

# SR 580/West Hillsborough Avenue Multimodal Improvements Feasibility and Cost Estimation

# SR 580/West Hillsborough Avenue Multimodal Improvements Feasibility and Cost Estimation

April 2018

Completed For:



**Hillsborough County Metropolitan Planning Organization**  
601 East West Hillsborough Avenue, 18<sup>th</sup> Floor  
Tampa, FL 33601  
Task Authorization: TOA – 04

In Coordination With:



**Florida Department of Transportation, District 7**  
11201 North Malcom McKinley Drive  
Tampa, FL 33612

Prepared By:



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1000 North Ashley Drive, Suite 400  
Tampa, FL 33602

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# SR 580/WEST HILLSBOROUGH AVENUE MULTIMODAL IMPROVEMENTS FEASIBILITY AND COST ESTIMATION

GPC Task # TOA-06

## Engineer's Certification

Prepared for:

**Hillsborough MPO**

601 E Kennedy Boulevard, FL 18

Tampa FL, 33602

MPO Project Manager: Tony LaColla, AICP

Prepared by:

**Tindale Oliver**

1000 N Ashley Drive, Suite 400

Tampa, FL 33602

I, **Allan B. Sequeira**, certified that I currently hold an active Professional Engineer's License in the State of Florida and I am competent through education and experience to provide engineering services in the civil and traffic engineering disciplines contained in this report, I further certify that this report was prepared by me or under my responsible charge as defined in Chapter 61G15-18.001 F.A.C. and that all statements, conclusions, and recommendations made herein are true and correct to the best of my knowledge and ability.

---

Allan B. Sequeira, P.E.  
State of Florida Board of Professional Engineers  
Professional Engineer License No. 60737

# SR 580/WEST HILLSBOROUGH AVENUE MULTIMODAL IMPROVEMENTS FEASIBILITY AND COST ESTIMATION

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I, **Allan B. Sequeira**, certified that I currently hold an active Professional Engineer's License in the State of Florida and I am competent through education and experience to provide engineering services in the civil and traffic engineering disciplines contained in this report, I further certify that this report was prepared by me or under my responsible charge as defined in Chapter 61G15-18.001 F.A.C. and that all statements, conclusions, and recommendations made herein are true and correct to the best of my knowledge and ability.



---

Allan B. Sequeira, P.E.  
State of Florida Board of Professional Engineers  
Professional Engineer License No. 60737

## Introduction

The SR 580/600 West Hillsborough Avenue Multimodal Safety Review was conducted by the Hillsborough Metropolitan Planning Organization (MPO) in coordination with FDOT District 7 to augment the recently-completed Hillsborough Avenue Access Management Study. This review effort was intended to identify opportunities to implement design and operation best practices to improve pedestrian and bicycle safety and comfort along Hillsborough Avenue from west of Memorial Highway (MP 4.849) to east of Himes Avenue (MP 9.701) for a total length of 4.85 miles.

The study relies on the 2014 FDOT Bicycle/Pedestrian Access to Transit Audit of W. Hillsborough Avenue in the vicinity of Hanley Road, 2011 Hillsborough MPO Walk-Bike Plan (Phase II) and other FDOT on-call safety reviews to identify potential areas of improvement. Improvement concepts are consistent with both the Federal Highway Administration's (FHWA) Pedestrian Safety Design Best Practices and FDOT's emerging guidance on implementing Complete Streets.

Accordingly, the main focus for the study was the following four locations previously identified for potential multimodal safety improvements:

- Town N Country Boulevard
- Hanley Road
- Anderson Road
- Dale Mabry Highway Interchange Area – Himes Avenue

Figure 1 shows the study corridor extent and the four focus locations.

The proposed improvements have been coordinated with FDOT District 7 for incorporation in a “goes-with” project to complement a programmed access management/safety project (FM#437641-1) from Memorial Highway to Himes Avenue.



Figure 1: SR 580/West Hillsborough Avenue Study Area

## Engineering Analysis

Existing conditions were evaluated based on office and field reviews. Field reviews were conducted in July 2017.

### Assessment of Existing Conditions and Deficiencies

This Technical Memorandum analyzes the existing conditions with the design criteria from the current edition of FDOT's *Plans Preparation Manual (PPM)* (January 2017), Chapter 2 and Chapter 25, as well as *FDOT Design Standards* (FY 2017–2018 edition) to develop alternatives concept that would improve the mobility and safety of pedestrian and bicyclists along the corridor. Existing components reviewed include roadway, signing & pavement markings, and signalization. The proposed improvements will be required to comply with the design criteria in the latest *FDOT Design Manual (FDM)*, effective January 2018; therefore, this document also considers the design criteria from the January 2018 FDM. Other documents used for multimodal review included in this document include the following:

- American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets, 6<sup>th</sup> Ed.* (2011)
- AASHTO, *Roadside Design Guide* (2011)
- Americans with Disabilities Act Accessibility Guidelines (ADAAG)

### Typical Section

Existing Roadway Typical Section consists of a 6-lane divided roadway with curb & gutter and sidewalk on both sides. The travel lane widths are 11–12 ft for the inside and middle lanes and from 11–13 ft for the outside lane.

### Design and Posted Speed

The design speed is 45 mph in the urban typical sections and 50 mph in the suburban section between SR 589 and Dale Mabry Highway. The posted speed is 45 mph throughout the project limits

### Pedestrian Ramps

Existing pedestrian curb ramps are present at all intersections and pedestrian crossings within the project limits.

- *Curb ramps* – Most existing pedestrian curb ramps within the project limits do not meet current FDOT requirements. Existing deficiencies include ramp slope, landing width or depth, cross slope, or flare slope.
- *Detectable Warning Surface* – Several pedestrian ramps within the project limits are missing detectable warning surfaces. Two specific locations are at the intersection of Town N Country Boulevard and Hanley Road.

### Sidewalks

Existing concrete sidewalks are located throughout the project limits on both sides of the subject corridor. The existing sidewalk varies in width from 5–6 ft.

## Traffic Control Devices

### Signing

Existing signs include ground-mounted single-post signs along the roadside and median. Single-post advance street name signs are located at several locations within the limits.

The Design Criteria and Guidelines that must be followed included:

- *FDOT Design Standards*
- *Manual on Uniform Traffic Control Devices (MUTCD)*
- ADAAG

A sign inventory is not included in the scope of this Technical Memorandum. Based on field observations, many existing ground-mounted signs are in fair condition, and some are in poor condition or are sub-standard with current criteria, including reflectivity, legend size, lateral offset, or vertical clearance above the sidewalk. The Designer is responsible for conducting an inventory and review of all existing signage with *FDOT Design Standards*, *FDOT Traffic Engineering Manual (TEM)*, and *MUTCD*.

### Pavement Markings

Based on field observations, the existing pavement markings are generally in fair condition, with faded striping and raised reflective pavement markers missing or with low reflectivity. The proposed improvements include replacing crosswalk markings in conjunction with resurfacing and upgrading crosswalk markings with special-emphasis markings at the subject signalized intersection (Town N Country Boulevard, Hanley Road, Anderson Road).

## Traffic Signals

There are 15 signalized intersections within the project limits:

- Webb Road
- Town N Country Boulevard\*
- Kelly Road
- Hanley Road\*
- Emergency signal (MP 6.123)
- Sawyer Road
- George Road
- Eisenhower Boulevard
- Benjamin Road
- Hoover Boulevard
- Anderson Road\*
- N Hesperides Street
- N Lois Avenue
- Dale Mabry Highway
- Himes Avenue

*\*Selected for pedestrian and bicycle improvements based on prior studies and potential for geometric improvements.*

### Pedestrian Signalization as Study Locations

Town N Country Boulevard, Hanley Road, and Anderson Road include existing pedestrian signals (count-down type) and pedestrian detectors (push-buttons) for the major street movement. Due to the proposed curb return modifications, the pedestrian signal poles at several locations will have to be replaced (see proposed concept plans in Appendix A).



## Sight Distance

Based on office and field reviews, a sight triangle obstruction was identified at the CVS egress driveway located just east of the intersection of Hanley Road. Sight triangle obstructions were determined by FDOT and AASHTO criteria for intersections with stop-controlled movements. The sight triangle obstruction is a traffic railing for the Sweetwater Creek canal. The District Traffic Operations Office should be contacted to determine if there is a significant crash history related to the existing sight triangle obstructions at this location.

## Drainage

The existing drainage system consists of a closed drainage system with curb inlets and pipes.

The Design Criteria and Guidelines that must be followed included:

- FDOT PPM, Volume 1, Section 25.4.18
- 2018 FDM, Part 2, Section 215.2.7
- *FDOT Drainage Manual*

This Technical Memorandum does not include an evaluation of the hydraulic, safety and physical adequacies of the existing drainage system. However, several drainage inlets will need to be removed and relocated due to the proposed curb radii modification, pedestrian ramps, and lane width reduction at the Dale Mabry Interchange to accommodate the proposed shared-use path. The Designer must evaluate the hydraulic, safety, and physical adequacies of the existing drainage system.

## Recommended Improvements

To address the project purpose and identified deficiencies, the following improvements were analyzed and are summarized.

### Roadway

#### All Study Locations

- Mill and resurface existing pavement necessary to upgrade pavement markings.
- Reconstruct sub-standard pedestrian ramps.

#### Town N Country Boulevard Improvements

- *Option 1* – Reduce NE corner radius and provide high-emphasis crosswalks while maintaining existing pedestrian configuration. This option will impact one drainage structure.
- *Option 2* – Construct a raised refuge pedestrian island and maintain existing curb returns and pedestrian configuration. Repurpose the NB approach lane configuration by changing the outside through lane to an exclusive right-turn lane. This will not impact the drainage structure identified in Option 1, but will require milling and resurfacing of the northbound approach to change lane designation.
- *Option 3* – Add a pedestrian crosswalk on the east leg of the intersection and provide one pedestrian ramp per high-emphasis crosswalk. Modify the NE corner radius to reduce turning speeds and pedestrian crossing distance. This option will impact four drainage structures.

## SR 580/WEST HILLSBOROUGH AVENUE MULTIMODAL IMPROVEMENTS FEASIBILITY AND COST ESTIMATION

- *Option 4* – Add pedestrian crosswalk on the east leg of the intersection and provide one pedestrian ramp per high-emphasis crosswalk. Construct a raised refuge pedestrian island and maintain existing curb returns. Repurpose the NB approach to modify the outside through lane to an exclusive right-turn lane. This will impact three drainage structures and require milling resurfacing of the northbound approach to change the lane designation.

*Option 3 is the recommended option at this location because it provides the best overall accommodation for pedestrians given that right-of-way is not available to construct a right turn island (Options 2 and 4) in keeping with best geometric design practices for pedestrians..*

### Hanley Road Improvements

- *Option 1* – Reduce NE corner radius and reconstruct crosswalk ramps.
- *Option 2* – Eliminate WB-to-NB right-turn lane and reduce NE corner radius.

***Option 1 is the recommended option at this location.*** Whereas Option 2 would further compact the intersection and resolve the sight triangle issue at the CVS driveway to the immediate east, high WB right-turning traffic volume is a contra-indication for removing the WB to NB right-turn lane at this location.

### Anderson Road/Air Cargo Road Improvements

- Reduce NE and NW radius at Anderson Road/Air Cargo Road.

- Repurpose the NB approach to provide two southbound through lanes.

Alternative options were not considered/are not viable at this location. This design concept will improve conditions for pedestrians and is supported by turning movement counts at this location and is consistent with recent improvements to Air Cargo Road at the south leg of the intersection.

### Dale Mabry Interchange Area

- A shared-use pathway was evaluated for cyclists to navigate throughout the Dale Mabry interchange; however, due to the high construction cost and impacts to the existing features, intermediate improvements are proposed at the NB off-ramp signalized intersection only. These include realignment of the crosswalk between the island and northbound right turn lane, widening of the sidewalk from through the island to allow for cyclists to share the space with pedestrians in order to avoid the weave area to the east of the interchange, and improvements to the sidewalk immediately east of the interchange to address ponding issues and sediment build-up on the sidewalk.

### Signing and Pavement Markings

- Update all sub-standard ground-mounted signs to comply with the latest editions of *FDM*, *FDOT TEM*, and *MUTCD*.
- Replace and upgrade all pavement markings to meet the latest *FDM*, including high-emphasis crosswalks at all subject signalized intersections.

## Signalization

- Install pole-mounted countdown pedestrian signals with ADA-compliant detector.
- Replace loop assemblies impacted by milling and resurfacing.

## Lighting

- Lighting analysis should be conducted at the subject signalized intersections to measure existing vertical illuminance for pedestrian visibility.

## Recommendations Discussion

The following sections detail the proposed improvements at each location. Auto-turn was used to analyze the vehicle swept path, and the design vehicle used for these modification was a WB-60. Concept Roadway, Sign & Pavement Marking, and Signalization Plans for each location and each option are included as Appendix A.

### Town N Country Boulevard

At Town N Country Boulevard, improvement recommendations focus on reducing the turn radii and shortening the crossing distance by modifying the geometry at the NW corner and providing a crosswalk across the east leg of the intersection.

#### *Option 1*

The proposed pedestrian improvements includes reducing the NE curb radii to encourage motorists to make the right turn at a lower speed. By reducing the curb return radius, the pedestrian crossing distance is also reduced and pedestrians are exposed for a shorter length of time.

As a result of the curb radii modification, a drainage structure will need to be removed and a new drainage structure installed at the new edge of the pavement. The design vehicle path was allowed to use the inside receiving lane to make a right-turn maneuvers. Additional improvements included reconstructing all pedestrian ramps to meet current FDOT Standard Index 304 with Detectable Warning surfaces, installing special-emphasis crosswalk markings, pedestrian countdown signals, and ADA pedestrian detectors.

## *Option 2*

The intent of this option is to minimize impacts to the existing intersection configuration while improving pedestrian safety. The proposed improvements consist of constructing a “pork chop” raised island between the WB right-turn lane and the through-travel lane. The objective of this island is to channelize right-turn movements in a manner that keeps turning speeds low, allows for improve sightlines for pedestrians and drivers of turning vehicles, and minimizes pedestrian crossing distances. The raised island will be constructed in conjunction with the outside SB through lane change from a through lane to an exclusive right-turn lane.

During the field review, it was observed that vehicles traveling in the inside SB through lane will cross the intersection and weave to the outside lane due to the existing alignment and skew angle. It was also noted that Town & Country Boulevard is a two-way roadway with one lane in each direction upstream and downstream of the intersection; therefore, capacity should not be significantly impacted.

It is also recommended that traffic turning movements and level of service (LOS) analysis be performed prior to implementing this alternative. The change in the proposed lane configuration will allow for a larger “pork chop” island, which would balance the need for larger turning radii with pedestrian safety and mobility goals.

Additional improvements include reconstructing all pedestrian ramps to meet current FDOT Standard Index 304 with Detectable Warning surfaces and installing special-emphasis crosswalk markings, pedestrian countdown signals, and ADA pedestrian detectors.

## *Option 3*

This alternative includes all recommendations from Option 1 (reducing NE corner right turn radii) as well as adding a pedestrian crosswalk on the east leg of the intersection and providing one pedestrian ramp per high-emphasis crosswalk, which is a best practice. Installing two pedestrian ramps per corner will ensure that each ramp points directly into the crosswalk and the curb ramp on the other side of the street. Directional curb ramps also help vision-impaired pedestrians by pointing them in the correct direction while crossing. The proposed crosswalk alignment will require the traffic separator to be moved away from the intersection, requiring roadway widening on the EB and WB approaches to allow for adequate space between the pedestrian ramps and provide for straight crosswalk alignment. Four drainage structures also will be impacted and will need to be relocated.

## *Option 4*

This alternative includes all recommendations from Option 2 (providing a right turn island at the NE corner and the requisite re-designation of the northbound outside lane to a right-turn only lane) as well as adding a pedestrian crosswalk on the east leg of the intersection and providing one pedestrian ramp per high-emphasis crosswalk, which is a best practice, as stated in the previous option. Widening will be require on the EB and WB approaches, and four drainage structures also will be impacted.

### ***The preferred option for Town N Country Boulevard is Option 3.***

This option enhances pedestrian access and safety by reducing the NE curb radii to encourage motorists to make the right-turn at a lower speed and shorten the pedestrian crossing distance. This

option also provides the ideal intersection pedestrian crossing layout by providing two pedestrian ramps per corner.

### Hanley Road

Improvements at Hanley Road include reducing the radii on the NE corner of the intersection and realigning the crosswalks.

#### Option 1

The proposed pedestrian improvements include reducing the NE curb radii to encourage motorists to make the right turn at a lower speed. By reducing the curb return radius, the pedestrian crossing distance is also reduced and pedestrians are exposed for a shorter length of time. As a result of the curb radii modification, a drainage structure will need to be removed and a new drainage structure installed at the new edge of the pavement. The design vehicle path was allowed to use the inside receiving lane to make the right-turn maneuver.

Additional improvements include reconstructing all pedestrian ramps to meet current FDOT Standard Index 304 with Detectable Warning surfaces and installing special-emphasis crosswalk markings, pedestrian countdown signals, and ADA pedestrian detectors.

#### Option 2

This option also includes reducing the NE curb radii and eliminating the WB-to-NB right-turn lane. The proposed lane elimination will reduce the sight distance obstruction at the CVS egress driveway located just east of the intersection of Hanley Road. The sight triangle obstruction is a traffic railing for the Sweetwater Creek canal bridge Number (100335). This recommendation will need to

be coordinated with the District Traffic Operations Office to determine if there is a significant crash history related to the existing sight triangle obstructions at this location.

It is also recommended that a traffic operation analysis be conducted to determine the LOS impacts related to the removal of this lane. The curb radii reduction noted previously will encourage lower speeds and shorter pedestrian distances. Additional improvements include reconstructing all pedestrian ramps to meet current FDOT Standard Index 304 with Detectable Warning surfaces and installing special-emphasis crosswalk markings, pedestrian countdown signals, and ADA pedestrian detectors.

**The preferred option for Hanley Road is Option 1.** This option enhances pedestrian access and safety by reducing the NE curb radii to encourage motorists to make the right turn at a lower speed and shortens the pedestrian crossing distance. Additionally, Option 1 can be implemented without additional engineering study or analysis, as required in Option 2.

### Anderson Road/Air Cargo Road

The proposed pedestrian improvements include reducing NE and NW curb radii to provide the same pedestrian benefits noted in the previous alternatives. In addition, the NB approach lane configuration will be improved by adding an additional through lane and improving the storage length for the inside SB-to-EB left-turn lane. These improvements will be implemented by eliminating the striped island.



## Dale Mabry Interchange Area

A shared-use pathway was evaluated for cyclists to navigate throughout the Dale Mabry interchange, which is a partial cloverleaf with three right-turn-only lanes and a continuous auxiliary acceleration lane and numerous weaving and merging movements between through bicyclists and vehicles. The proposed shared-use path will provide bicyclists with an alternative route in addition to the existing bike lanes that would remove the weaving and merging conflicts, with the exception of the on/off ramp crossings. The proposed improvements include widening the sidewalk to 10 ft throughout the interchange to allow for bicyclists and pedestrians to share this facility.

Several existing features will be impacted by the proposed sidewalk widening and will require additional engineering analysis. For instance, the swale areas will be reduced, and two drainage structures (mitered end section) may be impacted on the NE quadrant. All pedestrian ramps should be modified to accommodate bicyclists, and the ramps should match the 10-ft shared path width. Additionally, underneath the interchange overpass, the bridge embankment in the WB direction restricts sidewalk widening, which will require cutting back the embankment or reducing the lane width. For the purpose of this technical memorandum the lane width reduction from (12 ft to 11 ft) was used between the SB and NB off-ramps. The lane reduction will impact the existing edge of pavement, drainage structures, and guardrail.

The preliminary engineering cost estimate for the shared-use path was \$1,005,234. Due to the numerous impacts to the existing features and the high estimated construction cost for these

improvements, an interim solution was analyzed for the continuous auxiliary acceleration lane, which is the area with the most conflict. The proposed interim improvements include widening the sidewalk to 10 ft from just east of the signalized northbound off-ramp intersection to approximately 300 ft east of the intersection.

Other proposed improvements shown in Figure 2, include constructing a bicycle ramp<sup>1</sup> just east of the eastbound to northbound on ramp to allow bicyclists to transition onto the sidewalk. The channelized right-turn “pork chop island” on the SE quadrant should also be reconstructed to provide for the new 10-ft-wide shared use path ramps<sup>2</sup>. During the field review, the sidewalk adjacent to the right-turn NB off-ramp<sup>3</sup> was observed to be flooded. It is recommend that the swale/sidewalk be re-graded or consider adding a drainage structure to mitigate this deficiency. Additional improvements include green pavement markings, proposed warning signs, and high-emphasis crosswalks.

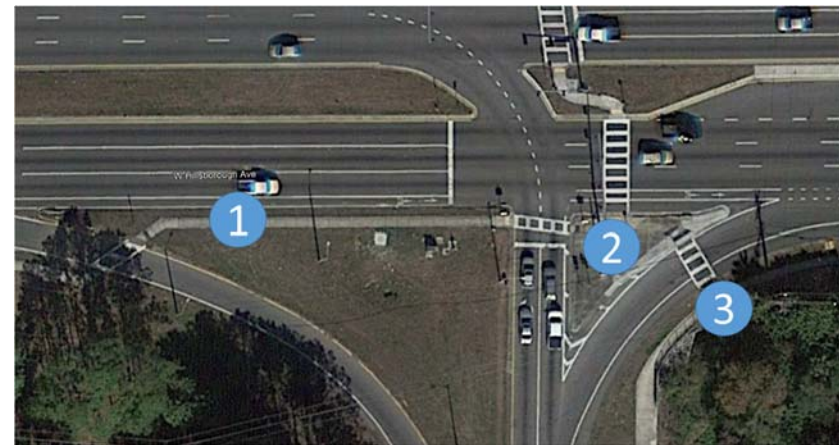


Figure 2: Location of Improvements for Northbound Off-Ramp Area

## Preliminary Cost Estimate

A preliminary construction cost estimate was developed based on estimated quantities for the recommended improvements listed in this Technical Memorandum. The unit prices are from the current FDOT Pay Item Average Unit Cost, 12-Month Moving Average from Area 8 (Hillsborough County) for the period 10/2016 to 9/2017. The cost estimate includes 10% for Maintenance of Traffic, 10% for mobilization, 20% for design fee, and 2% construction/CEI.

The table summarizes the cost of improvements to be consider for inclusion under the upcoming access management/safety project (FM#437641-2-52-01). The preliminary construction cost estimate is based on estimated quantities for the recommended improvements and unit prices from the current FDOT Pay Item Average Unit Cost, 12-Month Moving Average from Area 8 (Hillsborough County) for the period 10/2016 to 9/2017. The cost estimate includes, 20% design fee, 2% constructability, 10% MOT, and 10% Mobilization. Cost estimate worksheets are included as Appendix B.

**Table 1: Recommended Improvement Cost Estimates**

Location of Improvement	Description	Preliminary Construction Cost Estimate
Town & County Boulevard	Option 1	\$ 167,229
	Option 2	\$166,641
	Option 3	\$206,425
	Option 4	\$339,151
Hanley Road	Option 1	\$ 161,455
	Option 2	\$210,213
Anderson Road/Air Cargo Road		\$115,803
Dale Mabry Interchange	From N Church Ave to Himes Ave	\$1,005,234
Dale Mabry Interchange Interim Improvements	From NB off-ramp to approx. 300' E	\$201,640

## FDOT Scope Clarification

On Thursday February 8, 2018 FDOT performed a scope clarification field review and debriefed from this review on Monday February 12, 2018. Outcomes of the Scope Clarification process related to the project recommendations are as follows:

- FDOT will verify the curb radius recommendations—citing concern at Anderson Road which is a high-freight area.
- FDOT will consider options to incorporate a pedestrian crosswalk at the east leg of W. Hillsborough Avenue and Hanley Road as part of an innovative U-turn lane treatment being considered at this location.
- At the intersection of Town N' Country Boulevard and W. Hillsborough Avenue, FDOT will consider coordinating with Hillsborough County to designate the northbound outside shared thru/right lane as a right turn only lane and this may allow for additional reduction in the turn radii on the northeast corner of this intersection.
- FDOT will extend the project limit to Himes Avenue and is considering ramp improvements at Himes Avenue to transition eastbound bike traffic from the sidewalk back to the bike lane on Hillsborough Avenue to the east of Himes Avenue and constructing a fence or railing at the back of sidewalk between Dale Mabry Highway and Himes Avenue to discourage pedestrian mid-block crossing between the Al Lopez Park property and the retail uses along the north side of W. Hillsborough Avenue.
- FDOT may elect not to realign the crosswalk across W. Hillsborough Ave at northbound Dale Mabry highway citing concerns related to turn lane length and other issues. This will not have major impacts on the project intent, however.

A copy of the Scope Clarification Meeting Minutes is provided as Appendix C.

## **APPENDIX A:**

### **Concept Roadway, Sign & Pavement Marking, and Signalization Plans**

CONTRACT PLANS COMPONENTS

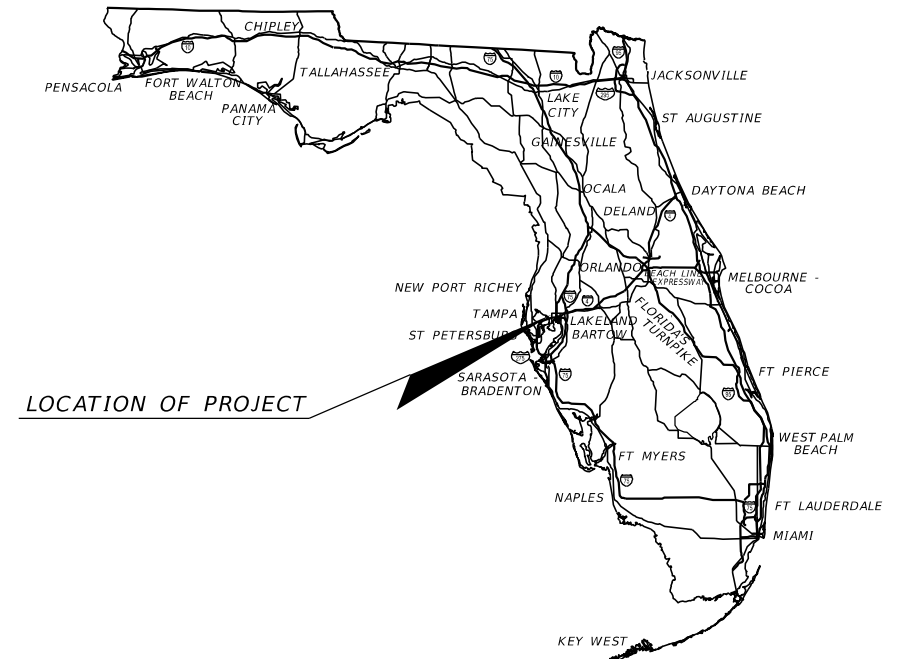
STATE OF FLORIDA  
DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

FINANCIAL PROJECT ID 439336-1-14-01

HILLSBOROUGH COUNTY (10150)

STATE ROAD NO. 580



LOCATION OF PROJECT

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2 - 9	ROADWAY PLANS
10 - 18	SIGNING AND PAVEMENT MARKING PLANS
19 - 28	SIGNALIZATION PLANS

GOVERNING DESIGN STANDARDS:

Florida Department of Transportation, FY2016-2017 Design Standards eBook (DSeB) and applicable Design Standards Revisions (DSRs) at the following website:  
<http://www.fdot.gov/roadway/DesignStandards/Standards.shtm>

GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, JANUARY 2017 Standard Specifications for Road and Bridge Construction at the following website:  
<http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

ROADWAY PLANS  
ENGINEER OF RECORD:

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P.E. NO.: 60737  
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1000 N. ASHLEY DRIVE, SUITE 400  
TAMPA, FLORIDA 33602  
CONTRACT NO.: C-9T09  
VENDOR NO.: 59-5929811  
CERTIFICATE OF AUTHORIZATION NO.: 5249

FDOT PROJECT MANAGER:

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
		1

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**LEGEND**

	DENOTES MILLING AND RESURFACING
	DENOTES SIDEWALK
	DENOTES SOD
	DENOTES WIDENING

REVISIONS		DATE	DESCRIPTION
DATE	DESCRIPTION	DATE	DESCRIPTION

TINDALE OLIVER, INC.  
 1000 N. ASHLEY DRIVE, SUITE 400  
 TAMPA, FLORIDA 33602  
 FBPE CERT. OF AUTH. NO.: 5249  
 ALLAN SEQUEIRA, P.E., 60737

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
580	HILLSBOROUGH	439336-1-14-01

ROADWAY PLAN  
 HILLSBOROUGH AVE AT TOWN N COUNTRY BLVD (1)





SHEET NO.  
 2

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**LEGEND**

	DENOTES MILLING AND RESURFACING
	DENOTES SIDEWALK
	DENOTES SOD
	DENOTES WIDENING

REVISIONS	
DATE	DESCRIPTION

TINDALE OLIVER, INC.  
 1000 N. ASHLEY DRIVE, SUITE 400  
 TAMPA, FLORIDA 33602  
 FBPE CERT. OF AUTH. NO.: 5249  
 ALLAN SEQUEIRA, P.E., 60737

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
580	HILLSBOROUGH	439336-1-14-01

ROADWAY PLAN  
 HILLSBOROUGH AVE AT TOWN N COUNTRY BLVD (2)

SHEET NO.
3

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**LEGEND**

	DENOTES MILLING AND RESURFACING
	DENOTES SIDEWALK
	DENOTES SOD
	DENOTES WIDENING

REVISIONS		DATE	DESCRIPTION
DATE	DESCRIPTION	DATE	DESCRIPTION

TINDALE OLIVER, INC.  
 1000 N. ASHLEY DRIVE, SUITE 400  
 TAMPA, FLORIDA 33602  
 FBPE CERT. OF AUTH. NO.: 5249  
 ALLAN SEQUEIRA, P.E., 60737

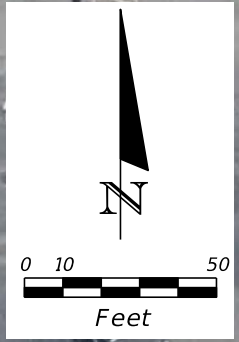
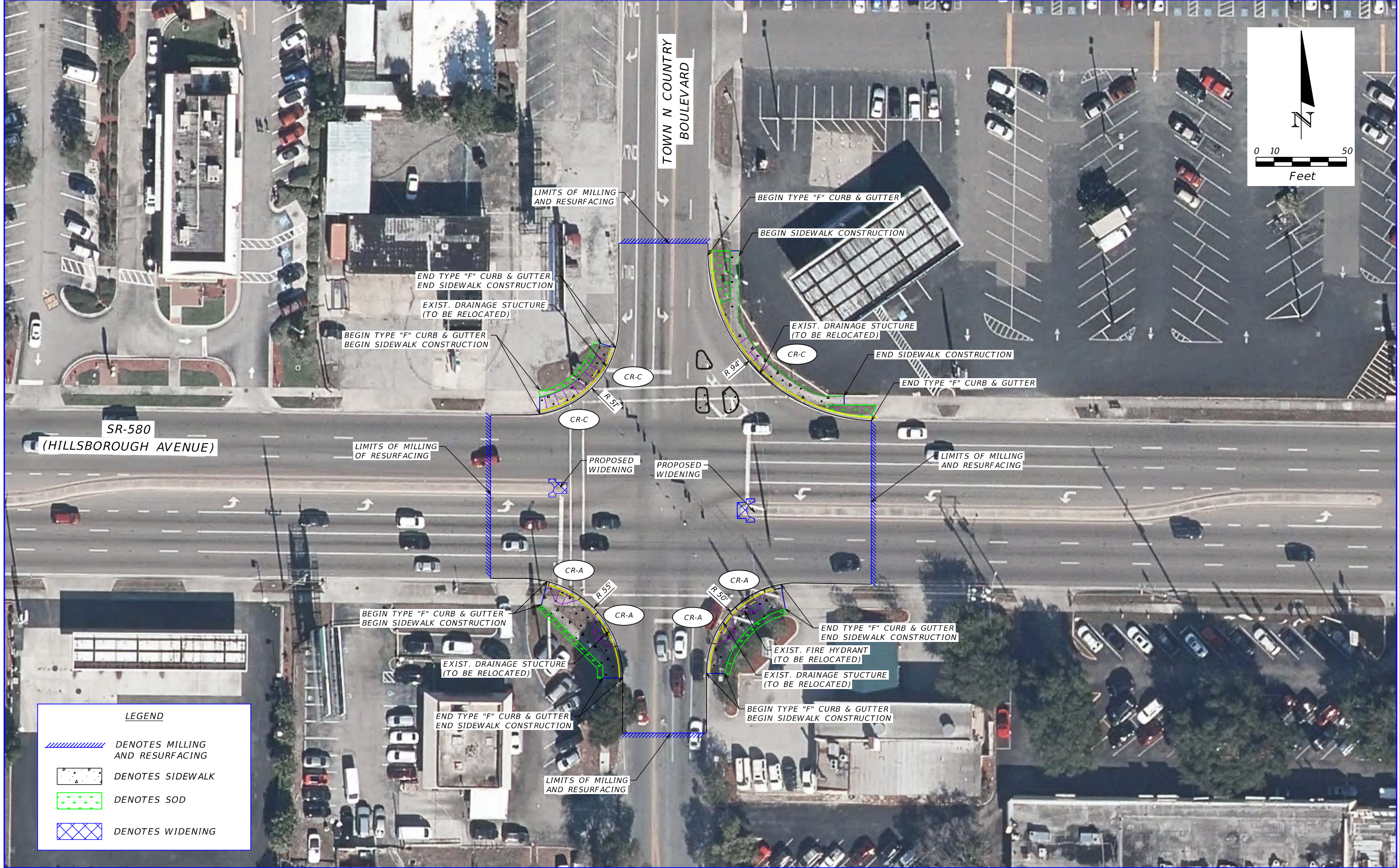
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
580	HILLSBOROUGH	439336-1-14-01

**ROADWAY PLAN**  
 HILLSBOROUGH AVE AT TOWN N COUNTRY BLVD (3)


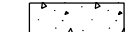


SHEET NO.  
 4

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.





**LEGEND**

	DENOTES MILLING AND RESURFACING
	DENOTES SIDEWALK
	DENOTES SOD
	DENOTES WIDENING

REVISIONS		DATE	DESCRIPTION
DATE	DESCRIPTION	DATE	DESCRIPTION

TINDALE OLIVER, INC.  
 1000 N. ASHLEY DRIVE, SUITE 400  
 TAMPA, FLORIDA 33602  
 FBPE CERT. OF AUTH. NO.: 5249  
 ALLAN SEQUEIRA, P.E., 60737

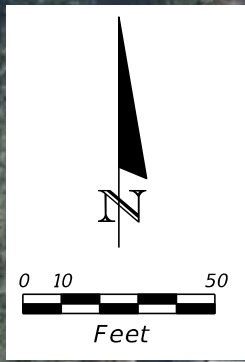
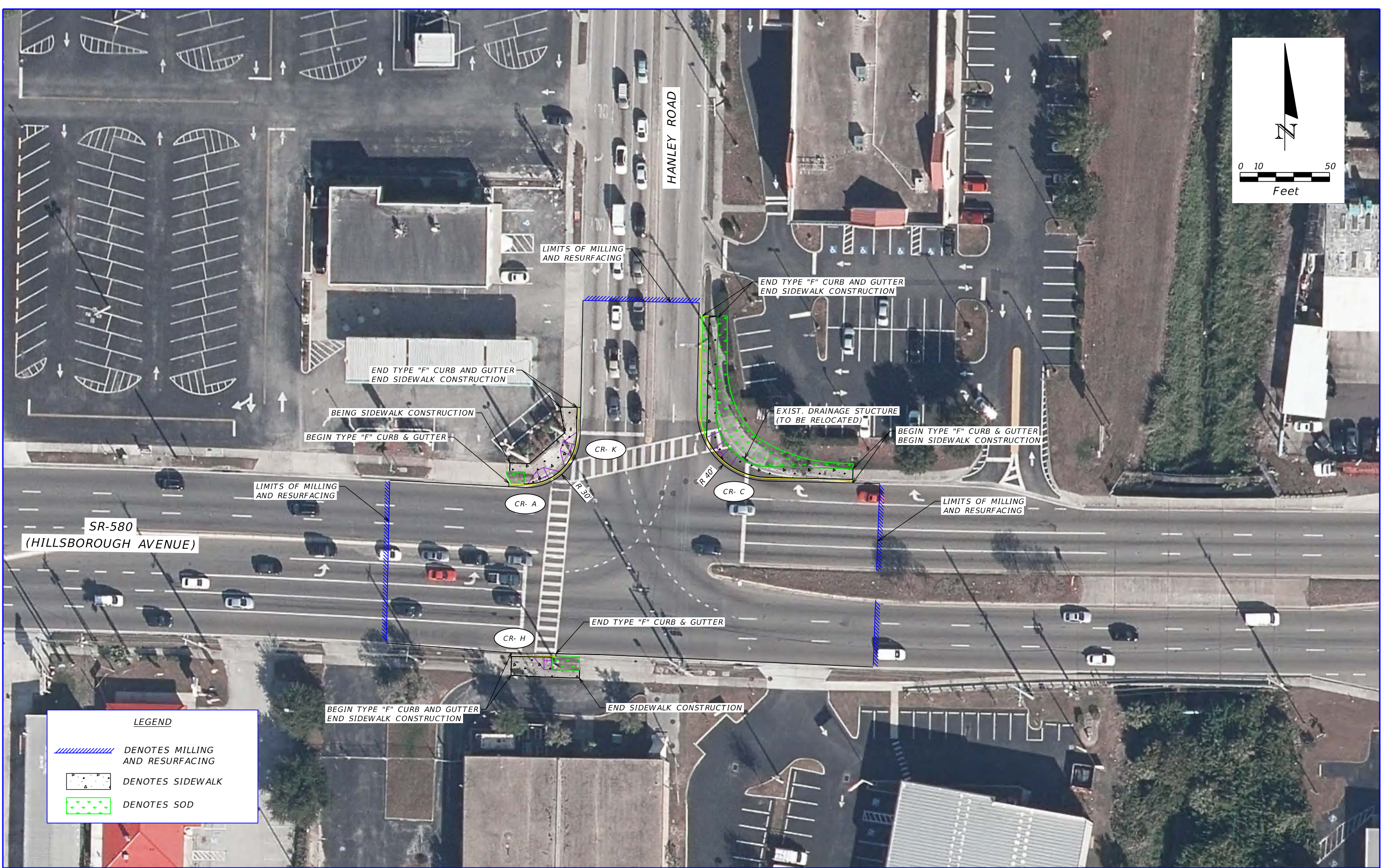
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
580	HILLSBOROUGH	439336-1-14-01




ROADWAY PLAN  
 HILLSBOROUGH AVE AT TOWN N COUNTRY BLVD (4)

SHEET NO.
5

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LEGEND	
	DENOTES MILLING AND RESURFACING
	DENOTES SIDEWALK
	DENOTES SOD

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TINDALE OLIVER, INC.  
 1000 N. ASHLEY DRIVE, SUITE 400  
 TAMPA, FLORIDA 33602  
 FBPE CERT. OF AUTH. NO.: 5249  
 ALLAN SEQUEIRA, P.E., 60737

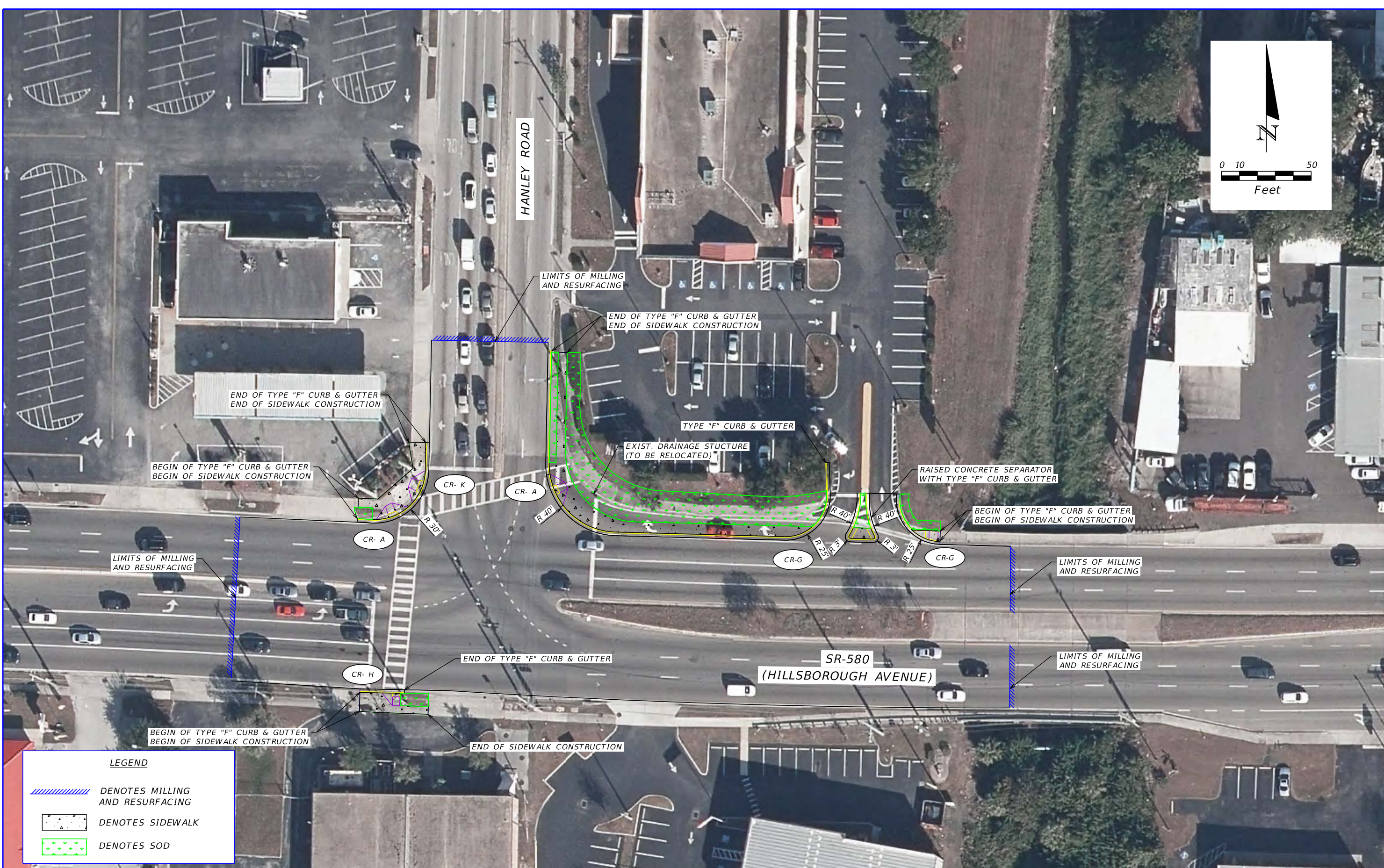
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
580	HILLSBOROUGH	439336-1-14-01

ROADWAY PLAN  
 HILLSBOROUGH AVE AT HANLEY RD (1)

SHEET NO.
6

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.





**LEGEND**

	DENOTES MILLING AND RESURFACING
	DENOTES SIDEWALK
	DENOTES SOD

REVISIONS	
DATE	DESCRIPTION

TINDALE OLIVER, INC.  
 1000 N. ASHLEY DRIVE, SUITE 400  
 TAMPA, FLORIDA 33602  
 FBPE CERT. OF AUTH. NO.: 5249  
 ALLAN SEQUEIRA, P.E., 60737

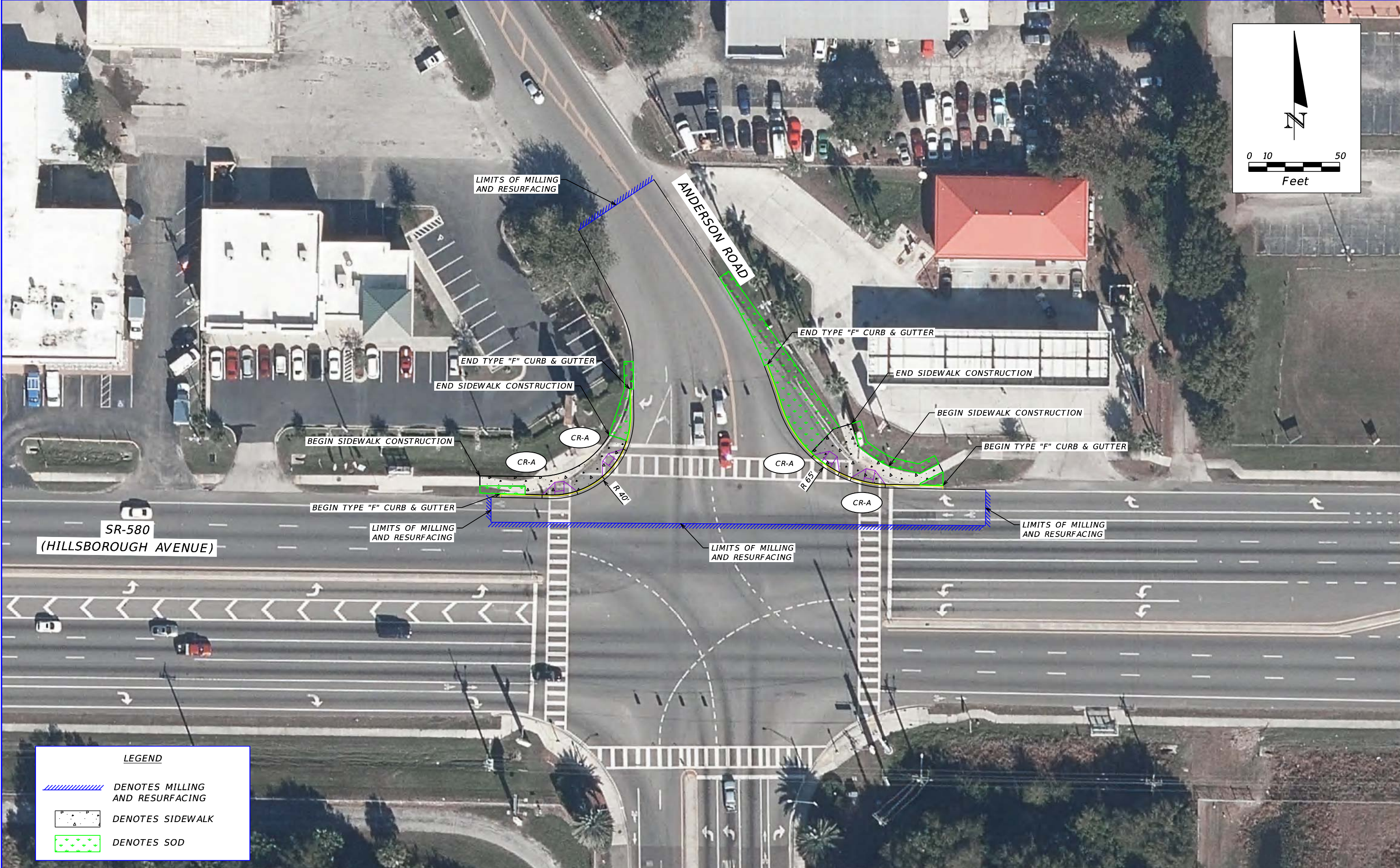
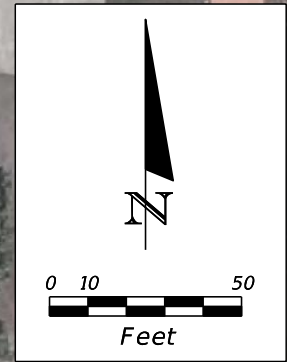
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
580	HILLSBOROUGH	439336-1-14-01


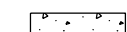

ROADWAY PLAN  
 HILLSBOROUGH AVE AT HANLEY RD (2)

SHEET NO.  
 7

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LEGEND	
	DENOTES MILLING AND RESURFACING
	DENOTES SIDEWALK
	DENOTES SOD

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TINDALE OLIVER, INC.  
 1000 N. ASHLEY DRIVE, SUITE 400  
 TAMPA, FLORIDA 33602  
 FBPE CERT. OF AUTH. NO.: 5249  
 ALLAN SEQUEIRA, P.E., 60737

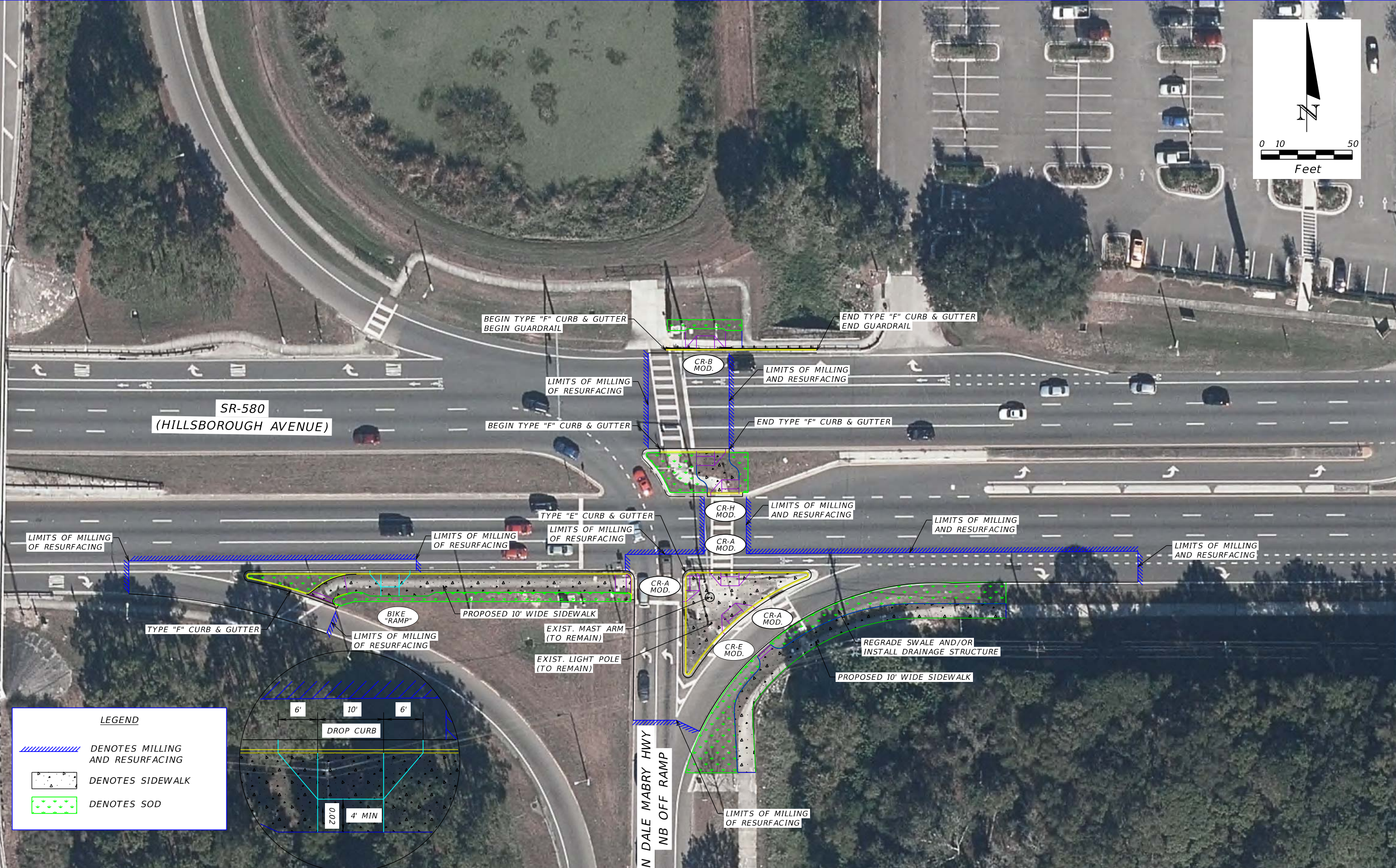
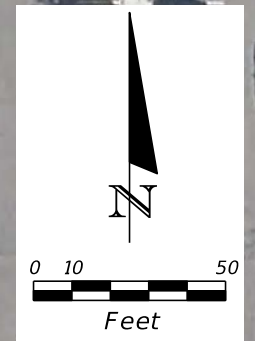
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
580	HILLSBOROUGH	439336-1-14-01

**ROADWAY PLAN**  
**HILLSBOROUGH AVE AT ANDERSON RD**

SHEET NO.  
8

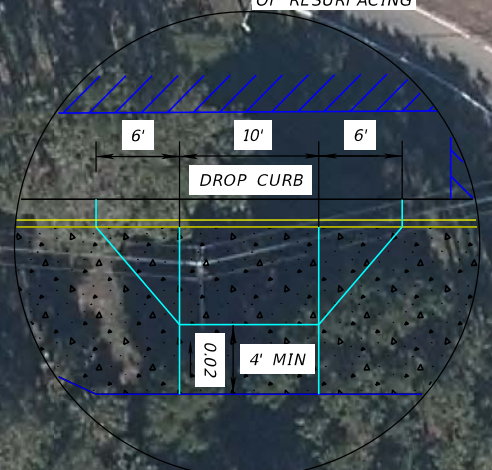
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.





**LEGEND**

- DENOTES MILLING AND RESURFACING
- DENOTES SIDEWALK
- DENOTES SOD



REVISIONS	
DATE	DESCRIPTION

TINDALE OLIVER, INC.  
 1000 N. ASHLEY DRIVE, SUITE 400  
 TAMPA, FLORIDA 33602  
 FBPE CERT. OF AUTH. NO.: 5249  
 ALLAN SEQUEIRA, P.E., 60737

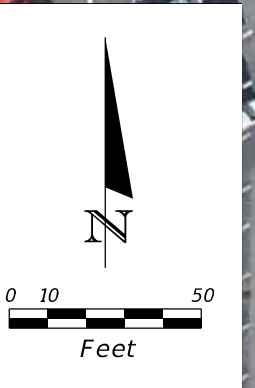
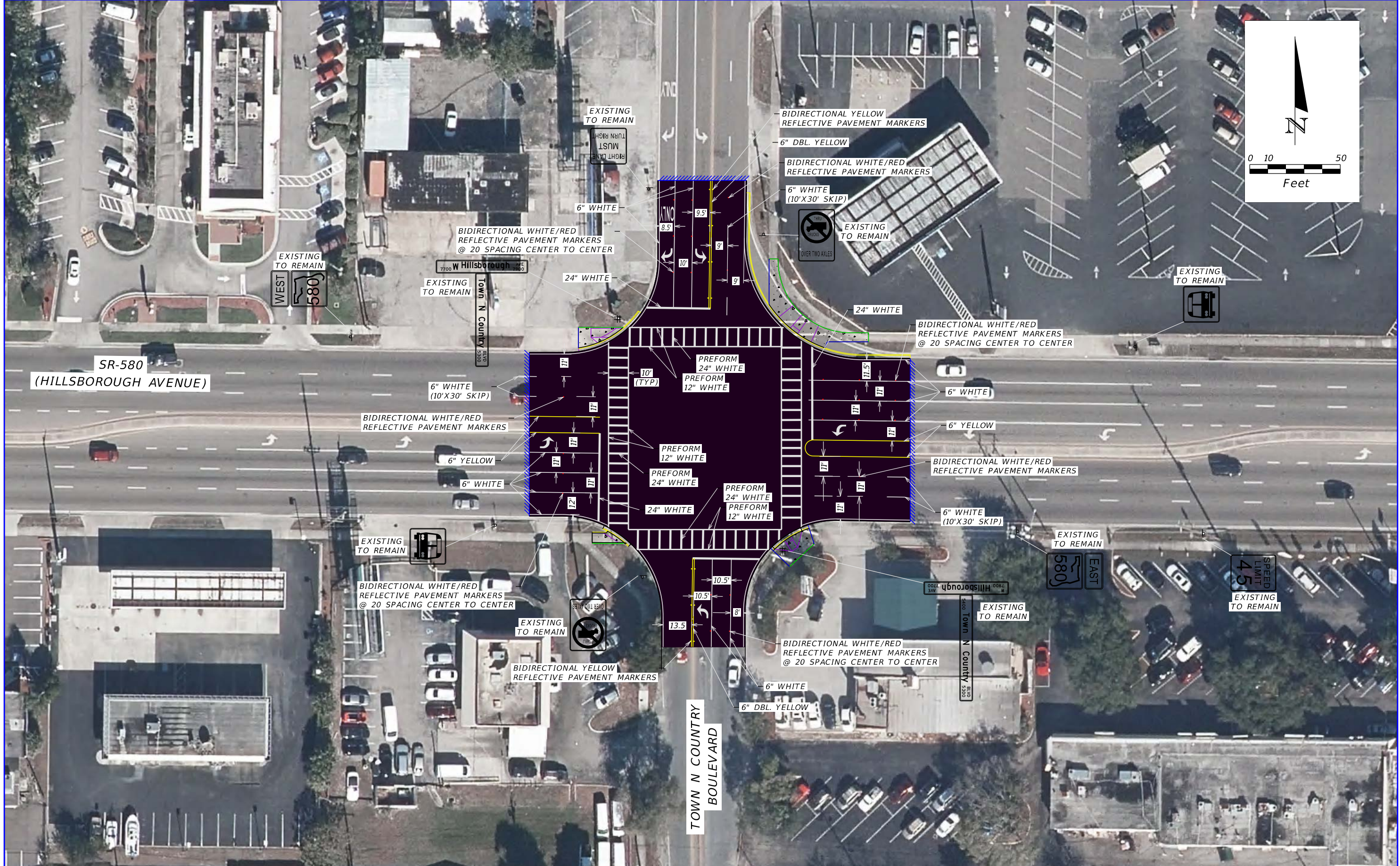
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
580	HILLSBOROUGH	439336-1-14-01

ROADWAY PLAN  
 HILLSBOROUGH AVE EAST OF DALE MABRY HIGHWAY  
 INTERIM IMPROVEMENTS

SHEET NO.  
 9

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.





REVISIONS		REVISIONS	
DATE	DESCRIPTION	DATE	DESCRIPTION

TINDALE OLIVER, INC.  
 1000 N. ASHLEY DRIVE, SUITE 400  
 TAMPA, FLORIDA 33602  
 FBPE CERT. OF AUTH. NO.: 5249  
 ALLAN SEQUEIRA, P.E., 60737

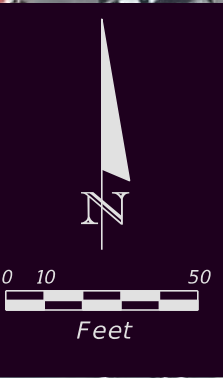
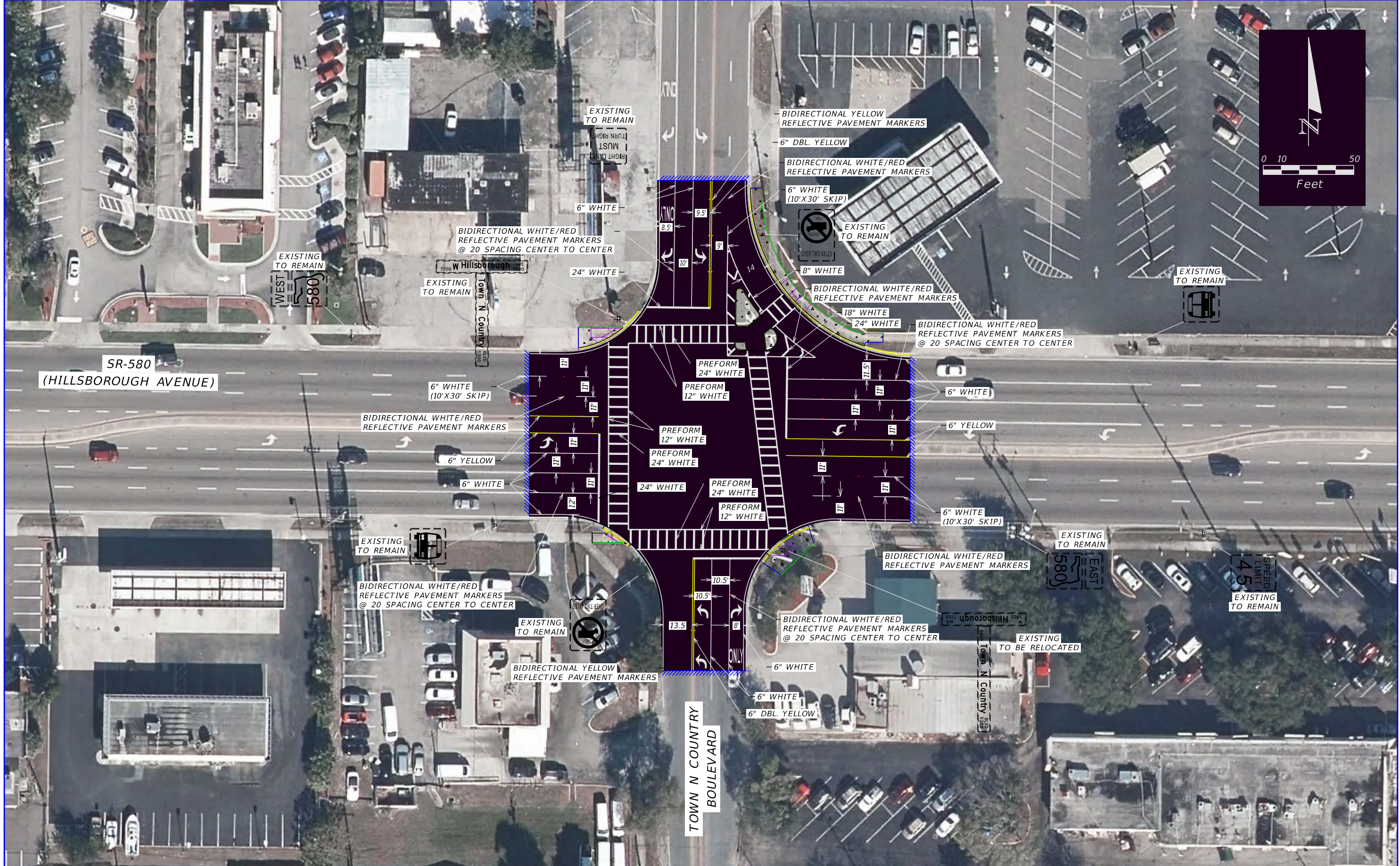
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
580	HILLSBOROUGH	439336-1-14-01

SIGNING AND PAVEMENT MARKING PLAN  
 HILLSBOROUGH AVE AT TOWN N COUNTRY BLVD (1)

SHEET NO.	10
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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TINDALE OLIVER, INC.  
 1000 N. ASHLEY DRIVE, SUITE 400  
 TAMPA, FLORIDA 33602  
 FBPE CERT. OF AUTH. NO.: 5249  
 ALLAN SEQUEIRA, P.E., 60737

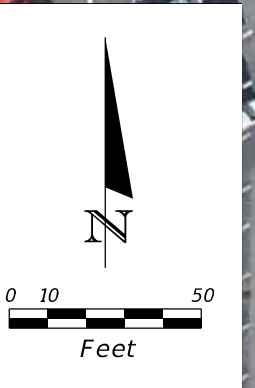
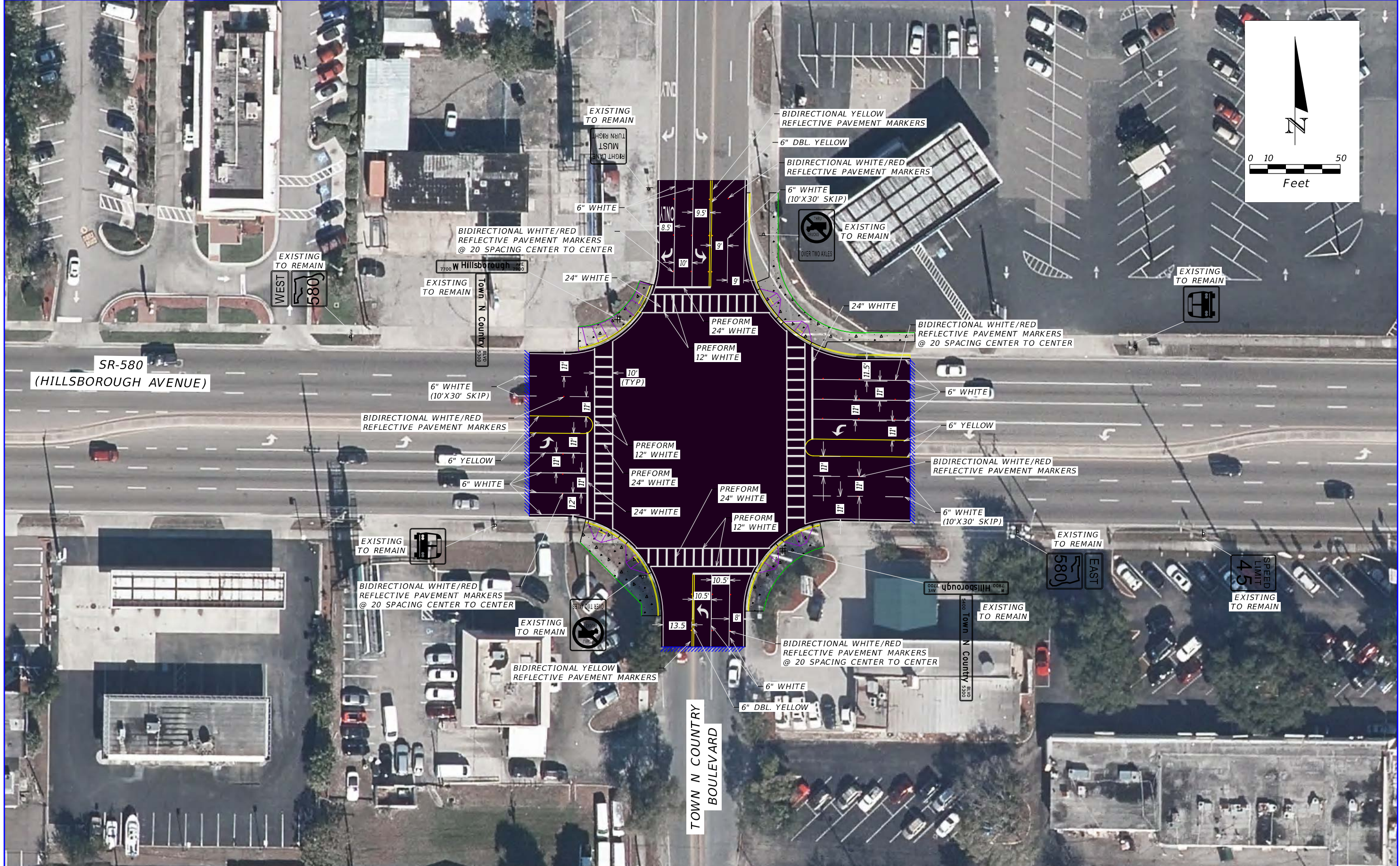
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
580	HILLSBOROUGH	439336-1-14-01

SIGNING AND PAVEMENT MARKING PLAN  
 HILLSBOROUGH AVE AT TOWN N COUNTRY BLVD (2)

SHEET NO.  
 11

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.





REVISIONS	
DATE	DESCRIPTION

TINDALE OLIVER, INC.  
 1000 N. ASHLEY DRIVE, SUITE 400  
 TAMPA, FLORIDA 33602  
 FBPE CERT. OF AUTH. NO.: 5249  
 ALLAN SEQUEIRA, P.E., 60737

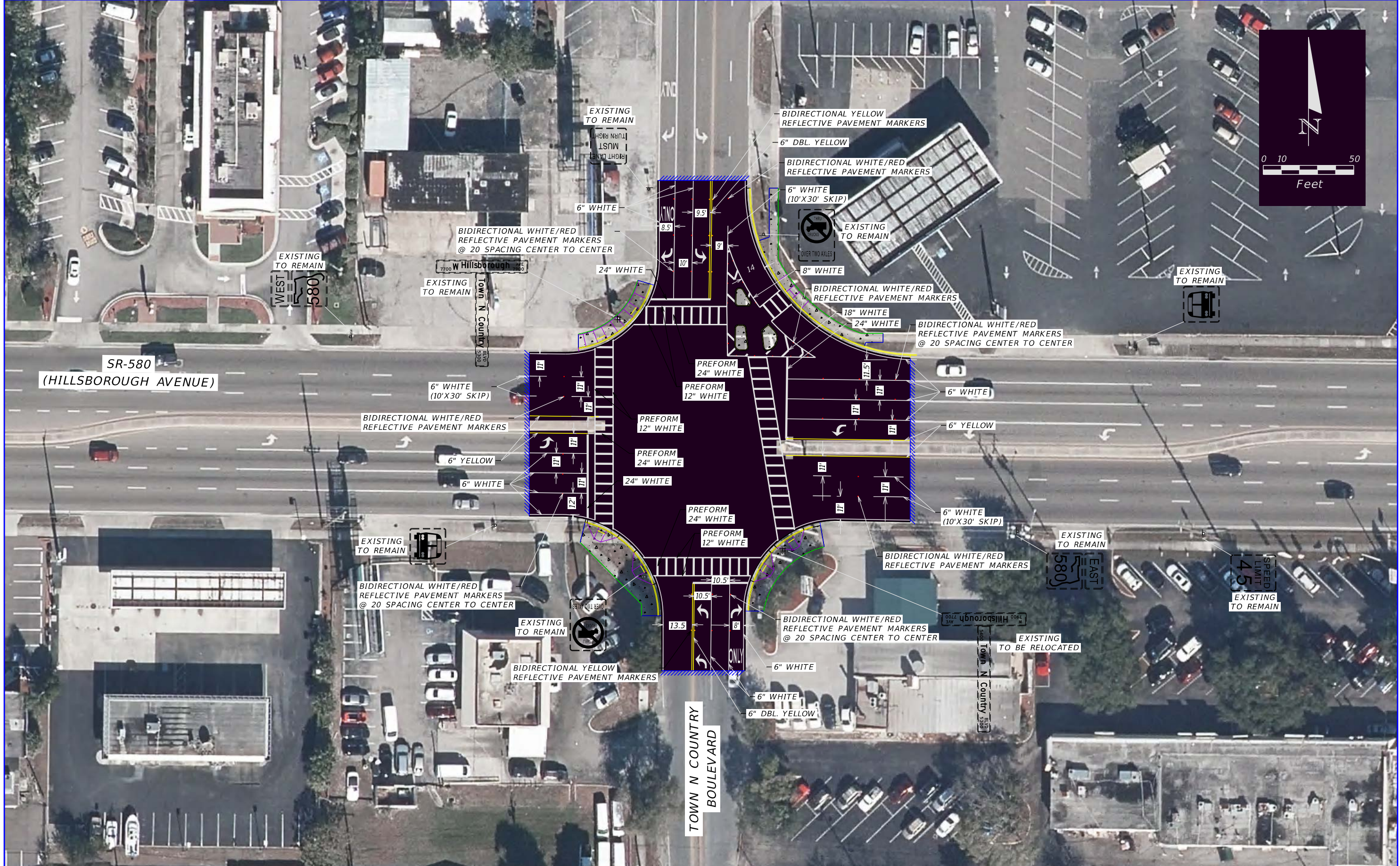
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
580	HILLSBOROUGH	439336-1-14-01

SIGNING AND PAVEMENT MARKING PLAN  
 HILLSBOROUGH AVE AT TOWN N COUNTRY BLVD (5)

SHEET NO.  
12

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.





REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TINDALE OLIVER, INC.  
 1000 N. ASHLEY DRIVE, SUITE 400  
 TAMPA, FLORIDA 33602  
 FBPE CERT. OF AUTH. NO.: 5249  
 ALLAN SEQUEIRA, P.E., 60737

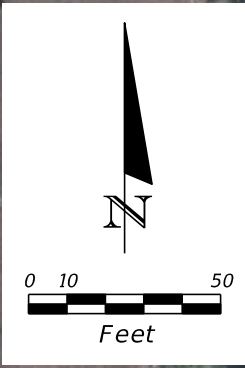
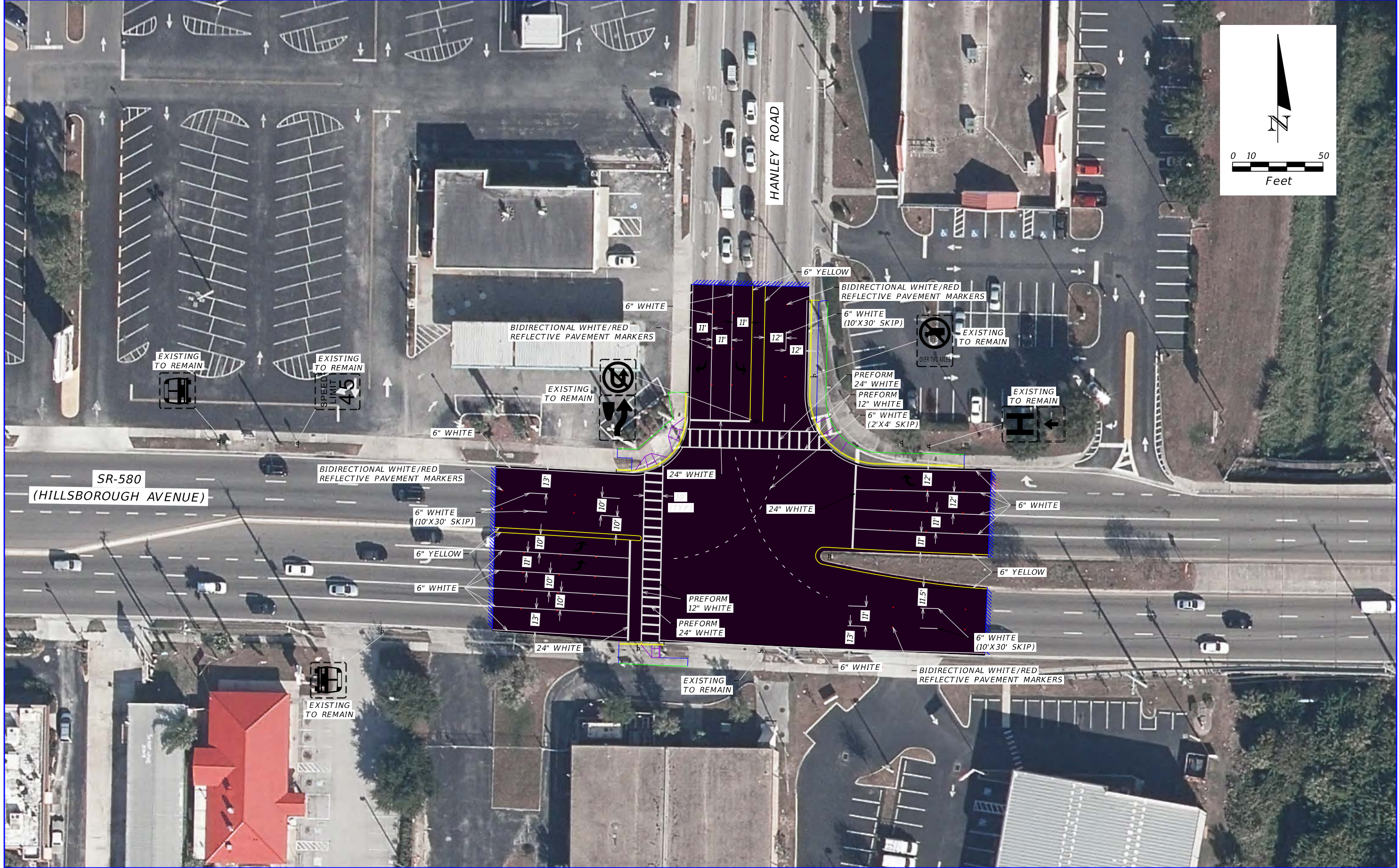
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
580	HILLSBOROUGH	439336-1-14-01

SIGNING AND PAVEMENT MARKING PLAN  
 HILLSBOROUGH AVE AT TOWN N COUNTRY BLVD (4)

SHEET NO.  
13

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



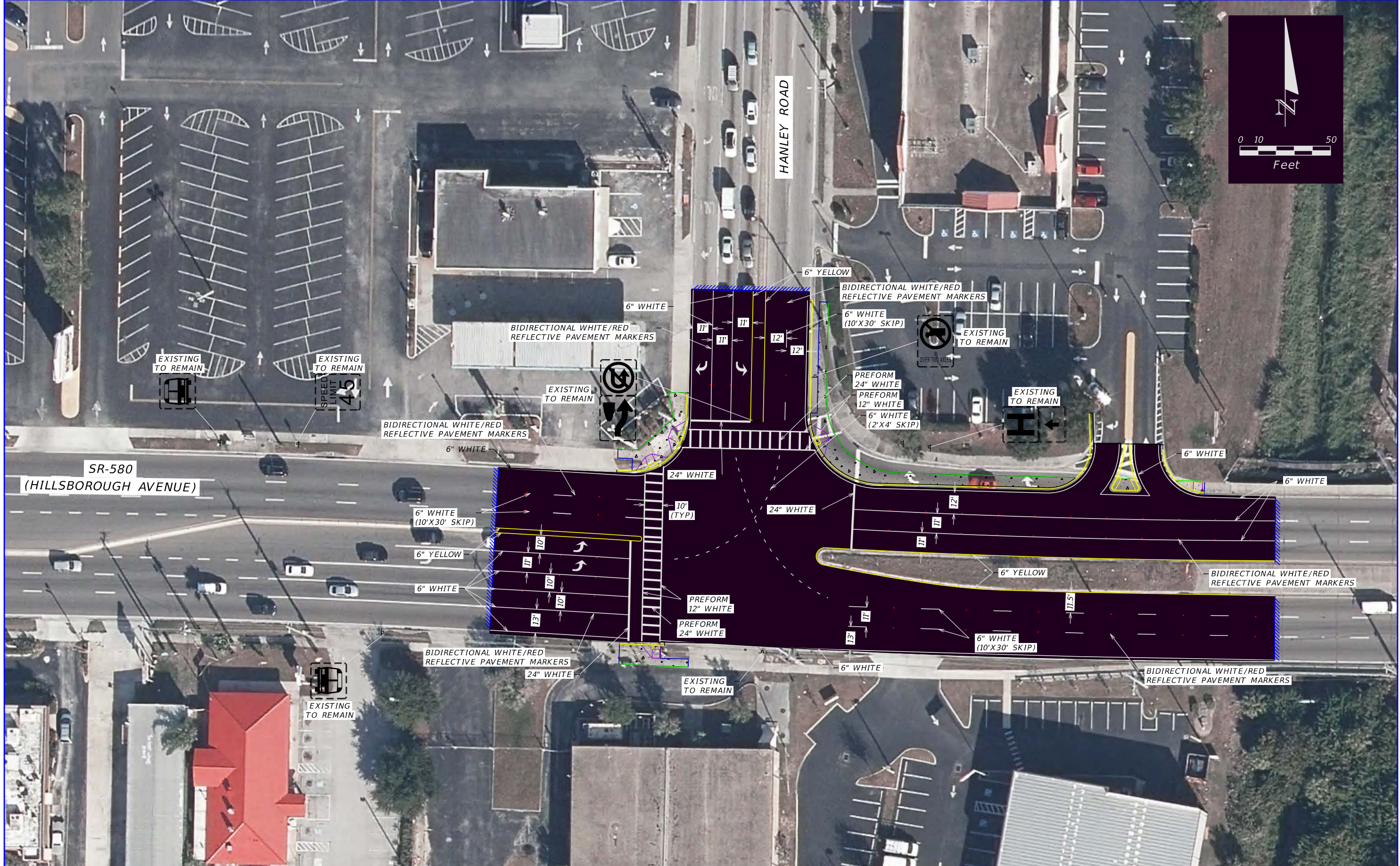


THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS				TINDALE OLIVER, INC. 1000 N. ASHLEY DRIVE, SUITE 400 TAMPA, FLORIDA 33602 FBPE CERT. OF AUTH. NO.: 5249  ALLAN SEQUEIRA, P.E., 60737	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING AND PAVEMENT MARKING PLAN HILLSBOROUGH AVE AT HANLEY RD (1)	SHEET NO.  14
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					580	HILLSBOROUGH	439336-1-14-01		

SUSERS SDATES STIMES SFILES



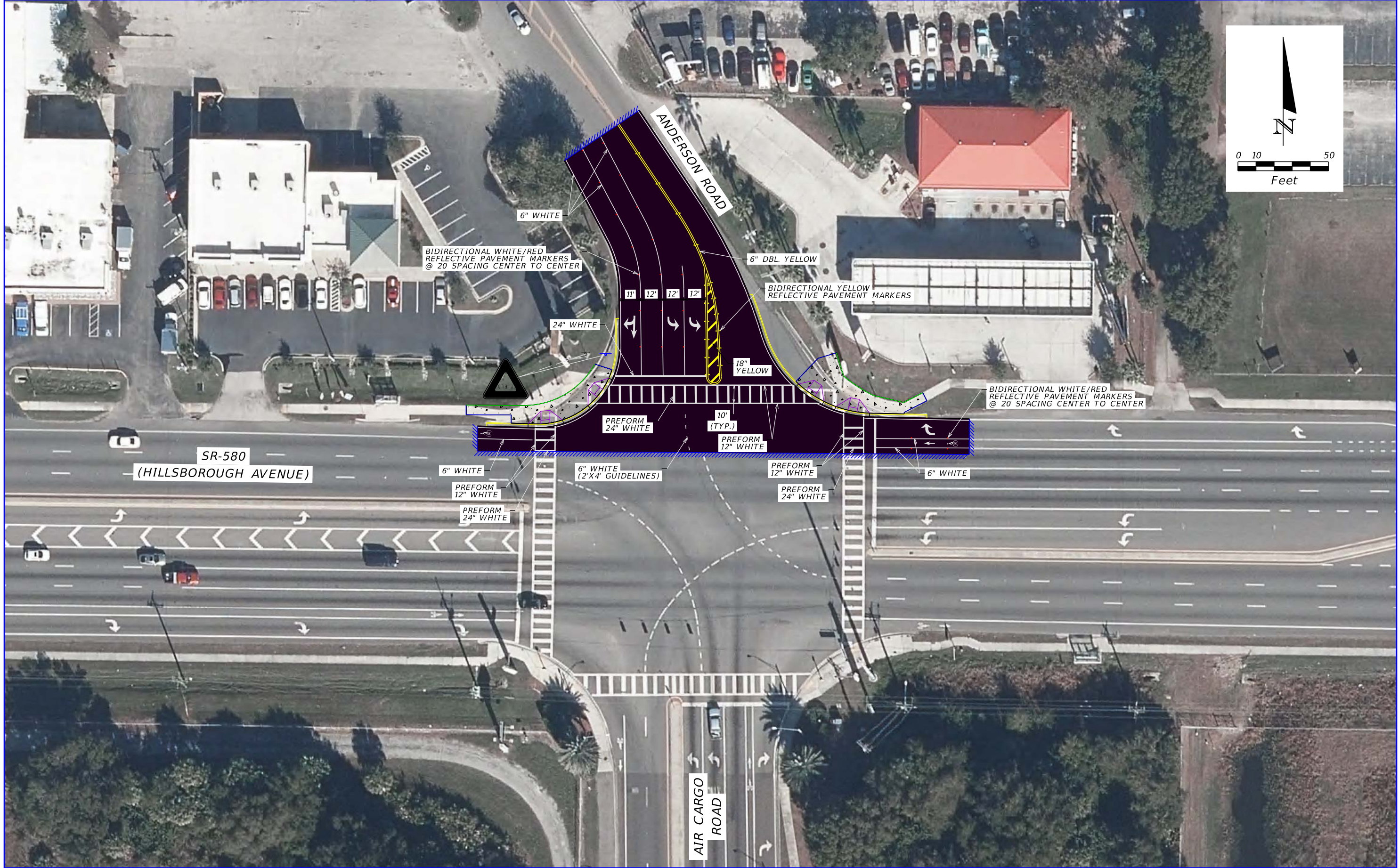


THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS				TINDALE OLIVER, INC. 1000 N. ASHLEY DRIVE, SUITE 400 TAMPA, FLORIDA 33602 FBPE CERT. OF AUTH. NO.: 5249  ALLAN SEQUEIRA, P.E., 60737	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING AND PAVEMENT MARKING PLAN HILLSBOROUGH AVE AT HANLEY RD (2)	SHEET NO.  15
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					580	HILLSBOROUGH	439336-1-14-01		

SUSERS SDATES STIMES SFILES





REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TINDALE OLIVER, INC.  
 1000 N. ASHLEY DRIVE, SUITE 400  
 TAMPA, FLORIDA 33602  
 FBPE CERT. OF AUTH. NO.: 5249  
 ALLAN SEQUEIRA, P.E., 60737

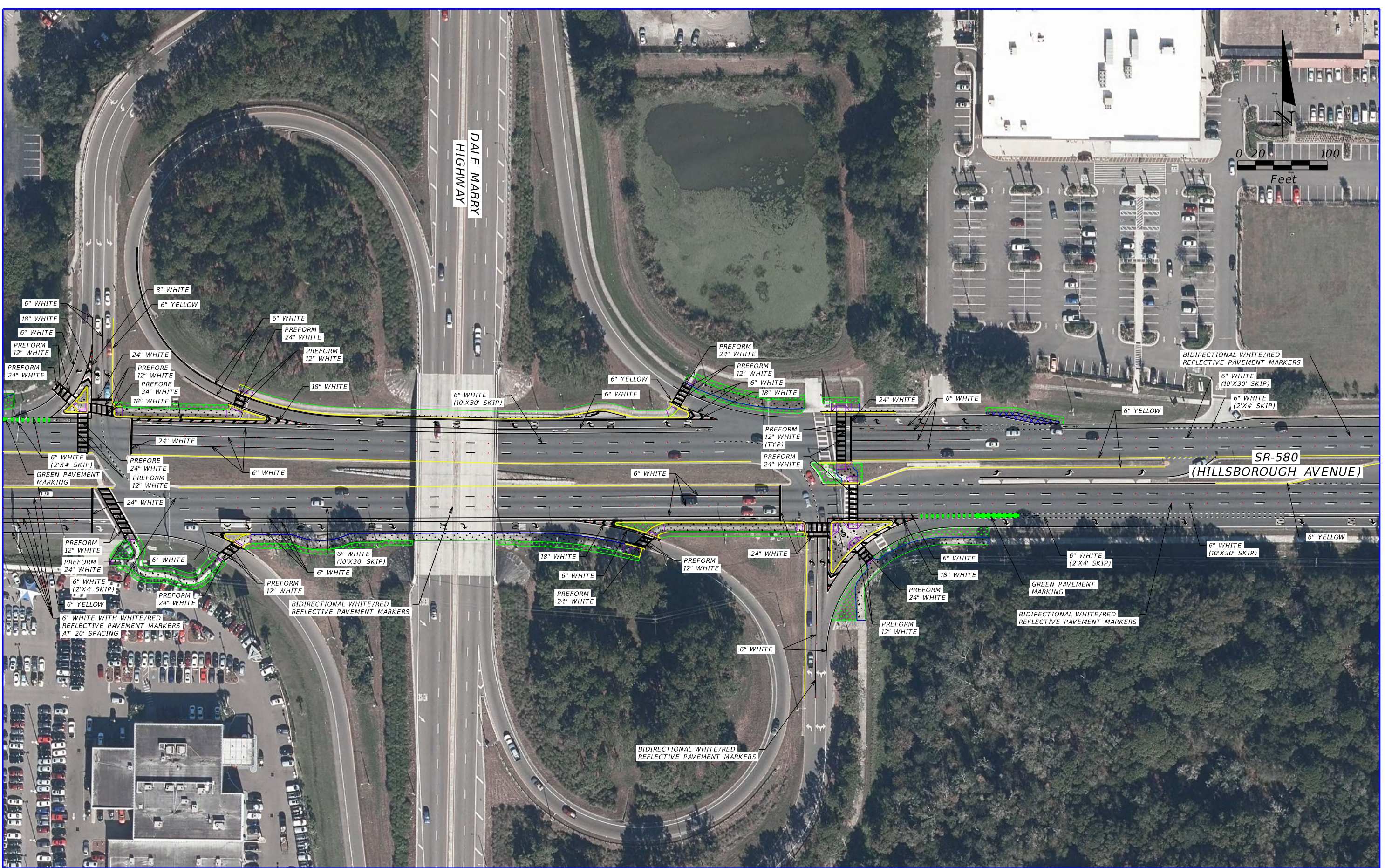
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
580	HILLSBOROUGH	439336-1-14-01

SIGNING AND PAVEMENT MARKING PLAN  
 HILLSBOROUGH AVE AT ANDERSON RD

SHEET NO.  
 16

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.





REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TINDALE OLIVER, INC.  
 1000 N. ASHLEY DRIVE, SUITE 400  
 TAMPA, FLORIDA 33602  
 FBPE CERT. OF AUTH. NO.: 5249  
 ALLAN SEQUEIRA, P.E., 60737

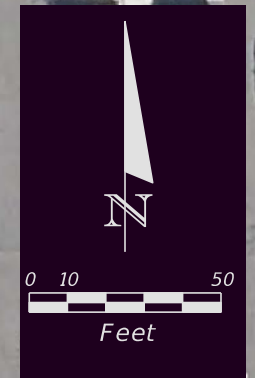
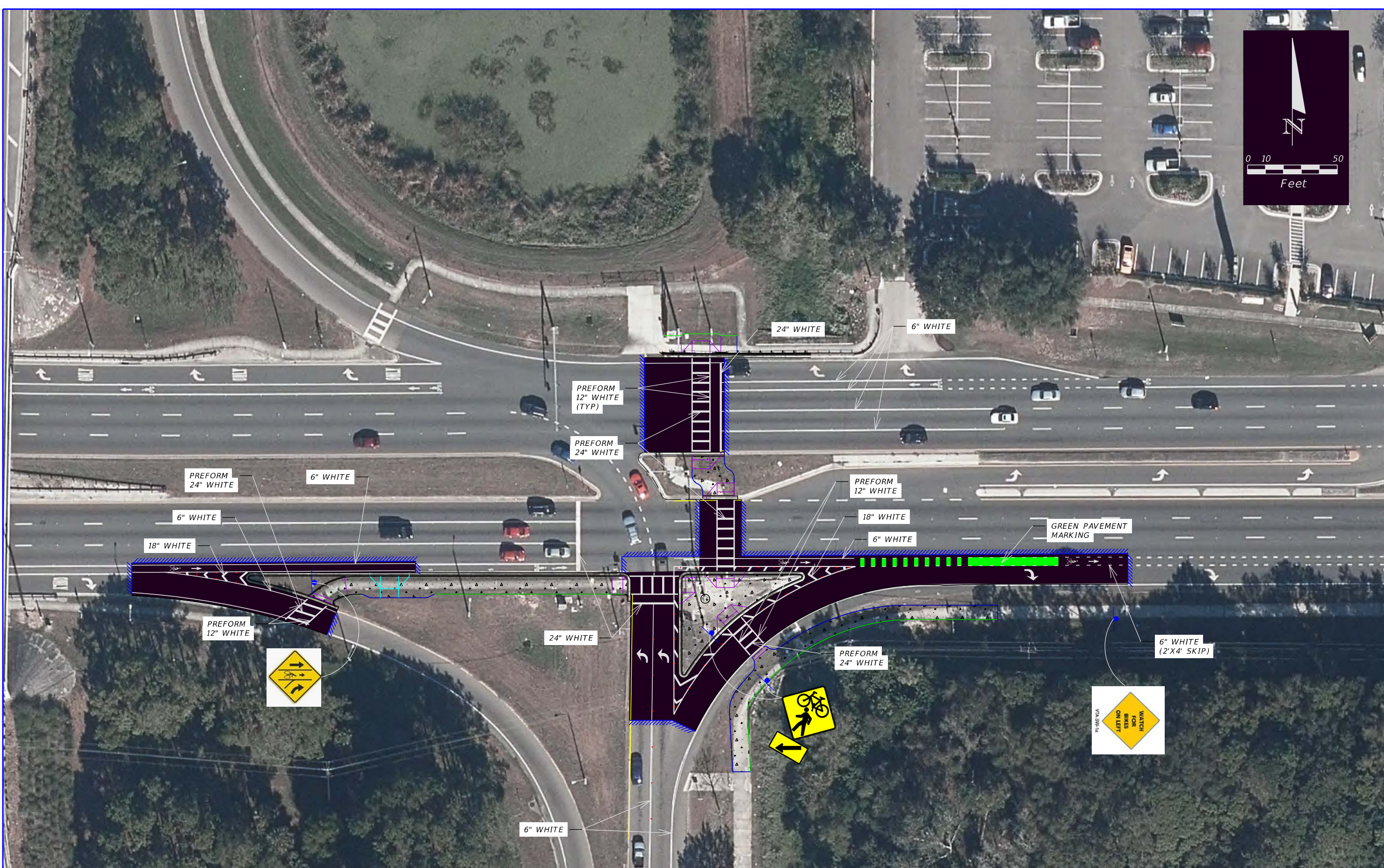
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
580	HILLSBOROUGH	439336-1-14-01

SIGNING AND PAVEMENT MARKING PLAN  
 HILLSBOROUGH AVE AT DALE MABRY HWY

SHEET NO.  
 17

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.





REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TINDALE OLIVER, INC.  
 1000 N. ASHLEY DRIVE, SUITE 400  
 TAMPA, FLORIDA 33602  
 FBPE CERT. OF AUTH. NO.: 5249  
 ALLAN SEQUEIRA, P.E., 60737

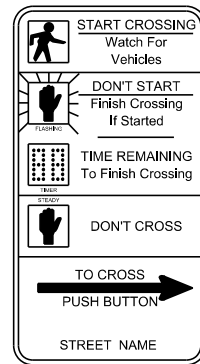
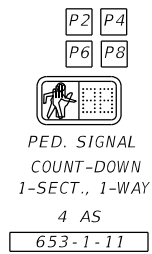
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
580	HILLSBOROUGH	439336-1-14-01

SIGNING AND PAVEMENT MARKING PLAN  
 HILLSBOROUGH AVE EAST OF DALE MABRY HIGHWAY  
 INTERIM IMPROVEMENTS

SHEET NO.  
18

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

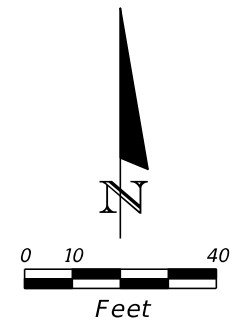




R10-31

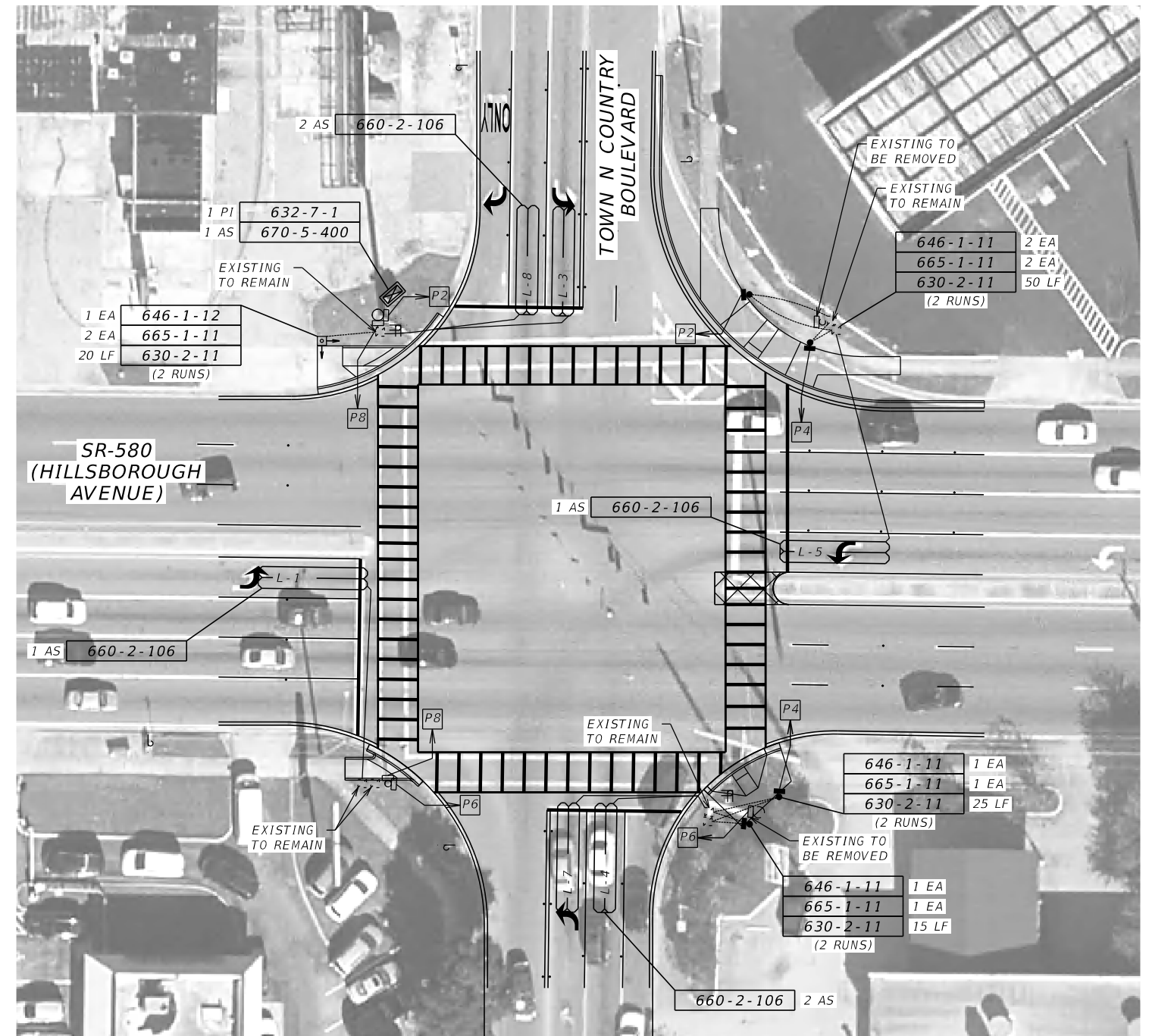
ITEMS TO BE REMOVED

- 1 EA 646-1-60
- 2 EA 653-1-60



CONTROLLER OPERATION NOTES:

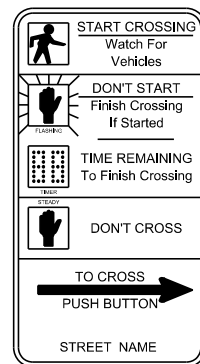
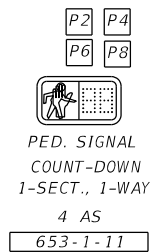
- 1.) MAJOR STREET IS SR-580 (HILLSBOROUGH AVENUE), MOVEMENTS 2 AND 6. MINOR STREET IS TOWN N COUNTRY BOULEVARD, MOVEMENTS 4 AND 8.
- 2.) SEE GENERAL NOTES SHEET (3) FOR ADDITIONAL CONTROLLER REQUIREMENTS.



CONTROLLER TIMINGS	
TIMING FUNCTION	
MOVEMENT NUMBER	
MINIMUM GREEN	
EXTENSION	
MAXIMUM GREEN 1	EXISTING SIGNAL
MAXIMUM GREEN 2	TIMINGS TO REMAIN
YELLOW CLEARANCE	
ALL RED	
PEDESTRIAN WALK	
PED. CLEARANCE	
RECALL	

REVISIONS				TINDALE OLIVER, INC. 1000 N. ASHLEY DRIVE, SUITE 400 TAMPA, FLORIDA 33602 FBPE CERT. OF AUTH. NO.: 5249 ALLAN SEQUEIRA, P.E., 60737	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNALIZATION MODIFICATION PLAN HILLSBOROUGH AVE AT TOWN N COUNTRY BLVD (1)	SHEET NO. 19
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					580	HILLSBOROUGH	439336-1-14-01		

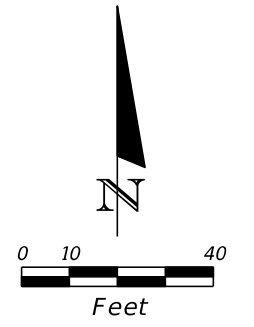
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



R10-31

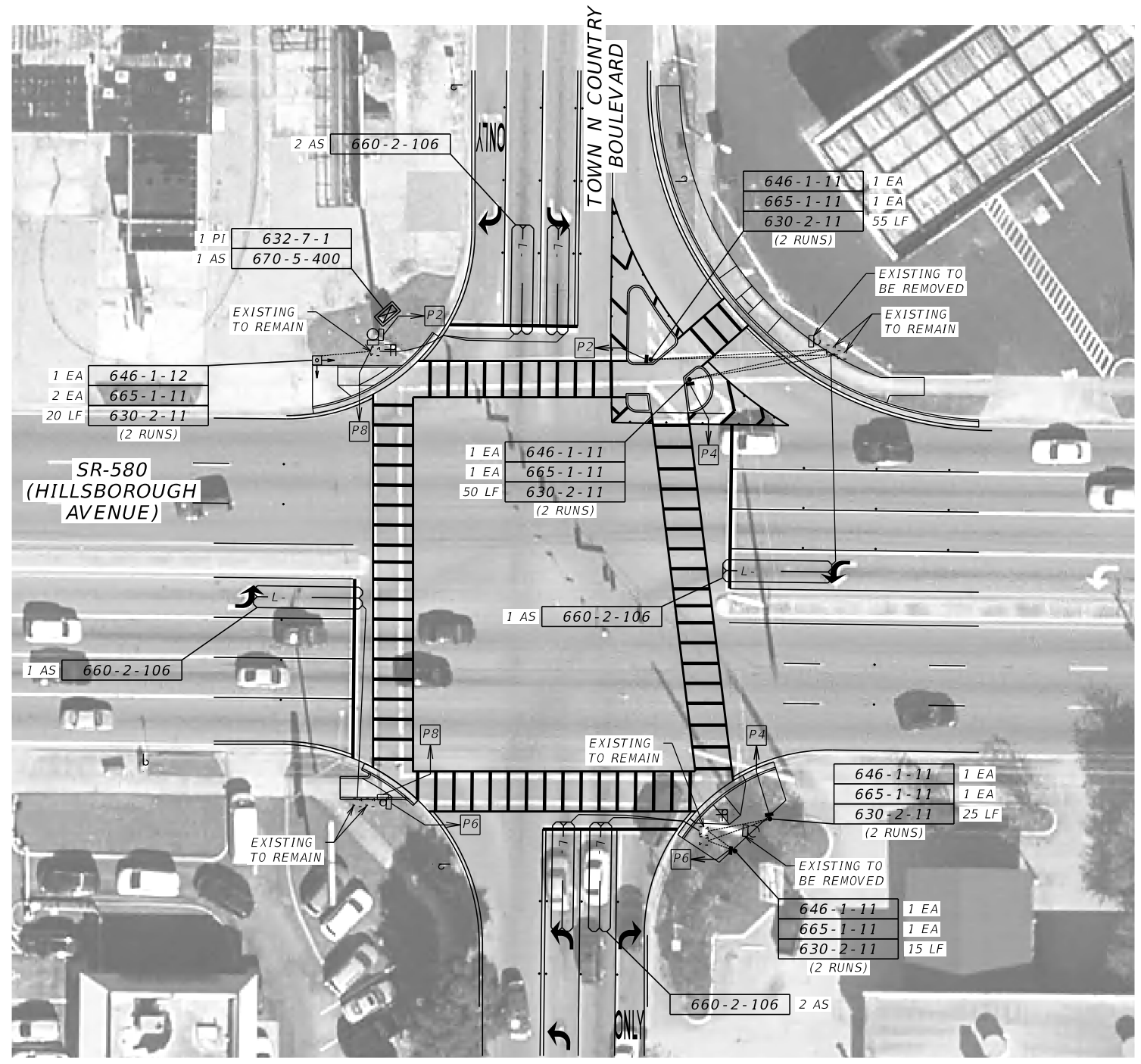
ITEMS TO BE REMOVED

- 1 EA 646-1-60
- 2 AS 653-1-60



CONTROLLER OPERATION NOTES:

- 1.) MAJOR STREET IS SR-580 (HILLSBOROUGH AVENUE), MOVEMENTS 2 AND 6. MINOR STREET IS TOWN N COUNTRY BOULEVARD, MOVEMENTS 4 AND 8.
- 2.) SEE GENERAL NOTES SHEET (3) FOR ADDITIONAL CONTROLLER REQUIREMENTS.

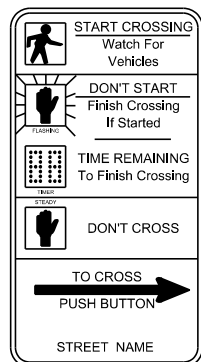


CONTROLLER TIMINGS	
TIMING FUNCTION	
MOVEMENT NUMBER	
MINIMUM GREEN	
EXTENSION	
MAXIMUM GREEN 1	EXISTING SIGNAL
MAXIMUM GREEN 2	TIMINGS TO REMAIN
YELLOW CLEARANCE	
ALL RED	
PEDESTRIAN WALK	
PED. CLEARANCE	
RECALL	

REVISIONS				TINDALE OLIVER, INC. 1000 N. ASHLEY DRIVE, SUITE 400 TAMPA, FLORIDA 33602 FBPE CERT. OF AUTH. NO.: 5249 ALLAN SEQUEIRA, P.E., 60737	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNALIZATION MODIFICATION PLAN HILLSBOROUGH AVE AT TOWN N COUNTRY BLVD (2)	SHEET NO. 20
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					580	HILLSBOROUGH	439336-1-14-01		

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

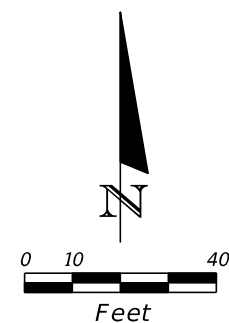
P2 P4  
P6 P8  
PED. SIGNAL  
COUNT-DOWN  
1-SECT., 1-WAY  
6 AS  
653-1-11



R10-31

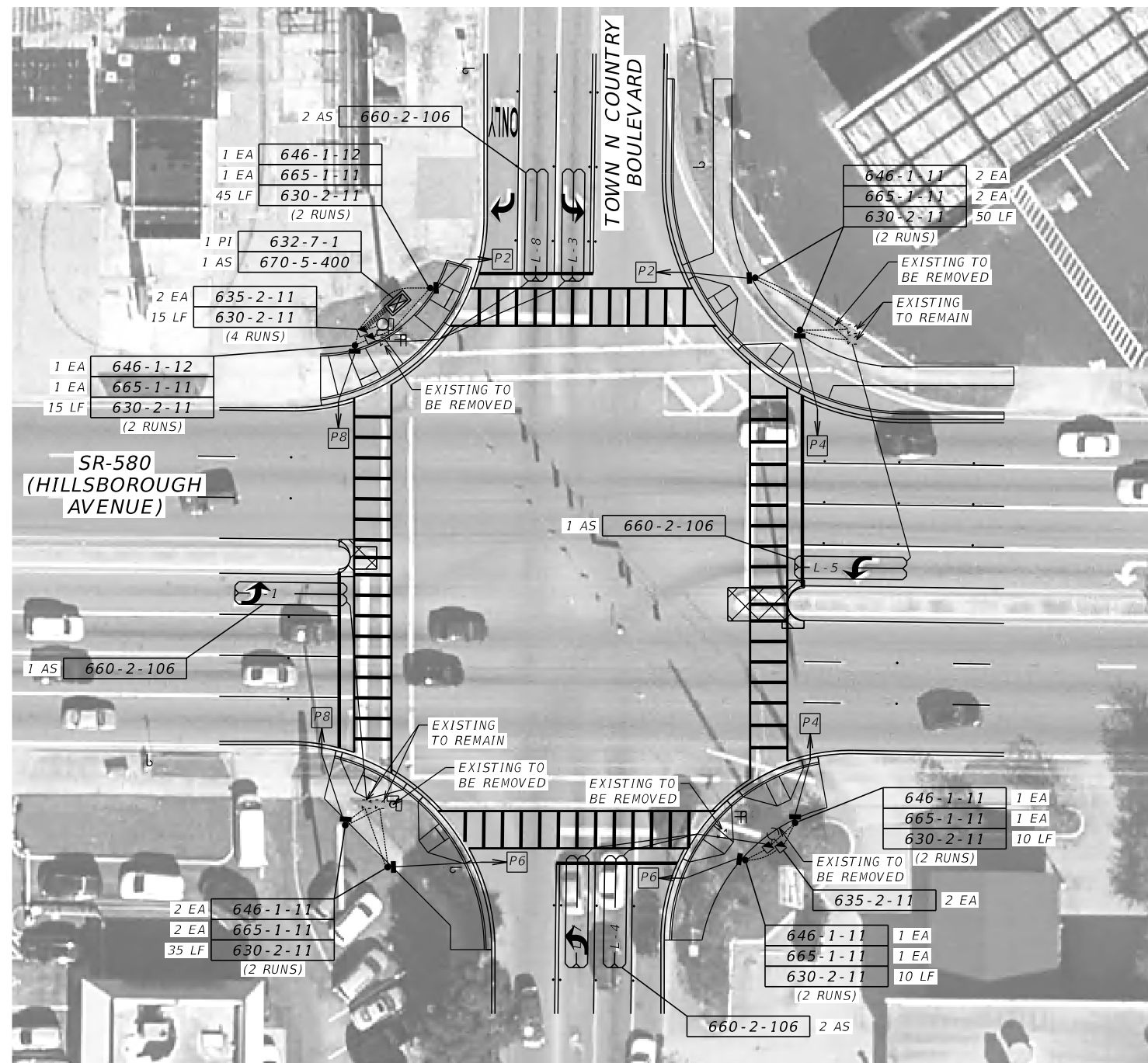
ITEMS TO BE REMOVED

- 2 EA 646-1-60
- 2 EA 653-1-60



CONTROLLER OPERATION NOTES:

- 1.) MAJOR STREET IS SR-580 (HILLSBOROUGH AVENUE), MOVEMENTS 2 AND 6. MINOR STREET IS TOWN N COUNTRY BOULEVARD, MOVEMENTS 4 AND 8.
- 2.) SEE GENERAL NOTES SHEET (3) FOR ADDITIONAL CONTROLLER REQUIREMENTS.



CONTROLLER TIMINGS	
TIMING FUNCTION	
MOVEMENT NUMBER	
MINIMUM GREEN	
EXTENSION	
MAXIMUM GREEN 1	EXISTING SIGNAL
MAXIMUM GREEN 2	TIMINGS TO REMAIN
YELLOW CLEARANCE	
ALL RED	
PEDESTRIAN WALK	
PED. CLEARANCE	
RECALL	

REVISIONS				TINDALE OLIVER, INC. 1000 N. ASHLEY DRIVE, SUITE 400 TAMPA, FLORIDA 33602 FBPE CERT. OF AUTH. NO.: 5249  ALLAN SEQUEIRA, P.E., 60737	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNALIZATION MODIFICATION PLAN HILLSBOROUGH AVE AT TOWN N COUNTRY BLVD (5)	SHEET NO.  21
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					580	HILLSBOROUGH	439336-1-14-01		

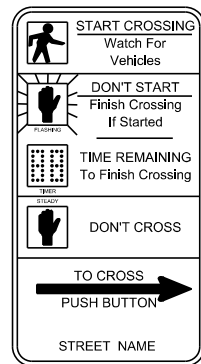
P2 P4

P6 P8



PED. SIGNAL  
COUNT-DOWN  
1-SECT., 1-WAY  
6 AS

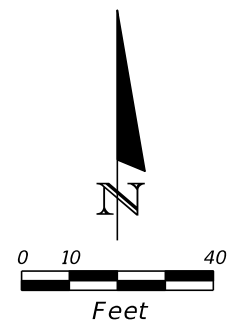
653-1-11



R10-31

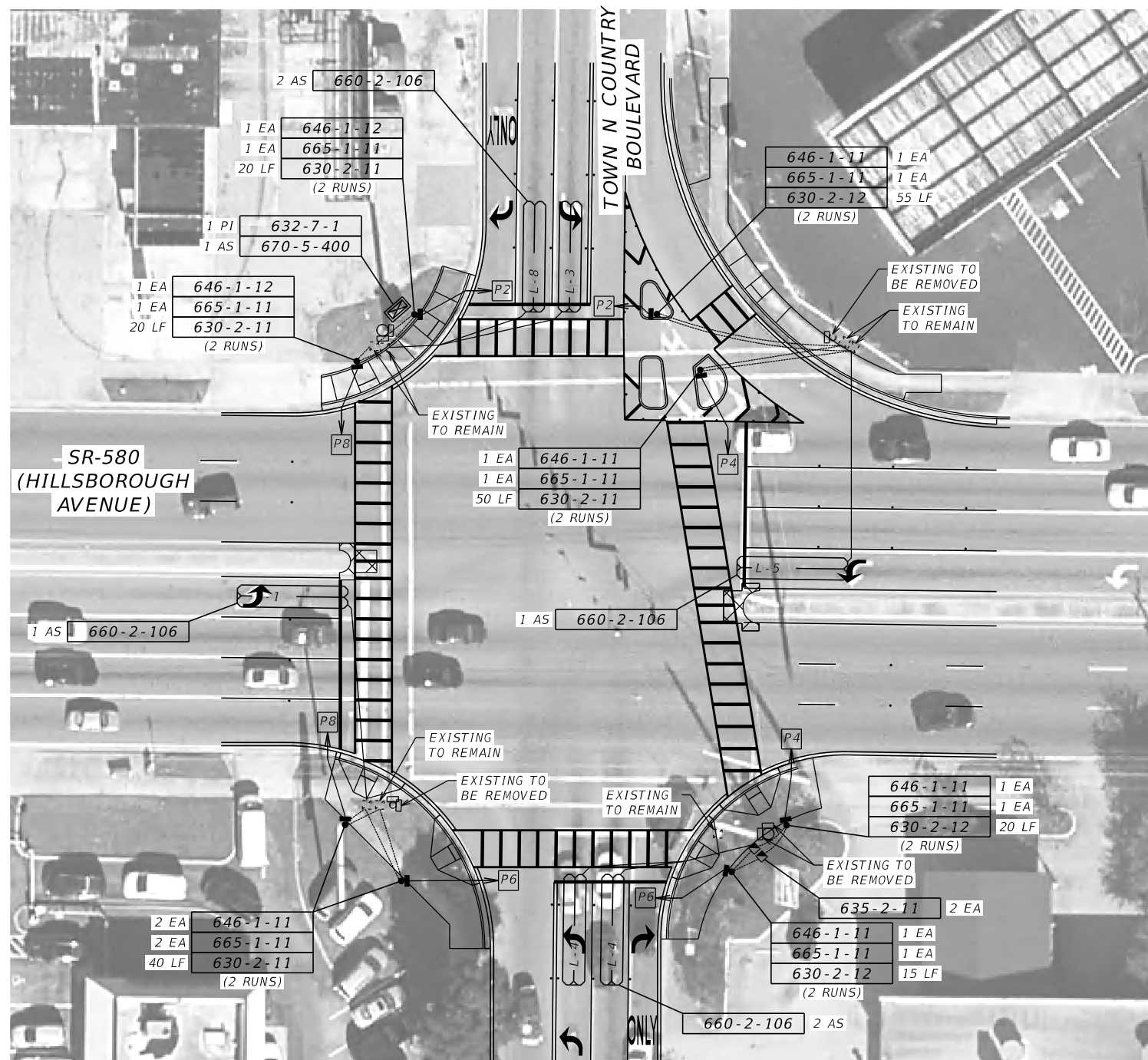
ITEMS TO BE REMOVED

2 EA 646-1-60  
1 AS 653-1-60



CONTROLLER OPERATION NOTES:

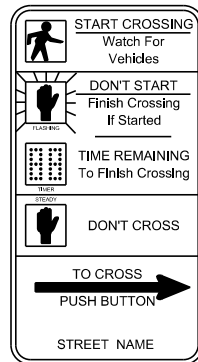
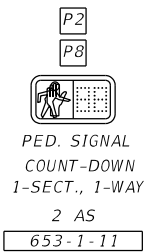
- 1.) MAJOR STREET IS SR-580 (HILLSBOROUGH AVENUE), MOVEMENTS 2 AND 6. MINOR STREET IS TOWN N COUNTRY BLVD, MOVEMENTS 4 AND 8.
- 2.) SEE GENERAL NOTES SHEET (3) FOR ADDITIONAL CONTROLLER REQUIREMENTS.



CONTROLLER TIMINGS	
TIMING FUNCTION	
MOVEMENT NUMBER	
MINIMUM GREEN	
EXTENSION	
MAXIMUM GREEN 1	EXISTING SIGNAL
MAXIMUM GREEN 2	TIMINGS TO REMAIN
YELLOW CLEARANCE	
ALL RED	
PEDESTRIAN WALK	
PED. CLEARANCE	
RECALL	

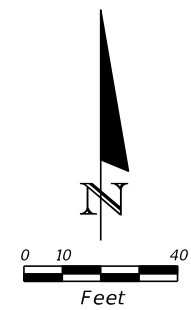
REVISIONS				TINDALE OLIVER, INC. 1000 N. ASHLEY DRIVE, SUITE 400 TAMPA, FLORIDA 33602 FBPE CERT. OF AUTH. NO.: 5249  ALLAN SEQUEIRA, P.E., 60737	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNALIZATION MODIFICATION PLAN HILLSBOROUGH AVE AT TOWN N COUNTRY BLVD (4)	SHEET NO.  22
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					580	HILLSBOROUGH	439336-1-14-01		

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



R10-31

TO BE REMOVED  
 2 EA 646-1-60  
 1 AS 653-1-60



**CONTROLLER OPERATION NOTES:**

- 1.) MAJOR STREET IS SR-580 (HILLSBOROUGH AVENUE), MOVEMENTS 2 AND 6. MINOR STREET IS HANLEY ROAD, MOVEMENTS 8.
- 2.) SEE GENERAL NOTES SHEET (3) FOR ADDITIONAL CONTROLLER REQUIREMENTS.



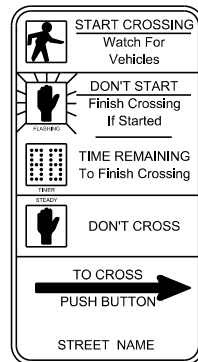
CONTROLLER TIMINGS	
TIMING FUNCTION	
MOVEMENT NUMBER	
MINIMUM GREEN	
EXTENSION	
MAXIMUM GREEN 1	EXISTING SIGNAL
MAXIMUM GREEN 2	TIMINGS TO REMAIN
YELLOW CLEARANCE	
ALL RED	
PEDESTRIAN WALK	
PED. CLEARANCE	
RECALL	

REVISIONS				TINDALE OLIVER, INC. 1000 N. ASHLEY DRIVE, SUITE 400 TAMPA, FLORIDA 33602 FBPE CERT. OF AUTH. NO.: 5249  ALLAN SEQUEIRA, P.E., 60737	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNALIZATION MODIFICATION PLAN HILLSBOROUGH AVE AT HANLEY RD (1)	SHEET NO.  23
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					580	HILLSBOROUGH	439336-1-14-01		

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



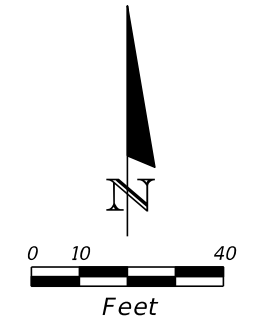
P2  
P8  
PED. SIGNAL  
COUNT-DOWN  
1-SECT., 1-WAY  
2 AS  
653-1-11



R10-31

ITEMS TO BE REMOVED

2 EA 646-1-60  
1 AS 653-1-60



CONTROLLER OPERATION NOTES:

- MAJOR STREET IS SR-580 (HILLSBOROUGH AVENUE), MOVEMENTS 2 AND 6. MINOR STREET IS HANLEY ROAD, MOVEMENTS X
- SEE GENERAL NOTES SHEET (3) FOR ADDITIONAL CONTROLLER REQUIREMENTS 8.

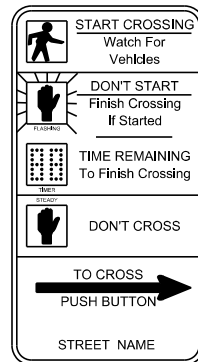
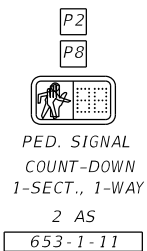


CONTROLLER TIMINGS	
TIMING FUNCTION	
MOVEMENT NUMBER	
MINIMUM GREEN	
EXTENSION	
MAXIMUM GREEN 1	EXISTING SIGNAL
MAXIMUM GREEN 2	TIMINGS TO REMAIN
YELLOW CLEARANCE	
ALL RED	
PEDESTRIAN WALK	
PED. CLEARANCE	
RECALL	

REVISIONS				TINDALE OLIVER, INC. 1000 N. ASHLEY DRIVE, SUITE 400 TAMPA, FLORIDA 33602 FBPE CERT. OF AUTH. NO.: 5249 ALLAN SEQUEIRA, P.E., 60737	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNALIZATION MODIFICATION PLAN HILLSBOROUGH AVE AT HANLEY RD (2)	SHEET NO. 24
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					580	HILLSBOROUGH	439336-1-14-01		

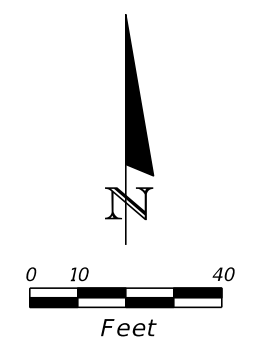
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.





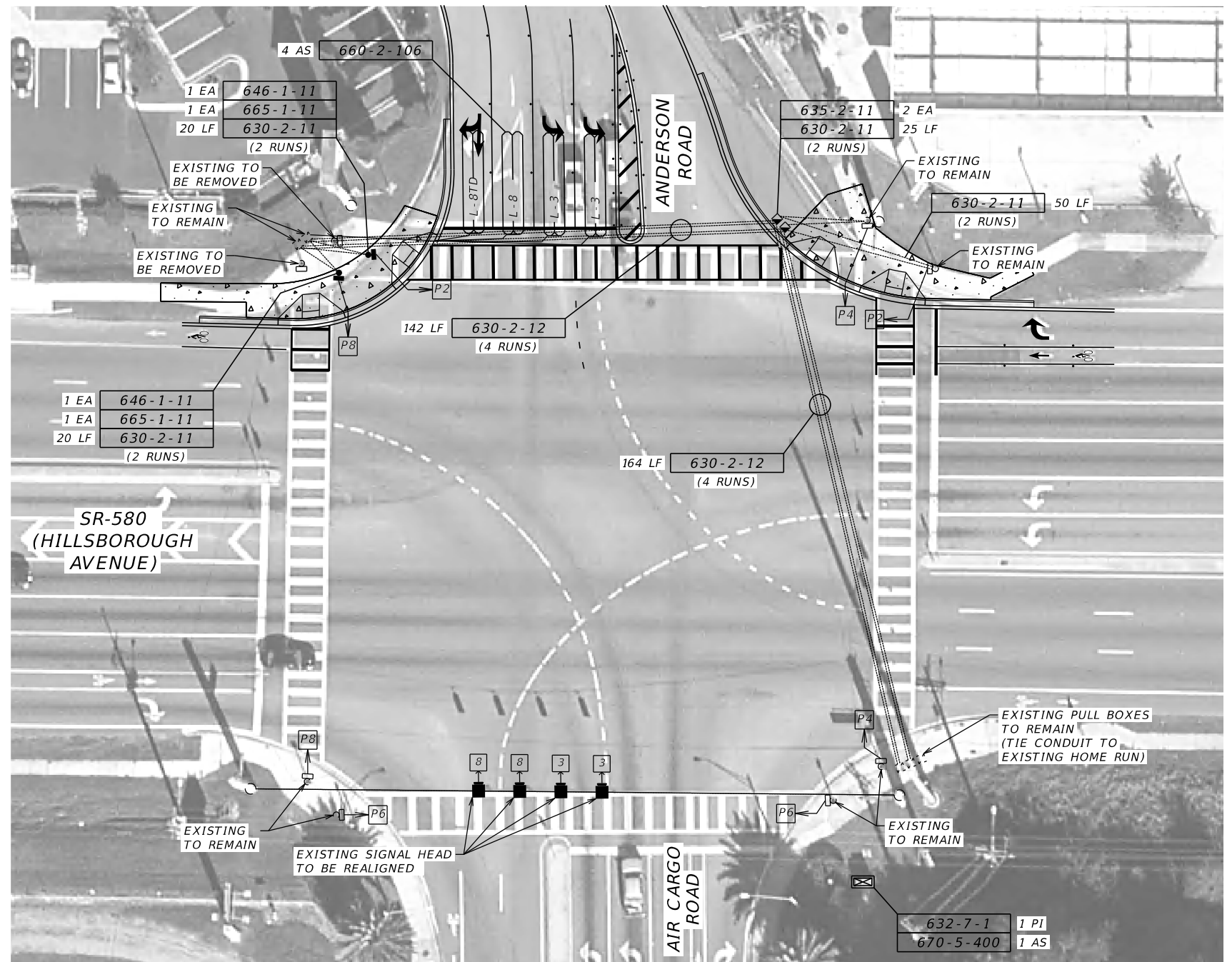
R10-3I

TO BE REMOVED  
 2 EA 646-1-60  
 2 AS 653-1-60



**CONTROLLER OPERATION NOTES:**

- 1.) MAJOR STREET IS SR-580 (HILLSBOROUGH AVENUE), MOVEMENTS 2 AND 6. MINOR STREET IS ANDERSON ROAD/AIR CARGO ROAD, MOVEMENTS 4 AND 8.
- 2.) SEE GENERAL NOTES SHEET (3) FOR ADDITIONAL CONTROLLER REQUIREMENTS.

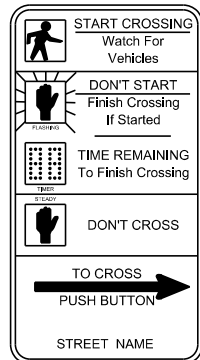


CONTROLLER TIMINGS					
TIMING FUNCTION	MOVEMENT NUMBER				
TIMING FUNCTION	MINIMUM GREEN				
	EXTENSION				
	MAXIMUM GREEN 1	EXISTING SIGNAL TIMINGS TO REMAIN			
	MAXIMUM GREEN 2	EXISTING SIGNAL TIMINGS TO REMAIN			
	YELLOW CLEARANCE				
	ALL RED				
	PEDESTRIAN WALK				
	PED. CLEARANCE				
	RECALL				

REVISIONS				TINDALE OLIVER, INC. 1000 N. ASHLEY DRIVE, SUITE 400 TAMPA, FLORIDA 33602 FBPE CERT. OF AUTH. NO.: 5249  ALLAN SEQUEIRA, P.E., 60737	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNALIZATION MODIFICATION PLAN  HILLSBOROUGH AVE AT ANDERSON RD	SHEET NO.  25
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				580	HILLSBOROUGH	439336-1-14-01			

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

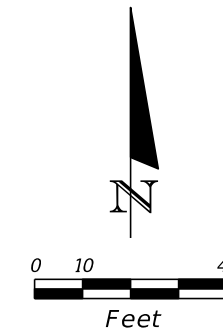
P2  
P8  
PED. SIGNAL  
COUNT-DOWN  
1-SECT., 1-WAY  
2 AS  
653-1-11



R10-31

TO BE REMOVED

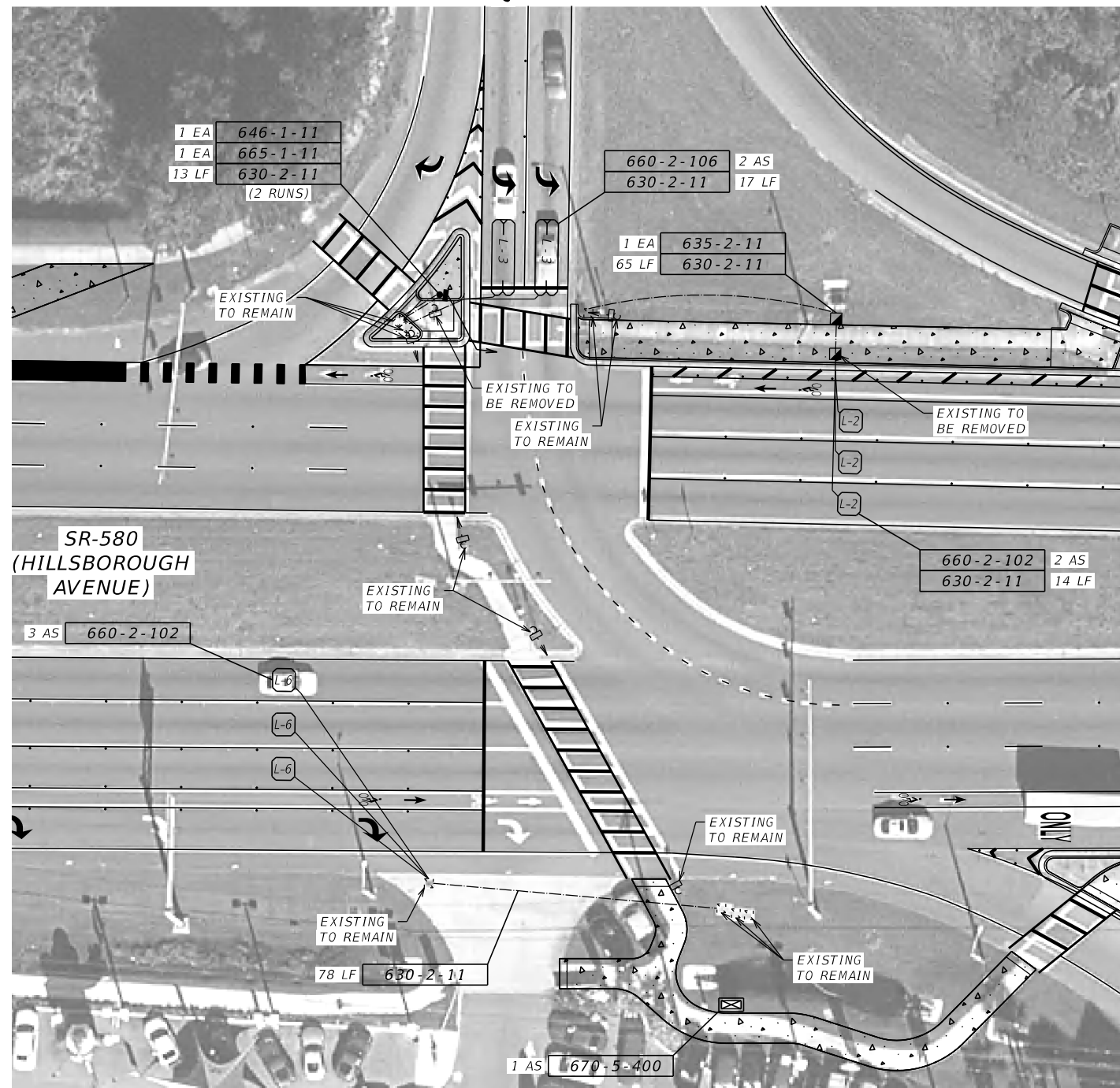
1 EA 646-1-60  
1 AS 653-1-60



**CONTROLLER OPERATION NOTES:**

- 1.) MAJOR STREET IS SR-580 (HILLSBOROUGH AVENUE), MOVEMENTS 2 AND 6. MINOR STREET IS DALE MABRY HIGHWAY SB OFF RAMP, MOVEMENT 3.
- 2.) SEE GENERAL NOTES SHEET (3) FOR ADDITIONAL CONTROLLER REQUIREMENTS.

CONTROLLER TIMINGS	
TIMING FUNCTION	
MOVEMENT NUMBER	
MINIMUM GREEN	
EXTENSION	
MAXIMUM GREEN 1	EXISTING SIGNAL
MAXIMUM GREEN 2	TIMINGS TO REMAIN
YELLOW CLEARANCE	
ALL RED	
PEDESTRIAN WALK	
PED. CLEARANCE	
RECALL	



REVISIONS				TINDALE OLIVER, INC. 1000 N. ASHLEY DRIVE, SUITE 400 TAMPA, FLORIDA 33602 FBPE CERT. OF AUTH. NO.: 5249 ALLAN SEQUEIRA, P.E., 60737	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNALIZATION MODIFICATION PLAN HILLSBOROUGH AVE WEST OF DALE MABRY HWY	SHEET NO. 26
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					580	HILLSBOROUGH	439336-1-14-01		

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.









**APPENDIX B:**  
**Cost Estimate Worksheets**



**COST ESTIMATE**

Prepared by: Tindale Oliver

HILLSBOROUGH AT TOWN N COUNTRY (OPTION 1)

Line Number	Item Number	Item Description	Unit	Approximate Quantity	Unit Price	Cost
<b>ROADWAY</b>						
1	0110 11	CLEARING & GRUBBING	AC	.05	\$15,000.00	\$750.00
2	0327 70 1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	SY	3,619	\$4.00	\$14,476.00
3	0337 7 82	ASPHALTIC CONCRETE FRICTION COURSE, (FC-9.5, PG 76-22)	TN	199.1	\$160.00	\$31,856.00
4	0425-1-361	INLETS, CURB TYPE P-6, <10'	EA	1.0	\$4,500.00	\$4,500.00
5	0430-175-124	PIPE CULV, OPT MATL., ROUND, 24' S/CD	LF	16.0	\$100.00	\$1,600.00
6	0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	200	\$20.00	\$4,000.00
7	0522 2	CONCRETE SIDEWALK AND DRIVEWAY, 6"	SY	100	\$55.00	\$5,500.00
8	0527 2	DETECTABLE WARNINGS	SF	30	\$31.00	\$930.00
9	0570 1 2	PERFORMANCE TURF, SOD	SY	150	\$3.00	\$450.00
10	0710 11 101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	GM	.241	\$1,100.00	\$265.32
11	0710 11 102	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR INTERCHANGE AND URBAN ISLAND, 8"	GM	.011	\$1,600.00	\$17.60
12	710-11-123	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (12")	LF	558.000	\$1.00	\$558.00
13	0710 11 124	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR DIAGONAL OR CHEVRON, 18"	LF	15	\$1.00	\$15.00
14	0710 11 125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	LF	200	\$2.00	\$400.00
15	0710 11 131	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SKIP 10-30 OR 3-9 SKIP, 6" WHITE	GM	.061	\$500.00	\$30.50
16	0710 11 160	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, MESSAGE	EA	1	\$50.00	\$50.00
17	0710 11 170	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, ARROWS	EA	5	\$30.00	\$150.00
18	0710 11 201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID 6"	GM	0.86	\$1,100.00	\$948.20
<b>SIGNING AND MARKING</b>						
19	700 1 11	SINGLE POST SIGN, F&I, GROUND MOUNT, UP TO 12 SF	AS	2	\$350.00	\$700.00
20	700 1 60	SINGLE POST SIGN, REMOVED	AS	2	\$40.00	\$80.00
21	706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	70	\$5.00	\$350.00
22	0711 11 102	THERMOPLASTIC, STANDARD, WHITE, SOLID, 8" FOR INTERCHANGE AND URBAN ISLAND	GM	0.011	\$8,000.00	\$88.00
23	711 11 124	THERMOPLASTIC, WHITE, SOLID, FOR DIAGONALS AND CHEVRONS, 18"	LF	15	\$4.00	\$60.00
24	711 11 125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	200	\$4.00	\$800.00
25	711 11 141	THERMOPLASTIC (STANDARD) (WHITE) (DOTTED/ GUIDELINE/6-10 GAP EXTENSION) (6", 10'-30' SKIP OR 3'-9' SKIP)	GM	0.061	\$3,000.00	\$183.00
26	711 11 160	THERMOPLASTIC, MESSAGE OR SYMBOL	EA	1	\$150.00	\$150.00
27	711 11 170	THERMOPLASTIC, ARROWS	EA	5	\$70.00	\$350.00
28	0711 14 123	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 12" FOR CROSSWALK	LF	558	\$10.00	\$5,580.00
29	0711 14 125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	530	\$16.00	\$8,480.00
30	711 16 101	THERMOPLASTIC, STD.-OTHERS SURFACES, WHITE, SOLID 6"	GM	0.2004	\$4,200.00	\$841.68
31	711 16 102	THERMOPLASTIC, STD.-OTHERS SURFACES, WHITE, SOLID 8"	GM	0.011	\$7,000.00	\$77.00
32	711 16 201	THERMOPLASTIC, STD.-OTHERS SURFACES, YELLOW, SOLID 6"	GM	0.862	\$4,200.00	\$3,620.40



**COST ESTIMATE**

Prepared by: Tindale Oliver

HILLSBOROUGH AT TOWN N COUNTRY (OPTION 1)

Line Number	Item Number	Item Description	Unit	Approximate Quantity	Unit Price	Cost
<b>SIGNAL</b>						
33	630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	110	\$11.00	\$1,210.00
34	632-7-1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1	\$7,000.00	\$7,000.00
35	646 1 11	ALUMINUM SIGNALS POLE (F&I) (PEDESTAL)	EA	4	\$1,500.00	\$6,000.00
36	646-1-12	ALUMINUM SIGNALS POLE, FURNISH & INSTALL PEDESTRIAN DETECTOR POST	EA	1	\$1,500.00	\$1,500.00
37	635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	2	\$800.00	\$1,600.00
38	646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA	1	\$300.00	\$300.00
39	653-1-11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	4	\$700.00	\$2,800.00
40	653 1 60	PEDESTRIAN SIGNAL, REMOVE PED SIGNAL- POLE/PEDESTAL TO REMAIN	AS	2	\$100.00	\$200.00
41	660-2-106	LOOP ASSEMBLY (F&I) (TYPE F)	AS	6	\$1,000.00	\$6,000.00
42	665 1 11	PEDESTRIAN DETECTOR (F&I) (STANDARD)	EA	6	\$300.00	\$1,800.00
43	670 5 400	TRAFFIC CONTROLLER ASSEMBLY (MODIFY)	AS	1	\$1,500.00	\$1,500.00
<b>SUBTOTAL AMOUNT</b>						<b>\$117,766.70</b>
DESIGN 20%						<b>\$23,553.34</b>
CONSTRUCTABILITY 2%						<b>\$2,355.33</b>
MOT 10%						<b>\$11,776.67</b>
Mobilization 10%						<b>\$11,776.67</b>
<b>TOTAL AMOUNT</b>						<b>\$167,229</b>



**COST ESTIMATE**

Prepared by: Tindale Oliver

HILLSBOROUGH AT TOWN N COUNTRY (OPTION 2)

Line Number	Item Number	Item Description	Unit	Approximate Quantity	Unit Price	Cost
<b>ROADWAY</b>						
1	0110 11	CLEARING & GRUBBING	AC	.03	\$15,000.00	\$450.00
2	0327 70 1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	SY	3,699	\$4.00	\$14,795.00
3	0337 7 82	ASPHALTIC CONCRETE FRICTION COURSE, (FC-9.5, PG 76-22)	TN	203.4	\$160.00	\$32,547.68
4	0520 1 7	CONCRETE CURB & GUTTER, TYPE E	LF	125.8	\$21.00	\$2,642.64
5	0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	204	\$20.00	\$4,083.20
6	0522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	40	\$40.00	\$1,584.00
7	0522 2	CONCRETE SIDEWALK AND DRIVEWAY, 6"	SY	109	\$55.00	\$5,988.90
8	0527 2	DETECTABLE WARNINGS	SF	67	\$31.00	\$2,063.05
9	0570 1 2	PERFORMANCE TURF, SOD	SY	37	\$3.00	\$112.20
10	0710 11 101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	GM	.200	\$1,100.00	\$220.00
11	0710 11 102	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR INTERCHANGE AND URBAN ISLAND, 8"	GM	.011	\$1,600.00	\$17.60
12	710-11-123	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (12")	LF	558	\$1.00	\$558.00
13	0710 11 124	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR DIAGONAL OR CHEVRON, 18"	LF	15	\$1.00	\$15.00
14	0710 11 125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	LF	166	\$2.00	\$332.00
15	0710 11 131	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SKIP 10-30 OR 3-9 SKIP, 6" WHITE	GM	.061	\$500.00	\$30.50
16	0710 11 160	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, MESSAGE	EA	1	\$40.00	\$40.00
17	0710 11 170	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, ARROWS	EA	5	\$30.00	\$150.00
18	0710 11 201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID 6"	GM	0.862	\$1,100.00	\$948.20
<b>SIGNING AND MARKING</b>						
19	700 1 11	SINGLE POST SIGN, F&I, GROUND MOUNT, UP TO 12 SF	AS	2	\$350.00	\$700.00
20	700 1 60	SINGLE POST SIGN, REMOVED	AS	2	\$40.00	\$80.00
21	706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	70	\$5.00	\$350.00
22	710 11 290	PAINTED PAVEMENT MARKINGS, YELLOW, ISLAND NOSE	SF	15	\$2.00	\$30.00
23	0711 11 102	THERMOPLASTIC, STANDARD, WHITE, SOLID, 8" FOR INTERCHANGE AND URBAN ISLAND	GM	0.011	\$8,000.00	\$88.00
24	711 11 124	THERMOPLASTIC, WHITE, SOLID, FOR DIAGONALS AND CHEVRONS, 18"	LF	15	\$4.00	\$60.00
25	711 11 125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	166	\$4.00	\$664.00
26	711 11 141	THERMOPLASTIC (STANDARD) (WHITE) (DOTTED/ GUIDELINE/6-10 GAP EXTENSION) (6", 10'-30' SKIP OR 3'-9' SKIP)	GM	0.061	\$3,000.00	\$183.00
27	711 11 160	THERMOPLASTIC, MESSAGE OR SYMBOL	EA	1	\$150.00	\$150.00
28	711 11 170	THERMOPLASTIC, ARROWS	EA	5	\$70.00	\$350.00
29	0711 14 123	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 12" FOR CROSSWALK	LF	558	\$10.00	\$5,580.00
30	0711 14 125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	546	\$16.00	\$8,736.00
31	711 16 101	THERMOPLASTIC, STD.-OTHERS SURFACES, WHITE, SOLID 6"	GM	0.200	\$4,200.00	\$841.68
32	711 16 102	THERMOPLASTIC, STD.-OTHERS SURFACES, WHITE, SOLID 8"	GM	0.011	\$7,000.00	\$77.00
33	711 16 201	THERMOPLASTIC, STD.-OTHERS SURFACES, YELLOW, SOLID 6"	GM	0.862	\$4,200.00	\$3,620.40



**COST ESTIMATE**

Prepared by: Tindale Oliver

## HILLSBOROUGH AT TOWN N COUNTRY (OPTION 2)

Line Number	Item Number	Item Description	Unit	Approximate Quantity	Unit Price	Cost
<b>SIGNAL</b>						
34	630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	115	\$11.00	\$1,265.00
35	632-7-1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1	\$7,000.00	\$7,000.00
36	646 1 11	ALUMINUM SIGNALS POLE (F&I) (PEDESTAL)	EA	4	\$1,500.00	\$6,000.00
37	646-1-60	ALUMINUM SIGNALS POLE, REMOVE	EA	1	\$300.00	\$300.00
38	646-1-12	ALUMINUM SIGNALS POLE, FURNISH & INSTALL PEDESTRIAN DETECTOR POST	EA	1	\$1,000.00	\$1,000.00
39	653-1-11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	4	\$700.00	\$2,800.00
40	635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	2	\$800.00	\$1,600.00
41	660-2-106	LOOP ASSEMBLY (F&I) (TYPE F)	AS	6	\$1,000.00	\$6,000.00
42	665 1 11	PEDESTRIAN DETECTOR (F&I) (STANDARD)	EA	6	\$300.00	\$1,800.00
43	670 5 400	TRAFFIC CONTROLLER ASSEMBLY (MODIFY)	AS	1	\$1,500.00	\$1,500.00
<b>SUBTOTAL AMOUNT</b>						<b>\$117,353.05</b>
DESIGN 20%						<b>\$23,470.61</b>
CONSTRUCTABILITY 2%						<b>\$2,347.06</b>
MOT 10%						<b>\$11,735.30</b>
Mobilization 10%						<b>\$11,735.30</b>
<b>TOTAL AMOUNT</b>						<b>\$166,641</b>



**COST ESTIMATE**

Prepared by: Tindale Oliver

HILLSBOROUGH AT TOWN N COUNTRY (OPTION 3)

Line Number	Item Number	Item Description	Unit	Approximate Quantity	Unit Price	Cost
<b>ROADWAY</b>						
1	0110 11	CLEARING & GRUBBING	AC	.03	\$15,000.00	\$450.00
2	0285 709	OPTIONAL BASE, BASE GROUP 09	SY	55	\$13.00	\$715.00
3	0327 70 1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	SY	3,699	\$4.00	\$14,795.00
4	0334 1 13	SUPERPAVE ASPHALTIC CONCRETE C	TN	9.1	\$100.00	\$905.30
5	0337 7 82	ASPHALTIC CONCRETE FRICTION COURSE, (FC-9.5, PG 76-22)	TN	203.4	\$160.00	\$32,547.68
6	0425-1-351	INLETS, CURB TYPE P-5, <10'	EA	2.0	\$4,500.00	\$9,000.00
7	0425-1-361	INLETS, CURB TYPE P-6, <10'	EA	2.0	\$4,500.00	\$9,000.00
8	0430-175-124	PIPE CULV, OPT MATL., ROUND, 24' S/CD	LF	16.0	\$100.00	\$1,600.00
9	0520 1 7	CONCRETE CURB & GUTTER, TYPE E	LF	125.8	\$21.00	\$2,642.64
10	0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	204	\$20.00	\$4,083.20
11	0522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	40	\$40.00	\$1,584.00
12	0522 2	CONCRETE SIDEWALK AND DRIVEWAY, 6"	SY	109	\$55.00	\$5,988.90
13	0527 2	DETECTABLE WARNINGS	SF	67	\$31.00	\$2,063.05
14	0570 1 2	PERFORMANCE TURF, SOD	SY	37	\$3.00	\$112.20
15	0710 11 101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	GM	.180	\$1,100.00	\$198.00
16	710-11-123	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (12")	LF	676	\$1.00	\$676.00
17	0710 11 125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	LF	162	\$2.00	\$324.00
18	0710 11 131	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SKIP 10-30 OR 3-9 SKIP, 6" WHITE	GM	.050	\$500.00	\$25.00
19	0710 11 160	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, MESSAGE	EA	1	\$40.00	\$40.00
20	0710 11 170	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, ARROWS	EA	5	\$30.00	\$150.00
21	0710 11 201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID 6"	GM	0.070	\$1,100.00	\$77.00
<b>SIGNING AND MARKING</b>						
22	700 1 11	SINGLE POST SIGN, F&I, GROUND MOUNT, UP TO 12 SF	AS	2	\$350.00	\$700.00
23	700 1 60	SINGLE POST SIGN, REMOVED	AS	2	\$40.00	\$80.00
24	706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	37	\$5.00	\$185.00
25	710 11 290	PAINTED PAVEMENT MARKINGS, YELLOW, ISLAND NOSE	SF	15	\$2.00	\$30.00
26	711 11 125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	162	\$4.00	\$648.00
27	711 11 141	THERMOPLASTIC (STANDARD) (WHITE) (DOTTED/ GUIDELINE/6-10 GAP EXTENSION) (6", 10'-30' SKIP OR 3'-9' SKIP)	GM	0.05	\$3,000.00	\$150.00
28	711 11 160	THERMOPLASTIC, MESSAGE OR SYMBOL	EA	1	\$150.00	\$150.00
29	711 11 170	THERMOPLASTIC, ARROWS	EA	5	\$70.00	\$350.00
30	0711 14 123	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 12" FOR CROSSWALK	LF	677	\$10.00	\$6,770.00
31	0711 14 125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	600	\$16.00	\$9,600.00
32	711 16 101	THERMOPLASTIC, STD.-OTHERS SURFACES, WHITE, SOLID 6"	GM	0.180	\$4,200.00	\$756.00
33	711 16 201	THERMOPLASTIC, STD.-OTHERS SURFACES, YELLOW, SOLID 6"	GM	0.07	\$4,200.00	\$294.00



**COST ESTIMATE**

Prepared by: Tindale Oliver

HILLSBOROUGH AT TOWN N COUNTRY (OPTION 3)

Line Number	Item Number	Item Description	Unit	Approximate Quantity	Unit Price	Cost
<b>SIGNAL</b>						
34	630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	180	\$11.00	\$1,980.00
35	632-7-1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1	\$7,000.00	\$7,000.00
36	646 1 11	ALUMINUM SIGNALS POLE (F&I) (PEDESTAL)	EA	6	\$1,500.00	\$9,000.00
37	646-1-60	ALUMINUM SIGNALS POLE, REMOVE	EA	2	\$300.00	\$600.00
38	646-1-12	ALUMINUM SIGNALS POLE, FURNISH & INSTALL PEDESTRIAN DETECTOR POST	EA	1	\$1,000.00	\$1,000.00
39	653-1-11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	6	\$700.00	\$4,200.00
40	653 1 60	PEDESTRIAN SIGNAL, REMOVE PED SIGNAL- POLE/PEDESTAL TO REMAIN	AS	2	\$100.00	\$200.00
41	635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	6	\$800.00	\$4,800.00
42	660-2-106	LOOP ASSEMBLY (F&I) (TYPE F)	AS	6	\$1,000.00	\$6,000.00
43	665 1 11	PEDESTRIAN DETECTOR (F&I) (STANDARD)	EA	8	\$300.00	\$2,400.00
44	670 5 400	TRAFFIC CONTROLLER ASSEMBLY (MODIFY)	AS	1	\$1,500.00	\$1,500.00
<b>SUBTOTAL AMOUNT</b>						<b>\$145,369.97</b>
DESIGN 20%						<b>\$29,073.99</b>
CONSTRUCTABILITY 2%						<b>\$2,907.40</b>
MOT 10%						<b>\$14,537.00</b>
Mobilization 10%						<b>\$14,537.00</b>
<b>TOTAL AMOUNT</b>						<b>\$206,425</b>



**COST ESTIMATE**

Prepared by: Tindale Oliver

HILLSBOROUGH AT TOWN N COUNTRY (OPTION 4)

Line Number	Item Number	Item Description	Unit	Approximate Quantity	Unit Price	Cost
<b>ROADWAY</b>						
1	0110 11	CLEARING & GRUBBING	AC	.09	\$15,000.00	\$1,350.00
2	0285 709	OPTIONAL BASE, BASE GROUP 09	SY	17	\$13.00	\$215.93
3	0327 70 1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	SY	3,670	\$4.00	\$14,678.40
4	0334 1 13	SUPERPAVE ASPHALTIC CONCRETE C	TN	2.8	\$100.00	\$275.00
5	0337 7 82	ASPHALTIC CONCRETE FRICTION COURSE, (FC-9.5, PG 76-22)	TN	202.7	\$160.00	\$32,438.56
6	0425-1-351	INLETS, CURB TYPE P-5, <10'	EA	2.0	\$4,500.00	\$9,000.00
7	0425-1-361	INLETS, CURB TYPE P-6, <10'	EA	2.0	\$4,500.00	\$9,000.00
8	0430-175-124	PIPE CULV, OPT MATL., ROUND, 24' S/CD	LF	64.0	\$100.00	\$6,400.00
9	0520 1 7	CONCRETE CURB & GUTTER, TYPE E	LF	110.0	\$21.00	\$2,310.00
10	0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	3,699	\$20.00	\$73,986.00
11	0522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	22	\$40.00	\$897.60
12	0522 2	CONCRETE SIDEWALK AND DRIVEWAY, 6"	SY	331	\$55.00	\$18,198.40
13	0527 2	DETECTABLE WARNINGS	SF	144	\$31.00	\$4,453.46
14	0570 1 2	PERFORMANCE TURF, SOD	SY	92	\$3.00	\$275.70
15	0710 11 101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	GM	.200	\$1,100.00	\$220.00
16	0710 11 102	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR INTERCHANGE AND URBAN ISLAND, 8"	GM	.040	\$1,600.00	\$64.00
17	710-11-123	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (12")	LF	647	\$1.00	\$647.00
18	0710 11 124	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR DIAGONAL OR CHEVRON, 18"	LF	60	\$1.00	\$60.00
19	0710 11 125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	LF	155	\$2.00	\$310.00
20	0710 11 131	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SKIP 10-30 OR 3-9 SKIP, 6" WHITE	GM	.061	\$500.00	\$30.50
21	0710 11 160	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, MESSAGE	EA	2	\$40.00	\$80.00
22	0710 11 170	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, ARROWS	EA	7	\$30.00	\$210.00
23	0710 11 201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID 6"	GM	0.862	\$1,100.00	\$948.20
<b>SIGNING AND MARKING</b>						
24	700 1 11	SINGLE POST SIGN, F&I, GROUND MOUNT, UP TO 12 SF	AS	4	\$350.00	\$1,400.00
25	700 1 60	SINGLE POST SIGN, REMOVED	AS	4	\$40.00	\$160.00
26	706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	51	\$5.00	\$255.00
27	710 11 290	PAINTED PAVEMENT MARKINGS, YELLOW, ISLAND NOSE	SF	20	\$2.00	\$40.00
28	0711 11 102	THERMOPLASTIC, STANDARD, WHITE, SOLID, 8" FOR INTERCHANGE AND URBAN ISLAND	GM	0.04	\$8,000.00	\$320.00
29	711 11 124	THERMOPLASTIC, WHITE, SOLID, FOR DIAGONALS AND CHEVRONS, 18"	LF	60	\$4.00	\$240.00
30	711 11 125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	155	\$4.00	\$620.00
31	711 11 141	THERMOPLASTIC (STANDARD) (WHITE) (DOTTED/ GUIDELINE/6-10 GAP EXTENSION) (6", 10'-30' SKIP OR 3'-9' SKIP)	GM	0.061	\$3,000.00	\$183.00
32	711 11 160	THERMOPLASTIC, MESSAGE OR SYMBOL	EA	2	\$150.00	\$300.00
33	711 11 170	THERMOPLASTIC, ARROWS	EA	7	\$70.00	\$490.00
34	0711 14 123	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 12" FOR CROSSWALK	LF	647	\$10.00	\$6,470.00
35	0711 14 125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	600	\$16.00	\$9,600.00
36	711 16 101	THERMOPLASTIC, STD.-OTHERS SURFACES, WHITE, SOLID 6"	GM	0.200	\$4,200.00	\$841.68
37	711 16 102	THERMOPLASTIC, STD.-OTHERS SURFACES, WHITE, SOLID 8"	GM	0.04	\$7,000.00	\$280.00
38	711 16 201	THERMOPLASTIC, STD.-OTHERS SURFACES, YELLOW, SOLID 6"	GM	0.862	\$4,200.00	\$3,620.40



**COST ESTIMATE**

Prepared by: Tindale Oliver

HILLSBOROUGH AT TOWN N COUNTRY (OPTION 4)

Line Number	Item Number	Item Description	Unit	Approximate Quantity	Unit Price	Cost
		<b>SIGNAL</b>				
39	630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	170	\$11.00	\$1,870.00
40	632-7-1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1	\$7,000.00	\$7,000.00
41	646 1 11	ALUMINUM SIGNALS POLE (F&I) (PEDESTAL)	EA	6	\$1,500.00	\$9,000.00
42	646-1-60	ALUMINUM SIGNALS POLE, REMOVE	EA	2	\$300.00	\$600.00
43	646-1-12	ALUMINUM SIGNALS POLE, FURNISH & INSTALL PEDESTRIAN DETECTOR POST	EA	2	\$1,000.00	\$2,000.00
44	653-1-11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	6	\$700.00	\$4,200.00
45	653 1 60	PEDESTRIAN SIGNAL, REMOVE PED SIGNAL- POLE/PEDESTAL TO REMAIN	AS	2	\$100.00	\$200.00
46	635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	4	\$800.00	\$3,200.00
47	660-2-106	LOOP ASSEMBLY (F&I) (TYPE F)	AS	6	\$1,000.00	\$6,000.00
48	665 1 11	PEDESTRIAN DETECTOR (F&I) (STANDARD)	EA	8	\$300.00	\$2,400.00
49	670 5 400	TRAFFIC CONTROLLER ASSEMBLY (MODIFY)	AS	1	\$1,500.00	\$1,500.00
		<b>SUBTOTAL AMOUNT</b>				<b>\$238,838.83</b>
		DESIGN 20%				<b>\$47,767.77</b>
		CONSTRUCTABILITY 2%				<b>\$4,776.78</b>
		MOT 10%				<b>\$23,883.88</b>
		Mobilization 10%				<b>\$23,883.88</b>
		<b>TOTAL AMOUNT</b>				<b>\$339,151</b>



**COST ESTIMATE**

Prepared by: Tindale Oliver

HILLSBOROUGH AT HANLEY (OPTION 1)

Line Number	Item Number	Item Description	Unit	Approximate Quantity	Unit Price	Cost
<b>ROADWAY</b>						
1	0110 11	CLEARING & GRUBBING	AC	.04	\$15,000.00	\$600.00
2	0327 70 1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	SY	4,100	\$4.00	\$16,398.80
3	0337 7 82	ASPHALTIC CONCRETE FRICTION COURSE, (FC-9.5, PG 76-22)	TN	225.5	\$160.00	\$36,080.00
4	0425-1-351	INLETS, CURB TYPE P-5, <10'	EA	1.0	\$4,500.00	\$4,500.00
5	0430-175-124	PIPE CULV. OPT MATL., ROUND, 24' S/CD	LF	16.0	\$100.00	\$1,600.00
6	0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	279	\$20.00	\$5,588.00
7	0522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	121	\$40.00	\$4,840.00
8	0522 2	CONCRETE SIDEWALK AND DRIVEWAY, 6"	SY	100	\$55.00	\$5,505.50
9	0527 2	DETECTABLE WARNINGS	SF	50	\$31.00	\$1,550.00
10	0570 1 2	PERFORMANCE TURF, SOD	SY	50	\$3.00	\$150.00
11	0710 11 101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	GM	.242	\$1,100.00	\$265.65
12	710-11-123	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (12")	LF	350.000	\$1.00	\$350.00
13	0710 11 125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	LF	140	\$2.00	\$280.00
14	0710 11 131	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SKIP 10-30 OR 3-9 SKIP, 6" WHITE	GM	.173	\$500.00	\$86.35
15	0710 11 170	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, ARROWS	EA	5	\$30.00	\$150.00
16	0710 11 201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID 6"	GM	0.10	\$1,100.00	\$110.00
<b>SIGNING AND MARKING</b>						
17	700 1 11	SINGLE POST SIGN, F&I, GROUND MOUNT, UP TO 12 SF	AS	2	\$350.00	\$700.00
18	700 1 60	SINGLE POST SIGN, REMOVED	AS	2	\$40.00	\$80.00
19	706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	37	\$5.00	\$185.00
20	710 11 290	PAINTED PAVEMENT MARKINGS, YELLOW, ISLAND NOSE	SF	7	\$2.00	\$14.00
21	711 11 125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	140	\$4.00	\$560.00
22	711 11 141	THERMOPLASTIC (STANDARD) (WHITE) (DOTTED/ GUIDELINE/6-10 GAP EXTENSION) (6", 10'-30' SKIP OR 3'-9' SKIP)	GM	0.1727	\$3,000.00	\$518.10
23	711 11 170	THERMOPLASTIC, ARROWS	EA	5	\$70.00	\$350.00
24	0711 14 123	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 12" FOR CROSSWALK	LF	350	\$10.00	\$3,500.00
25	0711 14 125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	330	\$16.00	\$5,280.00
26	711 16 101	THERMOPLASTIC, STD.-OTHERS SURFACES, WHITE, SOLID 6"	GM	0.2415	\$4,200.00	\$1,014.30
27	711 16 201	THERMOPLASTIC, STD.-OTHERS SURFACES, YELLOW, SOLID 6"	GM	0.1	\$4,200.00	\$420.00
<b>SIGNAL</b>						
28	630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	65	\$11.00	\$715.00
29	630 2 12	CONDUIT (F&I) (DIRECTIONAL BORE)	LF	120	\$30.00	\$3,600.00
30	632-7-1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1	\$7,000.00	\$7,000.00
31	646 1 11	ALUMINUM SIGNALS POLE (F&I) (PEDESTAL)	EA	2	\$1,500.00	\$3,000.00
32	646-1-12	ALUMINUM SIGNALS POLE, FURNISH & INSTALL PEDESTRIAN DETECTOR POST	EA		\$1,500.00	\$0.00
33	635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	1	\$510.00	\$510.00
34	646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA	2	\$300.00	\$600.00
35	653 1 11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	2	\$700.00	\$1,400.00
36	653 1 60	PEDESTRIAN SIGNAL, REMOVE PED SIGNAL- POLE/PEDESTAL TO REMAIN	AS	1	\$100.00	\$100.00
37	660-2-106	LOOP ASSEMBLY (F&I) (TYPE F)	AS	4	\$1,000.00	\$4,000.00
38	665 1 11	PEDESTRIAN DETECTOR (F&I) (STANDARD)	EA	2	\$300.00	\$600.00
39	670 5 400	TRAFFIC CONTROLLER ASSEMBLY (MODIFY)	AS	1	\$1,500.00	\$1,500.00
<b>SUBTOTAL AMOUNT</b>						<b>\$113,700.70</b>
DESIGN 20%						<b>\$22,740.14</b>
CONSTRUCTABILITY 2%						<b>\$2,274.01</b>
MOT 10%						<b>\$11,370.07</b>
Mobilization 10%						<b>\$11,370.07</b>
<b>TOTAL AMOUNT</b>						<b>\$161,455</b>



**COST ESTIMATE**

Prepared by: Tindale Oliver

HILLSBOROUGH AT HANLEY (OPTION 2)

Line Number	Item Number	Item Description	Unit	Approximate Quantity	Unit Price	Cost
<b>ROADWAY</b>						
1	0110 11	CLEARING & GRUBBING	AC	.20	\$15,000.00	\$3,000.00
2	0327 70 1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	SY	5,845	\$4.00	\$23,381.60
3	0337 7 82	ASPHALTIC CONCRETE FRICTION COURSE, (FC-9.5, PG 76-22)	TN	321.5	\$160.00	\$51,443.04
4	0425-1-351	INLETS, CURB TYPE P-5, <10'	EA	1.0	\$4,500.00	\$4,500.00
5	0430-175-124	PIPE CULV, OPT MATL., ROUND, 24' S/CD	LF	16.0	\$100.00	\$1,600.00
6	0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	200	\$20.00	\$4,000.00
7	0522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	161	\$40.00	\$6,450.40
8	0522 2	CONCRETE SIDEWALK AND DRIVEWAY, 6"	SY	159	\$55.00	\$8,730.15
9	0527 2	DETECTABLE WARNINGS	SF	99	\$31.00	\$3,069.00
10	0570 1 2	PERFORMANCE TURF, SOD	SY	352	\$3.00	\$1,056.00
11	0710 11 101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	GM	.369	\$1,100.00	\$405.79
12	0710 11 102	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR INTERCHANGE AND URBAN ISLAND, 8"	GM		\$1,600.00	\$0.00
13	710-11-123	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (12")	LF	331	\$1.00	\$331.00
14	0710 11 124	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR DIAGONAL OR CHEVRON, 18"	LF		\$1.00	\$0.00
15	0710 11 125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	LF	443	\$2.00	\$886.00
16	0710 11 131	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SKIP 10-30 OR 3-9 SKIP, 6" WHITE	GM	.0234	\$500.00	\$11.70
17	0710 11 160	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, MESSAGE	EA		\$40.00	\$0.00
18	0710 11 170	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, ARROWS	EA	4	\$30.00	\$120.00
19	0710 11 201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID 6"	GM	0.156	\$1,100.00	\$171.60
<b>SIGNING AND MARKING</b>						
20	700 1 11	SINGLE POST SIGN, F&I, GROUND MOUNT, UP TO 12 SF	AS	2	\$350.00	\$700.00
21	700 1 60	SINGLE POST SIGN, REMOVED	AS	2	\$40.00	\$80.00
22	705 11 3	DELINEATOR (FLEXIBLE HIGH VISIBILITY MEDIAN)	EA		\$200.00	\$0.00
23	706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	58	\$5.00	\$290.00
24	710 11 290	PAINTED PAVEMENT MARKINGS, YELLOW, ISLAND NOSE	SF	7	\$2.00	\$14.00
25	711 11 125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	125	\$4.00	\$500.00
26	711 11 141	THERMOPLASTIC (STANDARD) (WHITE) (DOTTED/ GUIDELINE/6-10 GAP EXTENSION) (6", 10'-30' SKIP OR 3'-9' SKIP)	GM	0.234	\$3,000.00	\$700.50
27	711 11 160	THERMOPLASTIC, MESSAGE OR SYMBOL	EA		\$150.00	\$0.00
28	711 11 170	THERMOPLASTIC, ARROWS	EA	4	\$70.00	\$280.00
29	0711 14 123	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 12" FOR CROSSWALK	LF	331	\$10.00	\$3,310.00
30	0711 14 125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	318	\$16.00	\$5,088.00
31	711 16 101	THERMOPLASTIC, STD.-OTHERS SURFACES, WHITE, SOLID 6"	GM	0.369	\$4,200.00	\$1,549.38
32	711 16 102	THERMOPLASTIC, STD.-OTHERS SURFACES, WHITE, SOLID 8"	GM		\$7,000.00	\$0.00
33	711 16 201	THERMOPLASTIC, STD.-OTHERS SURFACES, YELLOW, SOLID 6"	GM	0.156	\$4,200.00	\$653.94

**COST ESTIMATE**

Prepared by: Tindale Oliver

**HILLSBOROUGH AT HANLEY (OPTION 2)**

<b>Line Number</b>	<b>Item Number</b>	<b>Item Description</b>	<b>Unit</b>	<b>Approximate Quantity</b>	<b>Unit Price</b>	<b>Cost</b>
<b>SIGNAL</b>						
34	630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	65	\$11.00	\$715.00
35	630 2 12	CONDUIT (F&I) (DIRECTIONAL BORE)	LF	120	\$30.00	\$3,600.00
36	632-7-1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1	\$7,000.00	\$7,000.00
37	646 1 11	ALUMINUM SIGNALS POLE (F&I) (PEDESTAL)	EA	2	\$1,500.00	\$3,000.00
38	646-1-60	ALUMINUM SIGNALS POLE, REMOVE	EA	2	\$300.00	\$600.00
39	635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	4	\$800.00	\$3,200.00
40	653-1-11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	2	\$700.00	\$1,400.00
41	653-1-60	PEDESTRIAN SIGNAL, REMOVE PED SIGNAL- POLE/PEDESTAL TO REMAIN	AS	1	\$100.00	\$100.00
42	660-2-106	LOOP ASSEMBLY (F&I) (TYPE F)	AS	4	\$1,000.00	\$4,000.00
43	665 1 11	PEDESTRIAN DETECTOR (F&I) (STANDARD)	EA	2	\$300.00	\$600.00
44	670 5 400	TRAFFIC CONTROLLER ASSEMBLY (MODIFY)	AS	1	\$1,500.00	\$1,500.00
		<b>SUBTOTAL AMOUNT</b>				<b>\$148,037.10</b>
		DESIGN 20%				<b>\$29,607.42</b>
		CONSTRUCTABILITY 2%				<b>\$2,960.74</b>
		MOT 10%				<b>\$14,803.71</b>
		Mobilization 10%				<b>\$14,803.71</b>
		<b>TOTAL AMOUNT</b>				<b>\$210,213</b>



**COST ESTIMATE**

Prepared by: Tindale Oliver

**HILLSBOROUGH AT ANDERSON**

Line Number	Item Number	Item Description	Unit	Approximate Quantity	Unit Price	Cost
<b>ROADWAY</b>						
1	0110 11	CLEARING & GRUBBING	AC	.09	\$15,000.00	\$1,350.00
2	0327 70 1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	SY	2,080	\$4.00	\$8,320.40
3	0337 7 82	ASPHALTIC CONCRETE FRICTION COURSE, (FC-9.5, PG 76-22)	TN	114.4	\$160.00	\$18,304.00
4	0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	268	\$20.00	\$5,368.00
5	0522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	24	\$40.00	\$946.00
6	0522 2	CONCRETE SIDEWALK AND DRIVEWAY, 6"	SY	156	\$55.00	\$8,591.00
7	0527 2	DETECTABLE WARNINGS	SF	23	\$31.00	\$716.10
8	0570 1 2	PERFORMANCE TURF, SOD	SY	300	\$3.00	\$900.00
9	0710 11 101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	GM	.180	\$1,100.00	\$198.00
10	710-11-123	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (12")	LF	300	\$1.00	\$300.00
11	0710 11 124	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR DIAGONAL OR CHEVRON, 18"	LF	39	\$1.00	\$39.00
12	0710 11 125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	LF	70	\$2.00	\$140.00
13	0710 11 160	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, MESSAGE	EA		\$40.00	\$0.00
14	0710 11 170	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, ARROWS	EA	4	\$30.00	\$120.00
15	0710 11 201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID 6"	GM	0.10	\$1,100.00	\$110.00
<b>SIGNING AND MARKING</b>						
16	700 1 11	SINGLE POST SIGN, F&I, GROUND MOUNT, UP TO 12 SF	AS	1	\$350.00	\$350.00
17	700 1 60	SINGLE POST SIGN, REMOVED	AS	1	\$40.00	\$40.00
18	706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	74	\$5.00	\$370.00
19	711 11 124	THERMOPLASTIC, WHITE, SOLID, FOR DIAGONALS AND CHEVRONS, 18"	LF	39	\$4.00	\$156.00
20	711 11 125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	70	\$4.00	\$280.00
21	711 11 170	THERMOPLASTIC, ARROWS	EA	4	\$70.00	\$280.00
22	0711 14 123	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 12" FOR CROSSWALK	LF	300	\$10.00	\$3,000.00
23	0711 14 125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	252	\$16.00	\$4,032.00
24	0711 14 160	THERMOPLASTIC, PREFORMED, WHITE, MESSAGE	EA	2	\$250.00	\$500.00
25	0711 14 170	THERMOPLASTIC, PREFORMED, WHITE, ARROW	EA	1	\$150.00	\$150.00
26	711 16 101	THERMOPLASTIC, STD.-OTHERS SURFACES, WHITE, SOLID 6"	GM	0.18	\$4,200.00	\$756.00
27	711 16 201	THERMOPLASTIC, STD.-OTHERS SURFACES, YELLOW, SOLID 6"	GM	0.1	\$4,200.00	\$420.00
<b>SIGNAL</b>						
28	630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	65	\$11.00	\$715.00
29	630 2 12	CONDUIT (F&I) (DIRECTIONAL BORE)	LF	120	\$30.00	\$3,600.00
30	632-7-1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1	\$7,000.00	\$7,000.00
31	646 1 11	ALUMINUM SIGNALS POLE (F&I) (PEDESTAL)	EA	2	\$1,500.00	\$3,000.00
32	635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	4	\$800.00	\$3,200.00
33	646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA	2	\$300.00	\$600.00
34	653 1 11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	2	\$700.00	\$1,400.00
35	653 1 60	PEDESTRIAN SIGNAL, REMOVE PED SIGNAL- POLE/PEDESTAL TO REMAIN	AS	2	\$100.00	\$200.00
36	660-2-106	LOOP ASSEMBLY (F&I) (TYPE F)	AS	4	\$1,000.00	\$4,000.00
37	665 1 11	PEDESTRIAN DETECTOR (F&I) (STANDARD)	EA	2	\$300.00	\$600.00
38	670 5 400	TRAFFIC CONTROLLER ASSEMBLY (MODIFY)	AS	1	\$1,500.00	\$1,500.00
<b>SUBTOTAL AMOUNT</b>						<b>\$81,551.50</b>
DESIGN 20%						<b>\$16,310.30</b>
CONSTRUCTABILITY 2%						<b>\$1,631.03</b>
MOT 10%						<b>\$8,155.15</b>
Mobilization 10%						<b>\$8,155.15</b>
<b>TOTAL AMOUNT</b>						<b>\$115,803</b>

**COST ESTIMATE**

Prepared by: Tindale Oliver

DALE MABRY INTERCHANGE (BIKE & PED. IMPROVEMENTS)

Line Number	Item Number	Item Description	Unit	Approximate Quantity	Unit Price	Cost
<b>ROADWAY</b>						
1	0110 11	CLEARING & GRUBBING	AC	.71	\$15,000.00	\$10,650.00
2	160 4	TYPE B STABILIZATION	SY	62	\$4.00	\$246.40
3	0285 709	OPTIONAL BASE, BASE GROUP 09	SY	55	\$13.00	\$715.00
4	0327 70 1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	SY	25,392	\$6.00	\$152,354.40
5	0334 1 13	SUPERPAVE ASPHALTIC CONCRETE C	TN	9.1	\$100.00	\$905.30
6	0337 7 82	ASPHALTIC CONCRETE FRICTION COURSE, (FC-9.5, PG 76-22)	TN	1,397.0	\$160.00	\$223,520.00
7	0339-1	MISCELLANEOUS ASPHALT PAVT	TN	4.1	\$205.00	\$847.88
8	0425-1-351	INLETS, CURB TYPE P-5, <10'	EA	1.0	\$4,500.00	\$4,500.00
9	0425-1-361	INLETS, CURB TYPE P-6, <10'	EA	2.0	\$4,500.00	\$9,000.00
10	0425-1-541	INLETS, DT BOTTOM, TYPE D, <10'	EA	1.0	\$3,100.00	\$3,100.00
11	0430-175-124	PIPE CULV, OPT MATL., ROUND, 24' S/CD	LF	48	\$100.00	\$4,800.00
12	0520 1 7	CONCRETE CURB & GUTTER, TYPE E	LF	99.0	\$21.00	\$2,079.00
13	0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	1,566	\$20.00	\$31,328.00
14	0522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	2,165	\$40.00	\$86,592.00
15	0522 2	CONCRETE SIDEWALK AND DRIVEWAY, 6"	SY	234	\$55.00	\$12,886.50
16	0523 1 3	PATTERNED PAVEMENT, VEHICULAR AREAS- GREEN BIKE LANE	SY	78	\$150.00	\$11,715.00
17	0527 2	DETECTABLE WARNINGS	SF	516	\$31.00	\$15,992.90
18	0536-1-1	GUARDRAIL	LF	693	\$25.00	\$17,325.00
19	0570 1 2	PERFORMANCE TURF, SOD	SY	1,311	\$3.00	\$3,933.60
20	0710 11 101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	GM	2.5	\$1,100.00	\$2,750.00
21	0710 11 102	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR INTERCHANGE AND URBAN ISLAND, 8"	GM	.500	\$1,600.00	\$800.00
22	710-11-123	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (12")	LF	725	\$1.00	\$725.00
23	0710 11 124	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR DIAGONAL OR CHEVRON, 18"	LF	320	\$1.00	\$320.00
24	0710 11 125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	LF	300	\$2.00	\$600.00
25	0710 11 131	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SKIP 10-30 OR 3-9 SKIP, 6" WHITE	GM	1.325	\$500.00	\$662.50
26	0710 11 160	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, MESSAGE	EA	15	\$40.00	\$600.00
27	0710 11 170	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, ARROWS	EA	37	\$30.00	\$1,110.00
28	0710 11 201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID 6"	GM	0.70	\$1,100.00	\$770.00
<b>SIGNING AND MARKING</b>						
29	700 1 11	SINGLE POST SIGN, F&I, GROUND MOUNT, UP TO 12 SF	AS	15	\$350.00	\$5,250.00
30	700 1 60	SINGLE POST SIGN, REMOVED	AS	15	\$40.00	\$600.00
31	706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	308	\$5.00	\$1,540.00
32	710 11 290	PAINTED PAVEMENT MARKINGS, YELLOW, ISLAND NOSE	SF	35	\$2.00	\$70.00
33	0711 11 102	THERMOPLASTIC, STD, WHITE, SOLID, 8"	GM	0.5	\$8,000.00	\$4,000.00
34	711 11 124	THERMOPLASTIC, WHITE, SOLID, FOR DIAGONALS AND CHEVRONS, 18"	LF	320	\$4.00	\$1,280.00
35	711 11 125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	300	\$4.00	\$1,200.00
36	711 11 141	THERMOPLASTIC (STANDARD) (WHITE) (DOTTED/ GUIDELINE/6-10 GAP EXTENSION) (6", 10'-30' SKIP OR 3'-9' SKIP)	GM	1.325	\$3,000.00	\$3,975.00
37	711 11 160	THERMOPLASTIC, MESSAGE OR SYMBOL	EA	15	\$150.00	\$2,250.00
38	711 11 170	THERMOPLASTIC, ARROWS	EA	37	\$70.00	\$2,590.00
39	0711 14 123	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 12" FOR CROSSWALK	LF	725	\$10.00	\$7,250.00
40	0711 14 125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	690	\$16.00	\$11,040.00
41	0711 14 160	THERMOPLASTIC, PREFORMED, WHITE, MESSAGE	EA	19	\$250.00	\$4,750.00



**COST ESTIMATE**

Prepared by: Tindale Oliver

**DALE MABRY INTERCHANGE (BIKE & PED. IMPROVEMENTS)**

<b>Line Number</b>	<b>Item Number</b>	<b>Item Description</b>	<b>Unit</b>	<b>Approximate Quantity</b>	<b>Unit Price</b>	<b>Cost</b>
42	0711 14 170	THERMOPLASTIC, PREFORMED, WHITE, ARROW	EA	19	\$150.00	\$2,850.00
43	711 16 101	THERMOPLASTIC, STD.-OTHERS SURFACES, WHITE, SOLID 6"	GM	2.5	\$4,200.00	\$10,500.00
44	711 16 102	THERMOPLASTIC, STD.-OTHERS SURFACES, WHITE, SOLID 8"	GM	0.5	\$7,000.00	\$3,500.00
45	711 16 201	THERMOPLASTIC, STD.-OTHERS SURFACES, YELLOW, SOLID 6"	GM	0.7	\$4,200.00	\$2,940.00
<b>SIGNAL</b>						
46	630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	318	\$11.00	\$3,498.00
47	632-7-1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1	\$7,000.00	\$7,000.00
48	646 1 11	ALUMINUM SIGNALS POLE (F&I) (PEDESTAL)	EA	5	\$1,500.00	\$7,500.00
49	635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	2	\$800.00	\$1,600.00
50	646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA	5	\$300.00	\$1,500.00
51	653 1 11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	5	\$700.00	\$3,500.00
52	653 1 60	PEDESTRIAN SIGNAL, REMOVE PED SIGNAL- POLE/PEDESTAL TO REMAIN	AS	6	\$100.00	\$600.00
53	660-2-102	LOOP ASSEMBLY (F&I) (TYPE B)	AS	12	\$650.00	\$7,800.00
54	660-2-106	LOOP ASSEMBLY (F&I) (TYPE F)	AS	4	\$1,000.00	\$4,000.00
55	665 1 11	PEDESTRIAN DETECTOR (F&I) (STANDARD)	EA	5	\$300.00	\$1,500.00
56	670 5 400	TRAFFIC CONTROLLER ASSEMBLY (MODIFY)	AS	2	\$1,500.00	\$3,000.00
<b>SUBTOTAL AMOUNT</b>						<b>\$707,911.48</b>
DESIGN 20%						<b>\$141,582.30</b>
CONSTRUCTABILITY 2%						<b>\$14,158.23</b>
MOT 10%						<b>\$70,791.15</b>
Mobilization 10%						<b>\$70,791.15</b>
<b>TOTAL AMOUNT</b>						<b>\$1,005,234</b>

**COST ESTIMATE**

Prepared by: Tindale Oliver

**DALE MABRY INTERCHANGE INTERIM (BIKE & PED. IMPROVEMENTS)**

Line Number	Item Number	Item Description	Unit	Approximate Quantity	Unit Price	Cost
<b>ROADWAY</b>						
1	0110 11	CLEARING & GRUBBING	AC	.24	\$15,000.00	\$3,600.00
2	0327 70 1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	SY	1,687	\$6.00	\$10,124.40
3	0337 7 82	ASPHALTIC CONCRETE FRICTION COURSE, (FC-9.5, PG 76-22)	TN	93.5	\$160.00	\$14,960.00
4	0339-1	MISCELLANEOUS ASPHALT PAVT	TN	4.8	\$205.00	\$992.20
5	0425-1-541	INLETS, DT BOTTOM, TYPE D, <10'	EA	1.0	\$3,100.00	\$3,100.00
6	0430-175-124	PIPE CULV, OPT MATL., ROUND, 24' S/CD	LF	16	\$100.00	\$1,600.00
7	0520 1 7	CONCRETE CURB & GUTTER, TYPE E	LF	233.2	\$21.00	\$4,897.20
8	0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	462	\$20.00	\$9,240.00
9	0522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	585	\$40.00	\$23,408.00
10	0522 2	CONCRETE SIDEWALK AND DRIVEWAY, 6"	SY	156	\$55.00	\$8,591.00
11	0523 1 3	PATTERNED PAVEMENT, VEHICULAR AREAS- GREEN BIKE LANE	SY	35	\$150.00	\$5,250.00
12	0527 2	DETECTABLE WARNINGS	SF	399	\$31.00	\$12,369.00
13	0536-1-1	GUARDRAIL	LF	83	\$25.00	\$2,075.00
14	0570 1 2	PERFORMANCE TURF, SOD	SY	515	\$3.00	\$1,544.40
15	0710 11 101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	GM	0.24	\$1,100.00	\$264.00
16	0710 11 102	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR INTERCHANGE AND URBAN ISLAND, 8"	GM		\$1,600.00	\$96.00
17	710-11-123	PAINTED PAVEMENT MARKINGS (STANDARD) (WHITE) (SOLID) (12")	LF	263	\$1.00	\$263.00
18	0710 11 124	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, FOR DIAGONAL OR CHEVRON, 18"	LF	135	\$1.00	\$135.00
19	0710 11 125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	LF	73	\$2.00	\$146.00
20	0710 11 131	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SKIP 10-30 OR 3-9 SKIP, 6" WHITE	GM	.050	\$500.00	\$25.00
21	0710 11 160	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, MESSAGE	EA	3	\$40.00	\$120.00
22	0710 11 170	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, ARROWS	EA	3	\$30.00	\$90.00
23	0710 11 201	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID 6"	GM	0.04	\$1,100.00	\$44.00
24						
<b>SIGNING AND MARKING</b>						
26	700 1 11	SINGLE POST SIGN, F&I, GROUND MOUNT, UP TO 12 SF	AS	8.00	\$350.00	\$2,800.00
27	700 1 60	SINGLE POST SIGN, REMOVED	AS	5.00	\$40.00	\$200.00
28	706 3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	37.00	\$5.00	\$185.00
29	710 11 290	PAINTED PAVEMENT MARKINGS, YELLOW, ISLAND NOSE	SF	19.00	\$2.00	\$38.00
30	711 11 124	THERMOPLASTIC, WHITE, SOLID, FOR DIAGONALS AND CHEVRONS, 18"	LF	135.00	\$4.00	\$540.00
31	711 11 125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	73.00	\$4.00	\$292.00
32	711 11 141	THERMOPLASTIC (STANDARD) (WHITE) (DOTTED/ GUIDELINE/6-10 GAP EXTENSION) (6", 10'-30' SKIP OR 3'-9' SKIP)	GM	0.05	\$3,000.00	\$150.00
33	711 11 170	THERMOPLASTIC, ARROWS	EA	3.00	\$70.00	\$210.00
34	0711 14 123	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 12" FOR CROSSWALK	LF	263.00	\$10.00	\$2,630.00
35	0711 14 125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	281.00	\$16.00	\$4,496.00
36	0711 14 160	THERMOPLASTIC, PREFORMED, WHITE, MESSAGE	EA	3.00	\$250.00	\$750.00
37	0711 14 170	THERMOPLASTIC, PREFORMED, WHITE, ARROW	EA	3.00	\$150.00	\$450.00
38	711 16 101	THERMOPLASTIC, STD.-OTHERS SURFACES, WHITE, SOLID 6"	GM	0.24	\$4,200.00	\$1,008.00
39	711 16 102	THERMOPLASTIC, STD.-OTHERS SURFACES, WHITE, SOLID 8"	GM	0.06	\$7,000.00	\$448.00
40	711 16 201	THERMOPLASTIC, STD.-OTHERS SURFACES, YELLOW, SOLID 6"	GM	0.04	\$4,200.00	\$168.00



**COST ESTIMATE**

Prepared by: Tindale Oliver

**DALE MABRY INTERCHANGE INTERIM (BIKE & PED. IMPROVEMENTS)**

<b>Line Number</b>	<b>Item Number</b>	<b>Item Description</b>	<b>Unit</b>	<b>Approximate Quantity</b>	<b>Unit Price</b>	<b>Cost</b>
<b>SIGNAL</b>						
41	630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	91	\$11.00	\$1,001.00
42	632-7-1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1	\$7,000.00	\$7,000.00
43	646 1 11	ALUMINUM SIGNALS POLE (F&I) (PEDESTAL)	EA	4	\$1,500.00	\$6,000.00
44	635 2 11	PULL & SPLICE BOX, F&I, 13" x 24"	EA	2	\$800.00	\$1,600.00
45	646 1 60	ALUMINUM SIGNALS POLE, REMOVE	EA	4	\$300.00	\$1,200.00
46	653 1 11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	4	\$700.00	\$2,800.00
47	653 1 60	PEDESTRIAN SIGNAL, REMOVE PED SIGNAL- POLE/PEDESTAL TO REMAIN	AS	4	\$100.00	\$400.00
48	660-2-106	LOOP ASSEMBLY (F&I) (TYPE F)	AS	2	\$1,000.00	\$2,000.00
49	665 1 11	PEDESTRIAN DETECTOR (F&I) (STANDARD)	EA	4	\$300.00	\$1,200.00
50	670 5 400	TRAFFIC CONTROLLER ASSEMBLY (MODIFY)	AS	1	\$1,500.00	\$1,500.00
<b>SUBTOTAL AMOUNT</b>						<b>\$142,000.20</b>
DESIGN 20%						<b>\$28,400.04</b>
CONSTRUCTABILITY 2%						<b>\$2,840.00</b>
MOT 10%						<b>\$14,200.02</b>
Mobilization 10%						<b>\$14,200.02</b>
<b>TOTAL AMOUNT</b>						<b>\$201,640</b>

**APPENDIX C:**  
**FDOT Scope Clarification Meeting Minutes**





## MEETING MINUTES

**Date:** February 13th, 2018 (Date of Meeting: February 12th, 2018)

**To:** Craig Fox, FDOT Project Manager  
cc: All Attendees

**From:** Daniel Carnley, PE – ICON Project Manager

**Attendees:** Reference Email Recipients

**Subject:** FPID: 437641-2-32-01 – Scope Clarification Meeting  
SR 580/Hillsborough Ave. from Town and Country Blvd. to Himes Avenue, Hillsborough County

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A scope clarification meeting was held for FPID 437641-2-32-01 SR 580/Hillsborough Avenue from Town and Country Boulevard to Himes Avenue in Hillsborough County, Florida. The meeting was held at FDOT District Seven Headquarters in the Production Conference Room on Monday, February 12th, 2017 at 9:00 AM.

### Introduction

- The meeting began with Tim Folsom stating FPID 437641-2-32-01 (i.e., -2 Project) is a second stand alone project that is being initiated as a Supplement Agreement to FPID 437641-1-32-01 (i.e., -1 Project). He also stated that the project is a federally funded project with Transportation Alternative funds. The project is a complete streets project with major work mix (Urban Corridor Improvements).

### Project Overview – ICON

- Daniel Carnley, of ICON, gave a brief overview of the scoped improvements which will include complete streets improvements at the following locations along Hillsborough Avenue:
  - Intersection of Town and Country Boulevard
  - Intersection of Hanley Road
  - Intersection of Anderson Road
  - Intersection of North Dale Mabry
- Mr. Carnley stated that the project will be extended to east of Himes Avenue. The extension will include:
  - A proposed fence along the south side of Hillsborough Avenue from Dale Mabry to Himes Avenue.
  - Sidewalk modifications to Himes Avenue to allow bikes from the proposed alternative bike route to regain access to the existing bike lane.
  - General improvements to Himes Avenue such as separating pedestrian signals and a proposed bulb out for the southbound approach.
- Mr. Carnley stated that a revised alternative provided by Tindale Oliver will eliminate improvements on the west side of the Hillsborough Avenue and Dale Mabry Interchange resulting in a change to the scope of services.

## Clarify the Scope

- Roadway:
  - A formal Typical Section Package will be required for Town and Country Boulevard and Anderson Road due to a potential change in lane assignments. This will require Hillsborough County approval.
  - A pavement design will not be included in this project since the EOR will utilize the pavement design developed from the (-1 project).
  - Wendy Ferjo stated that the length of need of the guardrail modifications at Dale Mabry needs to be verified. ICON will verify prior to developing an updated scope.
  - The Florida Design Manual will be utilized for this project. The Department will provide the Context Classification for the project.
  - Wendy Ferjo stated that the existing sidewalk width needs to be verified from North Dale Mabry to Himes to assure it is wide enough to handle bikes.
  
- Public Involvement:
  - It was stated that the Community Awareness Plan (CAP) needs to be sent to Leo Folsom for approval. Craig Fox is to send the CAP to Leo once an updated scope has been developed by ICON.
  - Wendy Ferjo asked to verify if businesses will be impacted during construction. ICON will to verify prior to developing an updated scope.
  
- Drainage:
  - It was stated that the following intersections will require minor modifications to existing drainage system while maintaining existing drainage patterns; Town and Country Boulevard, Hanley Road, and Himes Avenue.
  - The project will include addressing nuisance ponding to the existing sidewalk at the southeast corner of Dale Mabry Highway. Assume the development of two alternatives during design.
  - The project will address the feasibility and design of the existing ponding along the curb on Anderson Road (north leg only). Assume the development of two alternatives during design.
  
- Permitting:
  - It was stated that the project will qualify as a safety improvement and will be permit exempt. FDOT will not require a permit exemption letter from SWFWMD.
  - It was stated that confirmation is needed that the proposed fence along the south side of Hillsborough from Dale Mabry to Himes will not cause environmental impacts.
  - Staff hours for Erosion and Sediment Control to be moved from 6b.11 to 8a4.
  
- Structures:
  - Structures is not anticipated for this correct
  
- Traffic:
  - Signing and Pavement Markings and Signalization are limited to the pedestrian improvements proposed in the concept plans along with the addition of Himes Avenue.
  - Mike Oates stated his concern on the need to realign the proposed crosswalk across Dale Mabry as it appeared to be functioning fine in the existing condition. He also stated that the existing crosswalk is at an optimal location based on the existing light pole. In addition, Mike pointed out the proposed design would have additional impacts such as the need to lengthening the existing right turn lane. As a result, the crosswalk improvement at Dale Mabry is to be evaluated by ICON to see if it is necessary to be included with the project's scope of services.
  - Alex Henry stated there is an existing lighting retrofit project that will cover the signalized intersections located within the project limits. As a result, all lighting services will be provided as optional services.



- ITS:
  - ITS will not be included on this project.
- Utilities:
  - Utility Coordination will be handled by the Department including any required Subsurface Utility Engineering (SUE).
- Survey
  - It was clarified that the Department will provide the Survey by supplementing the (-1 project)
  - ICON will provide a survey exhibit for additional survey needs.
- Geotechnical
  - Geotechnical Services will be handled by the Department. The only service identified is the need for pavement cores.
- Archaeological, Historic, Biological, Section 4 (f) and Contamination
  - Tim Folsom stated that ICON needed to follow up with Dan DeForge regarding any potential contamination.
- Maintenance
  - FDOT Maintenance will need to review the location and type of the proposed fence to be placed on the south side of Hillsborough Avenue from Dale Mabry Highway to Himes Avenue.
- Transit, Rail, and Freight
  - A concern was discussed about the proposed turn radius at Anderson Road. The scope will be modified to include autoturn analysis at each proposed location that will modify the existing turn radius,
  - Federal Aviation Administration (FAA) Permit will be required. This will include completing FFA form 7460.
- Coordination with MPO, Local Government, and Bicycle/Pedestrian
  - A meeting with Hillsborough County and Hillsborough County MPO is anticipated.
- Construction and Traffic Control
  - Daniel Carnley of ICON stated that pedestrian Temporary Traffic Control will be critical on this project.
- Right-of-way Acquisition
  - Right-of-way acquisition is not anticipated for this project.

**Action items**

- ICON will verify the length of need of the guardrail located at Dale Mabry Highway.
- ICON will verify the existing sidewalk width on the south side of the roadway from Dale Mabry Highway to Himes Avenue.
- Craig Fox to send Community Awareness Plan to Leo Folsom for review and comment.
- ICON will verify if any businesses will be affected by construction.
- ICON to verify if the existing crosswalk improvement on Dale Mabry will be included in this project.
- ICON will provide a Survey Exhibit to the Department for the additional survey needs.
- ICON to coordinate with FDOT for contamination requirements.
- ICON to provide an updated scope of services by Wednesday 02-14-2018.

***The minutes of the above meeting will be assumed to be a true and accurate account of the meeting unless written notification to the contrary is received by ICON prior to 02/20/2018***