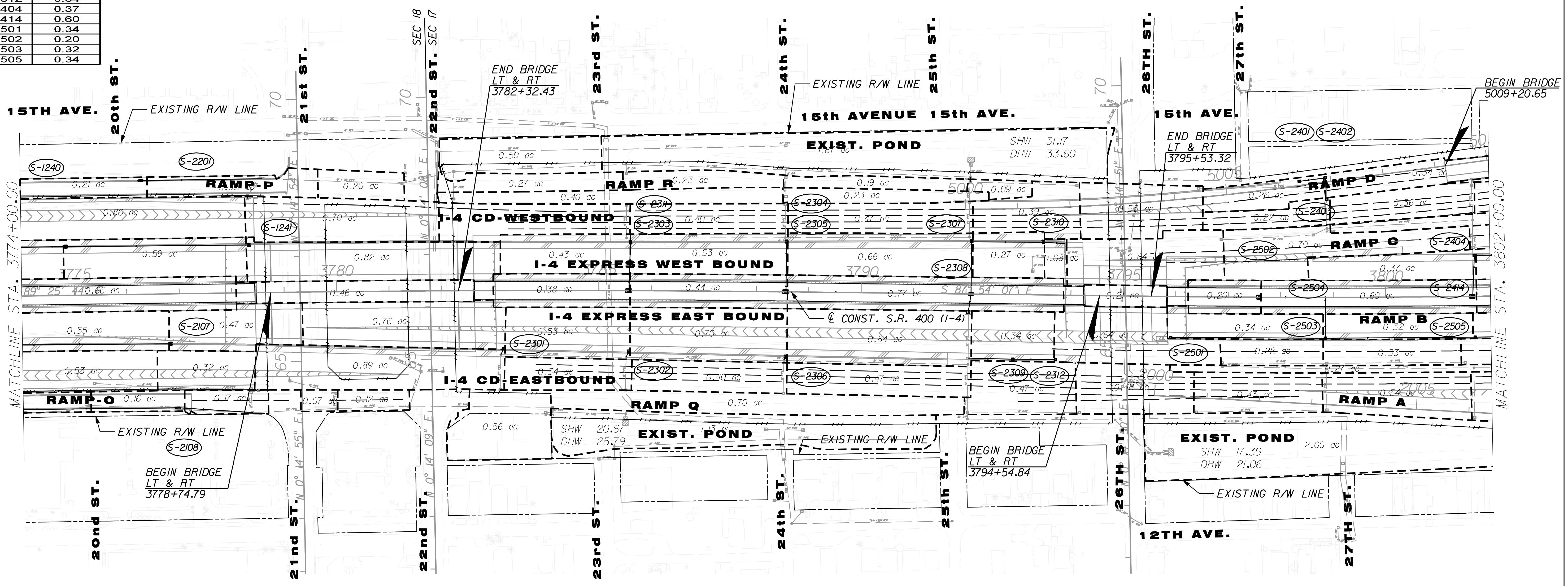
DRAINAGE MAP (1)

SHEET NO.
2

NOTE:
DO NOT USE THIS INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES. THIS SHEET IS IN THE PLANS FOR DOCUMENTATION AND TO ASSIST CONSTRUCTION PERSONNEL WITH DRAINAGE CONCERNS.

Structure	Area (AC)
S- 1240	0.59
S- 1241	0.82
S- 2107	0.47
S- 2108	0.16
S- 2201	0.21
S- 2301	0.76
S- 2302	0.53
S- 2303	0.38
S- 2304	0.53
S- 2305	0.44
S- 2306	0.70
S- 2307	0.66
S- 2308	0.77
S- 2309	0.34
S- 2310	0.27
S- 2311	0.43
S- 2312	0.64
S- 2404	0.37
S- 2414	0.60
S- 2501	0.34
S- 2502	0.20
S- 2503	0.32
S- 2505	0.34





LEGEND

- - - - DRAINAGE BOUNDARY

THE ENTIRE PROJECT IS LOCATED WITHIN SECTIONS 15, 16, 17 AND 18, TOWNSHIP 29S, RANGE 19E

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

PB Americas, Inc.
5405 West Cypress St. Suite 300
Tampa, Florida 33607
(813) 289-5300
Cert. of Auth. No. 01462
EOR: Robert Szatynski, P.E. No. 42770

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

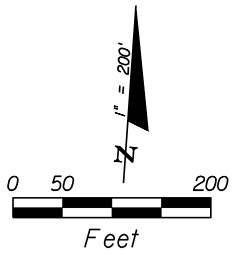
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	HILLSBOROUGH	258415-2-52-01

DRAINAGE MAP (2)

SHEET NO.
3

Structure	Area (AC)
S- 2405	0.39
S- 2406	0.33
S- 2407	0.07
S- 2408	0.24
S- 2409	0.25
S- 2411	0.17
S- 2412	0.18
S- 2507	0.30
S- 2508	0.83
S- 2509	0.17
S- 2510	0.17
S- 3001	0.42
S- 3002	0.42
S- 3003	0.71
S- 3004	0.33
S- 3005	0.35
S- 3006	0.31
S- 3008	0.34

Structure	Area (AC)
S- 3009	0.79
S- 3010	0.34
S- 3011	0.20
S- 3012	0.32
S- 3013	0.30
S- 3016	0.20
S- 3017	0.29
S- 3018	0.32
S- 3019	0.25
S- 3020	0.23
S- 3021	0.54
S- 3022	0.56
S- 3025	1.65
S- 3026	0.71



NOTE:
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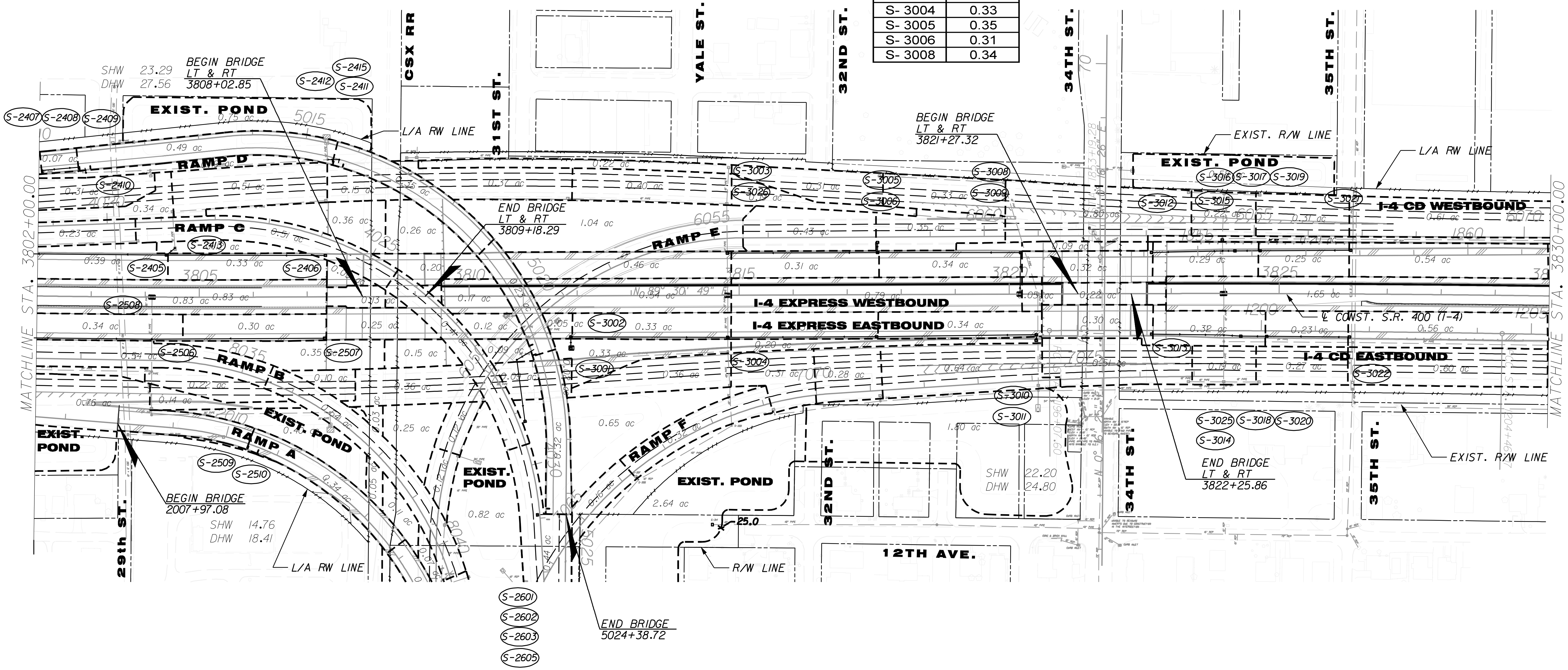


LEGEND

- - - - DRAINAGE BOUNDARY

THE ENTIRE PROJECT IS LOCATED
WITHIN SECTIONS 15, 16, 17 AND 18, TOWNSHIP 29S, RANGE 19E

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

PB Americas, Inc.
5405 West Cypress St. Suite 300
Tampa, Florida 33607
(813) 289-5300
Cert. of Auth. No. 01462
EOR: Robert Szatynski, P.E. No. 42770

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	HILLSBOROUGH	258415-2-52-01

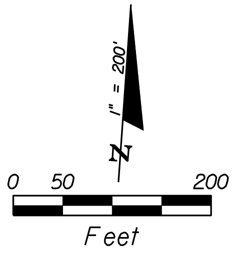
DRAINAGE MAP (3)

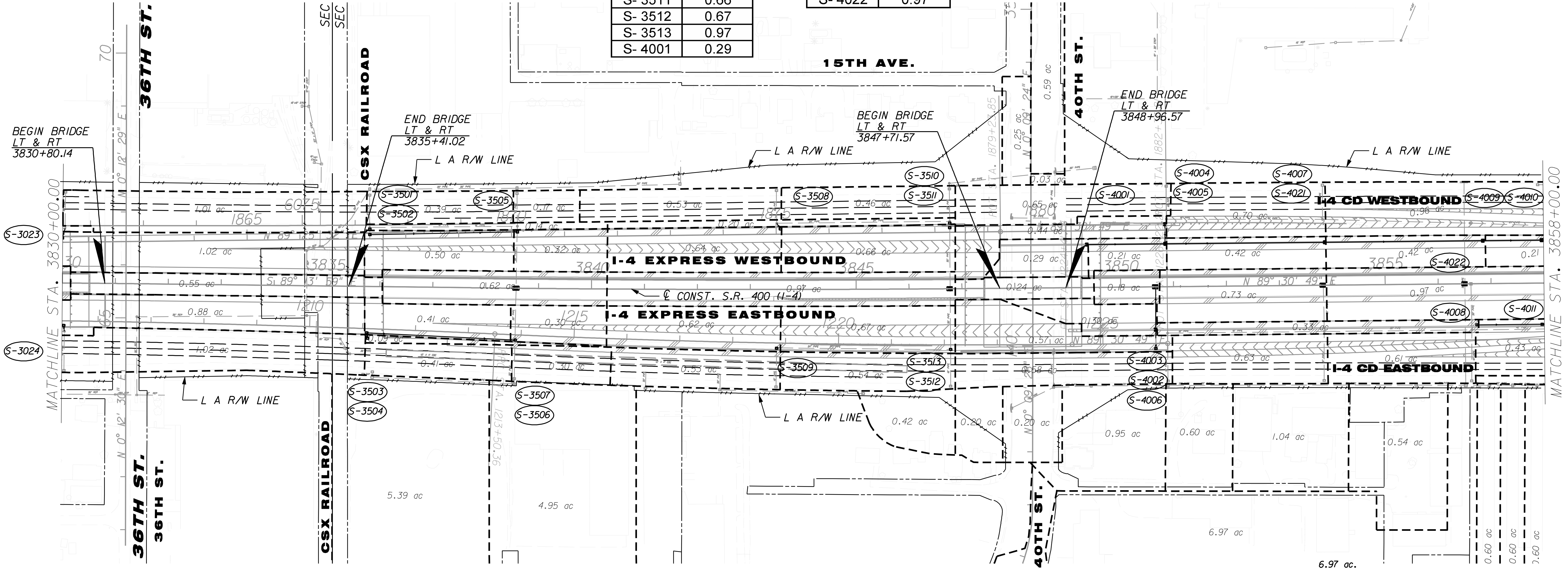
SHEET NO.
4

NOTE:
DO NOT USE THIS INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES. THIS SHEET IS IN THE PLANS FOR DOCUMENTATION AND TO ASSIST CONSTRUCTION PERSONNEL WITH DRAINAGE CONCERNS.

Structure	Area (AC)
S- 3023	1.02
S- 3024	0.88
S-3501	0.14
S- 3502	0.50
S- 3503	0.41
S- 3504	0.09
S- 3505	0.32
S- 3506	0.30
S- 3507	0.62
S- 3508	0.64
S- 3509	0.62
S- 3510	0.20
S- 3511	0.66
S- 3512	0.67
S- 3513	0.97
S- 4001	0.29

Structure	Area (AC)
S- 4002	0.30
S- 4003	0.18
S- 4004	0.44
S- 4005	0.21
S- 4006	0.57
S- 4007	0.42
S- 4008	0.33
S- 4009	0.42
S- 4010	0.21
S- 4011	0.43
S- 4021	0.73
S- 4022	0.97





LEGEND

- - - - DRAINAGE BOUNDARY

THE ENTIRE PROJECT IS LOCATED
WITHIN SECTIONS 15, 16, 17 AND 18, TOWNSHIP 29S, RANGE 19E

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

PB 100 YEARS
PB Americas, Inc.
5405 West Cypress St. Suite 300
Tampa, Florida 33607
(813) 289-5300
Cert. of Auth. No. 01462
EOR: Robert Szatynski, P.E. No. 42770

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	HILLSBOROUGH	258415-2-52-01

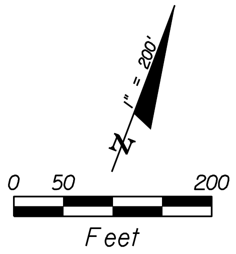
DRAINAGE MAP (4)

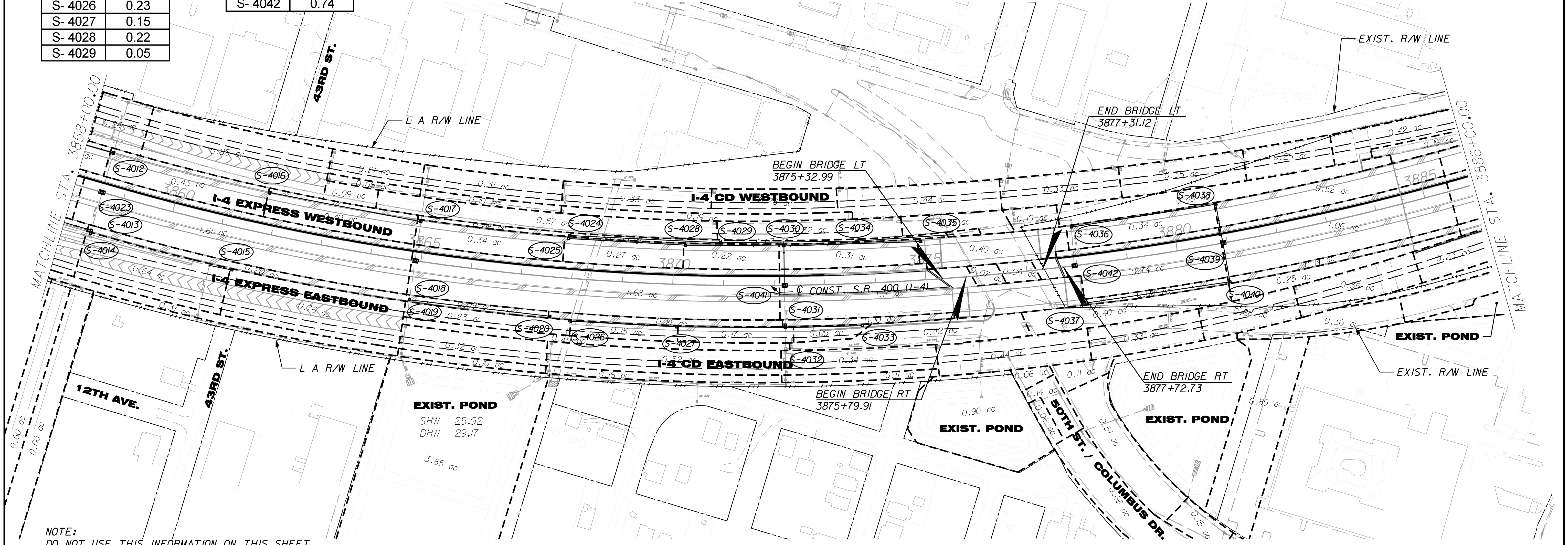
SHEET NO. 5

200.00 FT / IN. Plot Driver = \\tpacad\sys\projects\2584152I_v8\fdotpdf.plt PEN TABLE = F:\Projects\2584152U_V8\FDOT.tbl MODEL NAME = Default cannonm 02/14/2007 09:51:44 AM \\tpacad\sys\projects\2584152u_v8\roadway\drmprd04.dgn

Structure	Area (AC)
S- 4012	0.43
S- 4013	0.20
S- 4014	0.64
S- 4015	0.76
S- 4016	0.40
S- 4017	0.34
S- 4018	1.68
S- 4019	0.09
S- 4020	0.14
S- 4023	1.61
S- 4024	0.06
S- 4025	0.27
S- 4026	0.23
S- 4027	0.15
S- 4028	0.22
S- 4029	0.05

Structure	Area (AC)
S- 4030	0.31
S- 4031	0.10
S- 4032	0.17
S- 4033	0.09
S- 4034	0.07
S- 4035	0.40
S- 4036	0.34
S- 4037	0.08
S- 4038	0.52
S- 4039	1.06
S- 4040	0.14
S- 4041	1.17
S- 4042	0.74





NOTE:
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LEGEND

---- DRAINAGE BOUNDARY

THE ENTIRE PROJECT IS LOCATED WITHIN SECTIONS 15, 16, 17 AND 18, TOWNSHIP 29S, RANGE 19E

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

PB 100 YEARS

PB Americas, Inc.
5405 West Cypress St. Suite 300
Tampa, Florida 33607
(813) 289-5300
Cert. of Auth. No. 01462
EOR: Robert Szatynski, P.E. No. 42770

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	HILLSBOROUGH	258415-2-52-01

DRAINAGE MAP (5)

SHEET NO.
6

NOTE:
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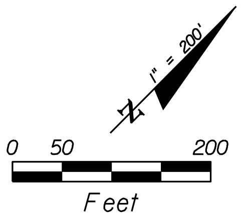

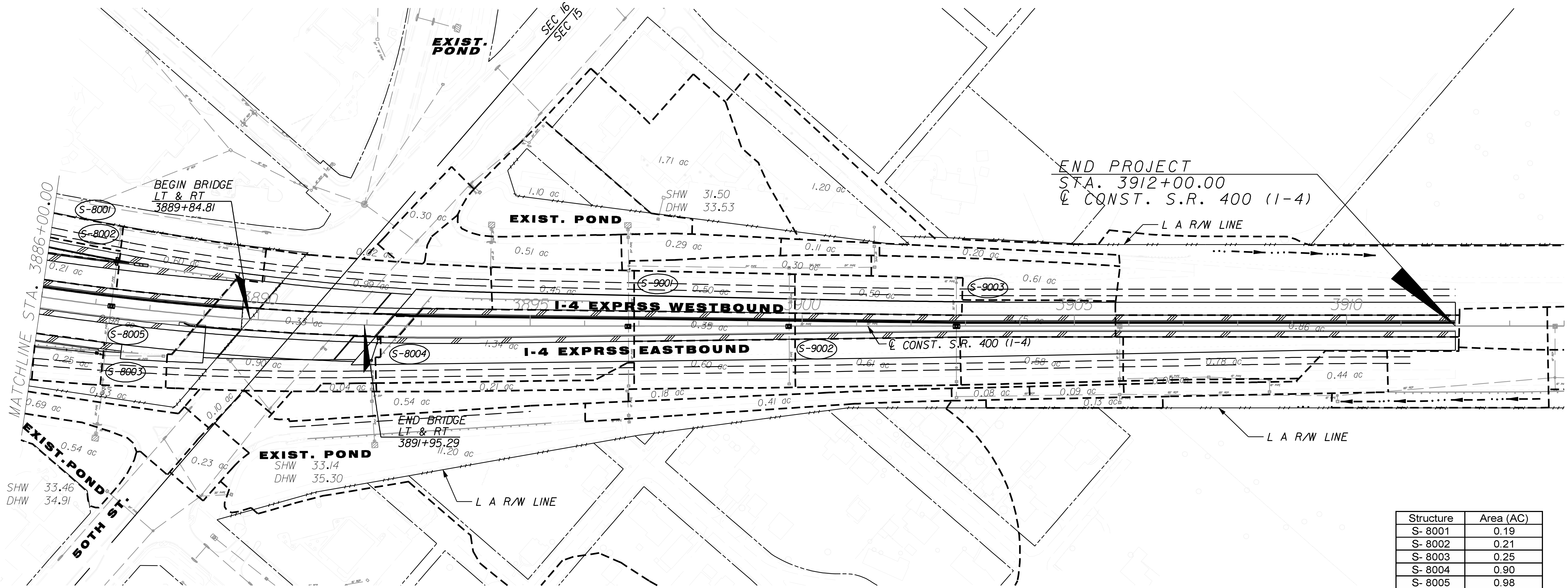

Structure	Area (AC)
S- 8001	0.19
S- 8002	0.21
S- 8003	0.25
S- 8004	0.90
S- 8005	0.98
S- 9001	1.34
S- 9002	0.35
S- 9003	0.75

LEGEND

– – – – · DRAINAGE BOUNDARY

THE ENTIRE PROJECT IS LOCATED
WITHIN SECTIONS 15, 16, 17 AND 18, TOWNSHIP 29S, RANGE 19E

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

PB Americas, Inc.
5405 West Cypress St. Suite 300
Tampa, Florida 33607
(813) 289-5300
Cert. of Auth. No. 01462
EOR: Robert Szatynski, P.E. No. 42770

100 YEARS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	HILLSBOROUGH	258415-2-52-01

DRAINAGE MAP (6)

SHEET NO.
7

1" = 200'
0 50 200
Feet

NOTE:
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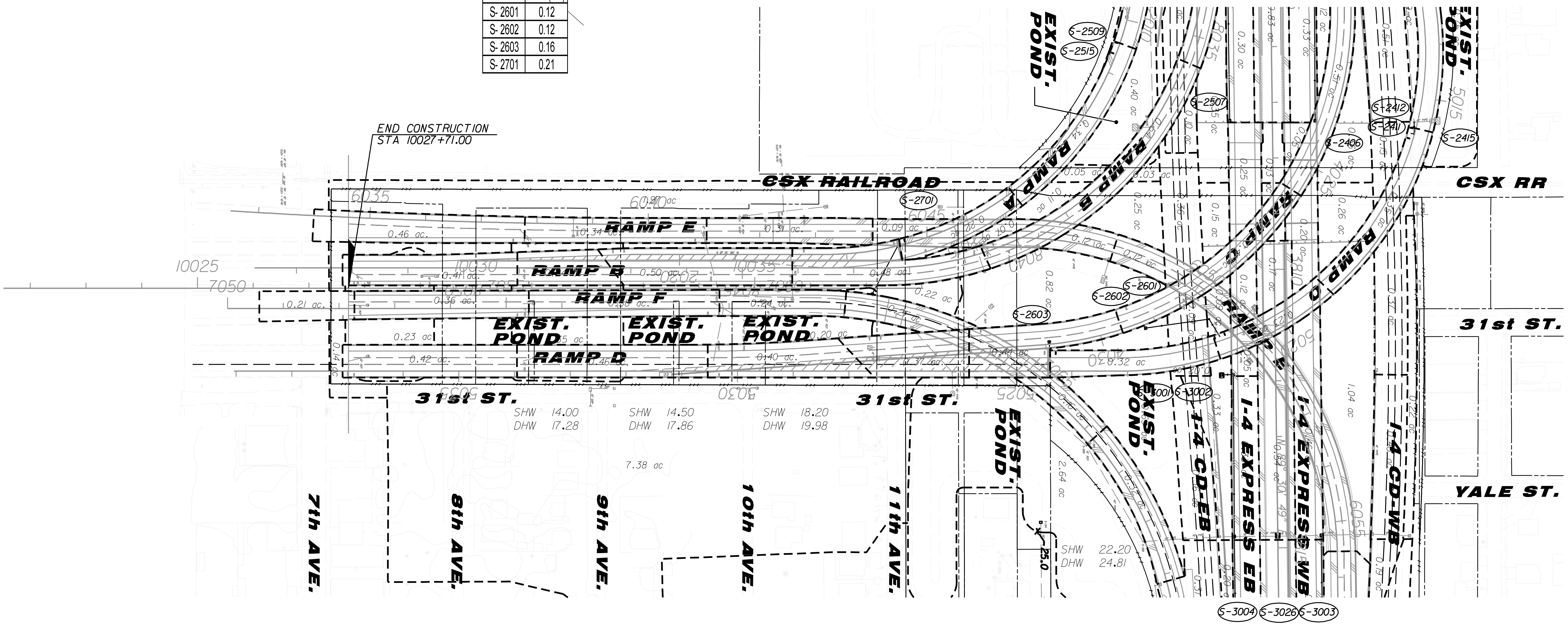
Structure	Area (AC)
S- 2601	0.12
S- 2602	0.12
S- 2603	0.16
S- 2701	0.21



LEGEND

– – – – DRAINAGE BOUNDARY

THE ENTIRE PROJECT IS LOCATED
WITHIN SECTIONS 15, 16, 17 AND 18, TOWNSHIP 29S, RANGE 19E

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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Tampa, Florida 33607
(813) 289-5300
Cert. of Auth. No. 01462
EOR: Robert Szatynski, P.E. No. 42770

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	HILLSBOROUGH	258415-2-52-01

DRAINAGE MAP (7)

SHEET NO.
8

4.0 STORMWATER MANAGEMENT SYSTEMS

This project consists of two onsite drainage basins, Basin 200D and 300. Basin 200D outfalls to an existing 18" RCP that crosses the CSX Railroad near 11th Avenue and ultimately ties to a larger stormsewer system which is part of the 29th Street Outfall. Basin 300 outfalls to an existing 72" RCP that runs south along 34th Street.

There are three ponds along I-4 that will be affected by this project, Pond 200-3, Pond 200-4, and Pond 200-5. All three of these ponds were designed and constructed in Stage 1 and the entire area drainage to these ponds was assumed to be impervious. As shown in Table 4.1, in Stage 2, we will be discharging stormwater to these ponds which is still less than that which was permitted in the Stage 1 phase. Therefore, there will no pond modification for these ponds during this phase.

Table 4.1 SUMMARY OF POND BASIN AREAS

POND	EXISTING	PROPOSED			
	Stage 1	Stage 2		Stage 3 - Ultimate	
	Permitted area	Impervious (ac)	Pervious (ac)	Impervious (ac)	Pervious (ac)
200-3	12.40	11.43	-	12.40	
200-4	8.60	7.80	-	8.60	
200-5	6.69	6.63	-	6.69	
200-6		5.7	1.87	4.65	
200-7		2.41	-	2.62	
200-8		2.37	-	2.37	
200-9		1.27	-	1.27	
300-1A		9.16	-	10.76	
300-1B		12.72	-	16.23	

There are four proposed ponds that will be constructed in Basin 200D and two ponds in Basin 300 for this project. All of these ponds will be design to accommodate the Stage 3 "Ultimate" expansion of the interstate.

STORMWATER MANAGEMENT SUMMARY WORKSHEET

			BASIN 200D				BASIN 300		PROJECT TOTAL
POND #			200-6	200-7	200-8	200-9	300-1A	300-1B	
	POND LOCATION / SIDE		Interchange	Under Connector	Under Connector	Under Connector	I-4 / RT	I-4 / RT	-
P	AVERAGE GROUND ELEVATION (ft)		23.0	20.0	16.5	16.0	24.5	25.0	-
O	POND BOTTOM EL. (ft)		12.50	19.00	16.00	15.50	12.70	12.70	-
N	SEASONAL HIGH WATER / ORIFICE EL. (ft)		20.10	18.20	14.50	14.00	22.20	22.20	-
D	WEIR CREST EL. (ft)		20.58	19.20	16.33	15.85	23.00	23.00	-
	FDOT CRITICAL DHW (10-YR) EL. (ft)		21.71	19.78	17.39	16.85	24.60	24.61	-
D	FDOT CRITICAL DHW (25-YR) EL. (ft)		21.89	19.86	17.59	17.03	24.84	24.85	-
A	FDOT CRITICAL DHW (100-YR) EL. (ft)		22.17	19.98	17.86	17.28	25.17	25.19	-
T	BERM EL. (ft)		23.00	21.00	19.00	18.50	26.00	26.00	-
A	AREA AT BERM EL. (ac)		1.87	0.66	0.77	0.46	2.67	1.81	8.24
	VOLUME AT BERM EL. (ac-ft)		9.04	1.10	1.80	0.98	12.07	9.94	34.94
Q	**SWFWMD FLMOD**								
U	24-HOUR / 25-YEAR	PRE-DEVP. (cfs)	17.74				77.67		95.41
A	DISCHARGE	POST- DEVP. (cfs)	15.02				46.25		61.27
N	RATES								
T	**FDOT 8HR / 100YR**								
I	CRITICAL STORM	PRE-DEVP. (cfs)	20.32				83.89		104.21
T	DISCHARGE	POST- DEVP. (cfs)	18.03				61.49		79.52
Y	RATES								
		WEIR LENGTH (in)	23.00	48.00	6.00	4.00	72.00	N/A	153.00
	METHOD OF TREATMENT *		WD	DRY	DRY	DRY	WD	WD	-
Q	EXISTING BASIN AREA (ac)		17.48		10.72		26.79		54.99
U	PROPOSED BASIN AREA (ac)		9.56	15.19			10.76	16.23	51.74
A	PROPOSED DRAINAGE AREA (ac) <INTERIM>		7.04	2.41	2.37	1.27	9.16	12.72	34.97
L	PROPOSED DRAINAGE AREA (ac) <ULTIMATE>		4.65	2.62	2.37	1.27	10.76	16.23	37.90
I	TREATMENT VOLUME REQUIRED (ac-ft)		0.59	0.11	0.10	0.05	0.90	1.35	3.10
T	TREATMENT VOLUME PROVIDED (ac-ft)		0.62	0.11	0.19	0.11	1.37	0.94	3.34
Y	LITTORAL ZONE REQUIRED (ac-ft)		0.46	-	-	-	0.60	0.41	1.46
	LITTORAL ZONE PROVIDED (ac-ft)		0.61	-	-	-	1.20	0.51	2.32
	ORIFICE DIAMETER (in)		2.00	N/A	N/A	N/A	2.50	N/A	-
100-YEAR FLOODPLAIN		ENCROACHMENT (ac-ft)	-	-	-	-	-	-	-
		COMPENSATION (ac-ft)	-	-	-	-	-	-	-
WETLANDS		ENCROACHMENT (ac)	-	-	-	-	-	-	-
		COMPENSATION (ac)	-	-	-	-	-	-	-

* WD = Wet Detention ; DRY = Dry Detention

APPENDIX F

ROW Impacts

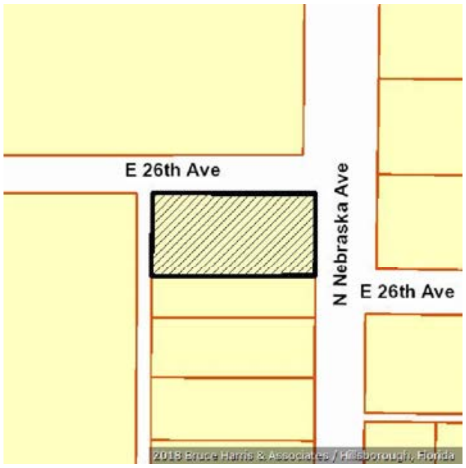
APPENDIX F-1

Option A SMF 5A ROW Impacts

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 182174-0000



Owner Information

Owner Name	CELEBRITY KIDS CLUB OF PINELLAS INC
Mailing Address	2511 5TH AVE S SAINT PETERSBURG, FL 33712-1634
Site Address	3314 N NEBRASKA AVE, TAMPA
PIN	A-12-29-18-4QM-D00000-00001.0
Folio	182174-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	7240 DAYCARE CENTER D
Plat Book/Page	2/6
Neighborhood	205003.00 | Ybor Area N of I-4
Subdivision	4QM | BONNIEVENTURE

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$201,270	$191,598	$191,598	$0
Public Schools	$201,270	$201,270	$201,270	$0
Municipal	$201,270	$191,598	$191,598	$0
Other Districts	$201,270	$191,598	$191,598	$0

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
22924	0139	10	2014	WD	Unqualified	Improved	$285,000
6879	1809	02	1993	CT	Unqualified	Improved	$1,500
6432	0562	11	1991	WD	Unqualified	Improved	$30,000
5545	0859	11	1988	WD	Qualified	Improved	$456,000
5413	1037	06	1988	WD	Qualified	Improved	$456,000
4690	0394	11	1985	FD	Unqualified	Improved	$10,000
4558	0282	05	1985	WD	Qualified	Improved	$9,500

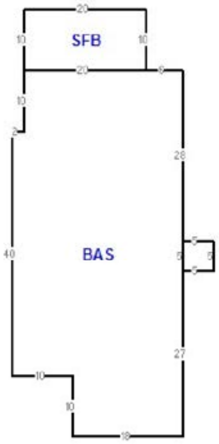
Building Information

Building 1

Type	72 | DAY CARE CENTER
Year Built	1913

Building 1 Construction Details

Element	Code	Construction Detail
Class	C	Masonry or Concrete Frame
Exterior Wall	7	Masonry Frm: Stucco
Roof Structure	4	Truss (Wood/Metal)
Roof Cover	3	Asphalt/Comp. Shingle
Interior Walls	5	Drywall
Interior Flooring	4	Vinyl
Interior Flooring	8	Carpet
Heat/AC	1	Non-Ducted
Plumbing	3	Typical
Condition	4	Good
Stories	1.0	
Units	1.0	
Wall Height	10.00	



Building 1 subarea

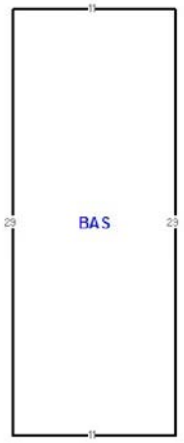
Area Type	Gross Area	Heated Area	Depreciated Value
BAS	1,560	1,560	$53,500
SFB	200	200	$5,487
CNB	25		$69
Totals	**1,785**	**1,760**	**$59,056**

Building 2

Type	72 | DAY CARE CENTER
Year Built	1957

Building 2 Construction Details

Element	Code	Construction Detail
Class	C	Masonry or Concrete Frame
Exterior Wall	5	Concrete Block
Roof Structure	4	Truss (Wood/Metal)
Roof Cover	2	Rolled Composition
Interior Walls	5	Drywall
Interior Flooring	4	Vinyl
Interior Flooring	8	Carpet
Heat/AC	2	Central
Plumbing	3	Typical
Condition	2	Fair
Stories	1.0	
Units	1.0	
Wall Height	9.00	



Building 2 subarea

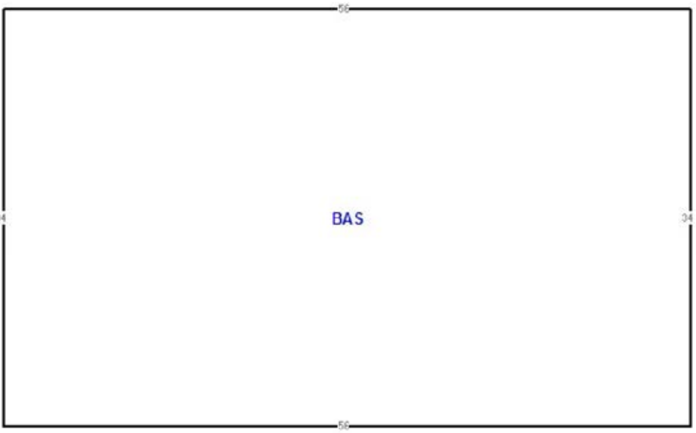
Area Type	Gross Area	Heated Area	Depreciated Value
BAS	319	319	$10,710
Totals	**319**	**319**	**$10,710**

Building 3

Type	02 | MANUFACTURED HOME (AYB > 1976)
Year Built	1985

Building 3 Construction Details

Element	**Code**	**Construction Detail**
Class	D	Wood Frame
Exterior Wall	4	Wood/Masonry Siding
Roof Structure	3	Gable or Hip
Roof Cover	12	Rubber or Plastic
Interior Walls	5	Drywall
Interior Flooring	8	Carpet
Heat/AC	2	Central
Condition	3	Average
Bedrooms	3.0	
Bathrooms	2.0	
Stories	1.0	
Units	1.0	



Building 3 subarea

Area Type	**Gross Area**	**Heated Area**	**Depreciated Value**
BAS	1,904	1,904	$25,361
Totals	**1,904**	**1,904**	**$25,361**

Extra Features

OB/XF Code	Description	Building	Year On Roll	Length	Width	Units	Value
0060	CONCRETE PAVEMENT	1	1992	0	0	3,035.00	$7,342
0260	FENCE CL6	1	1992	0	0	125.00	$938
0280	FENCE WOOD	1	1992	0	0	176.00	$556
0120	DECK WOOD	1	2000	0	0	195.00	$848
0595	FIREPLACE	1	2005	0	0	1.00	$1,959

Land Information - Total Acreage: 0.35

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
TF25	Nebraska Ave	CG	0.0	0.0	SF | SQUARE FEET	12,000.00	$72,000
TF25	Nebraska Ave	CG	50.00	75.00	SF | SQUARE FEET	3,750.00	$22,500

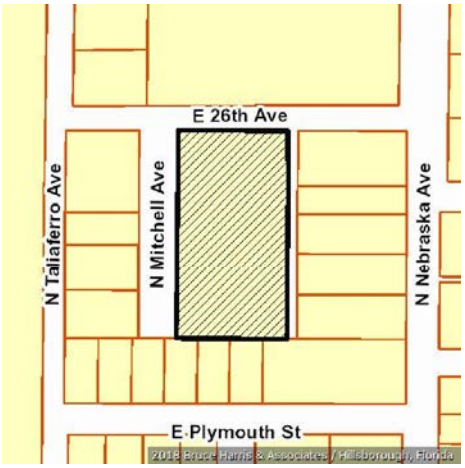
Legal Description

BONNIEVENTURE LOT 1 AND N 25 FT OF LOT 4 BLOCK D

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 182178-0000



Owner Information

Owner Name	FIRST FREE WILL BAPTIST CHURCH INC
Mailing Address	11605 E US HIGHWAY 92 SEFFNER, FL 33584-3305
Site Address	801 E 26TH AVE, TAMPA
PIN	A-12-29-18-4QM-D00000-00003.0
Folio	182178-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	0000 VACANT RESIDENTIAL
Plat Book/Page	2/6
Neighborhood	205003.00 | Ybor Area N of I-4
Subdivision	4QM | BONNIEVENTURE

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$149,037	$75,665	$0	$75,665
Public Schools	$149,037	$149,037	$0	$149,037
Municipal	$149,037	$75,665	$0	$75,665
Other Districts	$149,037	$75,665	$0	$75,665

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
19143	0113	03	2009	WD	Unqualified	Improved	$72,400
5269	0502	11	1987	WD	Qualified	Improved	$37,500
5114	1165	05	1987	WD	Qualified	Improved	$33,900
4798	1922	04	1986	WD	Unqualified	Improved	$24,500

Land Information - Total Acreage: 1.33

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
REC1	Res SF Class 3.25	RS-50	325.00	171.00	SE | SF LOTS W/ EFF SIZE	55,250.00	$149,037

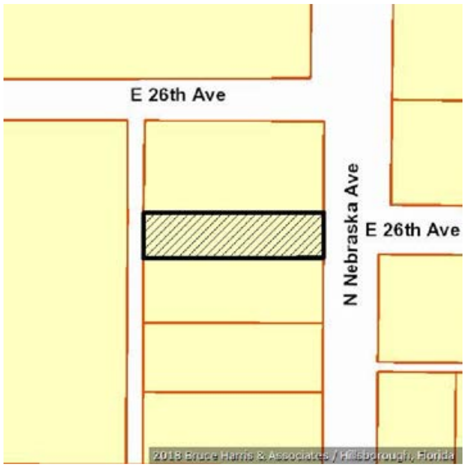
Legal Description

BONNIEVENTURE LOTS 2 3 6 7 AND 10 BLOCK D

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 182179-0000



Owner Information

Owner Name	DEEPER LIFE CHRISTIAN CHURCH
Mailing Address	3300 N NEBRASKA AVE TAMPA, FL 33603-6034
Site Address	3312 N NEBRASKA AVE, TAMPA
PIN	A-12-29-18-4QM-D00000-00004.0
Folio	182179-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	0100 SINGLE FAMILY R
Plat Book/Page	2/6
Neighborhood	205003.00 | Ybor Area N of I-4
Subdivision	4QM | BONNIEVENTURE

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$77,960	$66,033	$0	$66,033
Public Schools	$77,960	$77,960	$0	$77,960
Municipal	$77,960	$66,033	$0	$66,033
Other Districts	$77,960	$66,033	$0	$66,033

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
9064	1819	06	1998	TD	Unqualified	Improved	$16,400
8864	0150	12	1997	CT	Unqualified	Improved	$100
5119	0574	05	1987	WD	Unqualified	Improved	$100

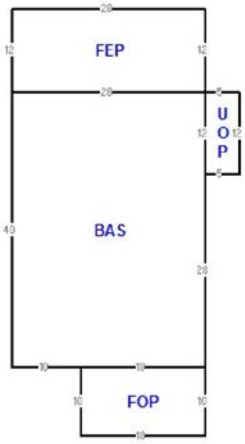
Building Information

Building 1

Type	01 | SINGLE FAMILY
Year Built	1913

Building 1 Construction Details

Element	Code	Construction Detail
Class	D	Wood Frame
Exterior Wall	13	Alum/Vinyl Siding
Roof Structure	3	Gable or Hip
Roof Cover	3	Asphalt/Comp. Shingle
Interior Walls	5	Drywall
Interior Flooring	8	Carpet
Interior Flooring	4	Vinyl
Heat/AC	1	Non-Ducted
Architectural Style	6	Pre-1940 1-Story
Condition	1	Poor
Bedrooms	3.0	
Bathrooms	1.0	
Stories	1.0	
Units	1.0	



Building 1 subarea

Area Type	Gross Area	Heated Area	Depreciated Value
UOP	60		$211
FEP	336	336	$6,307
BAS	1,120	1,120	$26,260
FOP	180		$1,055
Totals	**1,696**	**1,456**	**$33,833**

Extra Features

OB/XF Code	Description	Building	Year On Roll	Length	Width	Units	Value
0050	CONCRETE PATIO	1	2008	10	10	100.00	$346
0595	FIREPLACE	1	2005	0	0	1.00	$1,781

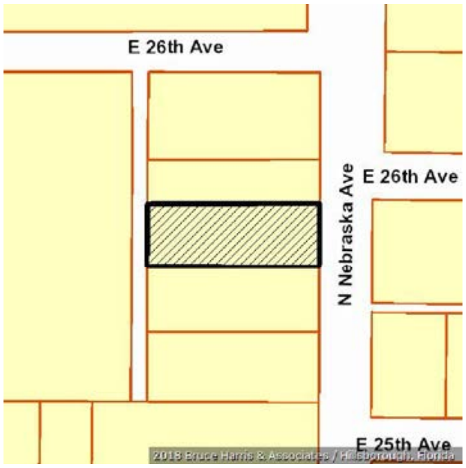
Land Information - Total Acreage: 0.17

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
TF25	Nebraska Ave	CG	40.00	175.00	SF | SQUARE FEET	7,000.00	$42,000

Legal Description

BONNIEVENTURE S 40 FT OF LOT 4 BLOCK D

Folio: 182180-0000



Owner Information

Owner Name	FIRST FREE WILL BAPTIST CHURCH INC
Mailing Address	11605 E US HIGHWAY 92 SEFFNER, FL 33584-3305
Site Address	3310 N NEBRASKA AVE, TAMPA
PIN	A-12-29-18-4QM-D00000-00005.0
Folio	182180-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	1000 VACANT COMM
Plat Book/Page	2/6
Neighborhood	205003.00 | Ybor Area N of I-4
Subdivision	4QM | BONNIEVENTURE

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$70,507	$64,820	$0	$64,820
Public Schools	$70,507	$70,507	$0	$70,507
Municipal	$70,507	$64,820	$0	$64,820
Other Districts	$70,507	$64,820	$0	$64,820

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
19282	0191	05	2009	QC	Unqualified	Improved	$100
19238	1849	03	2009	QC	Unqualified	Improved	$100
19143	0115	03	2009	WD	Unqualified	Improved	$7,600
19464	1581	03	2009	WD	Unqualified	Improved	$100
19464	1579	03	2009	WD	Unqualified	Improved	$100
5267	1647	11	1987	QC	Unqualified	Vacant	$100
4736	1270	02	1986	AD	Unqualified	Vacant	$100
1608	0157	04	1966	FD	Unqualified		$100

Extra Features

OB/XF Code	Description	Building	Year On Roll	Length	Width	Units	Value
0020	ASPHALT PAVING	0	2006	0	0	3,800.00	$2,257
0260	FENCE CL6	0	2006	0	0	160.00	$0

Land Information - Total Acreage: 0.25

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
TF25	Nebraska Ave	CG	65.00	175.00	SF | SQUARE FEET	11,375.00	$68,250

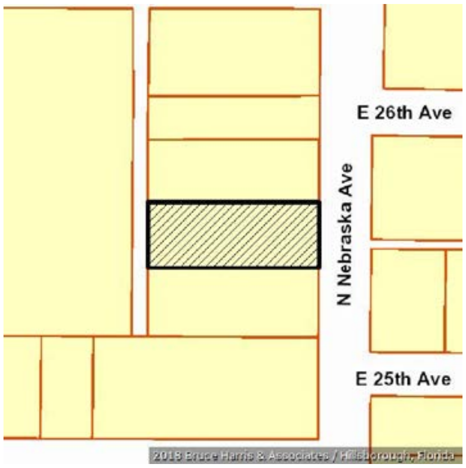
Legal Description

BONNIEVENTURE LOT 5 BLOCK D

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 182182-0000



2018 Bruce Harris & Associates / Hillsborough, Florida

Owner Information

Owner Name	DEEPER LIFE CHRISTIAN CHURCH
Mailing Address	3300 N NEBRASKA AVE TAMPA, FL 33603-6034
Site Address	3308 N NEBRASKA AVE, TAMPA
PIN	A-12-29-18-4QM-D00000-00008.0
Folio	182182-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	7100 CHURCHES
Plat Book/Page	2/6
Neighborhood	205003.00 | Ybor Area N of I-4
Subdivision	4QM | BONNIEVENTURE

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$81,227	$75,654	$75,654	$0
Public Schools	$81,227	$81,227	$81,227	$0
Municipal	$81,227	$75,654	$75,654	$0
Other Districts	$81,227	$75,654	$75,654	$0

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
10290	1046	07	2000	QC	Unqualified	Vacant	$35,000
3823	0162	06	1981	AG	Unqualified	Improved	$19,000
2458	0040	01	1972		Unqualified		$100
2083	0966	01	1969		Qualified		$7,400

Extra Features

OB/XF Code	Description	Building	Year On Roll	Length	Width	Units	Value
0020	ASPHALT PAVING	0	2003	0	0	11,300.00	$12,977

Land Information - Total Acreage: 0.26

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
TF25	Nebraska Ave	CG	65.00	175.00	SF | SQUARE FEET	11,375.00	$68,250

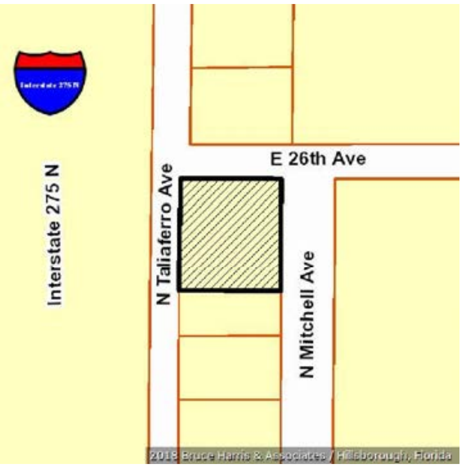
Legal Description

BONNIEVENTURE LOT 8 BLOCK D

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 183338-0000



Owner Information

Owner Name	DAY WILTON L DAY SHIRLEY
Mailing Address	6122 GALLEON WAY TAMPA, FL 33615-3635
Site Address	3321 N TALIAFERRO AVE, TAMPA
PIN	A-12-29-18-4RY-000000-00016.0
Folio	183338-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	0100 SINGLE FAMILY R
Plat Book/Page	26/50
Neighborhood	205003.00 | Ybor Area N of I-4
Subdivision	4RY | ROBLES PARK ESTATES

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$131,724	$84,410	$0	$84,410
Public Schools	$131,724	$131,724	$0	$131,724
Municipal	$131,724	$84,410	$0	$84,410
Other Districts	$131,724	$84,410	$0	$84,410

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
18057	0030	08	2007	WD	Unqualified	Improved	$145,000
18057	0028	08	2007	WD	Unqualified	Improved	$115,000
11189	0749	11	2001	GD	Unqualified	Improved	$100
6018	0554	06	1990	WD	Qualified	Improved	$53,900
5773	1540	08	1989	CT	Unqualified	Improved	$100
4694	0201	12	1985	WD	Qualified	Improved	$60,000

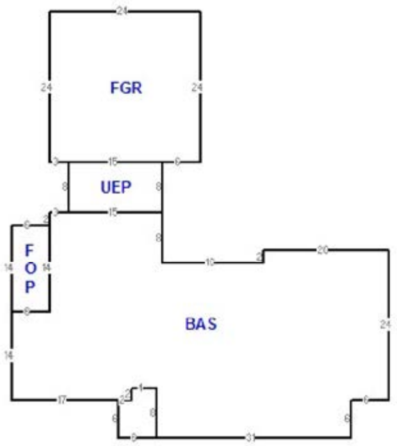
Building Information

Building 1

Type	01 | SINGLE FAMILY
Year Built	1950

Building 1 Construction Details

Element	Code	Construction Detail
Class	C	Masonry or Concrete Frame
Exterior Wall	7	Masonry Frm: Stucco
Roof Structure	3	Gable or Hip
Roof Cover	6	Tile
Interior Walls	5	Drywall
Interior Flooring	8	Carpet
Interior Flooring	4	Vinyl
Heat/AC	2	Central
Architectural Style	4	Basic 1-Story
Condition	3	Average
Bedrooms	3.0	
Bathrooms	2.0	
Stories	1.0	
Units	1.0	



Building 1 subarea

Area Type	Gross Area	Heated Area	Depreciated Value
BAS	1,634	1,634	$71,411
UEP	120		$3,147
FGR	576		$12,586
FOP	84		$918
FOP	44		$481
Totals	**2,458**	**1,634**	**$88,543**

Extra Features

OB/XF Code	Description	Building	Year On Roll	Length	Width	Units	Value
0120	DECK WOOD	1	2008	16	16	256.00	$1,270

Land Information - Total Acreage: 0.35

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
REC1	Res SF Class 3.25	RS-50	126.00	115.00	SE | SF LOTS W/ EFF SIZE	14,490.00	$41,912

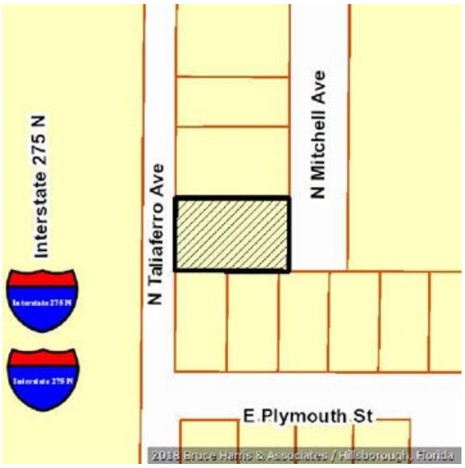
Legal Description

ROBLES PARK ESTATES LOTS 16 17 AND 18

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 183341-0000



Owner Information

Owner Name	GREEN NINKIA
Mailing Address	123 W BLOOMINGDALE AVE BRANDON, FL 33511-7400
Site Address	3311 N TALIAFERRO AVE, TAMPA
PIN	A-12-29-18-4RY-000000-00021.0
Folio	183341-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	7100 CHURCHES
Plat Book/Page	26/50
Neighborhood	205003.00 | Ybor Area N of I-4
Subdivision	4RY | ROBLES PARK ESTATES

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$26,701	$13,555	$0	$13,555
Public Schools	$26,701	$26,701	$0	$26,701
Municipal	$26,701	$13,555	$0	$13,555
Other Districts	$26,701	$13,555	$0	$13,555

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
24457	0037	10	2016	QC	Unqualified	Vacant	$100
9909	1632	11	1999	TR	Unqualified	Improved	$100
9346	1239	11	1998	FD	Unqualified	Improved	$17,000
8816	1565	12	1997	CT	Unqualified	Improved	$100
7298	0967	02	1994	QC	Unqualified	Improved	$100

Land Information - Total Acreage: 0.20

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
REC1	Res SF Class 3.25	RS-50	76.00	115.00	SE | SF LOTS W/ EFF SIZE	8,740.00	$26,701

Legal Description

ROBLES PARK ESTATES S 25 FT OF LOT 21 AND LOT 22

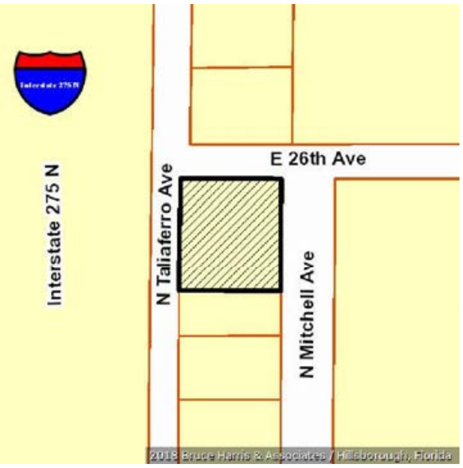
APPENDIX F-2

Option B SMF 5A ROW Impacts

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 183338-0000



Owner Information

Owner Name	DAY WILTON L DAY SHIRLEY
Mailing Address	6122 GALLEON WAY TAMPA, FL 33615-3635
Site Address	3321 N TALIAFERRO AVE, TAMPA
PIN	A-12-29-18-4RY-000000-00016.0
Folio	183338-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	0100 SINGLE FAMILY R
Plat Book/Page	26/50
Neighborhood	205003.00 | Ybor Area N of I-4
Subdivision	4RY | ROBLES PARK ESTATES

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$131,724	$84,410	$0	$84,410
Public Schools	$131,724	$131,724	$0	$131,724
Municipal	$131,724	$84,410	$0	$84,410
Other Districts	$131,724	$84,410	$0	$84,410

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

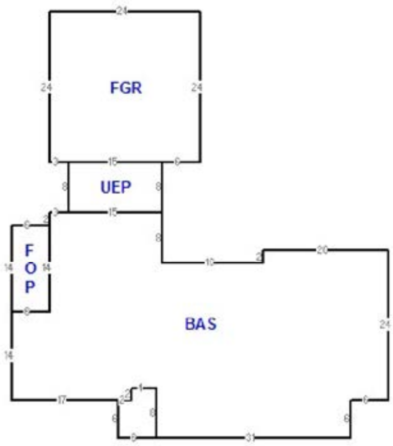
Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
18057	0030	08	2007	WD	Unqualified	Improved	$145,000
18057	0028	08	2007	WD	Unqualified	Improved	$115,000
11189	0749	11	2001	GD	Unqualified	Improved	$100
6018	0554	06	1990	WD	Qualified	Improved	$53,900
5773	1540	08	1989	CT	Unqualified	Improved	$100
4694	0201	12	1985	WD	Qualified	Improved	$60,000

Building Information

Building 1

Type	01 | SINGLE FAMILY
Year Built	1950



Building 1 Construction Details

Element	Code	Construction Detail
Class	C	Masonry or Concrete Frame
Exterior Wall	7	Masonry Frm: Stucco
Roof Structure	3	Gable or Hip
Roof Cover	6	Tile
Interior Walls	5	Drywall
Interior Flooring	8	Carpet
Interior Flooring	4	Vinyl
Heat/AC	2	Central
Architectural Style	4	Basic 1-Story
Condition	3	Average
Bedrooms	3.0	
Bathrooms	2.0	
Stories	1.0	
Units	1.0	

Building 1 subarea

Area Type	Gross Area	Heated Area	Depreciated Value
BAS	1,634	1,634	$71,411
UEP	120		$3,147
FGR	576		$12,586
FOP	84		$918
FOP	44		$481
Totals	**2,458**	**1,634**	**$88,543**

Extra Features

OB/XF Code	Description	Building	Year On Roll	Length	Width	Units	Value
0120	DECK WOOD	1	2008	16	16	256.00	$1,270

Land Information - Total Acreage: 0.35

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
REC1	Res SF Class 3.25	RS-50	126.00	115.00	SE | SF LOTS W/ EFF SIZE	14,490.00	$41,912

Legal Description

ROBLES PARK ESTATES LOTS 16 17 AND 18

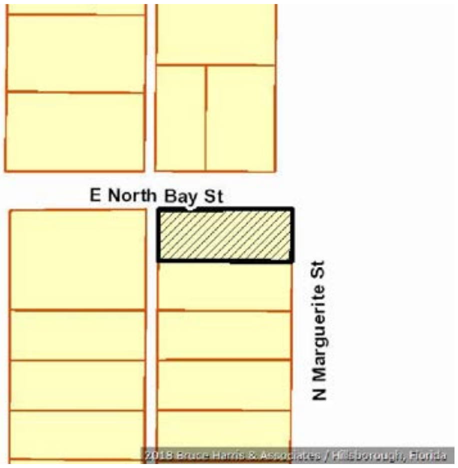
APPENDIX F-3

Options A & B SMF 6A ROW Impacts

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 166390-0000



Owner Information

Owner Name	MORNINGSIDE FUNDING LLC
Mailing Address	2370 RICE BLVD STE 200 HOUSTON, TX 77005-2644
Site Address	4024 MARGUERITE ST, TAMPA
PIN	A-01-29-18-4H0-A00000-00001.0
Folio	166390-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	0100 SINGLE FAMILY R
Plat Book/Page	7/44
Neighborhood	206003.00 | SW Seminole Hts Area, S of Osborne
Subdivision	4H0 | BLACK'S W C SUBDIVISION

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$82,394	$69,874	$0	$69,874
Public Schools	$82,394	$82,394	$0	$82,394
Municipal	$82,394	$69,874	$0	$69,874
Other Districts	$82,394	$69,874	$0	$69,874

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
22371	0693	01	2014	WD	Unqualified	Improved	$28,800
21902	1628	05	2013	CT	Unqualified	Improved	$100
19988	1504	07	2010	QC	Unqualified	Improved	$100
18945	0840	10	2008	WD	Unqualified	Improved	$100
12791	1910	05	2003	WD	Qualified	Improved	$85,500
8536	0330	04	1997	QC	Unqualified	Improved	$34,000
4974	1164	11	1986	WD	Unqualified	Improved	$12,000
4316	0088	04	1984	QC	Unqualified	Improved	$100

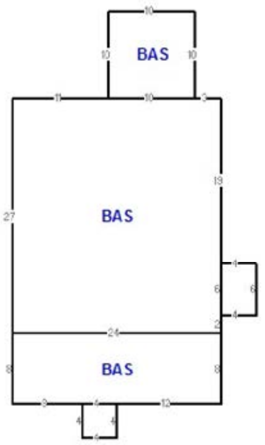
Building Information

Building 1

Type	01 | SINGLE FAMILY
Year Built	1938

Building 1 Construction Details

Element	Code	Construction Detail
Class	D	Wood Frame
Exterior Wall	4	Wood/Masonry Siding
Roof Structure	3	Gable or Hip
Roof Cover	3	Asphalt/Comp. Shingle
Interior Walls	3	Plaster
Interior Flooring	5	Wood
Heat/AC	2	Central
Architectural Style	6	Pre-1940 1-Story
Condition	2	Fair
Bedrooms	1.0	
Bathrooms	1.0	
Stories	1.0	
Units	1.0	



Building 1 subarea

Area Type	Gross Area	Heated Area	Depreciated Value
UOP	24		$200
BAS	648	648	$32,467
BAS	100	100	$5,010
BAS	192	192	$9,620
UOP	16		$100
Totals	**980**	**940**	**$47,397**

Land Information - Total Acreage: 0.15

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
REE1	Res SF Class 5.25	SH-RS	50.00	132.00	SE | SF LOTS W/ EFF SIZE	6,600.00	$34,996

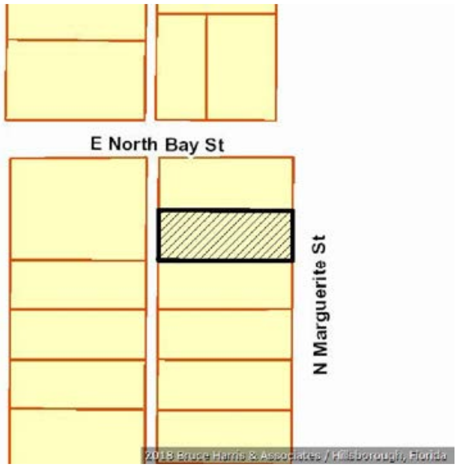
Legal Description

BLACK'S W C SUBDIVISION LOT 1 BLOCK A

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 166391-0000



Owner Information

Owner Name	TRC-SPE LLC
Mailing Address	940 CENTRE CIR STE 2005 ALTAMONTE SPRINGS, FL 32714-7242
Site Address	4022 N MARGUERITE ST, TAMPA
PIN	A-01-29-18-4H0-A00000-00002.0
Folio	166391-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	0000 VACANT RESIDENTIAL
Plat Book/Page	7/44
Neighborhood	206003.00 | SW Seminole Hts Area, S of Osborne
Subdivision	4H0 | BLACK'S W C SUBDIVISION

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$34,297	$34,297	$0	$34,297
Public Schools	$34,297	$34,297	$0	$34,297
Municipal	$34,297	$34,297	$0	$34,297
Other Districts	$34,297	$34,297	$0	$34,297

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
25005	0238	05	2017	QC	Unqualified	Vacant	$100
22589	1335	05	2014	TD	Unqualified	Improved	$5,900
18700	1723	06	2008	WD	Unqualified	Improved	$100
18380	1000	08	2007	QC	Unqualified	Improved	$180,000
16246	0001	03	2006	WD	Unqualified	Improved	$225,000
7189	0414	11	1993	WD	Qualified	Improved	$52,000
6753	0139	10	1992	WD	Unqualified	Improved	$4,900
6742	0251	09	1992	WD	Unqualified	Improved	$100

Land Information - Total Acreage: 0.15

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
REE1	Res SF Class 5.25	SH-RS	49.00	132.00	SE | SF LOTS W/ EFF SIZE	6,468.00	$34,297

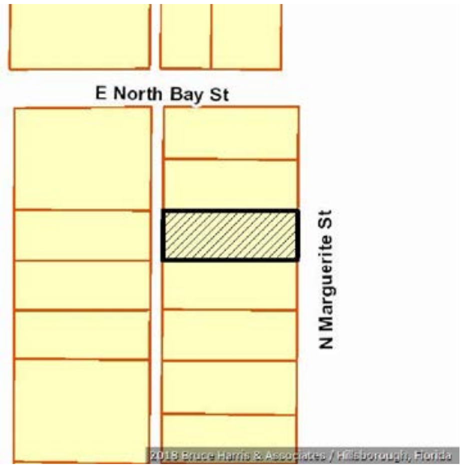
Legal Description

BLACK'S W C SUBDIVISION LOT 2 BLOCK A

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 166392-0000



Owner Information

Owner Name	POWELL JANIE
Mailing Address	4020 N MARGUERITE ST TAMPA, FL 33603-3924
Site Address	4020 N MARGUERITE ST, TAMPA
PIN	A-01-29-18-4H0-A00000-00003.0
Folio	166392-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	0100 SINGLE FAMILY R
Plat Book/Page	7/44
Neighborhood	206003.00 | SW Seminole Hts Area, S of Osborne
Subdivision	4H0 | BLACK'S W C SUBDIVISION

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$155,255	$140,404	$0	$140,404
Public Schools	$155,255	$155,255	$0	$155,255
Municipal	$155,255	$140,404	$0	$140,404
Other Districts	$155,255	$140,404	$0	$140,404

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
12919	1428	07	2003	WD	Unqualified	Improved	$169,000
8415	0219	12	1996	WD	Qualified	Improved	$62,900
4726	0518	01	1986	WD	Qualified	Improved	$47,900

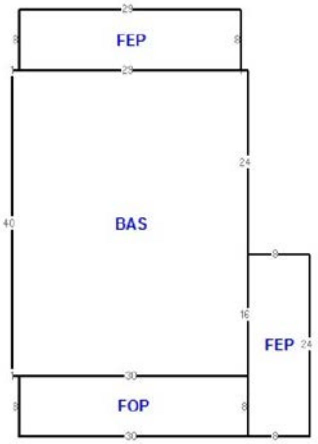
Building Information

Building 1

Type	01 | SINGLE FAMILY
Year Built	1913

Building 1 Construction Details

Element	Code	Construction Detail
Class	D	Wood Frame
Exterior Wall	13	Alum/Vinyl Siding
Roof Structure	3	Gable or Hip
Roof Cover	3	Asphalt/Comp. Shingle
Interior Walls	3	Plaster
Interior Flooring	8	Carpet
Heat/AC	2	Central
Architectural Style	6	Pre-1940 1-Story
Condition	2	Fair
Bedrooms	4.0	
Bathrooms	2.0	
Stories	1.0	
Units	1.0	



Building 1 subarea

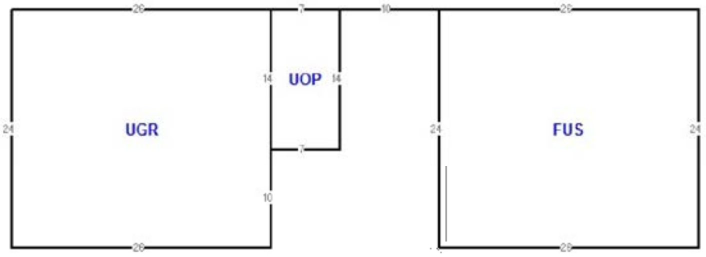
Area Type	Gross Area	Heated Area	Depreciated Value
FEP	192	192	$7,832
BAS	1,240	1,240	$63,063
FEP	232	232	$9,460
FOP	240		$3,051
Totals	**1,904**	**1,664**	**$83,406**

Building 2

Type	01 | SINGLE FAMILY
Year Built	1926

Building 2 Construction Details

Element	Code	Construction Detail
Class	D	Wood Frame
Exterior Wall	13	Alum/Vinyl Siding
Roof Structure	3	Gable or Hip
Roof Cover	3	Asphalt/Comp. Shingle
Interior Walls	3	Plaster
Interior Flooring	8	Carpet
Interior Flooring	5	Wood
Heat/AC	1	Non-Ducted
Architectural Style	9	Pre-1940 Multi-Story
Condition	2	Fair
Bedrooms	2.0	
Bathrooms	1.0	
Stories	2.0	
Units	1.0	



Building 2 subarea

Area Type	Gross Area	Heated Area	Depreciated Value
UOP	98		$681
UGR	624		$11,352
ADD			$0
FUS	624	624	$25,519
Totals	**1,346**	**624**	**$37,552**

Land Information - Total Acreage: 0.14

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value

REE1	Res SF Class 5.25	SH-RS	49.00	132.00	SE | SF LOTS W/ EFF SIZE	6,468.00	$34,297

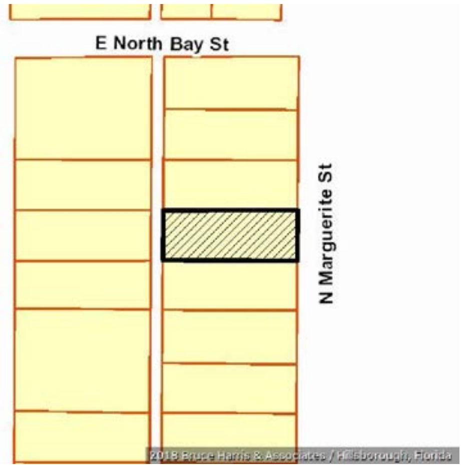
Legal Description

BLACK'S W C SUBDIVISION LOT 3 BLOCK A

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 166393-0000



Owner Information

Owner Name	BRIGHAM GREGORY W SR
Mailing Address	4018 N MARGUERITE ST TAMPA, FL 33603-3924
Site Address	4018 N MARGUERITE ST, TAMPA
PIN	A-01-29-18-4H0-A00000-00004.0
Folio	166393-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	0100 SINGLE FAMILY R
Plat Book/Page	7/44
Neighborhood	206003.00 | SW Seminole Hts Area, S of Osborne
Subdivision	4H0 | BLACK'S W C SUBDIVISION

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$137,972	$83,828	$83,828	$0
Public Schools	$137,972	$83,828	$83,828	$0
Municipal	$137,972	$83,828	$83,828	$0
Other Districts	$137,972	$83,828	$83,828	$0

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
8406	1129	03	1996	WD	Qualified	Improved	$69,900
6456	0599	12	1991	WD	Qualified	Improved	$40,000
4991	0664	12	1986	WD	Qualified	Improved	$37,000

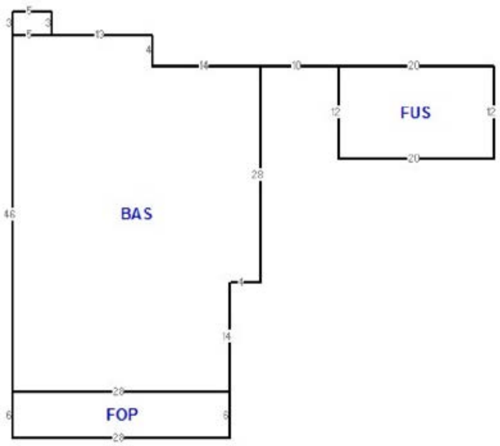
Building Information

Building 1

Type	01 | SINGLE FAMILY
Year Built	1920

Building 1 Construction Details

Element	Code	Construction Detail
Class	D	Wood Frame
Exterior Wall	13	Alum/Vinyl Siding
Roof Structure	3	Gable or Hip
Roof Cover	3	Asphalt/Comp. Shingle
Interior Walls	3	Plaster
Interior Flooring	5	Wood
Heat/AC	2	Central
Architectural Style	9	Pre-1940 Multi-Story
Condition	3	Average
Bedrooms	3.0	
Bathrooms	1.0	
Stories	2.0	
Units	1.0	



Building 1 subarea

Area Type	Gross Area	Heated Area	Depreciated Value
BAS	1,360	1,360	$87,036
UOP	15		$128
FOP	168		$2,688
ADD			$0
FUS	240	240	$13,823
Totals	**1,783**	**1,600**	**$103,675**

Extra Features

OB/XF Code	Description	Building	Year On Roll	Length	Width	Units	Value
0651	SHED NOT PERMANENTLY AFFIXED	1	2014	0	0	1.00	$0

Land Information - Total Acreage: 0.15

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
REE1	Res SF Class 5.25	SH-RS	49.00	132.00	SE | SF LOTS W/ EFF SIZE	6,468.00	$34,297

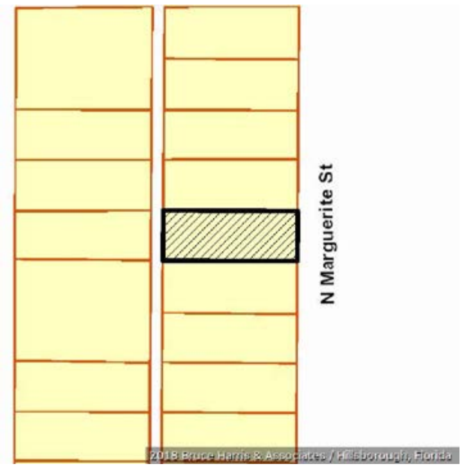
Legal Description

BLACK'S W C SUBDIVISION LOT 4 BLOCK A

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 166393-0500



Owner Information

Owner Name	BRIGHAM GREGORY W SR BRIGHAM CAROLYN D
Mailing Address	4018 N MARGUERITE ST TAMPA, FL 33603-3924
Site Address	4016 N MARGUERITE ST, TAMPA
PIN	A-01-29-18-4H0-A00000-00005.0
Folio	166393-0500
Prior PIN	
Prior Folio	166394-0000
Tax District	TA - TAMPA
Property Use	0000 VACANT RESIDENTIAL
Plat Book/Page	7/44
Neighborhood	206003.00 | SW Seminole Hts Area, S of Osborne
Subdivision	4H0 | BLACK'S W C SUBDIVISION

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$34,297	$23,240	$0	$23,240
Public Schools	$34,297	$34,297	$0	$34,297
Municipal	$34,297	$23,240	$0	$23,240
Other Districts	$34,297	$23,240	$0	$23,240

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
9007	0414	04	1998	QC	Unqualified	Improved	$1,100
4860	0358	07	1986	QC	Unqualified	Improved	$100
4815	1771	05	1986	WD	Qualified	Improved	$35,600

Extra Features

OB/XF Code	Description	Building	Year On Roll	Length	Width	Units	Value
0651	SHED NOT PERMANENTLY AFFIXED	0	2013	0	0	2.00	$0

Land Information - Total Acreage: 0.15

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
REE1	Res SF Class 5.25	SH-RS	49.00	132.00	SE | SF LOTS W/ EFF SIZE	6,468.00	$34,297

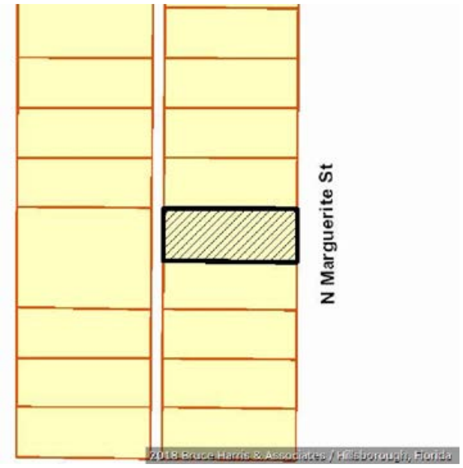
Legal Description

BLACK'S W C SUBDIVISION LOT 5 BLOCK A

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 166394-0000



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Owner Information

Owner Name	YATES RICKY A
Mailing Address	1224 E NORFOLK ST TAMPA, FL 33604-5030
Site Address	4014 N MARGUERITE ST, TAMPA
PIN	A-01-29-18-4H0-A00000-00006.0
Folio	166394-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	0100 SINGLE FAMILY R
Plat Book/Page	7/44
Neighborhood	206003.00 | SW Seminole Hts Area, S of Osborne
Subdivision	4H0 | BLACK'S W C SUBDIVISION

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$144,162	$128,616	$0	$128,616
Public Schools	$144,162	$144,162	$0	$144,162
Municipal	$144,162	$128,616	$0	$128,616
Other Districts	$144,162	$128,616	$0	$128,616

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
10496	1235	10	2000	WD	Unqualified	Improved	$100
9536	0908	11	1998	QC	Unqualified	Improved	$100
8274	1442	09	1996	QC	Unqualified	Improved	$18,100
5467	1051	08	1988	WD	Unqualified	Improved	$26,000

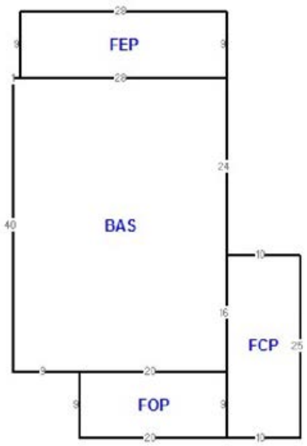
Building Information

Building 1

Type	01 | SINGLE FAMILY
Year Built	1912

Building 1 Construction Details

Element	Code	Construction Detail
Class	C	Masonry or Concrete Frame
Exterior Wall	8	Brick
Roof Structure	3	Gable or Hip
Roof Cover	3	Asphalt/Comp. Shingle
Interior Walls	3	Plaster
Interior Flooring	5	Wood
Heat/AC	2	Central
Architectural Style	6	Pre-1940 1-Story
Condition	3	Average
Bedrooms	2.0	
Bathrooms	1.0	
Stories	1.0	
Units	1.0	



Building 1 subarea

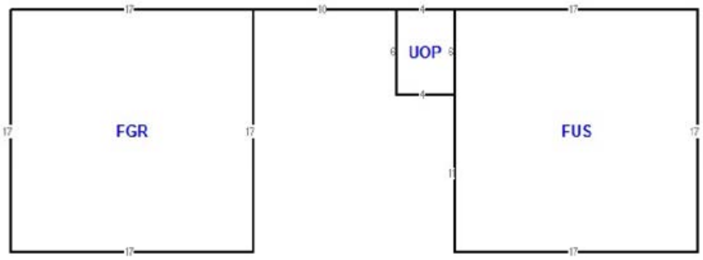
Area Type	Gross Area	Heated Area	Depreciated Value
FCP	250		$3,477
BAS	1,160	1,160	$65,053
FEP	252	252	$11,328
FOP	180		$2,524
Totals	**1,842**	**1,412**	**$82,382**

Building 2

Type	01 | SINGLE FAMILY
Year Built	1933

Building 2 Construction Details

Element	Code	Construction Detail
Class	D	Wood Frame
Exterior Wall	4	Wood/Masonry Siding
Roof Structure	3	Gable or Hip
Roof Cover	2	Rolled Composition
Interior Walls	3	Plaster
Interior Flooring	8	Carpet
Interior Flooring	5	Wood
Heat/AC	1	Non-Ducted
Architectural Style	9	Pre-1940 Multi-Story
Condition	3	Average
Bedrooms	1.0	
Bathrooms	1.0	
Stories	2.0	
Units	1.0	



Building 2 subarea

Area Type	Gross Area	Heated Area	Depreciated Value
FGR	289		$9,700
ADD			$0
UOP	24		$269
FUS	289	289	$17,514
Totals	**602**	**289**	**$27,483**

Land Information - Total Acreage: 0.16

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value

REE1	Res SF Class 5.25	SH-RS	49.00	132.00	SE | SF LOTS W/ EFF SIZE	6,468.00	$34,297

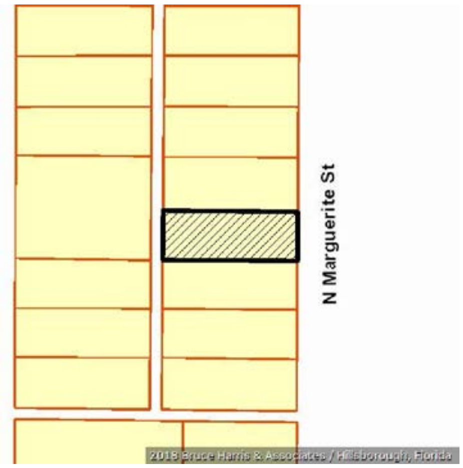
Legal Description

BLACK'S W C SUBDIVISION LOT 6 BLOCK A

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 166395-0000



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Owner Information

Owner Name	CABRERA MICHAEL J
Mailing Address	4109 E RICHMERE ST TAMPA, FL 33617-4450
Site Address	4012 MARGUERITE ST, TAMPA
PIN	A-01-29-18-4H0-A00000-00007.0
Folio	166395-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	0000 VACANT RESIDENTIAL
Plat Book/Page	7/44
Neighborhood	206003.00 | SW Seminole Hts Area, S of Osborne
Subdivision	4H0 | BLACK'S W C SUBDIVISION

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$34,297	$19,925	$0	$19,925
Public Schools	$34,297	$34,297	$0	$34,297
Municipal	$34,297	$19,925	$0	$19,925
Other Districts	$34,297	$19,925	$0	$19,925

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
6212	0448	03	1991	WD	Qualified	Improved	$20,000
5912	0294	02	1990	AD	Unqualified	Improved	$100
4143	0451	07	1983	QC	Unqualified	Improved	$100

Land Information - Total Acreage: 0.14

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
REE1	Res SF Class 5.25	SH-RS	49.00	132.00	SE | SF LOTS W/ EFF SIZE	6,468.00	$34,297

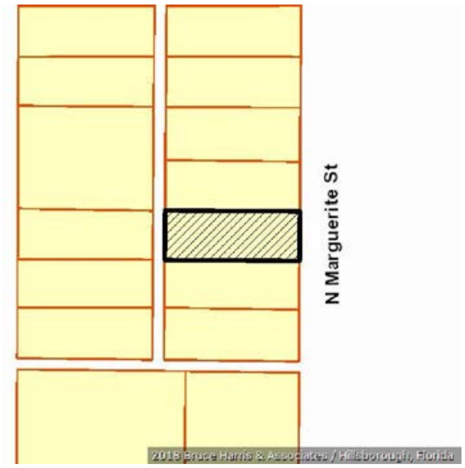
Legal Description

BLACK'S W C SUBDIVISION LOT 7 BLOCK A

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 166396-0000



Owner Information

Owner Name	FREDERICK MARIE
Mailing Address	4010 N MARGUERITE ST TAMPA, FL 33603-3924
Site Address	4010 N MARGUERITE ST, TAMPA
PIN	A-01-29-18-4H0-A00000-00008.0
Folio	166396-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	0100 SINGLE FAMILY R
Plat Book/Page	7/44
Neighborhood	206003.00 | SW Seminole Hts Area, S of Osborne
Subdivision	4H0 | BLACK'S W C SUBDIVISION

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$104,611	$58,135	$33,135	$25,000
Public Schools	$104,611	$58,135	$25,000	$33,135
Municipal	$104,611	$58,135	$33,135	$25,000
Other Districts	$104,611	$58,135	$33,135	$25,000

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
20005	0495	07	2010	WD	Unqualified	Improved	$45,000
20005	0492	07	2010	QC	Unqualified	Improved	$100
16171	0774	02	2006	WD	Qualified	Improved	$152,500
14856	1078	03	2005	WD	Unqualified	Improved	$67,500
2999	1327	01	1975		Qualified		$14,500

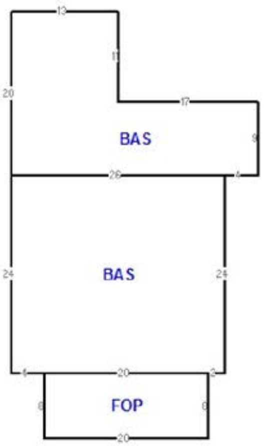
Building Information

Building 1

Type	01 | SINGLE FAMILY
Year Built	1922

Building 1 Construction Details

Element	Code	Construction Detail
Class	D	Wood Frame
Exterior Wall	4	Wood/Masonry Siding
Roof Structure	3	Gable or Hip
Roof Cover	3	Asphalt/Comp. Shingle
Interior Walls	3	Plaster
Interior Walls	2	Wall Board/Wood Wall
Interior Flooring	5	Wood
Interior Flooring	7	Tile
Heat/AC	2	Central
Architectural Style	6	Pre-1940 1-Story
Condition	3	Average
Bedrooms	2.0	
Bathrooms	2.0	
Stories	1.0	
Units	1.0	



Building 1 subarea

Area Type	Gross Area	Heated Area	Depreciated Value
BAS	413	413	$26,963
BAS	624	624	$40,739
FOP	160		$2,611
Totals	**1,197**	**1,037**	**$70,313**

Extra Features

OB/XF Code	Description	Building	Year On Roll	Length	Width	Units	Value
0651	SHED NOT PERMANENTLY AFFIXED	1	2005	0	0	1.00	$0

Land Information - Total Acreage: 0.15

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
REE1	Res SF Class 5.25	SH-RS	49.00	132.00	SE | SF LOTS W/ EFF SIZE	6,468.00	$34,297

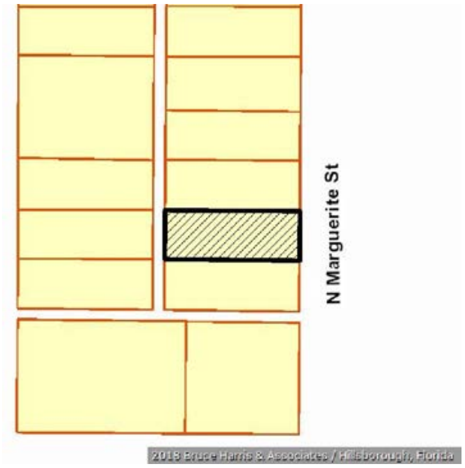
Legal Description

BLACK'S W C SUBDIVISION LOT 8 BLOCK A

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 166397-0000



Owner Information

Owner Name	HARRIS SHERRY LEE LIFE ESTATE MULKEY FREDDIE JR
Mailing Address	4008 N MARGUERITE ST TAMPA, FL 33603-3924
Site Address	4008 N MARGUERITE ST, TAMPA
PIN	A-01-29-18-4H0-A00000-00009.0
Folio	166397-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	0100 SINGLE FAMILY R
Plat Book/Page	7/44
Neighborhood	206003.00 | SW Seminole Hts Area, S of Osborne
Subdivision	4H0 | BLACK'S W C SUBDIVISION

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$177,851	$67,713	$43,213	$24,500
Public Schools	$177,851	$67,713	$25,500	$42,213
Municipal	$177,851	$67,713	$43,213	$24,500
Other Districts	$177,851	$67,713	$43,213	$24,500

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
20929	0238	01	2012	QC	Unqualified	Improved	$100
2396	0323	01	1971		Qualified		$17,500

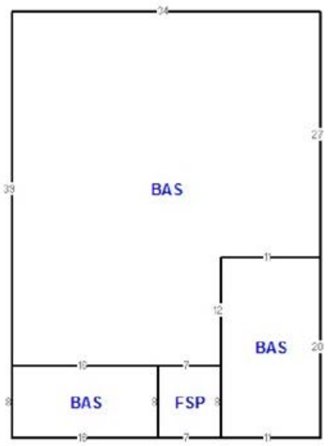
Building Information

Building 1

Type	01 | SINGLE FAMILY
Year Built	1971

Building 1 Construction Details

Element	**Code**	**Construction Detail**
Class	C	Masonry or Concrete Frame
Exterior Wall	5	Concrete Block
Roof Structure	3	Gable or Hip
Roof Cover	3	Asphalt/Comp. Shingle
Interior Walls	5	Drywall
Interior Flooring	8	Carpet
Heat/AC	2	Central
Architectural Style	4	Basic 1-Story
Condition	3	Average
Bedrooms	3.0	
Bathrooms	2.0	
Stories	1.0	
Units	1.0	



Building 1 subarea

Area Type	**Gross Area**	**Heated Area**	**Depreciated Value**
BAS	1,194	1,194	$109,944
BAS	128	128	$11,786
FSP	56		$1,565
BAS	220	220	$20,258
Totals	**1,598**	**1,542**	**$143,553**

Land Information - Total Acreage: 0.14

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
REE1	Res SF Class 5.25	SH-RS	49.00	132.00	SE | SF LOTS W/ EFF SIZE	6,468.00	$34,297

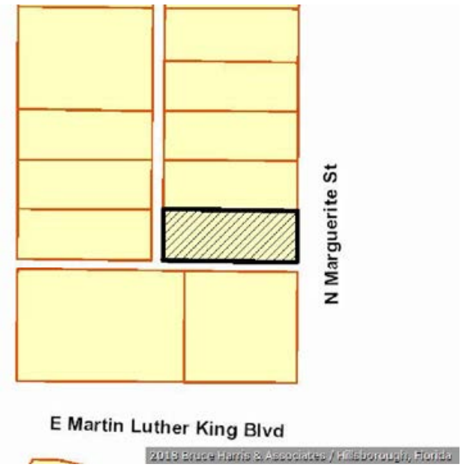
Legal Description

BLACK'S W C SUBDIVISION LOT 9 BLOCK A

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 166398-0000


N Marguerite St
E Martin Luther King Blvd
2018 Bruce Harris & Associates / Hillsborough, Florida

Owner Information

Owner Name	RECKART GARY P RECKART JUDY P
Mailing Address	4006 N MARGUERITE ST TAMPA, FL 33603-3924
Site Address	4006 N MARGUERITE ST, TAMPA
PIN	A-01-29-18-4H0-A00000-00010.0
Folio	166398-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	0100 SINGLE FAMILY R
Plat Book/Page	7/44
Neighborhood	206003.00 | SW Seminole Hts Area, S of Osborne
Subdivision	4H0 | BLACK'S W C SUBDIVISION

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$180,226	$119,617	$50,500	$69,117
Public Schools	$180,226	$119,617	$25,500	$94,117
Municipal	$180,226	$119,617	$50,500	$69,117
Other Districts	$180,226	$119,617	$50,500	$69,117

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
17457	0263	02	2007	QC	Unqualified	Improved	$100
5630	1874	03	1989	WD	Qualified	Improved	$24,100
3734	0531	11	1980	QC	Unqualified	Improved	$100
3630	1723	02	1980	WD	Qualified	Improved	$23,500

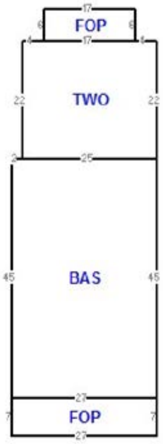
Building Information

Building 1

Type	01 | SINGLE FAMILY
Year Built	1920

Building 1 Construction Details

Element	Code	Construction Detail
Class	D	Wood Frame
Exterior Wall	4	Wood/Masonry Siding
Roof Structure	3	Gable or Hip
Roof Cover	9	Metal
Interior Walls	3	Plaster
Interior Flooring	5	Wood
Heat/AC	2	Central
Architectural Style	9	Pre-1940 Multi-Story
Condition	3	Average
Bedrooms	6.0	
Bathrooms	4.0	
Stories	2.0	
Units	1.0	



Building 1 subarea

Area Type	Gross Area	Heated Area	Depreciated Value
TWO	1,100	1,100	$65,052
FOP	102		$1,619
BAS	1,215	1,215	$75,634
FOP	189		$2,926
Totals	**2,606**	**2,315**	**$145,231**

Extra Features

OB/XF Code	Description	Building	Year On Roll	Length	Width	Units	Value
0651	SHED NOT PERMANENTLY AFFIXED	1	2004	0	0	1.00	$0

Land Information - Total Acreage: 0.15

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
REE1	Res SF Class 5.25	SH-CG	50.00	132.00	SE | SF LOTS W/ EFF SIZE	6,600.00	$34,996

Legal Description

BLACK'S W C SUBDIVISION LOT 10 BLOCK A

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
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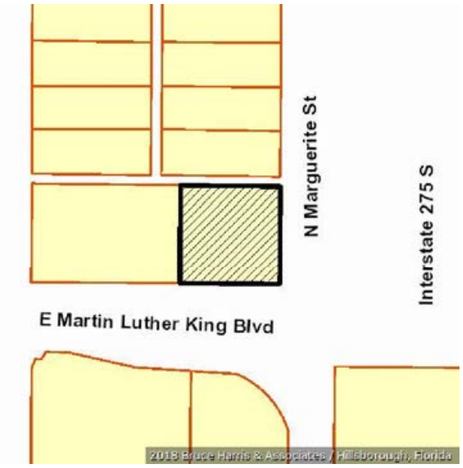
Folio: 166399-0000


N Marguerite St
Interstate 275 S
E Martin Luther King Blvd
2018 Bruce Harris & Associates / Hillsborough, Florida

Owner Information

Owner Name	NEW PLAZA LLC
Mailing Address	PO BOX 290315 TAMPA, FL 33687-0315
Site Address	510 E DR MARTIN LUTHER KING JR BLVD, TAMPA
PIN	A-01-29-18-4H0-A00000-00011.0
Folio	166399-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	1130 1 STY STORE C
Plat Book/Page	7/44
Neighborhood	206003.00 | SW Seminole Hts Area, S of Osborne
Subdivision	4H0 | BLACK'S W C SUBDIVISION

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$191,605	$191,605	$0	$191,605
Public Schools	$191,605	$191,605	$0	$191,605
Municipal	$191,605	$191,605	$0	$191,605
Other Districts	$191,605	$191,605	$0	$191,605

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

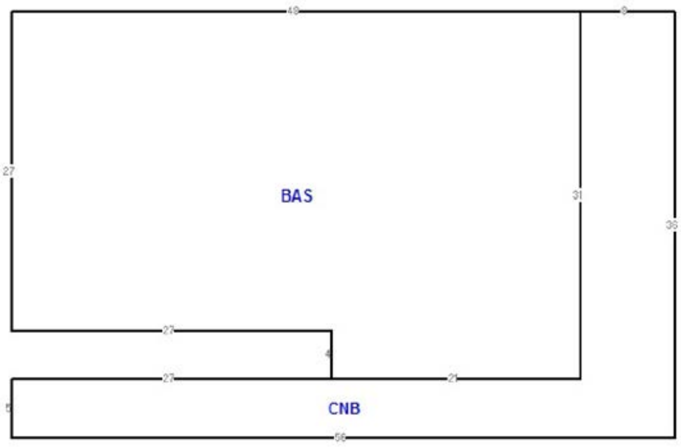
Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
20296	1050	01	2011	QC	Unqualified	Improved	$100
17622	1837	03	2007	WD	Unqualified	Improved	$407,500
11082	1800	09	2001	WD	Unqualified	Improved	$320,000
8507	1119	03	1997	WD	Unqualified	Improved	$100
7013	0631	06	1993	WD	Qualified	Improved	$92,000
3723	1628	10	1980	QC	Unqualified	Improved	$100

Building Information

Building 1

Type	35 | STORE RETAIL
Year Built	1968



Building 1 Construction Details

Element	Code	Construction Detail
Class	C	Masonry or Concrete Frame
Exterior Wall	7	Masonry Frm: Stucco
Exterior Wall	12	Metal
Roof Structure	10	Steel Frame
Roof Cover	4	Blt.up Tar & Gravel
Interior Walls	5	Drywall
Interior Flooring	8	Carpet
Heat/AC	2	Central
Plumbing	3	Typical
Condition	3	Average
Stories	1.0	
Units	1.0	
Wall Height	10.00	

Building 1 subarea

Area Type	Gross Area	Heated Area	Depreciated Value
CNB	528		$2,608
BAS	1,380	1,380	$67,896
Totals	**1,908**	**1,380**	**$70,504**

Extra Features

OB/XF Code	Description	Building	Year On Roll	Length	Width	Units	Value
0020	ASPHALT PAVING	1	1968	0	0	6,105.00	$4,835
0060	CONCRETE PAVEMENT	1	2002	0	0	2,385.00	$4,946

Land Information - Total Acreage: 0.28

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
TLH3	TL Class 8	SH-CG	110.00	115.00	SF | SQUARE FEET	12,650.00	$111,320

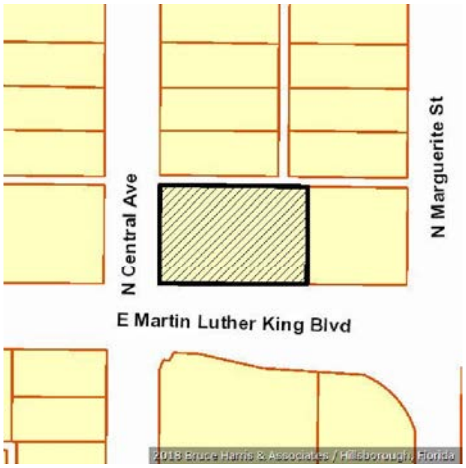
Legal Description

BLACK'S W C SUBDIVISION LOT 11 LESS PART FOR SR 93 R/W DESC AS BEG 29.93 FT E OF SW COR & RUN E 25.07 FT TO SE COR N 10.77 FT ALONG E BDRY & SWLY 28.02 FT ALONG 34.5 FT RAD CURVE TO BEG AND LOT 12 BLOCK A

Bob Henriquez
Hillsborough County Property Appraiser

https://www.hcpafl.org/
15th Floor County Ctr.
601 E. Kennedy Blvd, Tampa, Florida 33602-4932
Ph: (813) 272-6100

Folio: 166402-0000


N Central Ave
N Marguerite St
E Martin Luther King Blvd
2018 Bruce Harris & Associates / Hillsborough, Florida

Owner Information

Owner Name	GIANT OIL INC
Mailing Address	ATTN PAT CARRIANO 1806 N FRANKLIN ST TAMPA, FL 33602-2234
Site Address	502 E DR MARTIN LUTHER KING JR BLVD, TAMPA
PIN	A-01-29-18-4H0-A00000-00013.0
Folio	166402-0000
Prior PIN	
Prior Folio	000000-0000
Tax District	TA - TAMPA
Property Use	1420 CONV STORE/GAS
Plat Book/Page	7/44
Neighborhood	206003.00 | SW Seminole Hts Area, S of Osborne
Subdivision	4H0 | BLACK'S W C SUBDIVISION

Value Summary

Taxing District	Market Value	Assessed Value	Exemptions	Taxable Value
County	$363,233	$363,233	$0	$363,233
Public Schools	$363,233	$363,233	$0	$363,233
Municipal	$363,233	$363,233	$0	$363,233
Other Districts	$363,233	$363,233	$0	$363,233

Note: This section shows Market Value, Assessed Value, Exemptions, and Taxable Value for taxing districts. Because of changes in Florida Law, it is possible to have different assessed and taxable values on the same property. For example, the additional $25,000 Homestead Exemption and the non-homestead CAP do not apply to public schools, and the Low Income Senior Exemption only applies to countywide and certain municipal millages.

Sales Information

Book	Page	Month	Year	Type Inst	Qualified or Unqualified	Vacant or Improved	Price
9987	1164	12	1999	WD	Unqualified	Improved	$365,000
4147	1074	07	1983	WD	Qualified	Improved	$136,000
4147	1072	07	1983	WD	Qualified	Improved	$136,000
3863	0249	09	1981	WD	Qualified	Improved	$85,000

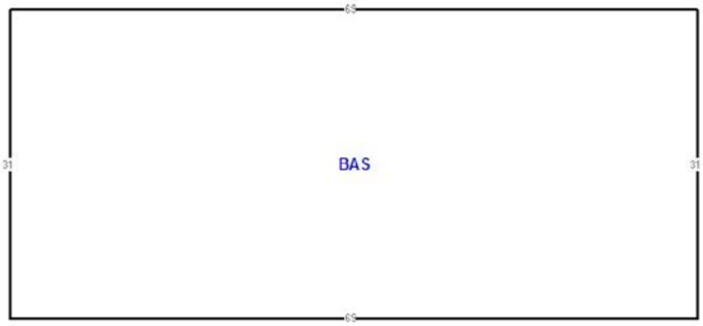
Building Information

Building 1

Type	43 | CONVENIENCE STORE
Year Built	1984

Building 1 Construction Details

Element	**Code**	**Construction Detail**
Class	C	Masonry or Concrete Frame
Exterior Wall	7	Masonry Frm: Stucco
Exterior Wall	5	Concrete Block
Roof Structure	4	Truss (Wood/Metal)
Roof Cover	4	Blt.up Tar & Gravel
Interior Walls	4	Plywood paneling
Interior Flooring	4	Vinyl
Heat/AC	2	Central
Plumbing	3	Typical
Condition	3	Average
Stories	1.0	
Units	1.0	
Wall Height	14.00	



Building 1 subarea

Area Type	**Gross Area**	**Heated Area**	**Depreciated Value**
BAS	2,139	2,139	$106,951
Totals	**2,139**	**2,139**	**$106,951**

Extra Features

OB/XF Code	Description	Building	Year On Roll	Length	Width	Units	Value
0020	ASPHALT PAVING	1	1984	0	0	13,250.00	$11,543
0310	WALL CB	1	1984	0	0	800.00	$5,184
0060	CONCRETE PAVEMENT	1	2005	0	0	1,380.00	$4,027
0540	CANOPY GAS PUMP	1	2009	112	24	2,688.00	$72,904

Land Information - Total Acreage: 0.41

Use Code	Description	Zone	Front	Depth	Land Type	Total Land Units	Land Value
TLH3	TL Class 8	SH-CG	165.00	112.00	SF | SQUARE FEET	18,480.00	$162,624

Legal Description

BLACK'S W C SUBDIVISION LOTS 13 14 AND 15 BLOCK A LESS R/W FOR BUFFALO AVE