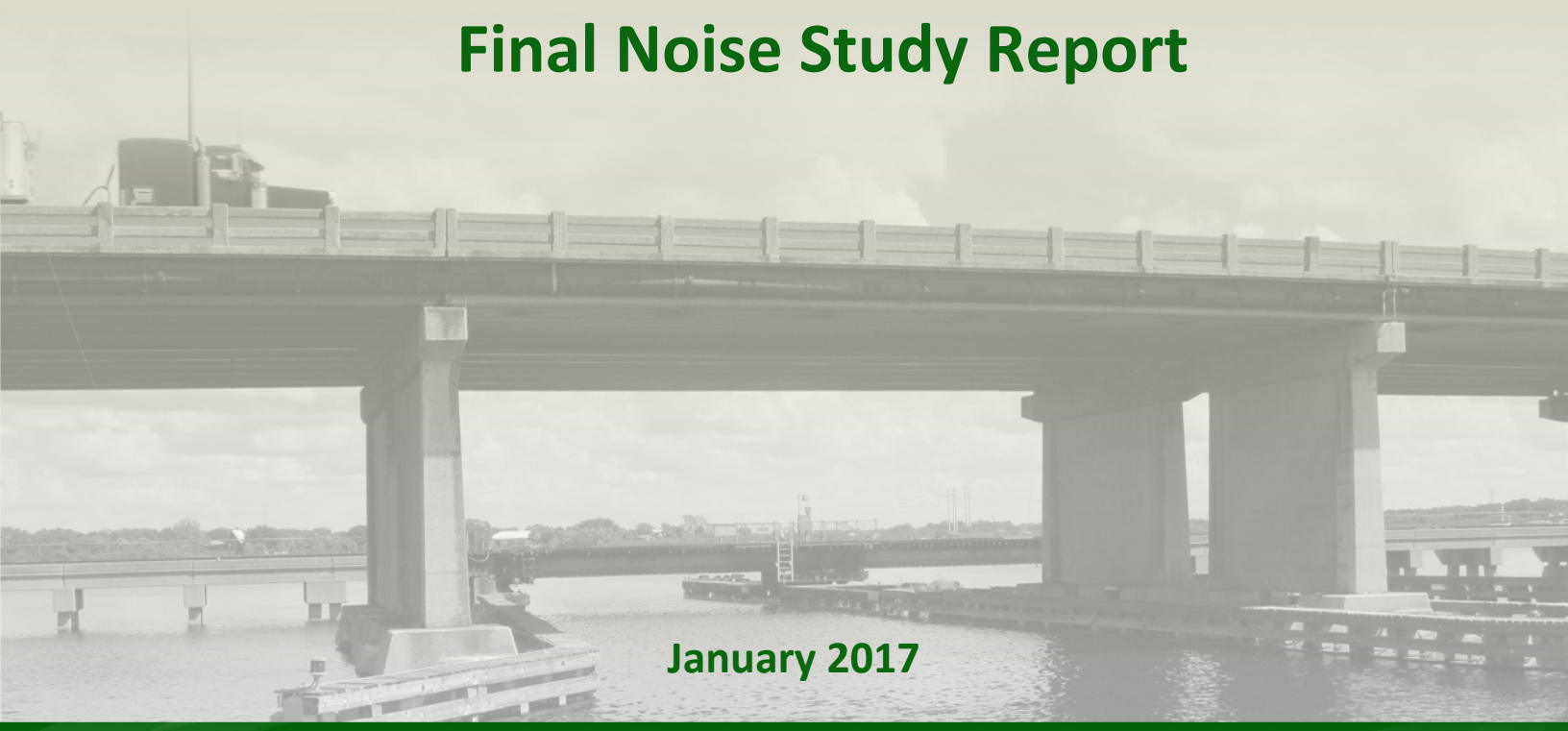
FDOT DISTRICT 7

US 41 (SR 45)

From Kracker Avenue to South of SR 676 (Causeway Boulevard)
Project Development and Environment (PD&E) Study

Final Noise Study Report



January 2017

Florida Department of Transportation
District Seven

Work Program Item Segment No. 430056-1
ETDM Project No. 5180
Hillsborough County

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Prepared for:
Florida Department of Transportation
District Seven

Prepared by:
KB Environmental Sciences, Inc.
9500 Koger Boulevard, Suite 211
St. Petersburg, FL 33702

In association with

American Consulting Engineers of Florida, LLC
2818 Cypress Ridge Boulevard, Suite 200
Wesley Chapel, FL 33544

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EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) conducted a Project Development and Environment (PD&E) Study to evaluate alternative improvements for US 41 (SR 45) from Kracker Avenue (milepoint 15.784) to south of SR 676 (Causeway Boulevard – milepoint 22.791) in Hillsborough County (**Figure 1-1)**, a distance of approximately 7.0 miles. Study objectives included: determine proposed typical sections and develop preliminary conceptual design plans for proposed improvements, while minimizing impacts to the environment; consider agency and public comments; and ensure project compliance with all applicable federal and state laws. Improvement alternatives were identified which will improve safety and satisfy future transportation demand. A *State Environmental Impact Report* (SEIR) was prepared for this study and approved on January 12, 2017.

The objectives of this Noise Study Report (NSR) are to identify noise sensitive receptors adjacent to the project corridor, to evaluate future traffic noise levels at the receptors with and without the proposed improvements, and, if necessary, to evaluate the need for, and effectiveness of, noise abatement measures. Additional objectives include the consideration of construction noise and the identification of noise level impact "contours" adjacent to the corridor.

The traffic noise analysis was performed following FDOT procedures that comply with Title 23 Code of Federal Regulations (CFR), Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise*. The evaluation used methodologies established by the FDOT and documented in the PD&E Manual, Part 2, Chapter 17 (May 2011). The prediction of traffic noise levels with and without the roadway improvements was performed using the Federal Highway Administration's (FHWA's) Traffic Noise Model (TNM-Version 2.5).

Of the 153 evaluated noise sensitive receptors, 145 were located at residences and three were evaluated within two parks (Williams Park and Mosaic Park). Two places of worship (First Baptist Church and Freedom Assembly Church), a school (Pre-School Academy), a restaurant with an outdoor dining area (Showtown Restaurant), and an office with outdoor use (Marine Engineers Beneficial Association) were also evaluated.

Existing (2013) exterior traffic noise levels are predicted to range from 56.5 to 72.6 decibels on the "A" weighted scale (dB(A)), and an interior level of 39.1 dB(A) is predicted at one noise sensitive receptor (First Baptist Church). A total of 36 receptors are predicted to approach, meet, or exceed the Noise Abatement Criteria (NAC).

In the future without the proposed improvements (2040 no-build), exterior traffic noise levels are predicted to range from 57.5 to 73.2 dB(A), and an interior level of 39.5 dB(A) is predicted at the First Baptist Church. A total of 55 receptors are predicted to approach, meet, or exceed the NAC.

With the proposed improvements (2040 build), exterior traffic noise levels are predicted to range from 60.2 to 75.4 dB(A), and an interior level of 42.6 dB(A) is predicted at the First Baptist Church. A total of 83 receptors are predicted to approach, meet, or exceed the NAC. When compared to the

existing condition, traffic noise levels with the improvements are not predicted to increase more than 5.8 dB(A). As such, the project would not substantially increase traffic noise (i.e., an increase in traffic noise of 15 dB(A) or more with an improvement when compared to existing levels).

Noise abatement measures were considered for the 83 noise sensitive receptors where traffic noise levels are predicted to approach, meet, or exceed the NAC. The measures were traffic management, alternative roadway alignments, buffer zones, and noise barriers. The results of the analysis indicate that although feasible, traffic management and alternative roadway alignments are not reasonable methods of reducing predicted traffic noise impacts at the affected receptors. Additionally, providing a buffer between the highway and noise sensitive land uses is only reasonable for locating future noise sensitive uses and should be considered as part of the local land use planning process. The results of the analysis also indicate that noise barriers do not appear to be a potentially reasonable and feasible method of reducing predicted traffic noise impacts for any of the impacted noise sensitive receptors should the project be implemented in the future.

Because the consideration of abatement measures did not indicate there are any measures that would be both feasible and reasonable, there is no commitment to further consider any measure during the project's design phase. However, there is a commitment to perform a land use review during the design phase to ensure that all noise sensitive land uses that received a building permit prior to the project's Date of Public Knowledge (i.e., the date the SEIR is approved) have been evaluated. Notably, there was no construction or posted permits observed within the project limits when the land uses were surveyed on October 17, 2014. Also, the Hillsborough County Online Permit Reports database showed no recently issued permits within the project limits through October 31, 2014.

Construction of the proposed roadway improvements could result in temporary construction-related noise or vibration impacts. If sensitive land uses develop adjacent to the roadway prior to construction, increased potential for noise or vibration impacts could result. It is anticipated that the application of the *FDOT Standard Specifications for Road and Bridge Construction* will minimize or eliminate potential construction noise and/or vibration impacts. However, should unanticipated noise or vibration issues arise during the construction process, the Project Engineer, in coordination with the District Noise Specialist and the Contractor, will investigate additional methods of controlling these impacts.

Land uses such as residential, offices, and parks are considered incompatible with highway noise levels exceeding the NAC. In order to reduce the possibility of new noise-related impacts, noise level contours were developed for the future improved roadway facility (see **Section 5** of this NSR). These noise contours delineate the distance from the improved roadway's edge-of-travel lane to where 56, 66, and 71 dB(A) (the FDOT's NAC for Activity Categories A, B/C, and E, respectively) is expected to occur in the year 2040 with the proposed improvements. Local officials will be provided a copy of the final NSR to promote compatibility between land development and the construction of the proposed US 41 project.

Table of Contents

Appendices

List of Figures and Tables

Figures

Tables

SECTION 1 INTRODUCTION

1.1 PD&E STUDY PURPOSE

The objective of this Project Development and Environment (PD&E) study was to assist the Florida Department of Transportation (FDOT) in reaching a decision on the type, location, and conceptual design of the proposed improvements for widening US 41 (SR 45) from Kracker Avenue to south of Causeway Boulevard (SR 676). The PD&E study satisfied all applicable requirements in order for this project to qualify for state funding of subsequent project development phases (design, right of way [ROW] acquisition, and construction).

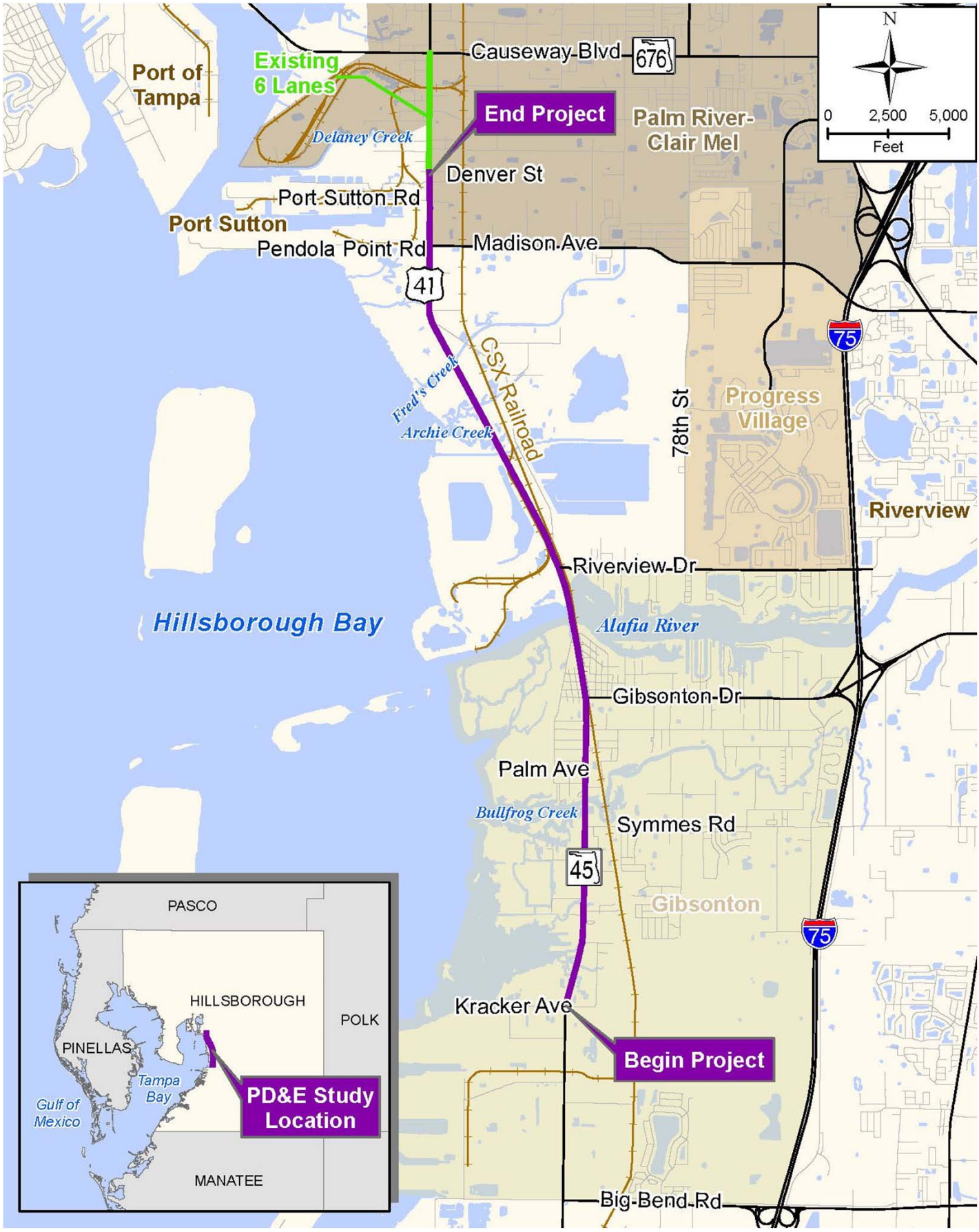
US 41 is a major north-south arterial of regional significance that parallels Interstate 75 (I-75) and US 301 in Hillsborough County. This project was screened through FDOT's Efficient Transportation Decision Making (ETDM) process as Project #5180. A *Final Programming Screen Summary Report* was published on April 10, 2013. A *State Environmental Impact Report* (SEIR) was prepared as part of this study and approved on January 12, 2017.

1.2 PROJECT DESCRIPTION

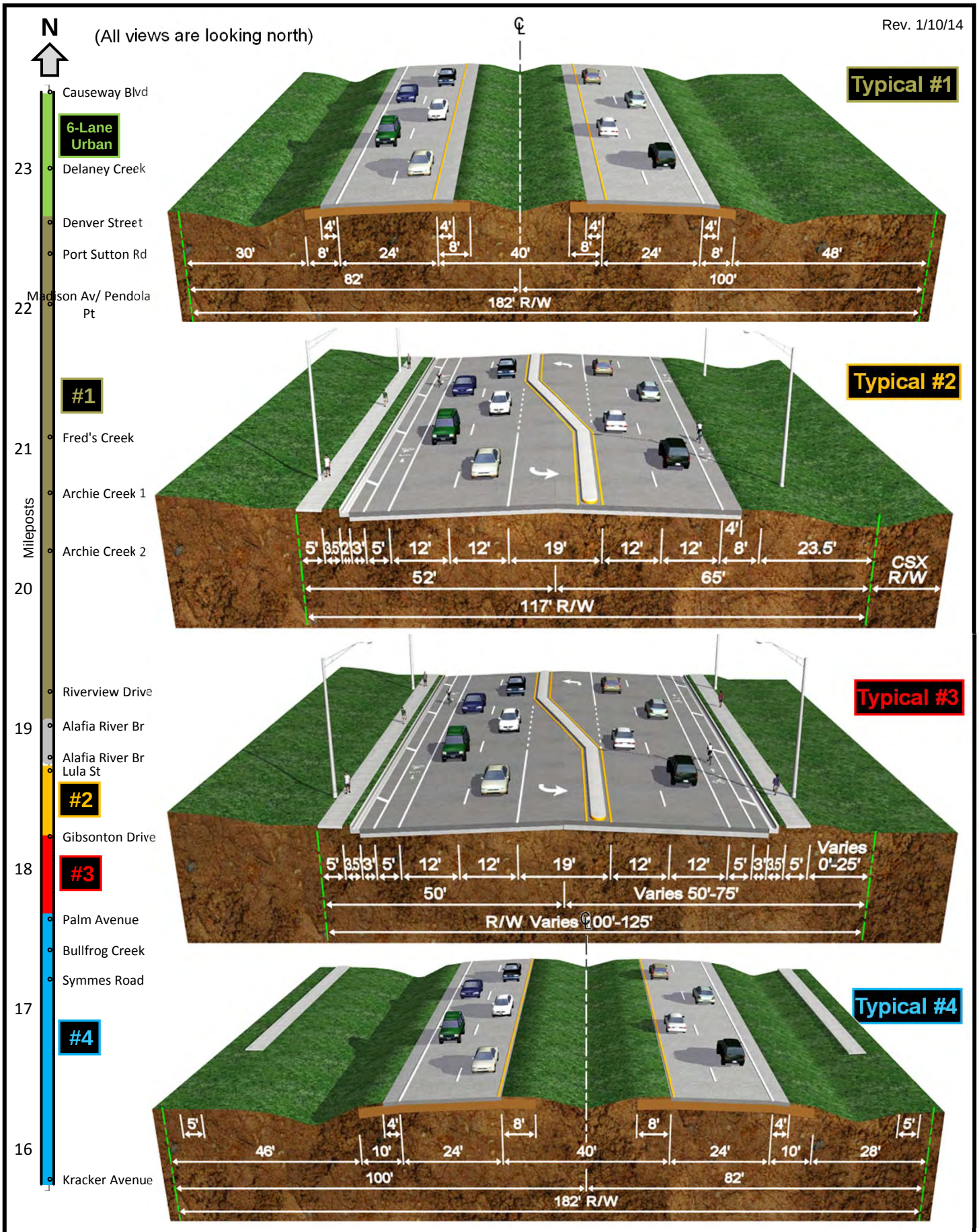
The FDOT conducted a PD&E study to evaluate alternative capacity and operational improvements to US 41 from Kracker Avenue (milepoint 15.784) to south of Causeway Boulevard (milepoint 22.791) in Hillsborough County (**Figure 1-1**), a distance of approximately 7.0 miles. The highway is to be improved from an existing, four-lane divided rural and urban facility to a six-lane divided facility. Bridges over Bullfrog Creek and the Alafia River are planned to be replaced. The planned improvements will include construction of stormwater management and floodplain compensation facilities and various intersection improvements, in addition to multimodal facilities (trail, pedestrian, bicycle and transit accommodations). However, the PD&E study for the proposed project did not evaluate specific stormwater management facilities and floodplain compensation sites as these locations will be identified during the proposed project's future design phase.

1.3 EXISTING FACILITY AND PLANNED IMPROVEMENTS

US 41 currently has both four-lane divided rural and urban typical sections (**Figure 1-2**). In addition, a 0.9-mile segment near the north end, between Denver Street and SR 676, was previously widened to a six-lane urban section. Existing lane widths vary from 11 to 12 feet and median widths vary from 19 to 40 feet. The rural typical section areas include 4-foot paved shoulders. The posted speed limit is 50 miles per hour (mph) in the north Gibsonton area and 55 mph in the areas to the south and north. The existing right of way width varies from 100 feet in north Gibsonton to 182 feet in the areas to the south and north. Existing bridge typical sections are shown in **Figure 1-3**.

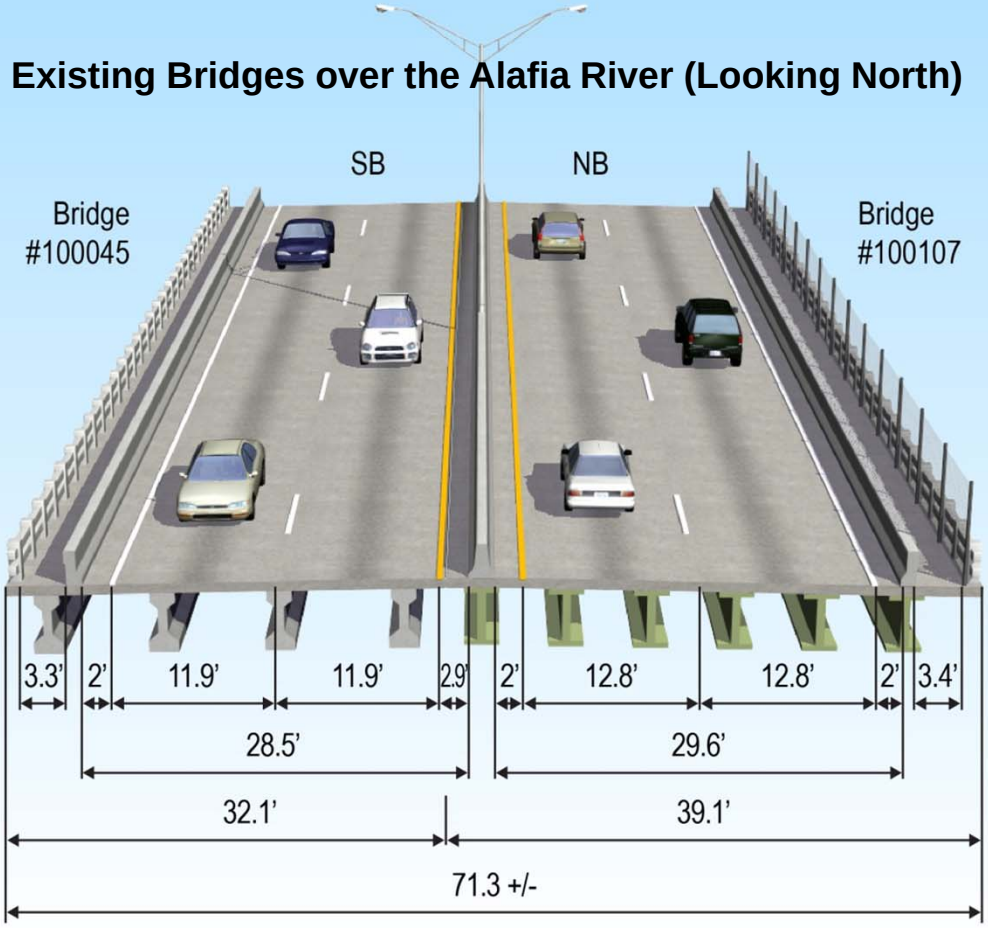


US 41(SR 45) PD&E Study *From Kracker Avenue to South of SR 676 (Causeway Blvd)* WPI Segment No. 430056-1 Hillsborough County	**Location and Study Area Map**	**Figure 1-1**

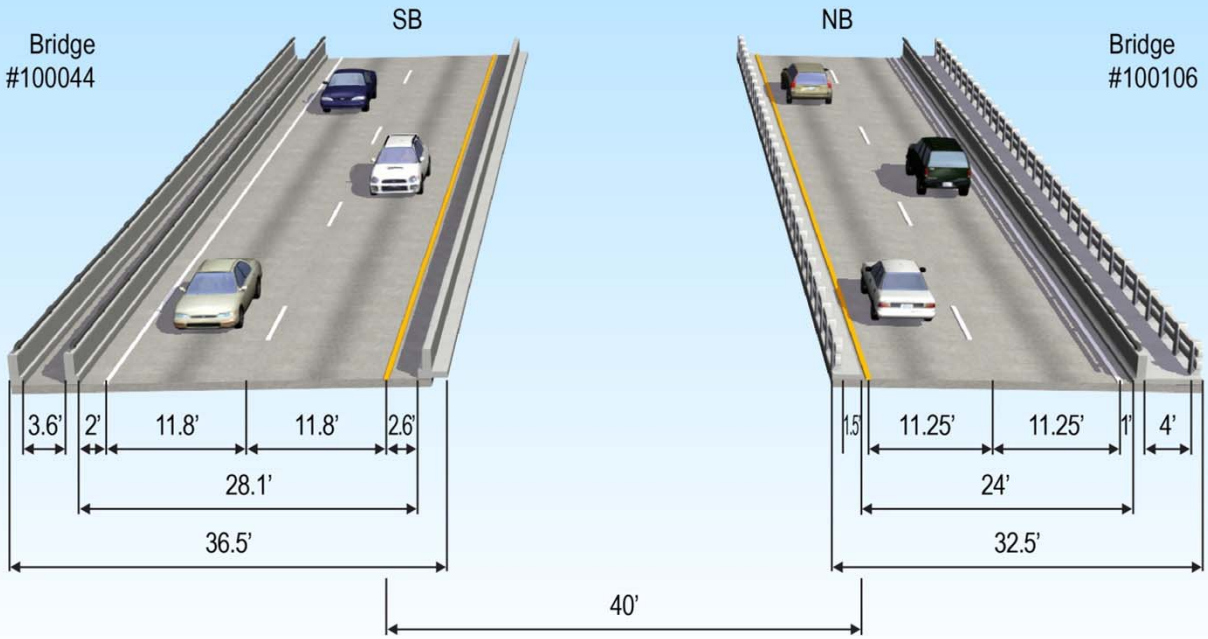


FDOT **US 41(SR 45) PD&E Study** *From Kracker Avenue to South of SR 676 (Causeway Blvd)* WPI Segment No. 430056 1 - Hillsborough County	**Existing Roadway Typical Sections**	**Figure 1-2**

Existing Bridges over the Alafia River (Looking North)



Existing Bridges over Bullfrog Creek (Looking North)



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US 41(SR 45) PD&E Study *From Kracker Avenue to South of SR 676 (Causeway Blvd)* WPI Segment No. 430056 1 - Hillsborough County	**Existing Bridge Typical Sections**	**Figure 1-3**

Planned improvements include widening to six lanes as well as intersection improvements, construction of stormwater management and floodplain compensation facilities and multimodal facilities. Planned typical sections include both suburban and urban typical sections. Additional right of way will be required in the north Gibsonton area for the planned improvements. Alternatives to replace the bridges at Bullfrog Creek and the Alafia River were evaluated. Planned typical sections are shown in **Figures 1-4, 1-5** and **1-6**. A "No-Build" Alternative was also evaluated. No future phases for this proposed project are included in FDOT's current adopted 5-year work program (Fiscal Years 16/17 through 20/21).

1.4 PROJECT PURPOSE AND NEED

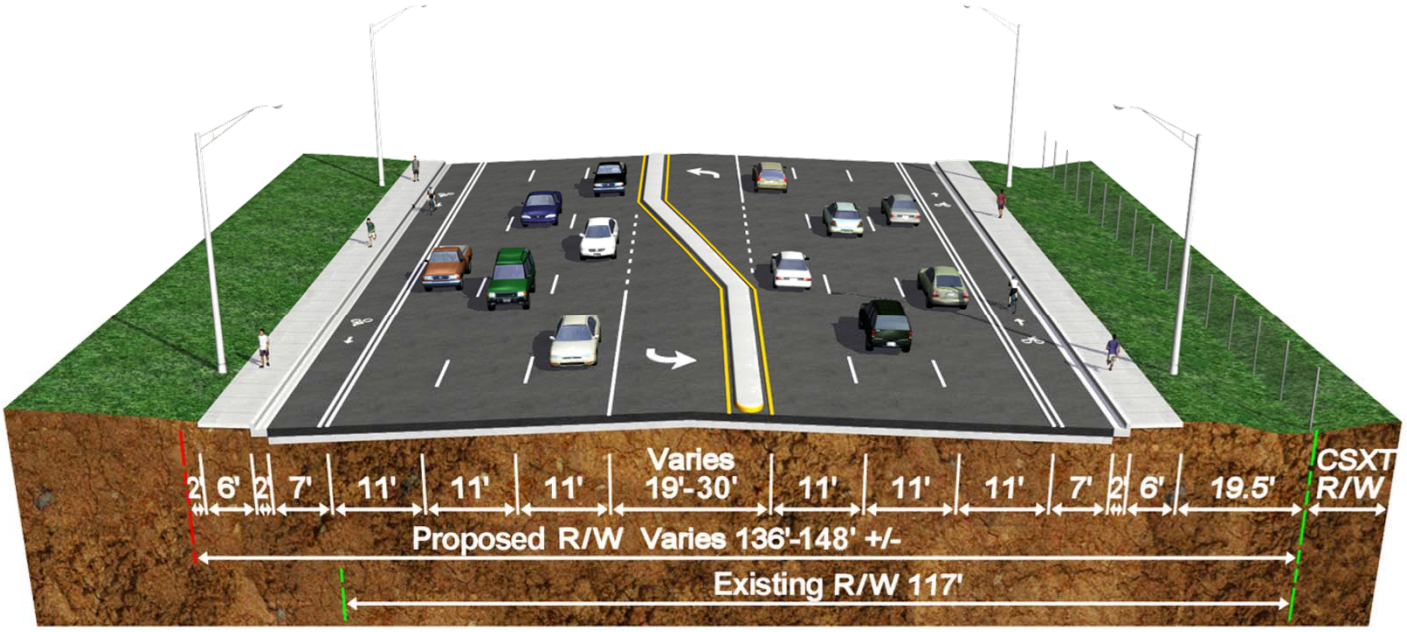
US 41 within the study area plays a significant role in connecting southern Hillsborough County to the Tampa Bay region. The purpose of the proposed project is to accommodate future traffic demands on US 41 due to growth within the project limits and surrounding areas. Segments within this corridor are projected to operate at level of service (LOS) F in the design year (2040) if no increase in capacity is provided. Additional factors which support the need for the project include:

Regional Connectivity - US 41 is a major north-south regional arterial that parallels I-75 and US 301 and connects south Hillsborough County to the Tampa Bay region. It provides connectivity between the communities of Apollo Beach, Riverview, and Gibsonton. US 41 is a "regional road" according to the West Central Florida Metropolitan Planning Organization's (MPO's) Chairs Coordinating Committee (CCC). US 41 also provides highway access to the Port of Tampa facilities at Pendola Point and Port Sutton.

Safety - With the additional capacity provided in the corridor by the widening of US 41 from four to six lanes, roadway congestion will be reduced, which will decrease potential conflicts with other vehicles and potentially increase safety. An analysis of traffic crash data for years 2008 thru 2012 revealed that the overall average crash rate within the study limits was lower than the statewide average crash rate for similar type facilities. While not structurally deficient, the bridges over both Bullfrog Creek and the Alafia River are classified as *functionally obsolete* due to substandard-width shoulders. In addition, the sidewalks on the bridges are very narrow and there are no dedicated bicycle facilities.

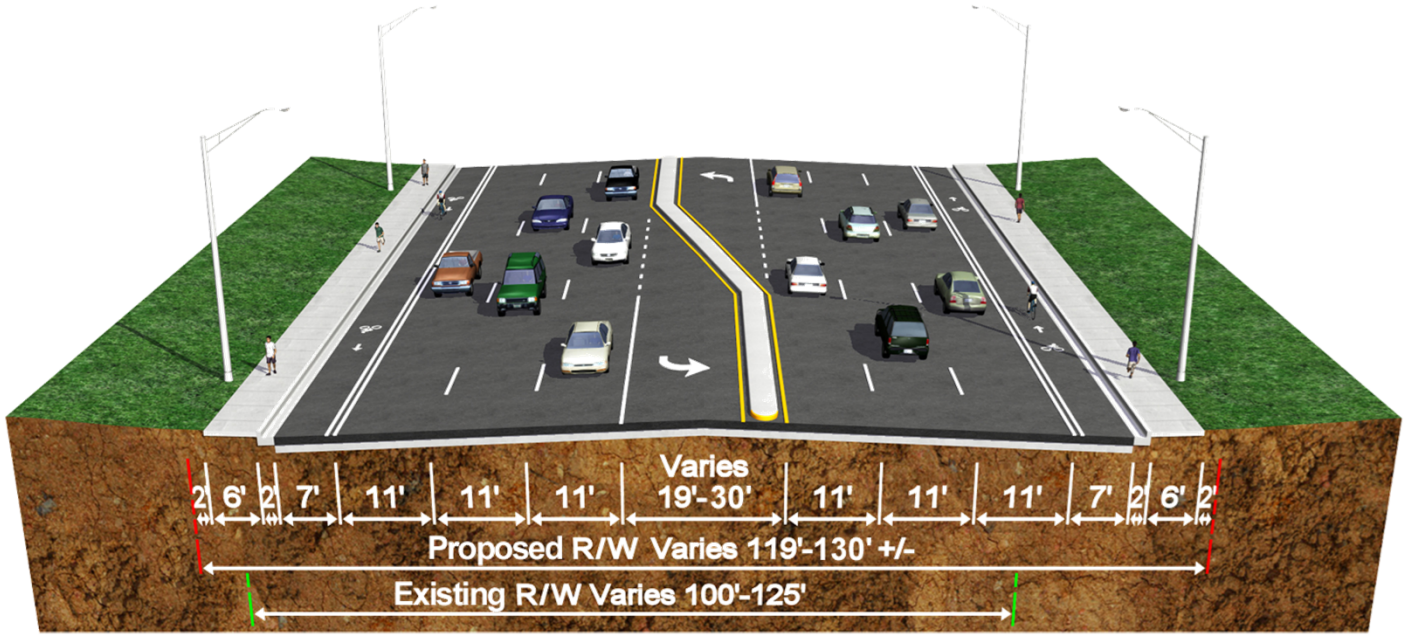
Plan Consistency - This project is consistent with the Comprehensive Plan for Unincorporated Hillsborough County. The Hillsborough County *Imagine 2040 Long-Range Transportation Plan (LRTP)* indicates a need to widen US 41 to 6-lanes from 19th Avenue to north of Madison Avenue, "beyond 2040". In addition, a short segment between Madison Avenue and Causeway Boulevard is shown as 6 lanes in the Cost Feasible FDOT Strategic Intermodal System Projects, with design after year 2026.

(All views are looking north)



From Gibsonton Drive to Lula Street

Design Speed = 45 mph



From Palm Avenue to Gibsonton Drive

Design Speed = 45 mph

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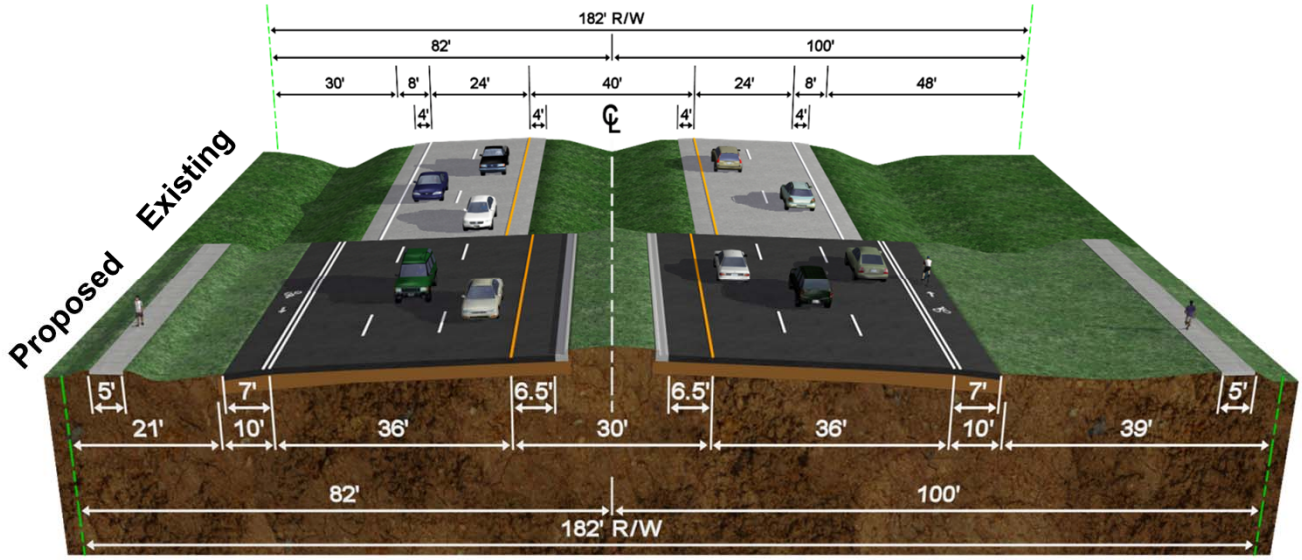
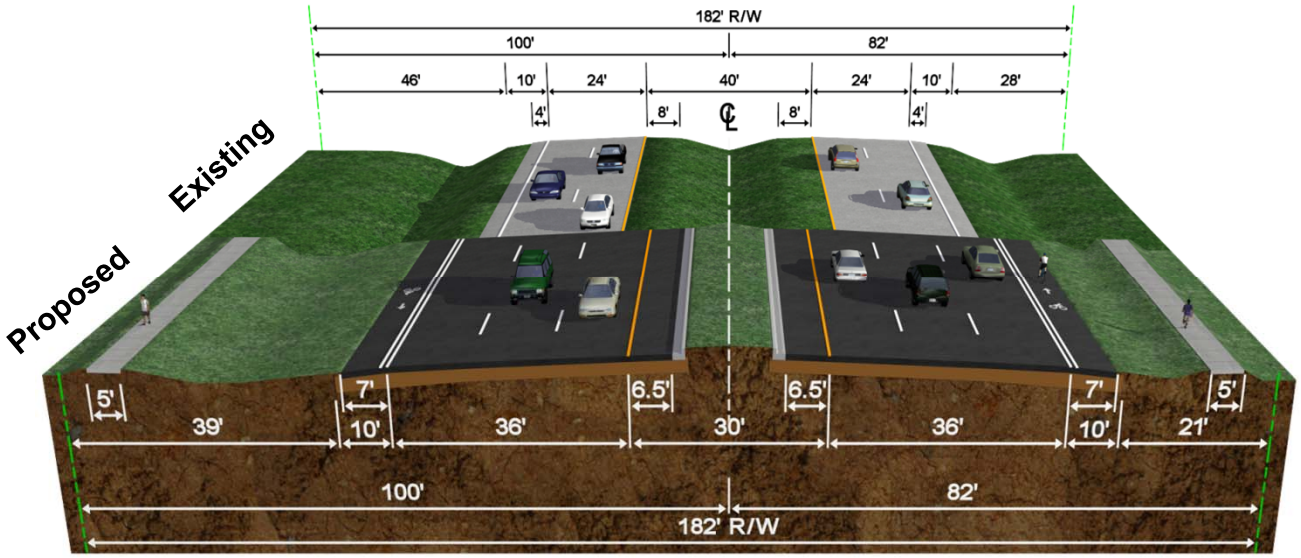
US 41(SR 45) PD&E Study *From Kracker Avenue to South of SR 676 (Causeway Blvd)* WPI Segment No. 430056 1 - Hillsborough County	**Planned Urban Typical Sections**	**Figure 1-4**

Suburban Alternatives Utilizing the Existing Pavement



- Provides 50 mph design speed (required for SIS Connector Segment north of Pendola Point)
- Design variation for border width required
- No additional ROW required

Between Alafia River Bridge & Denver Street (Near the North End of the Project)



- Provides 50 mph design speed
- Design variation for border width required
- No additional ROW required

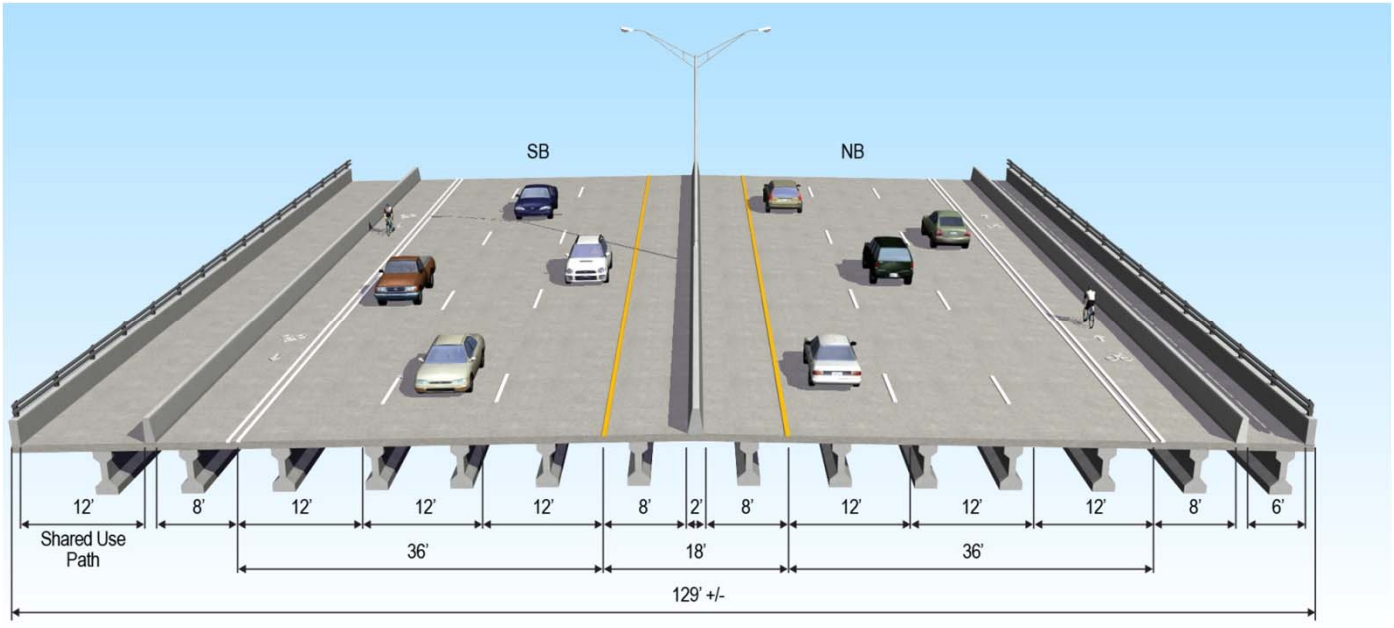
Between Kracker Ave. & Palm Ave. (Near the South End of the Project)

(All views are looking north)

Rev. 10/12/16

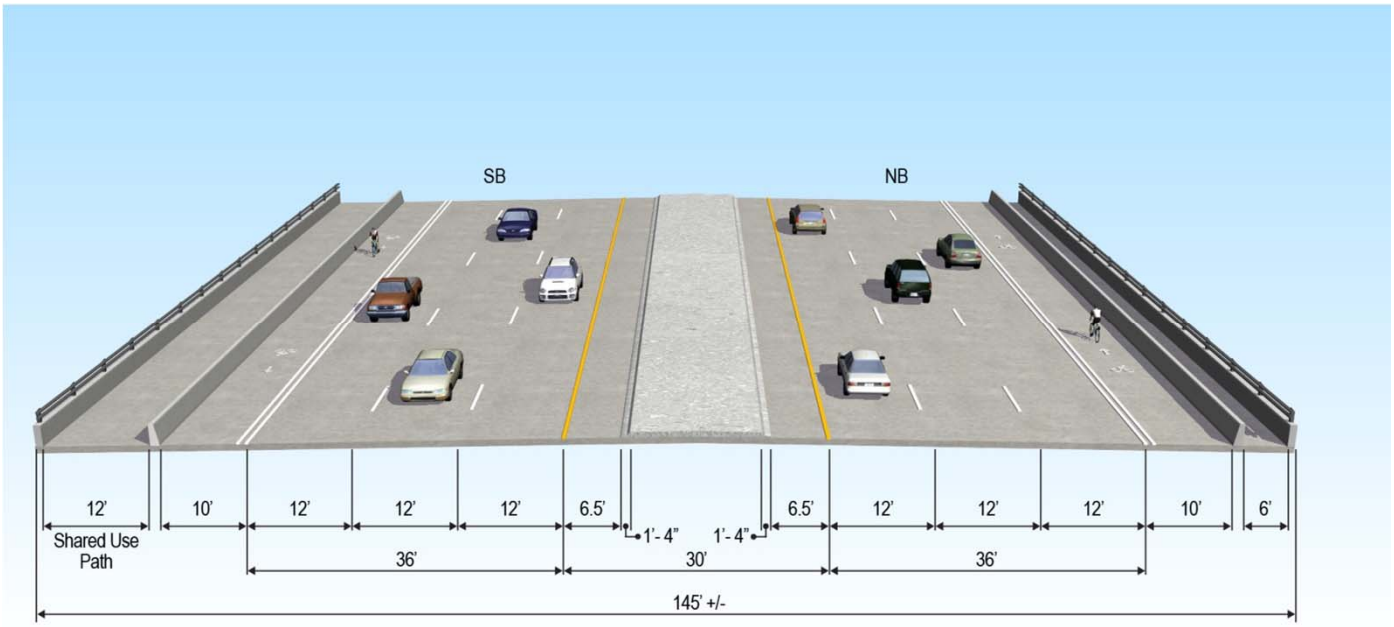
US 41(SR 45) PD&E Study *From Kracker Avenue to South of SR 676 (Causeway Blvd)* WPI Segment No. 430056 1 - Hillsborough County	**Planned Suburban Typical Sections**	**Figure 1-5**

(All views are looking north)



Bridge at Alafia River

Design Speed = 50 mph



Bridge at Bullfrog Creek

Design Speed = 50 mph

Rev. 10/12/16

US 41(SR 45) PD&E Study *From Kracker Avenue to South of SR 676 (Causeway Blvd)* WPI Segment No. 430056 1 - Hillsborough County	**Planned Bridge Typical Sections**	**Figure 1-6**

Emergency Evacuation - US 41 is listed as an evacuation route by the Hillsborough County Emergency Management and shown on the Florida Division of Emergency Management's evacuation route network. US 41 provides access to I-75 via interchanges with east-west connections on Gibsonton Drive, Big Bend Road (CR 672) and SR 60 in close proximity to the study limits.

Current and Future Transportation Demand - Traffic in the corridor is expected to increase due to projected population and employment growth along the corridor. In 2013, the Annual Average Daily Traffic (AADT) ranged between 23,400 vehicles per day (VPD) (Level of Service [LOS] B) and 36,400 VPD (LOS B) within the study area according to the *Traffic Technical Memorandum*. With a maximum AADT of 32,350 VPD over the four lane section, US 41 is at 88 percent capacity for the adopted level of service standard of D. In 2040, AADTs are expected to range between 38,800 VPD and 61,000 VPD. The existing four lane cross section would result in a LOS F in some segments with the future projected traffic volumes. The widening of this facility is also intended to provide relief to parallel facilities such as I-75 and US 301.

Modal Interrelationships – Expansion of the existing roadway would help improve mobility for the Hillsborough Area Regional Transit (HART) Authority local bus route 31 within the corridor. Bicycle and pedestrian accommodations will also be considered as part of the proposed improvements.

US 41 is part of the highway network that provides access to regional intermodal facilities such as the Port of Tampa and Port Manatee. The segment of US 41 between Madison Avenue/Pendola Point Road and SR 676 is designated as a Strategic Intermodal System (SIS) *connector*. The SIS is a statewide network of highways, railways, waterways, and transportation hubs that handle the bulk of Florida's passenger and freight traffic. Improvements to US 41 would enhance access to activity centers in the area and would improve movement for goods and freight in the Tampa Bay region and across the State.

1.5 REPORT PURPOSE

This Noise Study Report (NSR) is one of several documents prepared as part of the PD&E study. The objectives of this NSR are to identify properties with land uses for which there are noise abatement criteria, to evaluate future traffic noise levels at these properties with and without the proposed improvements, and, if necessary, to evaluate the need for and effectiveness of noise abatement measures. Additional objectives include the consideration of construction noise and the identification of noise impact "contours" adjacent to the corridor.

SECTION 2 TRAFFIC NOISE ANALYSIS METHODOLOGY

2.1 EVALUATION PROCESS

This traffic noise analysis for US 41 was prepared in accordance with Title 23 Code of Federal Regulations (CFR) Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise*. The evaluation uses methodologies established by FDOT and documented in the PD&E Manual, Part 2, Chapter 17 (May 2011).

The predicted noise levels presented in this report are expressed in decibels on the "A"-weighted scale (dB(A)). This scale most closely approximates the response characteristics of the human ear to traffic noise. All noise levels are reported as one-hour equivalent levels (Leq(h)). Leq(h) values are equivalent steady-state sound levels containing the same acoustic energy as time-varying sound levels over a period of one hour.

2.2 NOISE MODEL

The prediction of existing and future traffic noise levels with and without the roadway improvements was performed using the FHWA's computer model for highway traffic noise prediction and analysis – the Traffic Noise Model (TNM, Version 2.5). The TNM propagates sound energy, in one-third octave bands, between highways and nearby receptors taking the intervening ground's acoustical characteristics/topography and rows of buildings into account.

2.3 TRAFFIC DATA

Noise levels are low when traffic volumes are low (i.e., level-of-service (LOS) A or B) or when traffic is so congested that movement is slow (i.e., LOS D, E, or F). Generally, the maximum hourly noise level occurs between these two conditions. Therefore, traffic volumes used in the US 41 analysis reflect either the design LOS C volumes or the demand volumes (if forecast demand levels meet the LOS A or B criteria), whichever is less. The existing (2013), future no-build (2040), and future build (design year of 2040) traffic data are presented in **Table 2-1** and **Appendix B**. As noted in **Table 2-1**, existing and future posted speed limits were assumed in TNM for vehicle speeds.

Table 2-1 Traffic Data for Noise Analysis

US 41 Segment	Scenario	Average Daily Traffic[4]		Hourly Traffic										Posted Speed (mph)
				Peak Direction					Off-Peak Direction					
		LOS C	Demand	Cars	MT	HT	B	MC	Cars	MT	HT	B	MC	
Kracker Ave to Symmes Rd[1]	Existing	35,500	***25,550***	1,406	21	46	1	3	782	12	26	1	2	55
	No-Build	***35,500***	42,100	1,520	23	50	1	3	1,520	23	50	1	3	55
	Build	53,700	***42,100***	2,317	35	76	2	5	1,288	20	42	1	3	55
Symmes Rd to Palm Ave[2]	Existing	35,500	***27,050***	1,489	21	50	0	5	828	12	28	0	3	50
	No-Build	***35,500***	45,000	1,520	21	51	0	5	1,520	21	51	0	5	50
	Build	53,700	***45,000***	2,476	35	83	1	8	1,377	19	46	0	4	50
Palm Ave to Gibsonton Dr[2]	Existing	35,500	***29,050***	1,599	22	54	1	5	889	12	30	0	3	50
	No-Build	***35,500***	45,200	1,520	21	51	0	5	1,520	21	51	0	5	50
	Build	53,700	***45,200***	2,487	35	84	1	8	1,383	19	47	0	4	50
Gibsonton Dr to Riverview Dr[2]	Existing	35,500	***28,350***	1,560	22	52	0	5	867	12	29	0	3	50
	No-Build	***35,500***	53,650	1,520	21	51	0	5	1,520	21	51	0	5	50
	Build	53,700	***53,650***	2,952	41	99	1	9	1,641	23	55	1	5	50
Riverview Dr to Madison Ave[2]	Existing	35,500	***26,650***	1,467	21	49	0	5	815	11	27	0	3	55
	No-Build	***35,500***	47,200	1,520	21	51	0	5	1,520	21	51	0	5	55
	Build	53,700	***47,200***	2,598	36	87	1	8	1,444	20	49	0	5	55
Madison Ave to Port Sutton Rd[3]	Existing	35,500	***32,350***	1,762	36	68	1	4	980	20	38	1	2	50
	No-Build	***35,500***	57,625	1,504	31	58	1	4	1,504	31	58	1	4	50
	Build	***53,700***	57,625	2,276	46	88	1	6	2,276	46	88	1	6	50
Port Sutton Rd to south of Causeway Blvd[3]	Existing	53,700	***36,400***	1,983	40	77	1	5	1,102	22	43	1	3	50
	No-Build	***53,700***	68,550	2,276	46	88	1	6	2,276	46	88	1	6	50
	Build	***53,700***	68,550	2,276	46	88	1	6	2,276	46	88	1	6	50

[1] Peak-Hour Factor (K) = 9.00%, Directional Factor (D) = 64.27% for Demand and 50.00% for LOS C, Medium Trucks (MT) = 1.45%, Heavy Trucks (HT) = 3.12%, Buses (B) = 0.07%, and Motorcycles (MC) = 0.20%.

[2] Peak-Hour Factor (K) = 9.00%, Directional Factor (D) = 64.27% for Demand and 50.00% for LOS C, Medium Trucks (MT) = 1.33%, Heavy Trucks (HT) = 3.20%, Buses (B) = 0.03%, and Motorcycles (MC) = 0.30%.

[3] Peak-Hour Factor (K) = 9.00%, Directional Factor (D) = 64.27% for Demand and 50.00% for LOS C, Medium Trucks (MT) = 1.91%, Heavy Trucks (HT) = 3.64%, Buses (B) = 0.05%, and Motorcycles (MC) = 0.23%.

[4] The Average Daily Traffic used in the analysis is indicated by bold and italic text.

SECTION 3 NOISE ANALYSIS

3.1 NOISE SENSITIVE RECEPTORS

Noise sensitive receptors (i.e., locations of predicted traffic noise levels) are properties/locations where frequent human use occurs. To evaluate traffic noise at these receptors, the FHWA established Noise Abatement Criteria (NAC). As shown in **Table 3-1**, the criteria vary according to a properties' activity category (i.e., the type of activity that occurs on a property). For comparative purposes, the typical noise levels of a few common indoor and outdoor activities are provided in **Table 3-2**.

Table 3-1 FHWA/FDOT Noise Abatement Criteria [Leq(h) expressed in dB(A)]

Activity Category	Description of Activity Category	Activity Leq(h)[1]	
		FHWA	FDOT
A	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.	57 (Exterior)	56 (Exterior)
B[2]	Residential	67 (Exterior)	66 (Exterior)
C[2]	Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreational areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.	67 (Exterior)	66 (Exterior)
D	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.	52 (Interior)	51 (Interior)
E[2]	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.	72 (Exterior)	71 (Exterior)
F	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.	--	--
G	Undeveloped lands that are not permitted.	--	--

[1] The Leq(h) Activity Criteria values are for impact determination only, and are not design standards for noise abatement measures.

[2] Includes undeveloped lands permitted for this activity category.

Table 3-2 Typical Noise Levels

Common Outdoor Activities	Noise Level dB(A)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area daytime		
Gas lawnmower at 100 feet	**70**	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	**60**	
		Large business office
Quiet urban daytime	**50**	Dishwasher in next room
		Theater, large conference room
Quiet urban nighttime	**40**	(background)
Quiet suburban nighttime		
	30	Library
		Bedroom at night, concert hall
Quiet rural nighttime		(background)
	20	
		Broadcast/recording studio
	10	
	0	

Source: California Dept. of Transportation Technical Noise Supplement, Sep. 2013, Page 2-20.

When predicted traffic noise levels "approach" or exceed the FHWA NAC, or when predicted future noise levels increase substantially from existing levels, the FHWA requires that noise abatement measures be considered. FDOT defines the word "approach" to mean within one dB(A) of the NAC. Additionally, the FDOT criteria states that a substantial increase in traffic noise occurs if traffic noise levels are predicted to increase 15 dB(A) or more above existing conditions as a direct result of a transportation improvement project.

Of the 153 evaluated noise sensitive receptors, 145 were located at residences and three were evaluated within two parks (Williams Park and Mosaic Park). Two places of worship (First Baptist Church and Freedom Assembly Church), a school (Pre-School Academy), a restaurant with an outdoor dining area (Showtown Restaurant), and an office with outdoor use (Marine Engineers Beneficial Association) were also evaluated. The land use review, during which these noise sensitive receptors were identified, was concluded on October 17, 2014. Additionally, an online review of the

Hillsborough County Online Permit Reports database, concluded on October 31, 2014, revealed that there were no recently issued permits within the project limits.

The locations of the receptors are illustrated on the project aerials in **Appendix A**. The residences were evaluated as Activity Category "B" and the parks, the Freedom Assembly Church, and the school were evaluated as Activity Category "C". For these properties, abatement measures were considered if predicted exterior traffic noise levels were 66 dB(A) or greater. The First Baptist Church, which has no obvious outdoor use near US 41, was evaluated as Activity Category "D". For this property, abatement measures were considered if predicted interior traffic noise levels were 51 dB(A) or greater. A building noise reduction factor of 25 dB(A) was used to predict the interior traffic noise level. The restaurant with an outdoor dining area and the office with outdoor use were evaluated as Activity Category "E". For these properties, abatement measures were considered if predicted exterior traffic noise levels were 71 dB(A) or greater. Additionally, noise abatement was considered if traffic noise levels were predicted to increase 15 dB(A) or more from existing levels.

3.2 MEASURED NOISE LEVELS

As previously stated, existing and future noise levels with and without the proposed improvements were modeled using the TNM. To verify the accuracy of the predictions, the computer model was validated using measured noise levels adjacent to the project corridor.

Traffic data including motor vehicle volumes, vehicle mix, vehicle speeds, and meteorological conditions were recorded during each measurement period.

The field measurements were conducted in accordance with the FHWA's *Measurement of Highway-Related Noise*. The measurements were obtained using a Larson Davis 831 Type I integrating sound level meter (SLM). The SLM was calibrated before and after the measurement periods with a Larson Davis CAL200 calibrator.

The recorded traffic data were used as input for the TNM to determine if, given the topography and actual site conditions of the area, the computer model could "re-create" the measured levels with the existing roadway. Following FDOT guidelines, a noise prediction model is considered within the accepted level of accuracy if the measured and predicted noise levels are within a tolerance standard of three dB(A).

Table 3-3 presents the field measurements and the validation results. As shown, the ability of the model to predict noise levels within the FDOT limits of plus or minus three dB(A) for the project was confirmed. Documentation in support of the validation is provided in **Appendix C**.

Table 3-3 Validation Data

Location	Measurement Period	Modeled	Measured	Difference
East side of US 41 north of Ohio St	1	66.1	64.9	1.2
	2	66.3	65.1	1.2
	3	67.9	68.2	-0.3
East side of US 41 north of Estelle Ave	1	59.9	60.9	-1.0
	2	59.8	60.4	-0.6
	3	60.6	61.4	-0.8

3.3 RESULTS OF THE NOISE ANALYSIS

Table 3-4 presents the results of the traffic noise analysis for the recommended alternative. As shown, the existing (2013) exterior traffic noise levels are predicted to range from 56.5 to 72.6 dB(A), and an interior level of 39.1 dB(A) is predicted at one noise sensitive receptor (First Baptist Church). A total of 36 receptors are predicted to approach, meet, or exceed the NAC.

In the future without the proposed improvements (2040 no-build), exterior traffic noise levels are predicted to range from 57.5 to 73.2 dB(A), and an interior level of 39.5 dB(A) is predicted at the First Baptist Church. A total of 55 receptors are predicted to approach, meet, or exceed the NAC.

In the future with the proposed improvements (2040 build), exterior traffic noise levels are predicted to range from 60.2 to 75.4 dB(A), and an interior level of 42.6 dB(A) is predicted at the First Baptist Church. A total of 83 receptors are predicted to approach, meet, or exceed the NAC. When compared to the existing condition, traffic noise levels are not predicted to increase more than 5.8 dB(A) above existing conditions at any of the evaluated noise sensitive receptors. As such, the project would not substantially increase traffic noise.

Noise abatement measures were evaluated for the 83 receptors that were predicted to experience future traffic noise levels that approach, meet, or exceed the NAC with the proposed improvements. The results of the evaluation are provided in **Section 4** of this NSR.

Table 3-4 Predicted Traffic Noise Levels

Rec No.	Sheet No.	Activity Category	Description	No. of Units	Leq(h) (dB(A))				Approaches, Meets, or Exceeds the NAC?
					Existing (2013)	No-Build (2040)	Build (2040)	Increase from Existing	
1	1	B	Residential	1	56.5	57.5	60.2	3.7	
2	1	B	Residential	1	71.4	72.0	74.5	3.1	Yes
3	1	B	Residential	1	68.4	69.1	71.7	3.3	Yes
4	1	B	Residential	1	64.0	64.9	67.9	3.9	Yes
4b	1	B	Residential	1	56.8	58.0	61.1	4.3	
5	3	B	Residential	1	66.8	67.6	70.2	3.4	Yes
6	3	B	Residential	1	71.7	72.4	74.8	3.1	Yes
7	3	B	Residential	1	67.6	68.4	71.0	3.4	Yes
8	3	B	Residential	1	69.0	69.8	72.4	3.4	Yes
9	3	B	Residential	1	65.2	66.0	68.8	3.6	Yes
10	3	B	Residential	1	64.1	65.0	67.9	3.8	Yes
10b	3	B	Residential	1	58.6	59.7	62.9	4.3	
11	3	B	Residential	1	64.4	65.2	68.0	3.6	Yes
12	3	B	Residential	1	62.9	63.9	66.8	3.9	Yes
12b	3	B	Residential	1	59.5	60.5	63.7	4.2	
13	3	B	Residential	1	66.4	67.2	69.7	3.3	Yes
14	3	B	Residential	1	65.2	65.9	68.2	3.0	Yes
15	3	B	Residential	1	66.5	67.2	69.6	3.1	Yes
16	3	B	Residential (Eastwood Estates MHP)	1	67.7	68.4	71.1	3.4	Yes
17	3	B		1	69.5	70.3	72.9	3.4	Yes
18	3	B		1	67.1	67.9	70.5	3.4	Yes
19	3	B		1	64.8	65.6	68.5	3.7	Yes
20	3	B		1	62.5	63.4	66.6	4.1	Yes
21	3	B		1	61.8	62.8	66.0	4.2	Yes
22	3	B		1	60.5	61.5	64.9	4.4	
23	3	B	Residential (The Park at Palm Grove)	1	65.6	66.5	68.5	2.9	Yes
24	3	B		1	63.8	64.8	67.2	3.4	Yes
25	3	B		1	60.5	61.6	64.5	4.0	
26	4	B		1	63.6	64.5	67.0	3.4	Yes
27	4	B		1	61.8	62.8	65.5	3.7	
28	4	B		1	60.9	62.0	64.7	3.8	
29	4	B		1	61.1	62.1	64.9	3.8	
30	4	B		1	65.6	66.5	68.6	3.0	Yes
31	4	B		1	64.5	65.4	67.7	3.2	Yes
32	4	B		1	61.2	62.3	65.0	3.8	
33	4	B	Residential	1	62.0	62.9	65.9	3.9	
34	4	B	Residential (Magnolia Trails)	1	67.1	68.0	70.6	3.5	Yes
35	4	B		1	62.3	63.2	66.1	3.8	Yes
36	4	B		1	60.2	61.1	64.3	4.1	
37	4	B	Residential	4	60.2	61.2	64.6	4.4	

Rec No.	Sheet No.	Activity Category	Description	No. of Units	Leq(h) (dB(A))				Approaches, Meets, or Exceeds the NAC?
					Existing (2013)	No-Build (2040)	Build (2040)	Increase from Existing	
38	4	B	(Sweet Living MHP)	3	60.3	61.3	64.8	4.5	
39	5	B	Residential	1	71.3	71.9	74.4	3.1	Yes
40	5	B	Residential (Flower Garden MHP)	1	72.6	73.2	75.4	2.8	Yes
41	5	B		1	65.6	66.3	69.1	3.5	Yes
42	5	B		1	60.0	61.0	64.5	4.5	
43	5	B	Residential	1	58.1	59.0	62.0	3.9	
44	5	C	School (Pre-School Academy)	1	61.7	62.6	65.4	3.7	
45	5	B	Residential	1	63.6	64.4	67.0	3.4	Yes
46	5	B	Residential (Oakwood II MHP)	1	70.1	70.8	73.4	3.3	Yes
47	5	B		1	69.2	70.0	72.5	3.3	Yes
48	5	B		1	65.8	66.6	69.3	3.5	Yes
49	5	B		1	62.3	63.2	66.5	4.2	Yes
49b	5	B		1	58.8	59.9	63.3	4.5	
50	6	B	Residential	1	63.6	64.4	67.6	4.0	Yes
51	6	B	Residential	1	69.6	70.2	72.9	3.3	Yes
52	6	B	Residential	1	70.1	70.8	73.5	3.4	Yes
53	6	B	Residential	1	67.8	68.5	71.2	3.4	Yes
53b	6	C	Place of Worship (Freedom Assembly)	1	58.7	59.7	62.9	4.2	
54	6	B	Residential	1	61.6	62.5	65.7	4.1	
55	6	B	Residential	1	64.2	65.1	67.7	3.5	Yes
56	6	B	Residential (Hide A Way Hills MHP)	1	67.6	68.2	71.0	3.4	Yes
57	6	B		1	63.0	63.8	66.5	3.5	Yes
58	6	B		1	60.4	61.1	64.0	3.6	
59	6	B		1	68.1	68.7	71.5	3.4	Yes
60	6	B		1	63.2	63.8	66.5	3.3	Yes
61	6	B		1	58.8	59.6	62.4	3.6	
62	7	B		1	68.6	69.1	71.9	3.3	Yes
63	7	B		1	65.7	66.4	69.1	3.4	Yes
64	7	B		1	61.8	62.7	65.2	3.4	
65	7	B		1	70.6	71.1	73.6	3.0	Yes
66	7	B		1	70.0	70.5	72.9	2.9	Yes
67	7	B		1	65.1	65.6	68.3	3.2	Yes
68	7	B		1	64.3	64.9	67.6	3.3	Yes
69	7	B		1	69.1	69.6	72.1	3.0	Yes
70	7	B		1	64.8	65.4	67.9	3.1	Yes
71	7	B		1	62.7	63.3	64.9	2.2	
72	7	B	Residential	1	64.2	64.9	68.0	3.8	Yes
73	7	B	Residential (Anderson's RV Plaza)	1	64.9	65.4	68.0	3.1	Yes
74	7	B		1	60.6	61.3	63.8	3.2	

Rec No.	Sheet No.	Activity Category	Description	No. of Units	Leq(h) (dB(A))				Approaches, Meets, or Exceeds the NAC?
					Existing (2013)	No-Build (2040)	Build (2040)	Increase from Existing	
75	7	B		1	67.7	68.2	70.0	2.3	Yes
76	7	B		1	63.3	64.0	66.5	3.2	Yes
76b	7	B		1	62.0	62.8	65.3	3.3	
77	7	B	Residential	1	68.4	69.0	72.2	3.8	Yes
78	7	B	Residential	1	65.4	66.1	68.6	3.2	Yes
79	7	B	Residential	1	63.8	64.6	67.3	3.5	Yes
79b	7	B	Residential	1	62.4	63.3	66.1	3.7	Yes
80	7	B	Residential	1	63.2	64.0	67.0	3.8	Yes
80b	7	B	Residential	1	59.3	60.3	63.2	3.9	
81	7	B	Residential	1	66.4	67.0	69.9	3.5	Yes
82	7	B	Residential	1	66.8	67.4	70.2	3.4	Yes
83	7	B	Residential	1	67.2	67.8	70.6	3.4	Yes
84	7	B	Residential	1	67.3	67.9	70.7	3.4	Yes
85	7	B	Residential	1	62.8	63.6	66.8	4.0	Yes
85b	7	B	Residential	1	59.6	60.5	63.6	4.0	
86	7	B	Residential	1	64.3	65.0	68.2	3.9	Yes
86b	7	B	Residential	1	60.9	61.7	65.1	4.2	
87	8	B	Residential	1	61.1	61.9	65.0	3.9	
88	8	B	Residential (Figueroa Trailer Park)	6	62.4	63.0	65.4	3.0	
89	9	E	Restaurant (Showtown)	1	68.0	68.2	72.3	4.3	Yes
90	9	B	Residential	1	60.6	61.3	63.6	3.0	
91	9	B	Residential	1	60.6	61.3	63.5	2.9	
92	10	B	Residential	1	66.0	66.8	71.5	5.5	Yes
93	10	B	Residential	1	61.1	62.3	65.9	4.8	
94	10	B	Residential	4	64.9	66.1	67.4	2.5	Yes
94b	10	B	Residential	4	62.1	64.3	64.8	2.7	
95	11	B	Residential	1	66.6	67.0	72.4	5.8	Yes
96	11	B	Residential	1	60.9	61.5	66.2	5.3	Yes
97	11	B	Residential	1	58.8	60.0	63.3	4.5	
98	11	B	Residential	3	59.0	60.1	63.3	4.3	
99	11	B	Residential	1	65.6	66.1	70.4	4.8	Yes
100	11	B	Residential	1	64.8	65.3	69.6	4.8	Yes
101	11	B	Residential	3	59.5	60.5	64.2	4.7	
102	11	B	Residential	1	63.7	64.2	67.1	3.4	Yes
102b	11	B	Residential	1	59.6	60.6	62.6	3.0	
103*	11	D	Place of Worship (First Baptist Church)	1	39.1	39.5	42.6	3.5	
104	11	B	Residential	3	59.7	60.5	63.2	3.5	
105	11	B	Residential	4	62.1	62.7	65.6	3.5	

Rec No.	Sheet No.	Activity Category	Description	No. of Units	Leq(h) (dB(A))				Approaches, Meets, or Exceeds the NAC?
					Existing (2013)	No-Build (2040)	Build (2040)	Increase from Existing	
106	12	B	Residential	1	62.5	63.0	65.9	3.4	
107	12	B	Residential	1	63.2	63.7	66.5	3.3	Yes
107b	12	B	Residential	1	61.4	62.1	65.3	3.9	
108	12	B	Residential	2	63.2	63.8	66.3	3.1	Yes
108b	12	B	Residential	1	61.2	62.0	64.9	3.7	
109	13	C	Park (Williams Park)	1	63.5	63.8	60.8	-2.7	
110	13	C		1	59.9	60.7	63.0	3.1	
111	14	C	Park (Mosaic Park)	1	61.8	62.6	65.3	3.5	
112	24	B	Residential	1	66.5	67.2	69.9	3.4	Yes
113	24	B	Residential	1	66.0	66.7	69.0	3.0	Yes
114	26	E	Office (Marine Engineers Beneficial Association)	1	62.3	62.3	64.0	1.7	
115	27	B	Residential	1	62.6	63.8	65.9	3.3	

Note: Receptor locations are presented on the Project Aerials in **Appendix A** of this report.

* The predicted traffic noise levels are interior levels.

SECTION 4 EVALUATION OF ABATEMENT ALTERNATIVES

The noise abatement measures considered for US 41 were traffic management, alternative roadway alignment, buffer zones, and noise barriers. The following discusses the feasibility (e.g., amount of noise reduction) and reasonableness (e.g., cost effectiveness and meeting the noise reduction design goal) of these measures.

4.1 TRAFFIC MANAGEMENT

Traffic management measures that limit motor vehicle speeds and reduce volumes can be effective noise mitigation measures. However, typically these measures also negate a project's ability to accommodate forecast traffic volumes. For example, if the posted speed were reduced, the capacity of the improved roadway to handle the forecast motor vehicle demand would also be reduced. Therefore, reducing the traffic speed and/or traffic volumes is inconsistent with the goal of improving the ability of the roadway to handle the forecast traffic volume. As such, traffic management measures are not considered a reasonable noise abatement measure for the US 41 project.

4.2 ALTERNATIVE ROADWAY ALIGNMENT

The proposed improvements will generally follow the same alignment as the existing roadway to minimize the need for additional right-of-way (ROW) within the project corridor. Maintaining the alignment within the existing ROW, where feasible, will minimize impacts to surrounding noise sensitive receptors located both east and west of the roadway. As such, alternative roadway alignments are not considered a reasonable abatement measure.

4.3 NOISE BUFFER ZONES

Providing a buffer between a roadway and future noise sensitive land uses is an abatement measure that can minimize/eliminate noise impacts in areas of future, not existing development. To encourage use of this abatement measure through local land use planning, noise contours were developed (discussed in **Section 5** of this NSR).

4.4 NOISE BARRIERS

Noise barriers have the potential to reduce traffic noise levels by physically obstructing the sound path between the motor vehicles on the roadway (the source) and the noise sensitive land uses adjacent to the roadway. However, in order to effectively reduce traffic noise, a noise barrier must be relatively long, continuous (without intermittent openings), and sufficiently tall. Following FDOT procedures, the minimum requirements for a noise barrier to be considered both acoustically feasible and reasonable and cost effective are:

- Acoustically Feasible and Reasonable Criteria – To be acoustically feasible, a barrier must provide at least a 5 dB(A) reduction in traffic noise for two or greater impacted noise sensitive receptors.

To be acoustically reasonable, a barrier must provide at least a 7 dB(A) reduction (i.e., the FDOT's noise reduction design goal) for at least one benefited receptor.

- Cost Effective Criteria - The current estimated cost to construct noise barriers (i.e., materials and labor) is $30.00 per square foot. A barrier should not cost more than $42,000 per benefited noise sensitive receptor (a benefited receptor is a receptor that receives at least a 5 dB(A) reduction in noise from a mitigation measure).

If a noise barrier meets both the initial acoustic feasibility and reasonableness criteria and is cost effective, additional factors are considered. These factors relate to design and construction (i.e., given site-specific details, can a barrier actually be constructed), safety, access to and from adjacent properties, ROW requirements, maintenance, and impacts on utilities and drainage. The viewpoint of the impacted property owners, and renters if applicable, who may, or may not, desire a noise barrier is also a factor that is considered when evaluating noise barriers as an abatement measure.

The TNM was used to evaluate the ability of noise barriers to reduce traffic noise levels for the impacted noise sensitive receptors. Each barrier was evaluated at a location five feet within the FDOT's ROW and at heights from eight to 22 feet (in two-foot increments). The length of each barrier was optimized using the TNM in an attempt to provide at least 5 dB(A) of traffic noise reduction for the impacted receptors and at least 7 dB(A) for at least one of the impacted receptors.

4.4.1 Noise Barrier Analysis

As shown in **Table 3-4**, during the design year (2040) with the recommended alternative (build), traffic noise levels are predicted to approach, meet, or exceed the NAC at the following residences:

- Mobile home park (MPH) north of Kracker Avenue (Receptors 2-4),
- MHP and adjoining single family residences (SFRs) south of Ohio Street (Receptors 5-13),
- Residences north of Ohio Street (Receptors 14 and 15),
- Eastwood Estates MHP (Receptors 16-21),
- The Park at Palm Grove MHP (Receptors 23-31),
- Magnolia Trails Subdivision (Receptors 34 and 35),
- Flower Garden MHP and adjoining SFR (Receptors 39-41),
- Oakwood II MHP (Receptors 46-49),
- Residences south of Symmes Road (Receptors 51-53),
- Hide A Way Hills MHP and adjoining Anderson's RV Plaza (Receptors 56-76),
- MHP north of the Bullfrog Creek bridge (Receptors 77-86),
- Showtown Restaurant (Receptor 89),
- Residences north of Gibsonton Drive (Receptor 94 and 102),
- Residences at Estelle Avenue (Receptors 95 and 96),
- Residences at Anna Avenue (Receptors 99 and 100),

- Residences north of Pennsylvania Avenue (Receptors 107 and 108),
- Residences at Dover Street (Receptors 112 and 113), and
- Single, isolated residences (Receptors 55, 72, and 92).

The following discusses the acoustic feasibility/reasonableness and cost effectiveness of providing noise barriers as an abatement measure for the above land uses.

Barrier 1: MHP North of Kracker Avenue (Receptors 2-4)

Barrier 1 was evaluated for the three impacted residences (Receptors 2-4) located north of Kracker Avenue. The residences are located on the east side of US 41. The predicted future traffic noise levels range from 67.9 to 74.5 dB(A) at the residences. The results of the evaluation are provided in **Table 4-1**. As shown, the barrier failed to provide at least 5 dB(A) for two residences at any height. As such, Barrier 1 is not considered a feasible noise abatement measure.

Table 4-1 Barrier 1: MHP North of Kracker Avenue (Receptors 2-4)

Barrier Height/ Length (ft)	Impacted Receptors with Insertion Loss of (dB(A))						Number of Benefited Receptors			Total Estimated Cost	Cost Per Benefited Receptor	Cost Reasonable Yes/No
	5	6	7	8	9	10 or >	Impacted	Other*	Total			
8	0	1	0	0	0	0	1	0	1	--	--	--
10	0	0	0	1	0	0	1	0	1	--	--	--
12	0	0	0	0	1	0	1	0	1	--	--	--
14	0	0	0	0	1	0	1	0	1	--	--	--
16	0	0	0	0	0	1	1	0	1	--	--	--
18	0	0	0	0	0	1	1	0	1	--	--	--
20	0	0	0	0	0	1	1	0	1	--	--	--
22	0	0	0	0	0	1	1	0	1	--	--	--

* Other = Receptors determined to be unaffected by the project (traffic noise levels less than 66 dB(A)) but benefited by the noise barrier.

Barrier 2: MHP and Adjoining SFRs South of Ohio Street (Receptors 5-13)

Barrier 2 was evaluated for the nine impacted residences (Receptors 5-13) located south of Ohio Street. The residences are located on the east side of US 41. The predicted future traffic noise levels range from 66.8 to 74.8 dB(A). The results of the analysis are provided in **Table 4-2**. As shown, at heights of 12 to 22 feet the barrier would reduce traffic noise the minimum required 5 dB(A) for at least two impacted receptors and the goal of reducing predicted traffic noise levels 7 dB(A) or more for at least one impacted receptor could be achieved. At heights of 12 to 22 feet, the cost per benefited receptor ranges from $57,100 to $98,100, costs that exceed the cost reasonable

guideline. As such, although acoustically feasible and reasonable, Barrier 2 is not considered a cost reasonable noise abatement measure.

Table 4-2 Barrier 2: MHP and Adjoining SFRs South of Ohio Street (Receptors 5-13)

Barrier Height/ Length (ft)	Impacted Receptors with Insertion Loss of (dB(A))						Number of Benefited Receptors			Total Estimated Cost	Cost Per Benefited Receptor	Cost Reasonable Yes/No
	5	6	7	8	9	10 or >	Impacted	Other*	Total			
8	1	0	0	0	0	0	1	0	1	--	--	--
10	1	1	0	0	0	0	2	0	2	--	--	--
12/545	0	1	1	0	0	0	2	0	2	$196,200	$98,100	No
14/455	1	1	1	0	0	0	3	0	3	$191,100	$63,700	No
16/480	2	1	1	0	0	0	4	0	4	$230,400	$57,600	No
18/571	3	1	1	0	0	0	5	0	5	$308,340	$61,668	No
20/571	4	1	1	0	0	0	6	0	6	$342,600	$57,100	No
22/541	4	0	2	0	0	0	6	0	6	$357,060	$59,510	No

* Other = Receptors determined to be unaffected by the project (traffic noise levels less than 66 dB(A)) but benefited by the noise barrier.

Barrier 3: Residences North of Ohio Street (Receptors 14 and 15)

Barrier 3 was evaluated for the two impacted residences (Receptors 14 and 15) located north of Ohio Street. The residences are located on the west side of US 41. The predicted future traffic noise levels range from 68.2 to 69.6 dB(A) at the residences. The results of the evaluation are provided in **Table 4-3**. As shown, the barrier failed to provide at least 5 dB(A) for two residences at any height. As such, Barrier 3 is not considered a feasible noise abatement measure.

Table 4-3 Barrier 3: Residences North of Ohio Street (Receptors 14 and 15)

Barrier Height/ Length (ft)	Impacted Receptors with Insertion Loss of (dB(A))						Number of Benefited Receptors			Total Estimated Cost	Cost Per Benefited Receptor	Cost Reasonable Yes/No
	5	6	7	8	9	10 or >	Impacted	Other*	Total			
8	0	0	0	0	0	0	0	0	0	--	--	--
10	0	0	0	0	0	0	0	0	0	--	--	--
12	1	0	0	0	0	0	1	0	1	--	--	--
14	1	0	0	0	0	0	1	0	1	--	--	--
16	1	0	0	0	0	0	1	0	1	--	--	--
18	1	0	0	0	0	0	1	0	1	--	--	--
20	1	0	0	0	0	0	1	0	1	--	--	--
22	1	0	0	0	0	0	1	0	1	--	--	--

* Other = Receptors determined to be unaffected by the project (traffic noise levels less than 66 dB(A)) but benefited by the noise barrier.

Barrier 4: Eastwood Estates MHP (Receptors 16-21)

Barrier 4 was evaluated for the six impacted residences (Receptors 16-21) located north of Ohio Street. The residences are located on the east side of US 41. The predicted future traffic noise levels range from 66.0 to 72.9 dB(A). The results of the analysis for Barrier 4 indicated that a barrier would not provide at least 5 dB(A) reduction in traffic noise for any of these impacted receptors at any height. As such, Barrier 4 is not considered a feasible noise abatement measure.

Barrier 5: The Park at Palm Grove MHP (Receptors 23-31)

Barrier 5 was evaluated for the five impacted residences (Receptors 23-24, 26, and 30-31) located at Palm Grove Drive. The residences are located on the east side of US 41. The predicted future traffic noise levels range from 67.0 to 68.6 dB(A). The results of the analysis for Barrier 5 also indicated that a barrier would not reduce traffic noise at least 5 dB(A) for any of these impacted receptors at any height. As such, Barrier 5 is not considered a feasible noise abatement measure.

Barrier 6: Magnolia Trails Subdivision (Receptors 34 and 35)

Barrier 6 was evaluated for two impacted residences (Receptors 34 and 35) located at Cherry Blossom Trail. The residences are located on the east side of US 41. The predicted future traffic noise levels range from 66.1 to 70.6 dB(A). The results of the analysis for Barrier 6 also indicated that a barrier would not reduce traffic noise at least 5 dB(A) for any of these impacted receptors at any height. As such, Barrier 6 is not considered a feasible noise abatement measure.

Barrier 7: Flower Garden MHP and Adjoining SFR (Receptors 39-41)

Barrier 7 was evaluated for the three impacted residences (Receptors 39-41) located south of Florence Street. The residences are located on the east side of US 41. The predicted future traffic noise levels range from 69.1 to 75.4 dB(A). The results of the analysis for Barrier 7 are provided in **Table 4-4**. As shown, at heights of 10 to 22 feet the barrier would reduce traffic noise the minimum required 5 dB(A) for at least two impacted receptors. However, the goal of reducing predicted traffic noise levels 7 dB(A) or more for at least one benefited receptor could not be achieved. As such, although acoustically feasible, Barrier 7 is not considered an acoustically reasonable noise abatement measure.

Table 4-4 Barrier 7: Flower Garden MHP and Adjoining SFR (Receptors 39-41)

Barrier Height/ Length (ft)	Impacted Receptors with Insertion Loss of (dB(A))						Number of Benefited Receptors			Total Estimated Cost	Cost Per Benefited Receptor	Cost Reasonable Yes/No
	5	6	7	8	9	10 or >	Impacted	Other*	Total			
8	1	0	0	0	0	0	1	0	1	--	--	--
10	2	0	0	0	0	0	2	0	2	--	--	--
12	2	0	0	0	0	0	2	0	2	--	--	--
14	2	0	0	0	0	0	2	0	2	--	--	--
16	2	0	0	0	0	0	2	0	2	--	--	--
18	2	0	0	0	0	0	2	0	2	--	--	--
20	2	0	0	0	0	0	2	0	2	--	--	--
22	1	1	0	0	0	0	2	0	2	--	--	--

* Other = Receptors determined to be unaffected by the project (traffic noise levels less than 66 dB(A)) but benefited by the noise barrier.

Barrier 8: Oakwood II MHP (Receptors 46-49)

Barrier 8 was evaluated for the four impacted residences (Receptors 46-49) located north of Florence Street. The residences are located on the east side of US 41. The predicted future traffic noise levels range from 66.5 to 73.4 dB(A). The results of the analysis for Barrier 8 indicated that a barrier would not reduce traffic noise at least 5 dB(A) for any of the impacted receptors at any height. As such, Barrier 8 is not considered a feasible noise abatement measure.

Barrier 9: Residences South of Symmes Road (Receptors 51-53)

Barrier 9 was evaluated for the three impacted residences (Receptors 51-53) located south of Symmes Road. The residences are located on the east side of US 41. The predicted future traffic noise levels range from 71.2 to 73.5 dB(A). The results of the analysis for Barrier 9 are provided in **Table 4-5**. As shown, the barrier failed to reduce traffic noise at least 5 dB(A) for at least two impacted receptors at any height. As such, Barrier 9 is also not considered to be a feasible noise abatement measure.

Table 4-5 Barrier 9: Residences South of Symmes Road (Receptors 51-53)

Barrier Height/ Length (ft)	Impacted Receptors with Insertion Loss of (dB(A))						Number of Benefited Receptors			Total Estimated Cost	Cost Per Benefited Receptor	Cost Reasonable Yes/No
	5	6	7	8	9	10 or >	Impacted	Other*	Total			
8	1	0	0	0	0	0	1	0	1	--	--	--
10	0	1	0	0	0	0	1	0	1	--	--	--
12	0	1	0	0	0	0	1	0	1	--	--	--
14	0	1	0	0	0	0	1	0	1	--	--	--
16	0	1	0	0	0	0	1	0	1	--	--	--
18	0	0	1	0	0	0	1	0	1	--	--	--
20	0	0	1	0	0	0	1	0	1	--	--	--
22	0	0	1	0	0	0	1	0	1	--	--	--

* Other = Receptors determined to be unaffected by the project (traffic noise levels less than 66 dB(A)) but benefited by the noise barrier.

Barrier 10: Hide A Way Hills MHP and Adjoining Anderson's RV Plaza (Receptors 56-76)

Barrier 10 was evaluated for the 15 impacted residences (Receptors 56-57, 59-60, 62-63, 65-70, 73, and 75-76) located north of Symmes Road. The residences are located on the east side of US 41. The predicted future traffic noise levels range from 66.5 to 73.6 dB(A). The results of the analysis for Barrier 10 are provided in **Table 4-6**. As shown, at heights of 12 to 22 feet the barrier would reduce traffic noise the minimum required 5 dB(A) for at least two impacted receptors. However, the goal of reducing predicted traffic noise levels 7 dB(A) or more for at least one benefited receptor could not be achieved. As such, although acoustically feasible, Barrier 10 is not considered to be an acoustically reasonable noise abatement measure.

Table 4-6 Barrier 10: Hide A Way Hills MHP and Adjoining Anderson's RV Plaza (Receptors 56-76)

Barrier Height/ Length (ft)	Impacted Receptors with Insertion Loss of (dB(A))						Number of Benefited Receptors			Total Estimated Cost	Cost Per Benefited Receptor	Cost Reasonable Yes/No
	5	6	7	8	9	10 or >	Impacted	Other*	Total			
8	0	0	0	0	0	0	0	0	0	--	--	--
10	0	0	0	0	0	0	0	0	0	--	--	--
12	2	0	0	0	0	0	2	0	2	--	--	--
14	6	0	0	0	0	0	6	1	7	--	--	--
16	8	1	0	0	0	0	9	2	11	--	--	--
18	9	1	0	0	0	0	10	3	13	--	--	--
20	11	1	0	0	0	0	12	3	15	--	--	--
22	11	1	0	0	0	0	12	3	15	--	--	--

* Other = Receptors determined to be unaffected by the project (traffic noise levels less than 66 dB(A)) but benefited by the noise barrier.

Barrier 11: MHP North of the Bullfrog Creek Bridge (Receptors 77-86)

Barrier 11 was evaluated for the eleven impacted residences (Receptors 77-86) located north of the Bullfrog Creek bridge. The residences are located on the west side of US 41. The predicted future traffic noise levels range from 66.1 to 72.2 dB(A). The results of the analysis for Barrier 11 are provided in **Table 4-7**. As shown, the barrier failed to reduce traffic noise at least 5 dB(A) for at least two impacted receptors at any height. As such, Barrier 11 is not considered a feasible noise abatement measure.

Table 4-7 Barrier 11: MHP North of the Bullfrog Creek Bridge (Receptors 77-86)

Barrier Height/ Length (ft)	Impacted Receptors with Insertion Loss of (dB(A))						Number of Benefited Receptors			Total Estimated Cost	Cost Per Benefited Receptor	Cost Reasonable Yes/No
	5	6	7	8	9	10 or >	Impacted	Other*	Total			
8	0	1	0	0	0	0	1	0	1	--	--	--
10	0	0	1	0	0	0	1	0	1	--	--	--
12	0	0	1	0	0	0	1	0	1	--	--	--
14	0	0	1	0	0	0	1	0	1	--	--	--
16	0	0	1	0	0	0	1	0	1	--	--	--
18	0	0	1	0	0	0	1	0	1	--	--	--
20	0	0	1	0	0	0	1	0	1	--	--	--
22	0	0	1	0	0	0	1	0	1	--	--	--

* Other = Receptors determined to be unaffected by the project (traffic noise levels less than 66 dB(A)) but benefited by the noise barrier.

Barrier 12: Showtown Restaurant (Receptor 89)

Barrier 12 was evaluated for the impacted outdoor eating area of the Showtown restaurant (Receptor 89) located at Mottie Road. The restaurant is located on the east side of US 41. The future traffic noise level was predicted to be 72.3 dB(A). The results of the analysis for Barrier 12 are provided in **Table 4-8**. As shown, at heights of 10 to 22 feet the barrier would reduce traffic noise the minimum required 5 dB(A). However, the goal of reducing predicted traffic noise levels 7 dB(A) or more could not be achieved. As such, although acoustically feasible, Barrier 12 is not considered to be an acoustically reasonable noise abatement measure.

Table 4-8 Barrier 12: Showtown Restaurant (Receptor 89)

Barrier Height/ Length (ft)	Impacted Receptors with Insertion Loss of (dB(A))						Number of Benefited Receptors			Total Estimated Cost	Cost Per Benefited Receptor	Cost Reasonable Yes/No
	5	6	7	8	9	10 or >	Impacted	Other*	Total			
8	0	0	0	0	0	0	0	0	0	--	--	--
10	1	0	0	0	0	0	1	0	1	--	--	--
12	1	0	0	0	0	0	1	0	1	--	--	--
14	1	0	0	0	0	0	1	0	1	--	--	--
16	0	1	0	0	0	0	1	0	1	--	--	--
18	0	1	0	0	0	0	1	0	1	--	--	--
20	0	1	0	0	0	0	1	0	1	--	--	--
22	0	1	0	0	0	0	1	0	1	--	--	--

* Other = Receptors determined to be unaffected by the project (traffic noise levels less than 66 dB(A)) but benefited by the noise barrier.

Barrier 13: Residences North of Gibsonton Drive (Receptor 94 and 102)

Barrier 13 was evaluated for five impacted residences (Receptor 94 and 102) located north of Gibsonton Drive. The residences are located on the east side of US 41. The predicted future traffic noise levels range from 67.1 to 67.4 dB(A). The results of the analysis for Barrier 13 indicate that a barrier would not reduce traffic noise at least 5 dB(A) to any of the impacted receptors at any height. As such, Barrier 13 is not considered a feasible noise abatement measure.

Barrier 14: Residences at Estelle Avenue (Receptor 95 and 96)

Barrier 14 was evaluated for two impacted residences (Receptor 95 and 96) located at Estelle Avenue. The residences are located on the west side of US 41. The predicted future traffic noise levels range from 66.2 to 72.4 dB(A). The results of the analysis for Barrier 14 indicate that a barrier would not reduce traffic noise at least 5 dB(A) to any of the impacted receptors at any height. As such, Barrier 14 is not considered a feasible noise abatement measure.

Barrier 15: Residences at Anna Avenue (Receptors 99 and 100)

Barrier 15 was evaluated for the two impacted residences (Receptors 99 and 100) located at Anna Avenue. The residences are located on the west side of US 41. The predicted future traffic noise levels range from 69.6 to 70.4 dB(A). The results of the analysis for Barrier 15 indicate that a barrier would not reduce traffic noise at least 5 dB(A) at either of the impacted receptors at any height. As such, Barrier 15 is not considered a feasible noise abatement measure.

Barrier 16: Residences North of Pennsylvania Avenue (Receptors 107 and 108)

Barrier 16 was evaluated for the two impacted residences (Receptors 107 and 108) located between Pennsylvania Avenue and the Alafia River. The residences are located on the east side of US 41. The predicted future traffic noise levels range from 66.3 to 66.5 dB(A). The results of the analysis for Barrier 16 are provided in **Table 4-9**. As shown, the barrier failed to reduce traffic noise at least 5 dB(A) for at least two impacted receptors at any height. As such, Barrier 16 is not considered a feasible noise abatement measure.

Table 4-9 Barrier 16: Residences North of Pennsylvania Avenue (Receptors 107 and 108)

Barrier Height/ Length (ft)	Impacted Receptors with Insertion Loss of (dB(A))						Number of Benefited Receptors			Total Estimated Cost	Cost Per Benefited Receptor	Cost Reasonable Yes/No
	5	6	7	8	9	10 or >	Impacted	Other*	Total			
8	0	0	0	0	0	0	0	0	0	--	--	--
10	0	0	0	0	0	0	0	0	0	--	--	--
12	0	0	0	0	0	0	0	0	0	--	--	--
14	0	0	0	0	0	0	0	0	0	--	--	--
16	1	0	0	0	0	0	1	0	1	--	--	--
18	0	1	0	0	0	0	1	1	2	--	--	--
20	0	1	0	0	0	0	1	1	2	--	--	--
22	0	0	1	0	0	0	1	1	2	--	--	--

* Other = Receptors determined to be unaffected by the project (traffic noise levels less than 66 dB(A)) but benefited by the noise barrier.

Barrier 17: Residences at Dover Street (Receptors 112 and 113)

Barrier 17 was evaluated for the two impacted residences (Receptors 112 and 113) located at Dover Street. The residences are located on the west side of US 41. The predicted future traffic noise levels range from 69.0 to 69.9 dB(A). The results of the analysis for Barrier 17 indicate that a noise barrier would not reduce traffic noise at least 5 dB(A) to either of the impacted receptors at any height. As such, Barrier 17 is not considered a feasible noise abatement measure.

Barriers for Single, Isolated Residences (Receptors 55, 72, and 92)

As discussed in the beginning of **Section 4**, for a noise barrier to be acoustically feasible, a barrier must provide at least a 5 dB(A) reduction in traffic noise for two or greater impacted noise sensitive receptors. For the impacted, single, isolated residences (Receptors 55, 72, and 92) this is not achievable. As such, a noise barrier for these impacted residences is not considered a feasible noise abatement measure.

4.4.2 Summary of Noise Barrier Analysis

As previously stated, future traffic noise levels with the proposed improvements are predicted to approach, meet, or exceed the NAC at 83 noise sensitive receptors with levels ranging from 66.0 to 75.4 dB(A). The results of the noise barrier analysis indicate that barriers would not be both a feasible or reasonable noise abatement method to reduce predicted traffic noise levels for any of the 83 impacted residences. As such, there is no commitment regarding further consideration of noise abatement measures during the US 41 project's design phase. However, a land use review will be performed during the design phase to ensure that all noise sensitive receptors that receive a building permit prior to the project's Date of Public Knowledge are evaluated. Notably, there was no active construction or posted building permits observed within the project limits during the land use survey that was concluded on October 17, 2014. Also, the Hillsborough County Online Permit Reports database showed no recently issued permits within the project limits through October 31, 2014.

SECTION 5 NOISE CONTOURS

Land uses such as residences, motels, schools, churches, recreation areas, and parks are considered incompatible with highway noise levels exceeding the NAC. In order to reduce the possibility of additional noise-related impacts, noise level contours were developed for the future improved roadway facility. These noise contours delineate the distance from the improved roadway's edge-of-travel lane to where 56, 66, and 71 dB(A) (the NAC for Activity Categories A, B/C, and E, respectively) is predicted to occur in the future (2040) with the proposed improvements.

As shown in **Table 5-1**, within the project limits, the contours extend 45 feet from the improved roadway's edge-of-travel lane up to 575 feet depending on the land use activity category and roadway segment. Local officials will be provided a copy of the final NSR to promote compatibility between any future land development in this area and the project, should it be completed.

Table 5-1 Noise Contours

US 41 Roadway Segment	Distance from Improved Roadway's Edge-of-Travel Lane (ft)*		
	Activity Category A 56 dB(A)	Activity Category B/C 66 dB(A)	Activity Category E 71 dB(A)
Kracker Avenue to Symmes Road	500	160	65
Symmes Road to Palm Avenue	450	135	50
Palm Avenue to Gibsonton Drive	450	135	45
Gibsonton Drive to the Alafia River	480	145	60
Alafia River to Riverview Drive	500	155	55
Riverview Drive to Madison Avenue	525	170	70
Madison Avenue to Causeway Boulevard	575	190	80

* See Table 2 for a description of the activities that occur within each category. Distances do not reflect any reduction in noise levels that would occur from existing structures (shielding) and should be used for planning purposes only.

SECTION 6 CONSTRUCTION NOISE AND VIBRATION

Construction of the proposed roadway improvements could result in temporary construction-related noise or vibration impact. If sensitive land uses develop adjacent to the roadway prior to construction, increased potential for noise or vibration impacts could result. It is anticipated that the application of the *FDOT Standard Specifications for Road and Bridge Construction* will minimize or eliminate potential construction noise and/or vibration impacts. However, should unanticipated noise or vibration issues arise during the construction process, the Project Engineer, in coordination with the District Noise Specialist and the Contractor, will investigate additional methods of controlling these impacts.

SECTION 7 PUBLIC INVOLVEMENT

A project-related public hearing was held on January 26, 2016 at the Gardenville Recreation Center located at 6219 Symmes Road in Gibsonton, Florida. The purpose of the hearing was to allow the public the opportunity to provide comments concerning the location, design, and social, economic, and environmental effects of the proposed improvements.

A total of 60 people signed in at the public hearing. One written comment was received and four verbal statements were made during the formal public comment period. A total of 11 people or agencies made comments. Of the 11 comments, three involved requests for changes in proposed median openings and two were not within FDOT's jurisdictional responsibility or pertained to areas outside of the project limits. Most comments expressed support for the project. Some of the comments expressed concern about the railroad crossings within the corridor. No comments were received related to traffic noise concerns. The *Final Comments and Coordination Report* contains copies of the written comments and responses. In addition, copies of all public hearing displays and presentation materials are included in the *Public Hearing Scrapbook* prepared for this project.

SECTION 8 REFERENCES

Federal Highway Administration. U.S. Department of Transportation. July 13, 2010. Title 23 CFR, Part 772. *Procedures for Abatement of Highway Traffic Noise and Construction Noise.*

Federal Highway Administration. February 2004. *Traffic Noise Model, Version 2.5*.

Federal Highway Administration. December 2011. *Highway Traffic Noise: Analysis and Abatement Guidance*.

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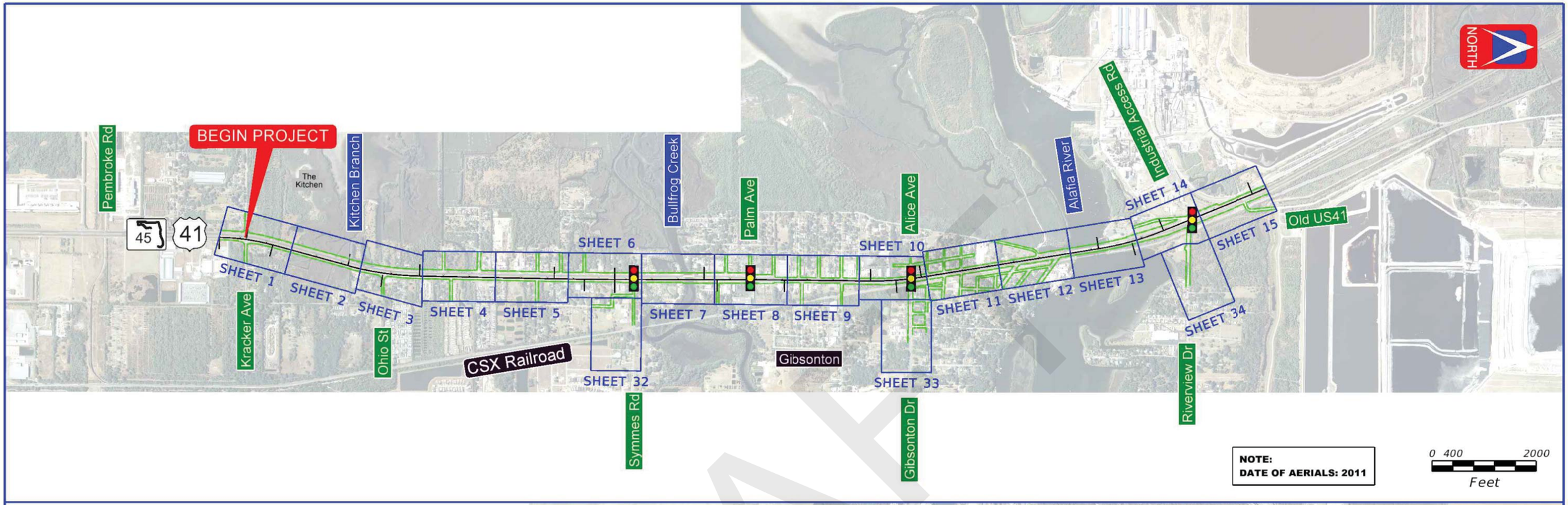
Florida Department of Transportation. May 24, 2011. *Project Development and Environment Manual*, Part 2, Chapter 17 – Noise.

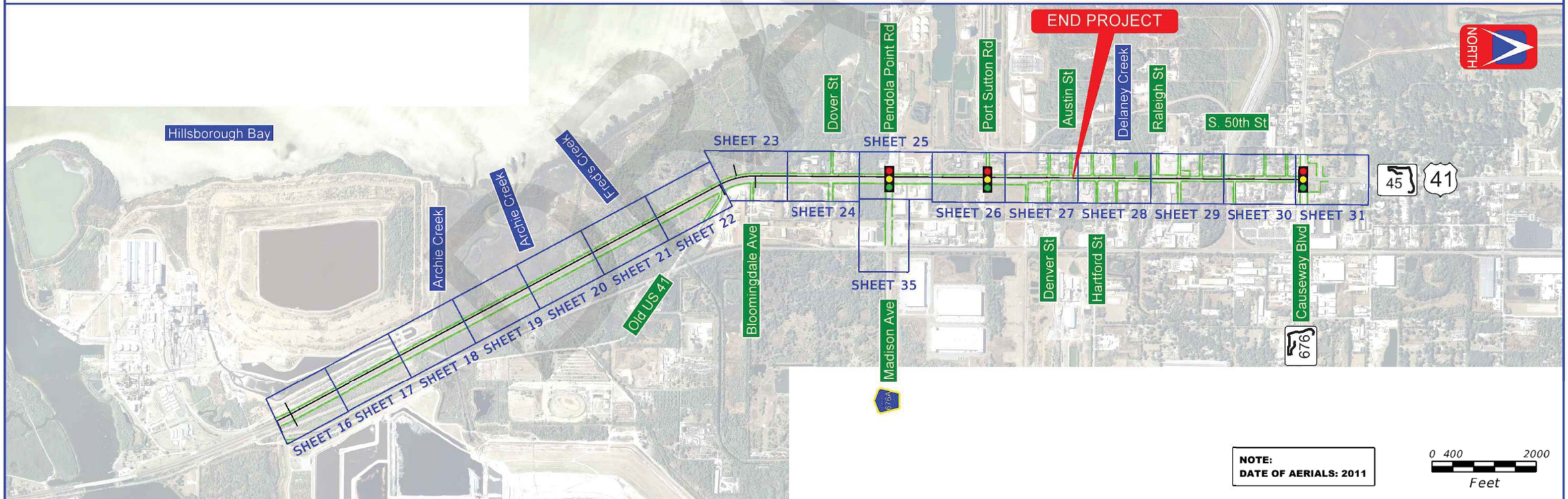
Florida Department of Transportation. July 1, 2013. *Plans Preparation Manual*, Volume 1, Chapter 32 – Sound Barriers.

Florida Department of Transportation. 2014. *Standard Specifications for Road and Bridge Construction*.

California Department of Transportation. September 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*.

APPENDIX A
Project Aerials





REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

AMERICAN CONSULTING ENGINEERS OF FLORIDA, LLC
2818 Cypress Ridge Blvd, Suite 200
Wesley Chapel, Florida 33544
Phone: (813) 435-2600 Fax: (813) 435-260'
Certificate of Authorization No. 9302
Jeffrey S. Novotny, P.E. No. 51083

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US41/SR45	HILLBOROUGH	

US41 PD&E STUDY
Kracker Ave to South of Causway Blvd (SR676)
Sheet Layout

SHEET NO.

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Block 12500

HOUSE

BEGIN PROJECT

NORTH

45 41

PI STA. 831+17.17

132'

830

50'

835

132'

50'

PT STA. 836+34.16

MATCH LINE STA. 840+00.00

SPEED LIMIT 55

MOBILE HOME PARK

PIRATES TREASURE COVE

PC STA. 825+94.55

PD&E STUDY
WPI No.: 421140-8

Kracker Ave

BANNER SUPPLY CO.

CURVE DATA C112
PI STA. = 831+17.17
Δ = 14° 33' 16" (RT)
D = 1° 24' 00"
R = 522.62
T = 1.039.61
L = 4.092.56
PC STA. = 825+94.55
PT STA. = 836+34.16

Block 12500

1 2 3 4 4b

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

DATE OF AERIAL: 2011

AMERICAN CONSULTING ENGINEERS OF FLORIDA, LLC
2818 Cypress Ridge Blvd, Suite 200
Wesley Chapel, Florida 33544
Phone: (813) 435-2600 Fax: (813) 435-2601
Certificate of Authorization No. 9302
Jeffrey S. Novotny, P.E. No. 51083

US41 PD&E STUDY
Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 1

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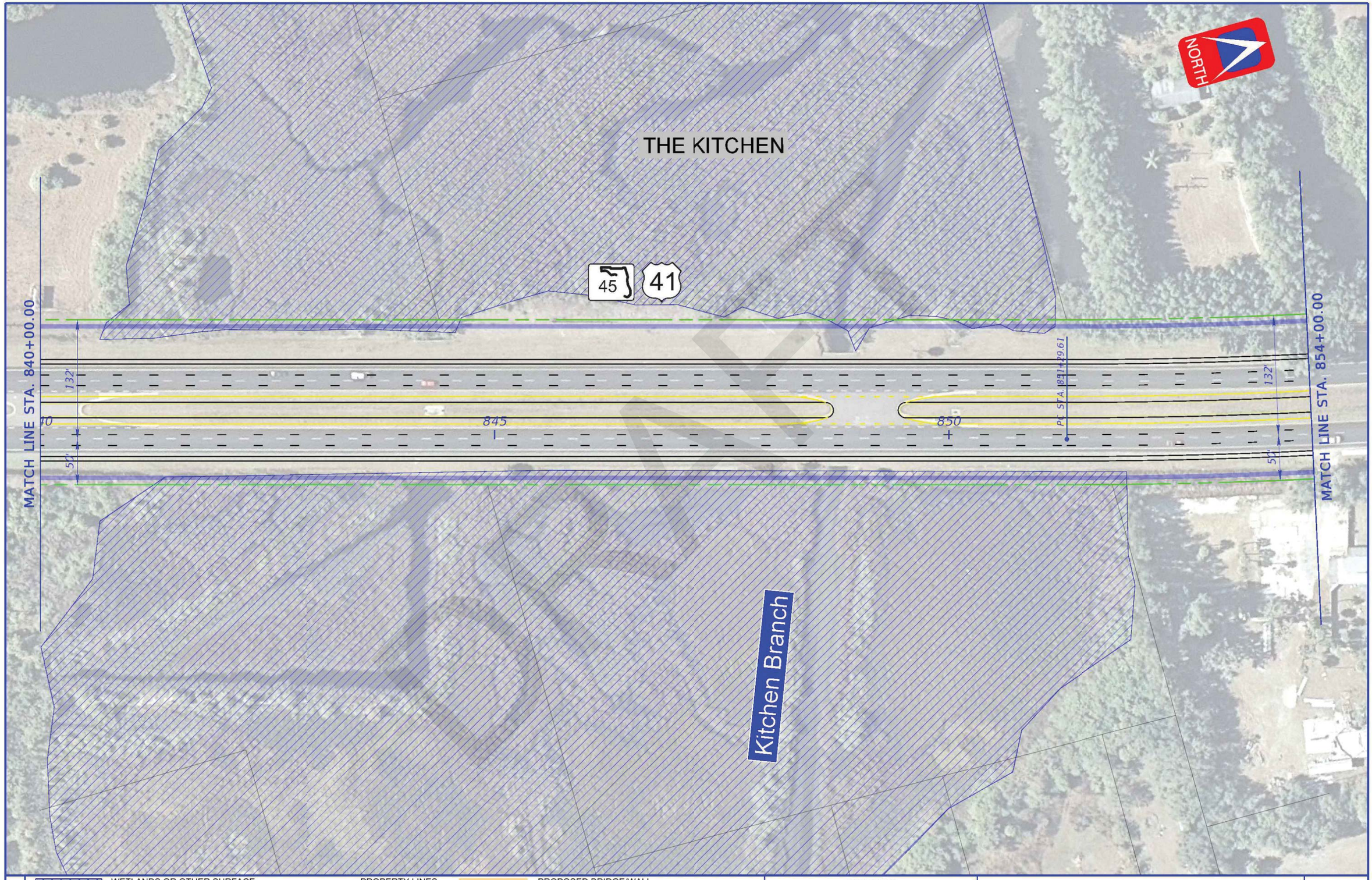

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

DATE OF AERIAL: 2011

AMERICAN CONSULTING ENGINEERS OF FLORIDA, LLC
2818 Cypress Ridge Blvd, Suite 200
Wesley Chapel, Florida 33544
Phone: (813) 435-2600 Fax: (813) 435-2601
Certificate of Authorization No. 9302
Jeffrey S. Novotny, P.E. No. 51083

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Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

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NORTH

MATCH LINE STA. 854+00.00

MATCH LINE STA. 866+00.00

45 41

HOUSE

MOBILE HOME PARK

HOUSE

CIRCLE K

Ohio St

Eastwood Dr S

Eastwood Dr N

EASTWOOD ESTATES

Block 12000

855 860 865

132' 132' 50' 50' 30' 31' 32' 33' 34'

PT STA. 858+40.82

PT STA. 865+04.75

CURVE DATA C212
Δ = 14° 09' 05" (LT)
D = 1° 00' 00"
R = 1,711.19
PC STA. = 851+29.58
PT STA. = 865+44.75
L = 1,415.14

5 6 7 8 9 10 10b 11 12 12b 13 14 15 16 17 18 19 20 21 22 23 24 25

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100 Feet

DATE OF AERIAL: 2011

AMERICAN CONSULTING ENGINEERS OF FLORIDA, LLC
2818 Cypress Ridge Blvd, Suite 200
Wesley Chapel, Florida 33544
Phone: (813) 435-2600 Fax: (813) 435-2601
Certificate of Authorization No. 9302
Jeffrey S. Novotny, P.E. No. 51083

US41 PD&E STUDY
Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 3

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Block 11900

Block 11800

NORTH

Adams St

Mabrey Ave

33

ANDY'S FIBERGLASS BOAT REPAIR INC

45 41

ALPHA #1 AUTO SALES

TNC TRIDENT NATIONAL CORPORATION

A. C. SHULTES

MATCH LINE STA. 866+00.00

MATCH LINE STA. 880+00.00

132'

50'

870

875

132'

50'

DEAD SLEDS PARTS & SERVICE

BUZBEE CERAMICS

MAGNOLIA TRAIL'S SUBDIVISION

30

31

32

26

27

28

29

THE PARK AT PALM GROVE

34

35

36

Park Grove Dr

Cherry Blossom Trail

Block 11900

SWEET LIVING MOBILE & MODULAR HOMES

Alafia Plaza Dr

VACANT

37

38

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100

Feet

DATE OF AERIAL: 2011

AMERICAN CONSULTING ENGINEERS OF FLORIDA, LLC
2818 Cypress Ridge Blvd, Suite 200
Wesley Chapel, Florida 33544
Phone: (813) 435-2600 Fax: (813) 435-2601
Certificate of Authorization No. 9302
Jeffrey S. Novotny, P.E. No. 51083

US41 PD&E STUDY

Kracker Ave to South of Causway Blvd (SR676)

Concept Plans

WPI SEGMENT No.: 430056-1

SHEET NO. 4

USER: 5browndt 9/9/2014 3:00:43 PM F:\PROJECT\5127041\43005412201\roadway\PLANRD04.DGN

Block 11800

Florence St

Block 11500

Isabel Ave

NORTH

43

44

45

A. C. SHULTES

DON'S BOATING

DRIRITE

E-Z AUTO/ VAN RENTALS

MEGDYL AUTOMOTIVE

D & D OUTLET

DARREL ADAMS ENVIRONMENTAL SERVICES

MATCH LINE STA. 880+00.00

132'

50'

885

890

PC STA. 891+19.92

MATCH LINE STA. 894+00.00

39

40

41

42

45

41

FLOWER GARDEN MOBILE HOME PARK

WALDEN'S USED CARS

Florence St

MOBILE HOME PARK

46

47

48

49

VACANT

Oakwood II

49b MHP

Block 11800

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
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- PROPERTY LINES
- EXISTING ROW
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- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100

Feet

DATE OF AERIAL: 2011

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US41 PD&E STUDY

Kracker Ave to South of Causway Blvd (SR676)

Concept Plans

WPI SEGMENT No.: 430056-1

SHEET NO. 5

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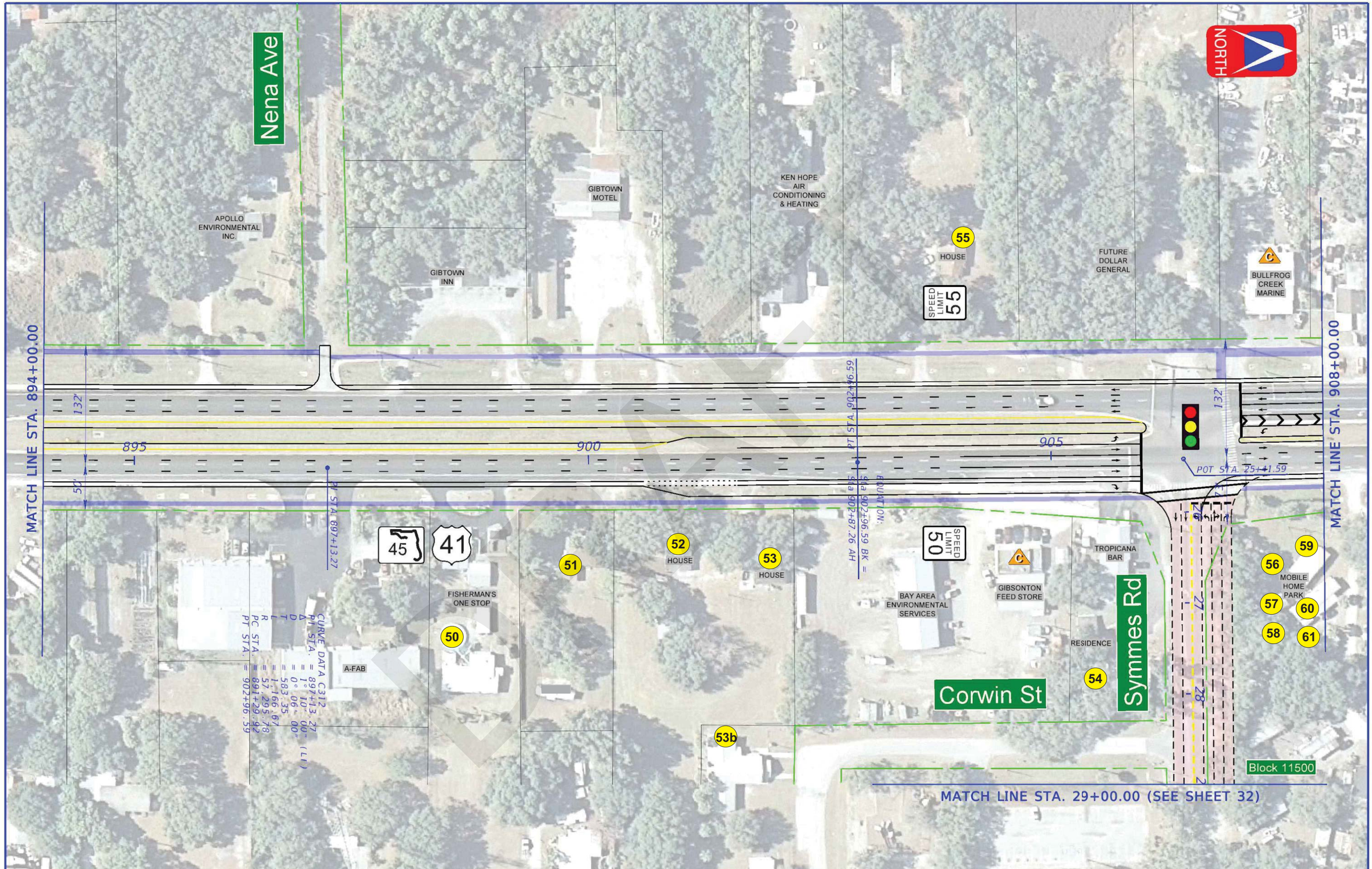

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100 Feet

DATE OF AERIAL: 2011

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Jeffrey S. Novotny, P.E. No. 51083

US41 PD&E STUDY
Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 6

USER: 5brownd 9/9/2014 3:01:16 PM F:\PROJECT\512704\1\4300541201\roadway\PLANRD06.DGN

NORTH

Replace Bridge No. 100044

Replace Bridge No. 100106

MATCH LINE STA. 908+00.00

MATCH LINE STA. 922+00.00

POT STA. 920+00.00

910

915

920

132'

50'

68'

SHOESTRING'S AUTO REPAIR

HOUSE

BULLFROG CREEK BAIT STORE

MOBILE HOME PARK

MOBILE HOME PARK

ANDERSON'S RV PLAZA

PEAJAY'S DINER LIQUOR STORE

Nistal Park Dr

Bullfrog Creek

45

41

62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 76b 77 78 79 79b 80 80b 81 82 83 84 85 85b 86 86b

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100 Feet

DATE OF AERIAL: 2011

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US41 PD&E STUDY

Kracker Ave to South of Causway Blvd (SR676)

Concept Plans

WPI SEGMENT No.: 430056-1

SHEET NO. 7

USER: 5brownd 9/9/2014 3:01:32 PM F:\PROJECT\5127041\4300541201\roadway\PLANRD07.DGN

Block 11000

Block 11000

Block 10900

NORTH

Beach Ave

Proposed South Coast Greenway Route

87

Palm Ave

88

Cedar Ave

SOUTHBAY TIRE

PLAZA

BAIT SHOP

G & W TANK LINES INC.

GAGER'S AUTO SALES

EVOLUTION CABARET

GIBSONTON DRIVE THRU BEVERAGE MART

DSD BUILDERS SUPPLIES (VACANT)

45 41

MATCH LINE STA. 922+00.00

132'

925

68'

PC STA. 922+52.46

PI STA. 928+98.30

100'

70'

930

100'

68'

935

50'

50'

PT STA. 935+44.13

MATCH LINE STA. 936+00.00

8 - E3
50.13 SF
0.001 ACRES

8 - E4
1378.24 SF
0.032 ACRES

8 - E1
5767.39 SF
0.132 ACRES

8 - E2
291.53 SF
0.007 ACRES

USED APPLIANCES

STEPP'S TOWING SERVICE

CHEVRON GAS STATION

NEW LINE TRANSPORT

TWIN OAKS PLAZA

CURVE DATA C412
PI STA. = 928+98.30
Δ = 0° 38' 45" (RT)
D = 0° 03' 00"
T = 645.84
L = 1,291.67
R = 114,591.56
PC STA. = 922+52.46
PT STA. = 935+44.13

Beach Ave

CSX Railroad

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

DATE OF AERIAL: 2011

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US41 PD&E STUDY

Kracker Ave to South of Causway Blvd (SR676)

Concept Plans

WPI SEGMENT No.: 430056-1

SHEET NO. 8

USER: 5browndate 9/9/2014 3:01:48 PM F:\PROJECT\512704\4300541201\roadway\PLANRD08.DGN

Block 10900

Block 10800

Block 10800

Block 10700

NORTH

Cliff Ave

Shirley Ave

Nundy Ave

Lewis Ave

90

91

FORMER AUTO SALVAGE YARD

OFFICE

BARBER SHOP

VACANT

DON'S BOAT SALES

JUAN TIRE SERVICE

DISCOUNT AUTOMOTIVE OF GIBSONTON

9 - W10
1175.33 SF
0.027 ACRES

LINE STA. 936+00.00

940

945

LINE STA. 950+00.00

50'

50'

30'

50'

9 - E1
6457.21 SF
0.148 ACRES

9 - E2
4639.44 SF
0.107 ACRES

9 - E3
5541.02 SF
0.127 ACRES

9 - E4
1768.64 SF
0.041 ACRES

9 - E5
5036.44 SF
0.116 ACRES

9 - E6
2119.34 SF
0.049 ACRES

89

SHOWTOWN RESTAURANT & LOUNGE

ADVANCE AUTO PARTS

SUNOCO GAS STATION

SUPERTEST GAS JOY AMERICA FOOD

45

41

Mottie Rd

CSX Railroad

Nundy Ave

32'

33'

BOT STA. 34+00.00

LUMBER & FENCING PRODUCTS INC.

Block 10900

Block 10800

LEGEND

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- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
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- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

DATE OF AERIAL: 2011

AMERICAN CONSULTING ENGINEERS OF FLORIDA, LLC
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Wesley Chapel, Florida 33544
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Jeffrey S. Novotny, P.E. No. 51083

US41 PD&E STUDY

Kracker Ave to South of Causway Blvd (SR676)

Concept Plans

WPI SEGMENT No.: 430056-1

SHEET NO. 9

USER: 5brownd 9/9/2014 3:02:05 PM F:\PROJECT\512704\430054\220\roadway\PLANRD09.DGN

NORTH

Alice Ave

93

Maggie St

92

ALAFIA MARINA

ALL STEEL BUILDINGS AND COMPONENTS

45 41

10 - W1
24302.86 SF
0.558 ACRES

10 - W2
4351.89 SF
0.100 ACRES

10 - W3
3628.65 SF
0.083 ACRES

10 - W4
12251.34 SF
0.281 ACRES

GIBSONTON FOOD MART (CITGO)

MULTI MILE TIRES

10 - W5
8804.24 SF
0.202 ACRES

GRACE AUTO SALES

10 - W6
6796.92 SF
0.156 ACRES

PC STA. 952+16.38

PI STA. 957+08.69

PT STA. 961+98.60

955

960

600

50'

65'

75'

MATCH LINE STA. 950+00.00

MATCH LINE STA. 963+00.00

10 - E1
890.86 SF
0.021 ACRES

CSX Railroad

CURVE DATA C512
PI STA. = 957+08.69
Δ = 9° 49' 20" (LT)
D = 1° 00' 00"
T = 492.32
L = 982.22
R = 5,729.58
PC STA. = 952+16.38
PT STA. = 961+98.60

Gibsonton Dr

94

Indiana St

Marilla Ave

94b

Block 10000

MATCH LINE STA. 604+00.00 (SEE SHEET 33)

LEGEND

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- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

DATE OF AERIAL: 2011

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Phone: (813) 435-2600 Fax: (813) 435-2601
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US41 PD&E STUDY
Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 10

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Block 10000

Estelle Ave

Anna Ave

NORTH

97

98

101

11 - W13
49.71 SF
0.001 ACRES

Marilla Ave

96

Maggie St

99

11 - W9
2108.04 SF
0.048 ACRES

100

EAST BAY
BUSINESS
CENTER

11 - W8
4295.01 SF
0.099 ACRES

11 - W2
1334.34 SF
0.031 ACRES

95

PATS PLACE
HARDWARE

DYER'S
FURNITURE

11 - W14
1690.43 SF
0.039 ACRES

M & M
CAR
WASH

11 - W1
7995.22 SF
0.184 ACRES

11 - W3
2505.96 SF
0.058 ACRES

11 - W4
4295.01 SF
0.099 ACRES

11 - W5
2322.14 SF
0.053 ACRES

11 - W6
2368.08 SF
0.054 ACRES

11 - W7
4151.75 SF
0.095 ACRES

TRW &
ASSOCIATES
INC.

11 - W10
2753.94 SF
0.063 ACRES

11 - W11
2723.74 SF
0.063 ACRES

11 - W12
16003.98 SF
0.367 ACRES

45

41

MATCH LINE STA. 963+00.00

52'

65'

965

970

975

MATCH LINE STA. 977+00.00

Indiana St

CSX Railroad

102

103

105

Indiana St

FIRST
BAPTIST
CHURCH

104

New York St

Illinois Ave

Georgia Ave

102b

Estelle Ave

Anna Ave

LEGEND

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- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

DATE OF AERIAL: 2011

AMERICAN
CONSULTING ENGINEERS OF FLORIDA, LLC
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Wesley Chapel, Florida 33544
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US41 PD&E STUDY
Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 11

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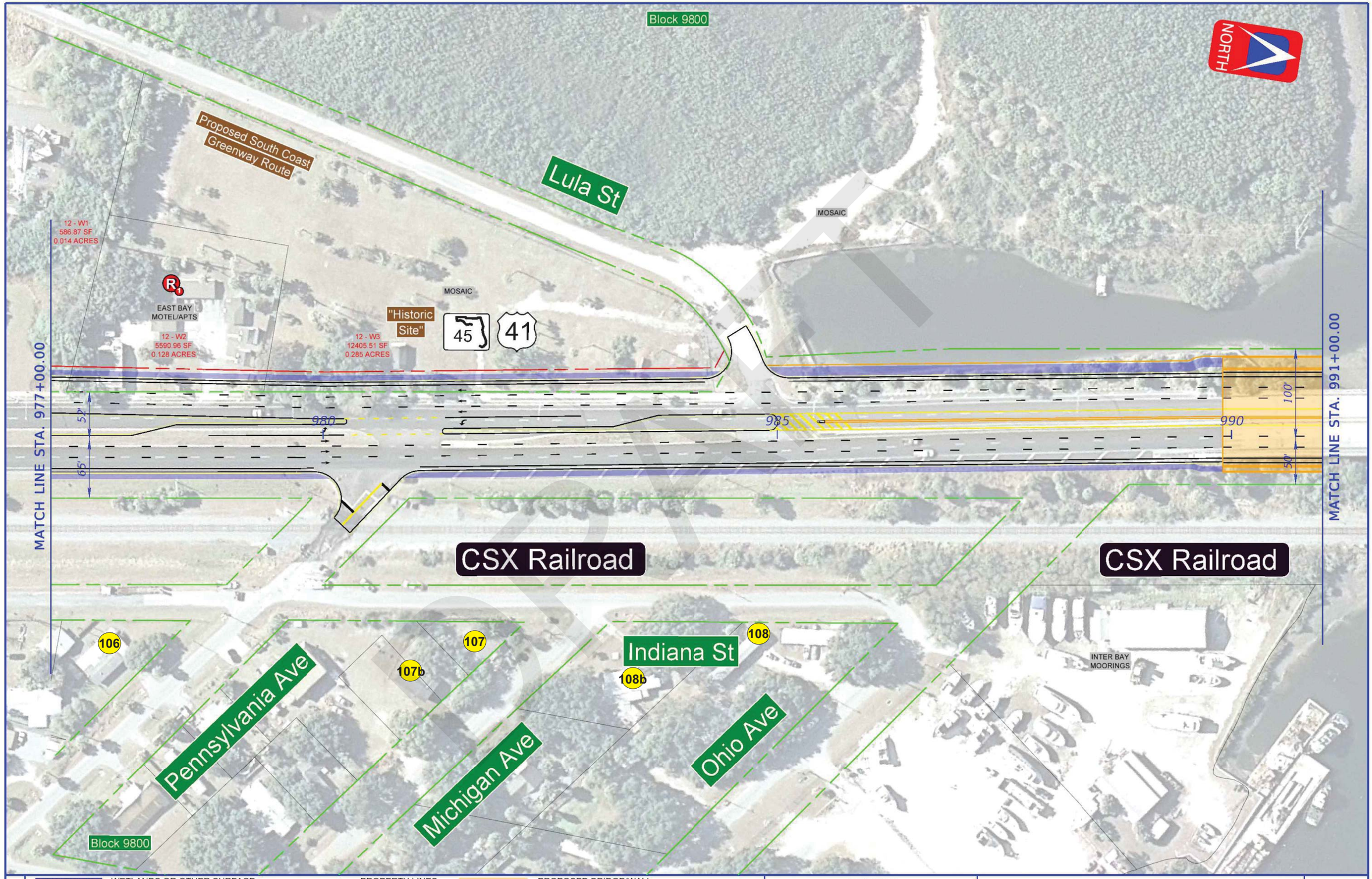

LEGEND

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- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

DATE OF AERIAL: 2011

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US41 PD&E STUDY
Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 12

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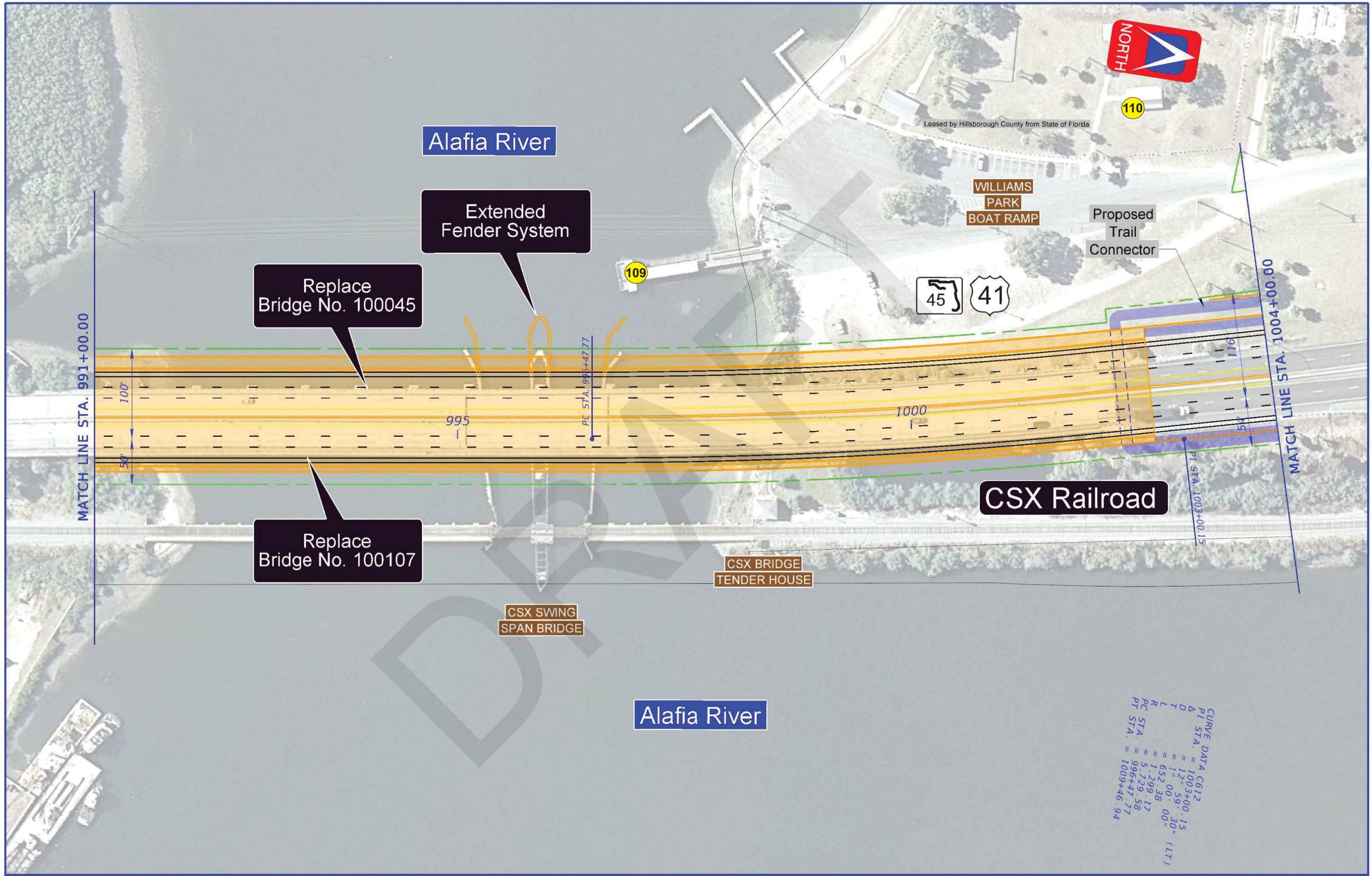

LEGEND

WETLANDS OR OTHER SURFACE WATERS BOUNDARY

POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL

POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL

PROPERTY LINES

EXISTING ROW

PROPOSED ROW TO BE ACQUIRED

POTENTIALLY CONTAMINATED SITE

PROPOSED BRIDGE/WALL

PROPOSED ROADWAY

SIDEWALK / PATH

POTENTIAL IMPROVEMENT BY OTHERS

0 20 100 Feet

DATE OF AERIAL: 2011

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Wesley Chapel, Florida 33544
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US41 PD&E STUDY

Kracker Ave to South of Causway Blvd (SR676)

Concept Plans

WPI SEGMENT No.: 430056-1

SHEET NO. 13

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Mosaic Gate #5

Tamiami Trail

Industrial Access Rd (Private)

NORTH

TECO SUBSTATION

MOSAIC

MOSAIC FERTILIZER

STATE OF FLORIDA

Future Southcoast Greenway Trail

Wall

45 41

MATCH LINE STA. 1004+00.00

1005

PT STA. 1009+46.94

1010

1015

MOSAIC

STA. 26+99.74

MATCH LINE STA. 1017+00.00

Sidewalk

Wall

CSX Railroad

Future Southcoast Greenway Trail

Riverview Dr

111

MOSAIC PARK

MATCH LINE STA. 34+50.00 (SEE SHEET 34)

Block 9000

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
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- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100 Feet

DATE OF AERIAL: 2011

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US41 PD&E STUDY

Kracker Ave to South of Causway Blvd (SR676)

Concept Plans

WPI SEGMENT No.: 430056-1

SHEET NO. 14

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NORTH

The Road To Quality S
(Private)

MOSAIC

MOSAIC

15 - W1
250.77 SF
0.006 ACRES

45 41

SPEED LIMIT 50

MATCH LINE STA. 1017+00.00

90'

11b'

1020

50'

110'

1025

PC STA. 1028+09.48

1030

62'

116'

MATCH LINE STA. 1031+00.00

C

CSX Crossing
#624795-5

Block 8300

SPEED LIMIT 55

CSX Railroad

Old US 41

Proposed South Coast
Greenway Route

LEGEND

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- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

DATE OF AERIAL: 2011

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US41 PD&E STUDY
Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 15

USER: 5brownd 9/9/2014 3:03:37 PM F:\PROJECT\5127041\4300541201\roadway\PLANRD15.DGN

NORTH

MOSAIC

MATCH LINE STA. 1031+00.00

MATCH LINE STA. 73+00.00

PI STA. 1031+10.59

EQUATION:
Sta 1034+11.14 BK =
Sta 634+00.00 AH

AT STA. 1034+11.14

50'

132'

CURVE DATA
PI STA = 1031+10.59
Δ = 6° 01' 00.00" (LT)
D = 1° 30' 01.67"
R = 3819.11
T = 201.29
L = 401.58
PT STA = 1034+11.14

CSX Railroad

45 41

LEGEND					
WETLANDS OR OTHER SURFACE WATERS BOUNDARY	PROPERTY LINES	PROPOSED BRIDGE/WALL	0 20 100 Feet	AMERICAN CONSULTING ENGINEERS OF FLORIDA, LLC 2818 Cypress Ridge Blvd, Suite 200 Wesley Chapel, Florida 33544 Phone: (813) 435-2600 Fax: (813) 435-2601 Certificate of Authorization No. 9302 Jeffrey S. Novotny, P.E. No. 51083	**US41 PD&E STUDY** **Kracker Ave to South of Causway Blvd (SR676)** **Concept Plans** **WPI SEGMENT No.: 430056-1**	SHEET NO. 16
POTENTIAL BUSINESS RELOCATION NUMBER OF RELOCATIONS WITHIN PARCEL	EXISTING ROW	PROPOSED ROADWAY				
POTENTIAL RESIDENTIAL RELOCATION NUMBER OF RELOCATIONS WITHIN PARCEL	PROPOSED ROW TO BE ACQUIRED	SIDEWALK / PATH	DATE OF AERIAL: 2011			
	POTENTIALLY CONTAMINATED SITE	POTENTIAL IMPROVEMENT BY OTHERS				

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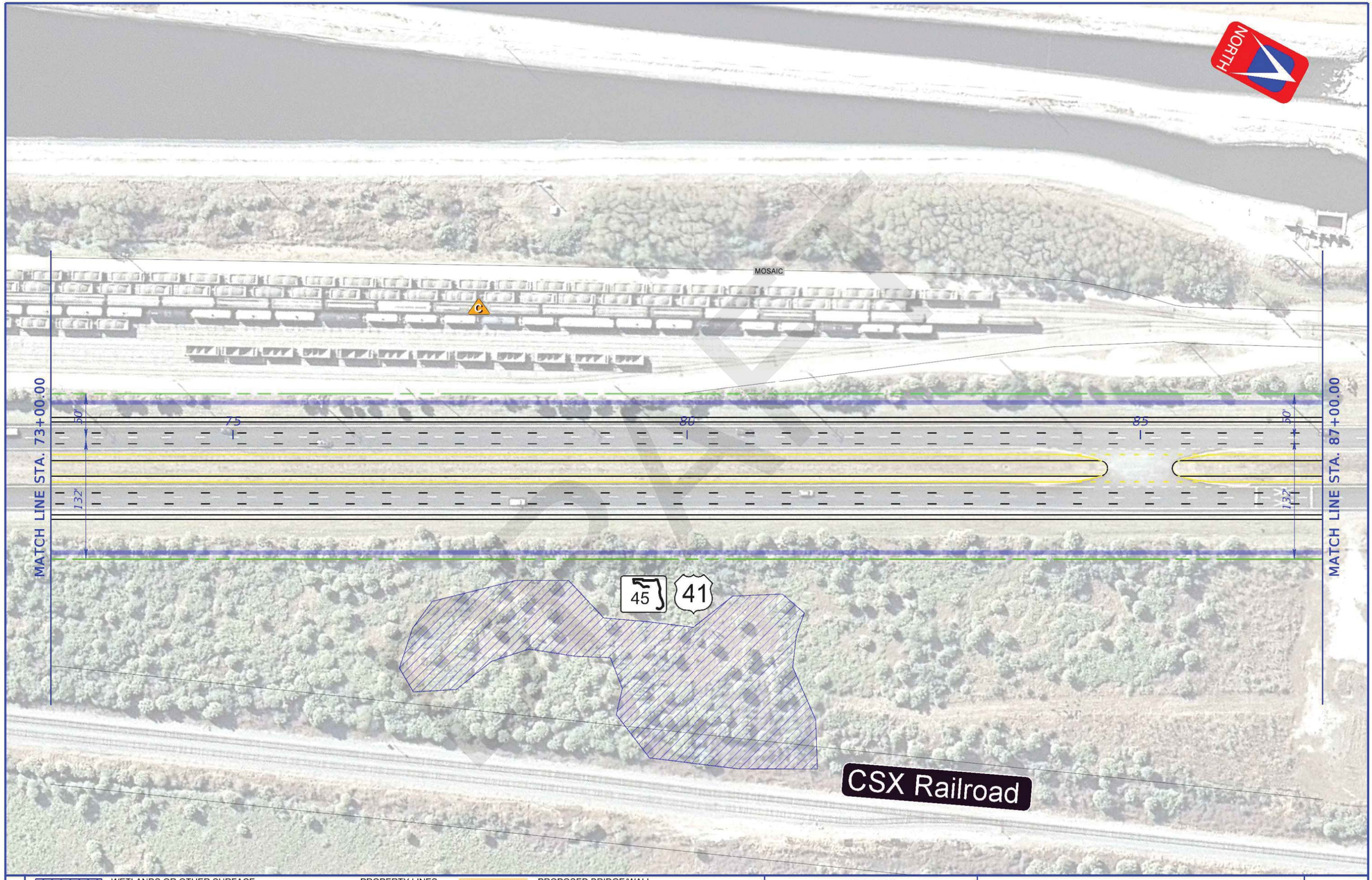

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
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- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

DATE OF AERIAL: 2011

AMERICAN CONSULTING ENGINEERS OF FLORIDA, LLC
2818 Cypress Ridge Blvd, Suite 200
Wesley Chapel, Florida 33544
Phone: (813) 435-2600 Fax: (813) 435-2601
Certificate of Authorization No. 9302
Jeffrey S. Novotny, P.E. No. 51083

US41 PD&E STUDY
Kracker Ave to South of Causway Blvd (SR676)
Concept Plans

WPI SEGMENT No.: 430056-1

SHEET NO. 17

USER: 5browndd 9/9/2014 3:04:10 PM F:\PROJECT\512704\430054\220\roadway\PLANRD17.DGN

NORTH

Archie Creek South

Extend/Replace
Bridge No. 100046
(Bridge Culvert)

MOSAIC

45 41

MATCH LINE STA. 87+00.00

MATCH LINE STA. 101+00.00

90 95 100

50' 50'

132' 132'

CSX Crossing
#624797-F

CSX Railroad

CSX Railroad

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

DATE OF AERIAL: 2011

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Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 18

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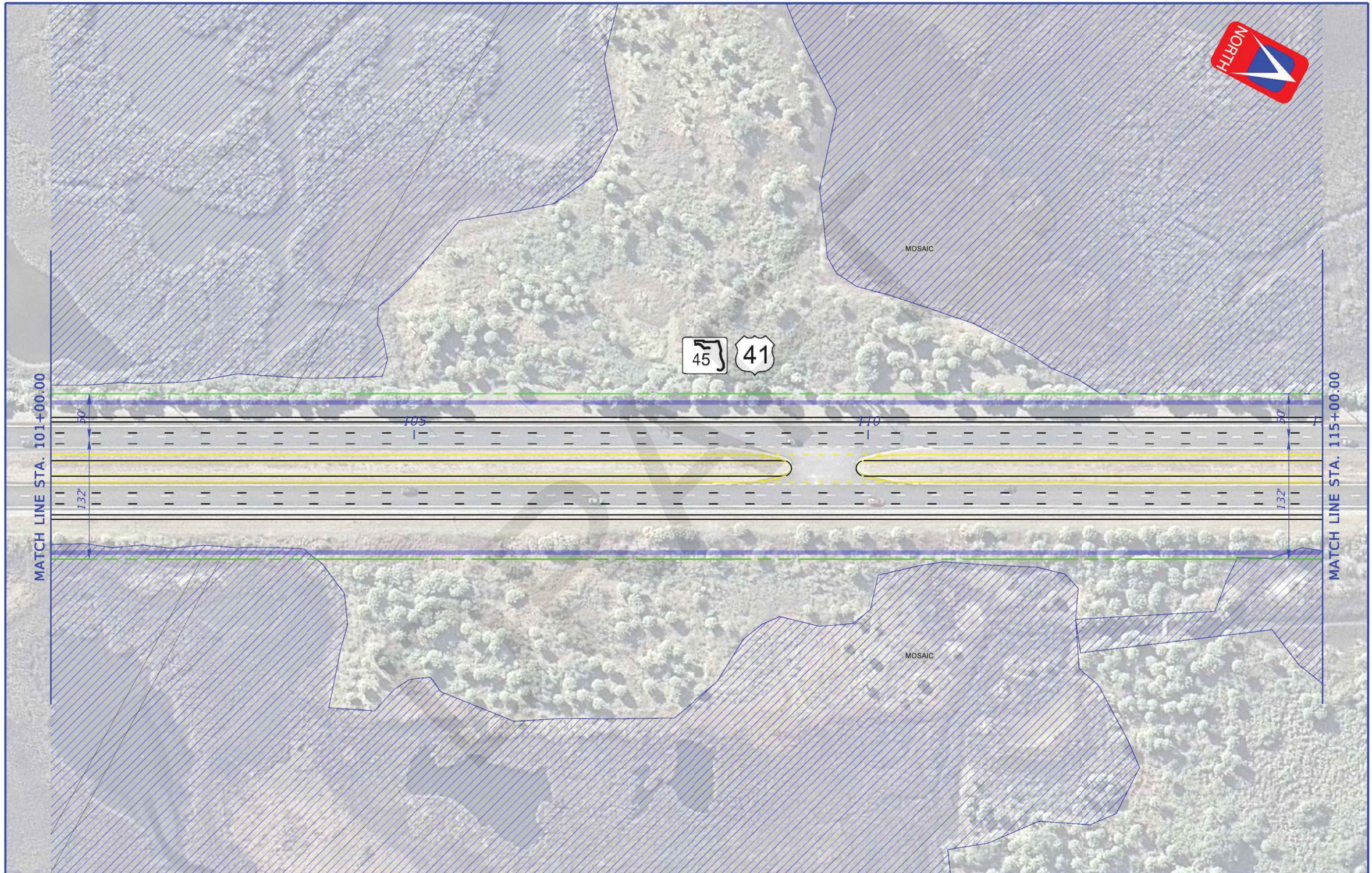

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

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Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 19

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NORTH

Archie Creek North

MOSAIC

Extend/Replace
Bridge No. 100047
(Bridge Culvert)

45 41

MATCH LINE STA. 115+00.00

MATCH LINE STA. 129+00.00

50'

120

125

50'

132'

132'

MOSAIC

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

DATE OF AERIAL: 2011

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US41 PD&E STUDY
Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 20

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NORTH

Fred's Creek

MOSAIC

Extend/Replace
Bridge No. 100467
(Bridge Culvert)

45 41

MATCH LINE STA. 129+00.00

MATCH LINE STA. 143+00.00

130 135 140

50' 50'

132' 132'

MOSAIC

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

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Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 21

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NORTH

MOSAIC

45 41

MATCH LINE STA. 143+00.00

MATCH LINE STA. 157+00.00

145 150 155

50' 132' 132' 50'

STA 196+48.95

Block 5300

MOSAIC

Old US 41

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100 Feet

DATE OF AERIAL: 2011

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Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 22

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NORTH

MOSAIC

TAMPA PORT AUTHORITY

45 41

P.I. STA. 160+32.87

160

165

50'

131'

P.I. STA. 171+81.98

MATCH LINE STA. 157+00.00

MATCH LINE STA. 170+00.00

CURVE DATA CC080.3
PT STA. = 160+32.87
Δ = 28° 32' 00" (RT)
D = 4° 00' 00"
T = 364.22
L = 713.33
R = 1,432.39
PC STA. = 156+68.65
PT STA. = 163+81.98

TAMPA STEEL ERECTING

Bloomingdale Ave

Block 5100

ICWUC

C

DRAFT

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION (B) — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION (R) — NUMBER OF RELOCATIONS WITHIN PARCEL
- C
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

DATE OF AERIAL: 2011

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US41 PD&E STUDY

Kracker Ave to South of Causway Blvd (SR676)

Concept Plans

WPI SEGMENT No.: 430056-1

SHEET NO. 23

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Block 4800

NORTH

Dover St

BODY SHOP

STARKEY'S LOUNGE

TAMPA TRUCK PAINTING

TAMPA LIQUIDATION CENTER

112

113

THIS-N-THAT THRIFT & OUTLET

C

ONE USED AUTO PARTS

MATCH LINE STA. 170+00.00

MATCH LINE STA. 184+00.00

50'

175'

180'

50'

132'

132'

Dover St

C

TAMPA SCRAP PROCESSORS

Block 4800

SUNDANCE GROWERS

TMR TRADEMARK METALS

C

45

41

S. 50th St

PROGRESSIVE WASTE SOLUTIONS OF FL, INC.

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- C — POTENTIALLY CONTAMINATED SITE
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100 Feet

DATE OF AERIAL: 2011

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US41 PD&E STUDY

Kracker Ave to South of Causway Blvd (SR676)

Concept Plans

WPI SEGMENT No.: 430056-1

SHEET NO. 24

USER: 5brownd 9/9/2014 3:06:05 PM F:\PROJECT\512704\1\4300541201\roadway\PLANRD24.DGN

TAMPA PORT AUTHORITY

FLORIDA PLAYGROUND C STEEL CO. INC

Pendola Point Rd (Private)

TECO

MARATHON ASPHALT PLANT

NORTH

45 41

S. 50th St

MATCH LINE STA. 184+00.00

185

190

POT STA. 25+20.00

195

MATCH LINE STA. 198+00.00

50'

132'

26'

27'

28'

29'

25 - E1
471.80 SF
0.011 ACRES

HILLSBOROUGH COUNTY 676A

PROGRESSIVE WASTE SOLUTIONS OF FL, INC.

HD SUPPLY HOLDINGS LLC

Madison Ave

Block 4600

CIRCLE K (SHELL)

DILLON TRANSPORT INC.

FUTURE TRILLIUM CNG STATION SITE

MATCH LINE STA. 29+50.00 (SEE SHEET 35)

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

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US41 PD&E STUDY
Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 25

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Block 4400

NORTH

CSX Railroad

Port Sutton Rd

ONE STEEL

TAMPA PORT AUTHORITY

45 41 S. 50th St

26 - W1
574.98 SF
0.013 ACRES

26 - W2
4608.00 SF
0.106 ACRES

114

M.E.B.A.

MATCH LINE STA. 198+00.00

MATCH LINE STA. 212+00.00

200 205 210

50' 132' 30 50 132'

Montgomery St (Private)

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

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US41 PD&E STUDY
Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 26

USER: 5brownd 9/9/2014 3:06:37 PM F:\PROJECT\512704\1\4300541201\roadway\PLANRD26.DGN

CSX Railroad

NORTH

GARBA INDUSTRIAL SERVICES

HOUSE

Denver St

Austin St

JON BOATS

PPG PORTER PAINTS/ INTERBAY COATINGS

45 41

S. 50th St

27 - W1 409 90 SF 0.009 ACRES

27 - W2 3685 62 SF 0.085 ACRES

27 - W3 296.00 SF 0.007 ACRES

27 - W4 802 59 SF 0.018 ACRES

27 - W5 1039 47 SF 0.024 ACRES

27 - W6 49.16 SF 0.001 ACRES

27 - W7 3183.53 SF 0.073 ACRES

27 - W8 239 98 SF 0.006 ACRES

27 - W9 3122 62 SF 0.072 ACRES

27 - W10 259 00 SF 0.006 ACRES

MATCH LINE STA. 212+00.00

MATCH LINE STA. 226+00.00

215 220 225

50' 60' 60' 60' 50' 50' 50'

132' 133' 96' 65' 50'

27 - E1 111 74 SF 0.003 ACRES

ADULT BOOK STORE

27 - E2 719 55 SF 0.017 ACRES

27 - E3 13.70 SF 0.000 ACRES

27 - E4 9.82 SF 0.000 ACRES

SOUTHSIDE BAPTIST CHURCH

APPLIANCES WANTED

Santa Fe Rd

PORT CONSOLIDATED

115

END PROJECT

Block 4300

Block 4100

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100 Feet

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Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 27

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Block 3900

Hartford St

Trenton St

Delaney Creek

NORTH

VACANT

WORK SPACE PLUS

LEASE & SALE MODULAR BUILDINGS

U-HAUL NEIGHBORHOOD

45 41

S. 50th St

MATCH LINE STA. 126+00.00

MATCH LINE STA. 240+00.00

50'

50'

230

30

235

50'

50'

FLOWERS' DISCOUNT BAKERY STORE

C

ALL AMERICAN T.S. INC.

4-PLAY ADULT VIDEO

MOBILE MINI INC. STORAGE

WER/EVER OUTDOOR PRODUCTS

ADAMS USED AUTO PARTS

31

32

33

34

Hartford St

Trenton St

Block 3900

Block 3800

LEGEND

WETLANDS OR OTHER SURFACE WATERS BOUNDARY

POTENTIAL BUSINESS RELOCATION
NUMBER OF RELOCATIONS WITHIN PARCEL

POTENTIAL RESIDENTIAL RELOCATION
NUMBER OF RELOCATIONS WITHIN PARCEL

PROPERTY LINES

EXISTING ROW

PROPOSED ROW TO BE ACQUIRED

C POTENTIALLY CONTAMINATED SITE

PROPOSED BRIDGE/WALL

PROPOSED ROADWAY

SIDEWALK / PATH

POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

DATE OF AERIAL: 2011

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Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 28

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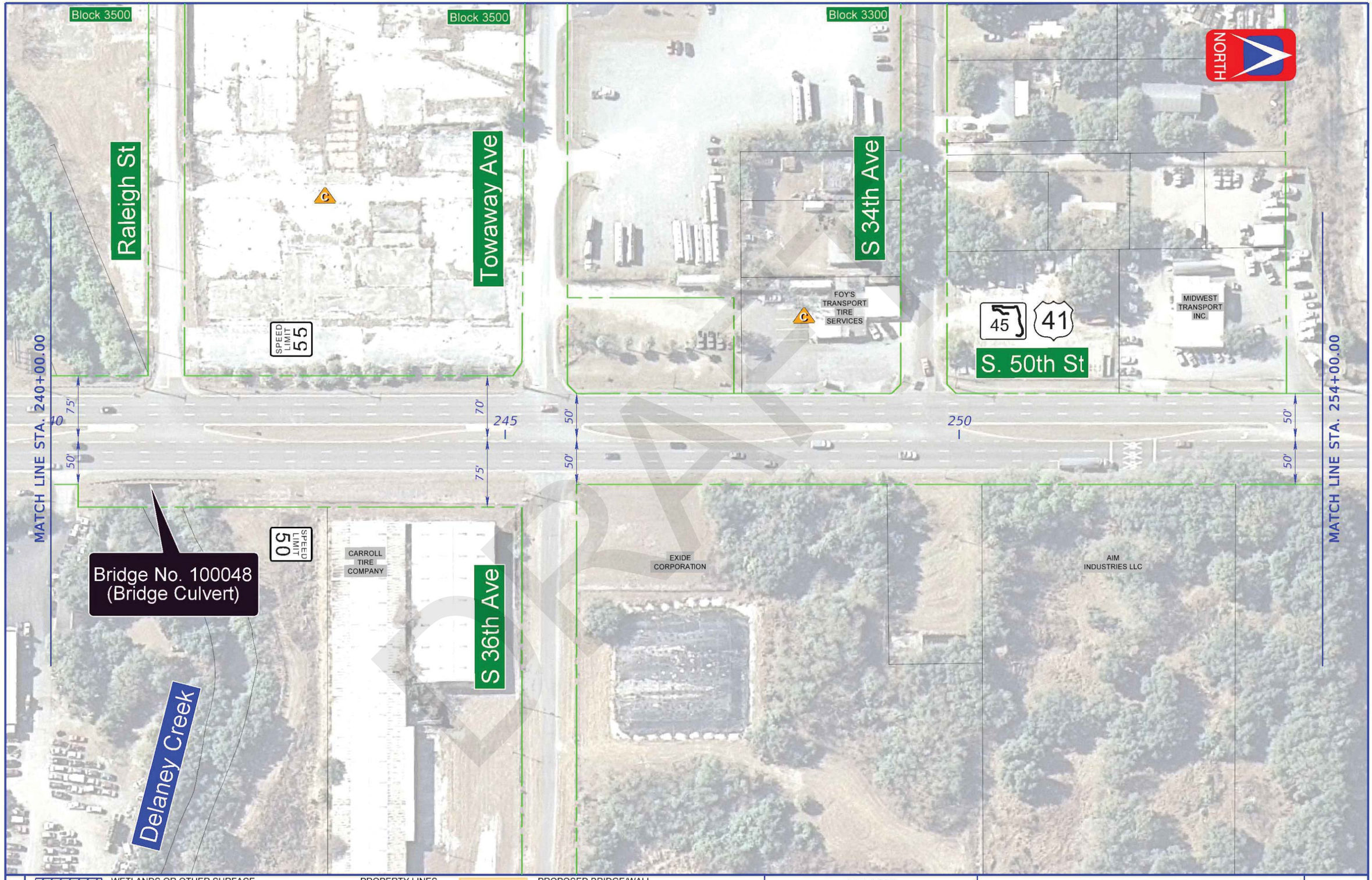

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

DATE OF AERIAL: 2011

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Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 29

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Transportation

Block 2900

Block 2800

S 31st Ave

S 30th Ave

NORTH

45 41

S. 50th St

50TH ST SHELL

HARRY'S BAR

RANCH HOUSE MOTEL

RADIANT FOOD STORE

MATCH LINE STA. 254+00.00

MATCH LINE STA. 268+00.00

50' 50' 65' 50' 54' 50' 60' 50' 60' 50'

255 260 265

CSX Crossing #624802-A

CSX

St Paul St

SOUTHERN INDUSTRIAL

ANGEL'S AUTO SALES

MUFFLER & BRAKE CITY

TAMPA USED AUTO PARTS

GREENLEAF AUTO RECYCLERS

Block 3000

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100 Feet

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SHEET NO. 30

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LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- C — POTENTIALLY CONTAMINATED SITE
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

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WPI SEGMENT No.: 430056-1

SHEET NO. 31

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MATCH LINE STA. 29+00.00 (SEE SHEET 6)

9 30 31 32 33

45

Symmes Rd

GARDENDALE RECREATION CENTER

CSX Railroad

NORTH

DRAFT

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100 Feet

DATE OF AERIAL: 2011

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US41 PD&E STUDY
Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 32

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Marilla Ave

Massachusetts St

Connecticut St

Ethel St

California St

NORTH

MATCH LINE STA. 604+00.00 (SEE SHEET 10)

605

610

45'

40'

Gibsonton Dr

LEGEND

WETLANDS OR OTHER SURFACE WATERS BOUNDARY

POTENTIAL BUSINESS RELOCATION
NUMBER OF RELOCATIONS WITHIN PARCEL

POTENTIAL RESIDENTIAL RELOCATION
NUMBER OF RELOCATIONS WITHIN PARCEL

PROPERTY LINES

EXISTING ROW

PROPOSED ROW TO BE ACQUIRED

POTENTIALLY CONTAMINATED SITE

PROPOSED BRIDGE/WALL

PROPOSED ROADWAY

SIDEWALK / PATH

POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

DATE OF AERIAL: 2011

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Wesley Chapel, Florida 33544
Phone: (813) 435-2600 Fax: (813) 435-2601
Certificate of Authorization No. 9302
Jeffrey S. Novotny, P.E. No. 51083

US41 PD&E STUDY
Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 33

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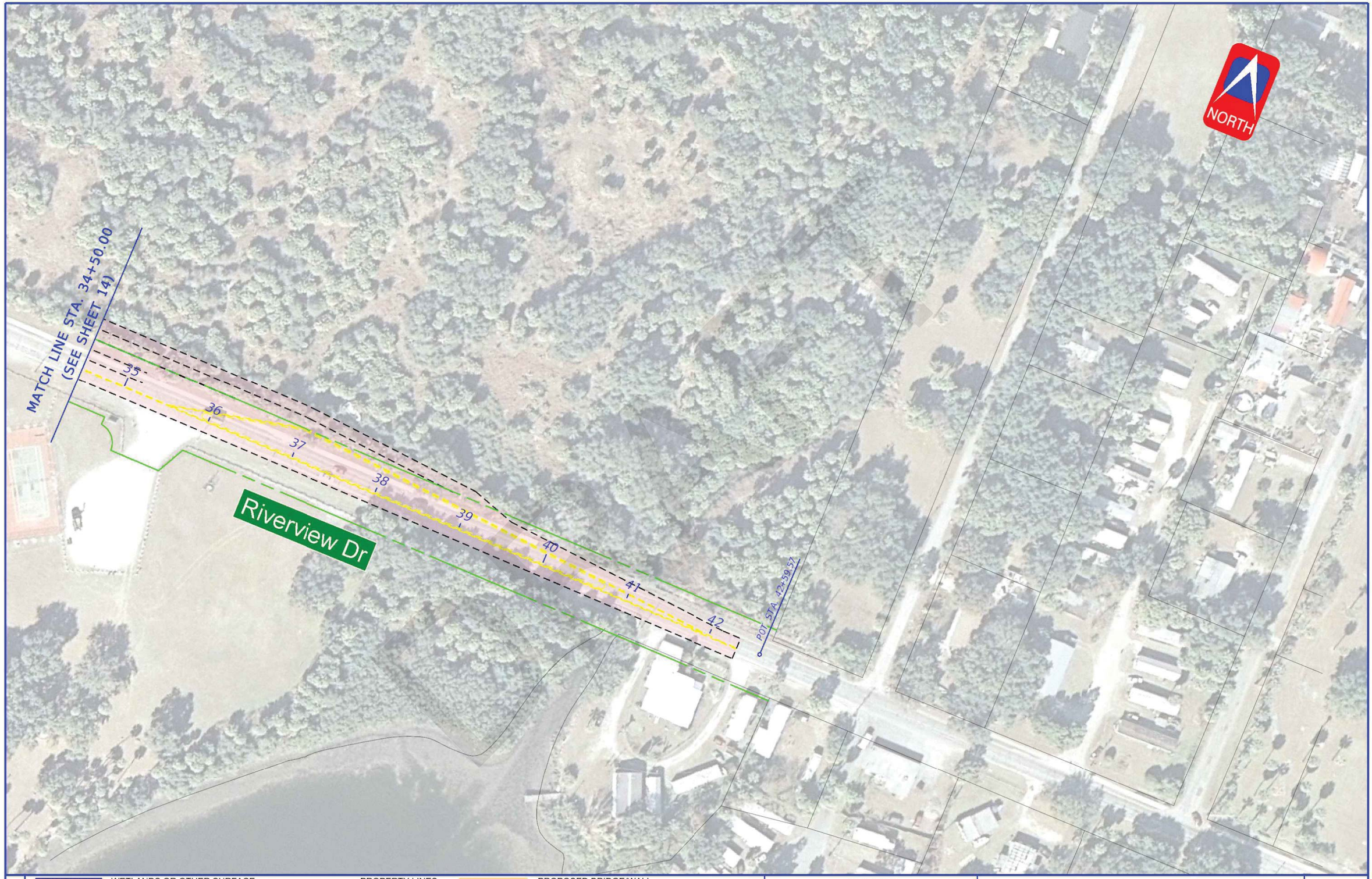

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet

DATE OF AERIAL: 2011

AMERICAN CONSULTING ENGINEERS OF FLORIDA, LLC
2818 Cypress Ridge Blvd, Suite 200
Wesley Chapel, Florida 33544
Phone: (813) 435-2600 Fax: (813) 435-2601
Certificate of Authorization No. 9302
Jeffrey S. Novotny, P.E. No. 51083

US41 PD&E STUDY
Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 34

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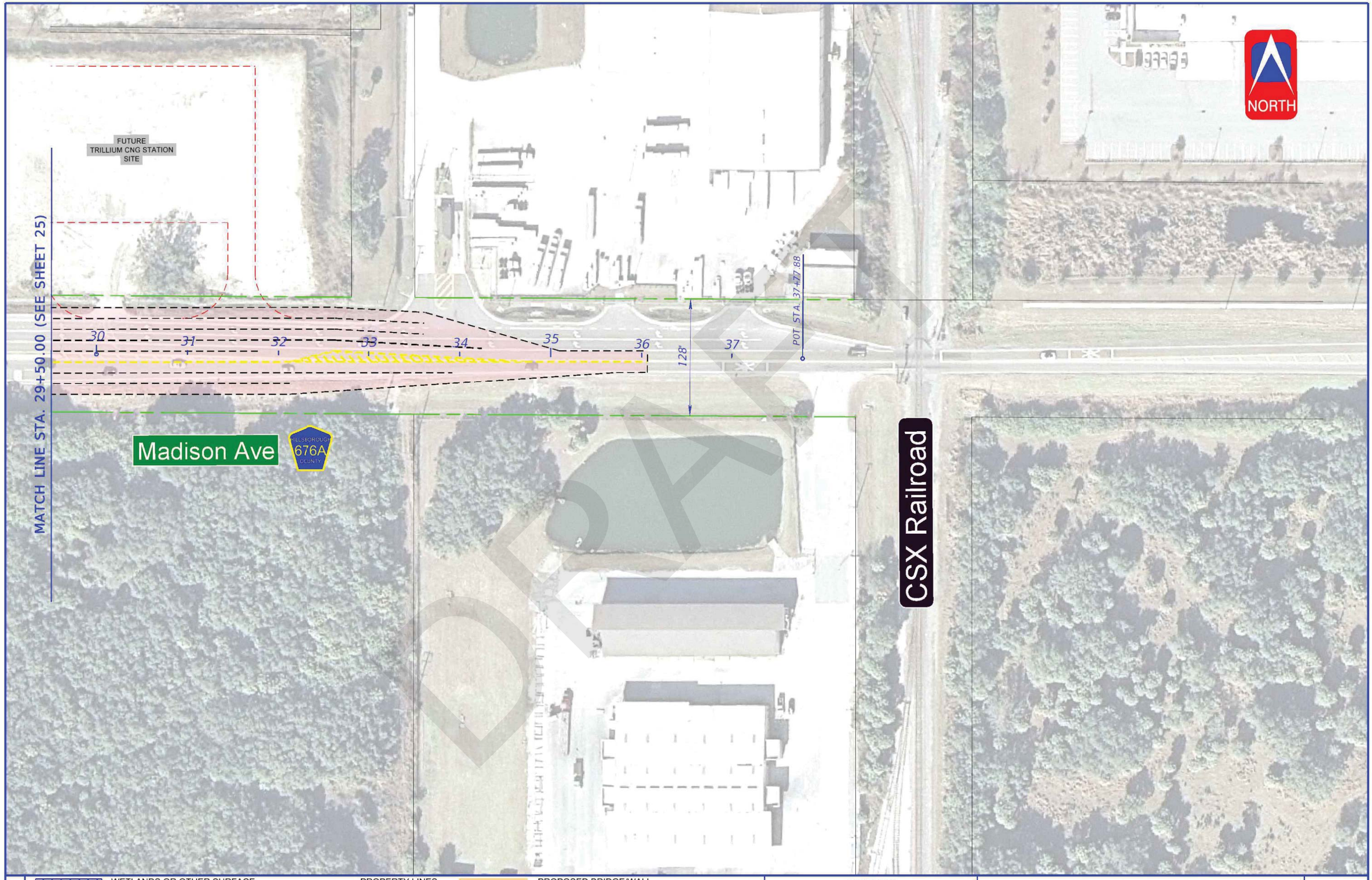

LEGEND

- WETLANDS OR OTHER SURFACE WATERS BOUNDARY
- POTENTIAL BUSINESS RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- POTENTIAL RESIDENTIAL RELOCATION — NUMBER OF RELOCATIONS WITHIN PARCEL
- PROPERTY LINES
- EXISTING ROW
- PROPOSED ROW TO BE ACQUIRED
- POTENTIALLY CONTAMINATED SITE
- PROPOSED BRIDGE/WALL
- PROPOSED ROADWAY
- SIDEWALK / PATH
- POTENTIAL IMPROVEMENT BY OTHERS

0 20 100
Feet
DATE OF AERIAL: 2011

AMERICAN CONSULTING ENGINEERS OF FLORIDA, LLC
2818 Cypress Ridge Blvd, Suite 200
Wesley Chapel, Florida 33544
Phone: (813) 435-2600 Fax: (813) 435-2601
Certificate of Authorization No. 9302
Jeffrey S. Novotny, P.E. No. 51083

US41 PD&E STUDY
Kracker Ave to South of Causway Blvd (SR676)
Concept Plans
WPI SEGMENT No.: 430056-1

SHEET NO. 35

USER: 5browndd 9/9/2014 3:09:04 PM F:\PROJECT\512704\4300541201\roadway\PLANRD35.DGN

APPENDIX B
Traffic Data

TRAFFIC DATA FOR NOISE STUDIES

Project: US 41 Date: 9/13/2013

Work Program Item Seg. No.: 430056-1 Prepared By: American

Financial Project ID Number(s): ☐ Dec. 2014 Revisions

Federal Aid Number(s):

Segment Description: US 41 from Kracker Avenue to Symmes Road Alternative: N/A

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility		No-Build (Design Year)		Build (Design Year)	
Lanes:	4	Lanes:	4	Lanes:	6
Year:	2013	Year:	2040	Year:	2040
ADT: LOS (C)	35,500	ADT: LOS (C)	35,500	ADT: LOS (C)	53,700
Demand	25,550	Demand	42,100	Demand	42,100
Posted Spd:	55 mph 89 kmh	Posted Spd:	55 mph 89 kmh	Posted Spd:	55 mph 89 kmh
K=	9.00 %	K=	9.00 %	K=	9.00 %
D=	64.27 %	D=	50.00 %	D=	64.27 %
T=	9.0 % for 24 hrs.	T=	9.0 % for 24 hrs.	T=	9.0 % for 24 hrs.
T=	4.50 % Design hr	T=	4.50 % Design hr	T=	4.50 % Design hr
1.45	% Medium Trucks DHV	1.45	% Medium Trucks DHV	1.45	% Medium Trucks DHV
3.12	% Heavy Trucks DHV	3.12	% Heavy Trucks DHV	3.12	% Heavy Trucks DHV
0.07	% Buses DHV	0.07	% Buses DHV	0.07	% Buses DHV
0.20	% Motorcycles DHV	0.20	% Motorcycles DHV	0.20	% Motorcycles DHV

TRAFFIC DATA FOR NOISE STUDIES

Project: US 41 Date: 9/13/2013

Work Program Item Seg. No.: 430056-1 Prepared By: American

Financial Project ID Number(s): Dec. 2014 Revisions

Federal Aid Number(s):

Segment Description: US 41 from Symmes Road to Palm Avenue Alternative: N/A

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility		No-Build (Design Year)		Build (Design Year)	
Lanes:	4	Lanes:	4	Lanes:	6
Year:	2013	Year:	2040	Year:	2040
ADT: LOS (C)	35,500	ADT: LOS (C)	35,500	ADT: LOS (C)	53,700
Demand	27,050	Demand	45,000	Demand	45,000
Posted Spd:	50 mph / 80 kmh	Posted Spd:	50 mph / 80 kmh	Posted Spd:	50 mph / 80 kmh
K=	9.00 %	K=	9.00 %	K=	9.00 %
D=	64.27 %	D=	50.00 %	D=	64.27 %
T=	9.0 % for 24 hrs.	T=	9.0 % for 24 hrs.	T=	9.0 % for 24 hrs.
T=	4.50 % Design hr	T=	4.50 % Design hr	T=	4.50 % Design hr
1.33	% Medium Trucks DHV	1.33	% Medium Trucks DHV	1.33	% Medium Trucks DHV
3.20	% Heavy Trucks DHV	3.20	% Heavy Trucks DHV	3.20	% Heavy Trucks DHV
0.03	% Buses DHV	0.03	% Buses DHV	0.03	% Buses DHV
0.30	% Motorcycles DHV	0.30	% Motorcycles DHV	0.30	% Motorcycles DHV

TRAFFIC DATA FOR NOISE STUDIES

Project: US 41 Date: 9/13/2013

Work Program Item Seg. No.: 430056-1 Prepared By: American

Financial Project ID Number(s): Dec. 2014 Revisions

Federal Aid Number(s):

Segment Description: US 41 from Palm Avenue to Gibsonton Drive/Alice Avenue Alternative: N/A

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility		No-Build (Design Year)		Build (Design Year)	
Lanes:	4	Lanes:	4	Lanes:	6
Year:	2013	Year:	2040	Year:	2040
ADT: LOS (C)	35,500	ADT: LOS (C)	35,500	ADT: LOS (C)	53,700
Demand	29,050	Demand	45,200	Demand	45,200
Posted Spd:	50 mph / 80 kmh	Posted Spd:	50 mph / 80 kmh	Posted Spd:	50 mph / 80 kmh
K=	9.00 %	K=	9.00 %	K=	9.00 %
D=	64.27 %	D=	50.00 %	D=	64.27 %
T=	9.0 % for 24 hrs.	T=	9.0 % for 24 hrs.	T=	9.0 % for 24 hrs.
T=	4.50 % Design hr	T=	4.50 % Design hr	T=	4.50 % Design hr
1.33	% Medium Trucks DHV	1.33	% Medium Trucks DHV	1.33	% Medium Trucks DHV
3.20	% Heavy Trucks DHV	3.20	% Heavy Trucks DHV	3.20	% Heavy Trucks DHV
0.03	% Buses DHV	0.03	% Buses DHV	0.03	% Buses DHV
0.30	% Motorcycles DHV	0.30	% Motorcycles DHV	0.30	% Motorcycles DHV

TRAFFIC DATA FOR NOISE STUDIES

Project: US 41 Date: 9/13/2013

Work Program Item Seg. No.: 430056-1 Prepared By: American

Financial Project ID Number(s): Dec. 2014 Revisions

Federal Aid Number(s):

Segment Description: US 41 from Gibsonton Drive/Alice Avenue to Riverview Drive/ Industrial Access Road Alternative: N/A

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility		No-Build (Design Year)		Build (Design Year)	
Lanes:	4	Lanes:	4	Lanes:	6
Year:	2013	Year:	2040	Year:	2040
ADT: LOS (C)	35,500	ADT: LOS (C)	35,500	ADT: LOS (C)	53,700
Demand	28,350	Demand	53,650	Demand	53,650
Posted Spd:	50 mph / 80 kmh	Posted Spd:	50 mph / 80 kmh	Posted Spd:	50 mph / 80 kmh
K=	9.00 %	K=	9.00 %	K=	9.00 %
D=	64.27 %	D=	50.00 %	D=	64.27 %
T=	9.0 % for 24 hrs.	T=	9.0 % for 24 hrs.	T=	9.0 % for 24 hrs.
T=	4.50 % Design hr	T=	4.50 % Design hr	T=	4.50 % Design hr
1.33	% Medium Trucks DHV	1.33	% Medium Trucks DHV	1.33	% Medium Trucks DHV
3.20	% Heavy Trucks DHV	3.20	% Heavy Trucks DHV	3.20	% Heavy Trucks DHV
0.03	% Buses DHV	0.03	% Buses DHV	0.03	% Buses DHV
0.30	% Motorcycles DHV	0.30	% Motorcycles DHV	0.30	% Motorcycles DHV

TRAFFIC DATA FOR NOISE STUDIES

Project: US 41 Date: 9/13/2013

Work Program Item Seg. No.: 430056-1 Prepared By: American

Financial Project ID Number(s): Dec. 2014 Revisions

Federal Aid Number(s):

Segment Description: US 41 from Riverview Drive/Industrial Access Road to CR 676A (Madison Avenue/Pendola Point Road) Alternative: N/A

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility		No-Build (Design Year)		Build (Design Year)	
Lanes:	4	Lanes:	4	Lanes:	6
Year:	2013	Year:	2040	Year:	2040
ADT: LOS (C)	35,500	ADT: LOS (C)	35,500	ADT: LOS (C)	53,700
Demand	26,650	Demand	47,200	Demand	47,200
Posted Spd:	55 mph / 89 kmh	Posted Spd:	55 mph / 89 kmh	Posted Spd:	55 mph / 89 kmh
K=	9.00 %	K=	9.00 %	K=	9.00 %
D=	64.27 %	D=	50.00 %	D=	64.27 %
T=	9.0 % for 24 hrs.	T=	9.0 % for 24 hrs.	T=	9.0 % for 24 hrs.
T=	4.50 % Design hr	T=	4.50 % Design hr	T=	4.50 % Design hr
1.33	% Medium Trucks DHV	1.33	% Medium Trucks DHV	1.33	% Medium Trucks DHV
3.20	% Heavy Trucks DHV	3.20	% Heavy Trucks DHV	3.20	% Heavy Trucks DHV
0.03	% Buses DHV	0.03	% Buses DHV	0.03	% Buses DHV
0.30	% Motorcycles DHV	0.30	% Motorcycles DHV	0.30	% Motorcycles DHV

TRAFFIC DATA FOR NOISE STUDIES

Project: US 41 Date: 9/13/2013

Work Program Item Seg. No.: 430056-1 Prepared By: American

Financial Project ID Number(s): Dec. 2014 Revisions

Federal Aid Number(s):

Segment Description: US 41 from CR 676A (Madison Avenue/Pendola Point Road) to Port Sutton Road Alternative: N/A

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility		No-Build (Design Year)		Build (Design Year)	
Lanes:	4	Lanes:	4	Lanes:	6
Year:	2013	Year:	2040	Year:	2040
ADT: LOS (C)	35,500	ADT: LOS (C)	35,500	ADT: LOS (C)	53,700
Demand	32,350	Demand	57,625	Demand	57,625
Posted Spd:	50 mph / 80 kmh	Posted Spd:	50 mph / 80 kmh	Posted Spd:	50 mph / 80 kmh
K=	9.00 %	K=	9.00 %	K=	9.00 %
D=	64.27 %	D=	50.00 %	D=	50.00 %
T=	11.0 % for 24 hrs.	T=	11.0 % for 24 hrs.	T=	11.0 % for 24 hrs.
T=	5.50 % Design hr	T=	5.50 % Design hr	T=	5.50 % Design hr
1.91	% Medium Trucks DHV	1.91	% Medium Trucks DHV	1.91	% Medium Trucks DHV
3.64	% Heavy Trucks DHV	3.64	% Heavy Trucks DHV	3.64	% Heavy Trucks DHV
0.05	% Buses DHV	0.05	% Buses DHV	0.05	% Buses DHV
0.23	% Motorcycles DHV	0.23	% Motorcycles DHV	0.23	% Motorcycles DHV

TRAFFIC DATA FOR NOISE STUDIES

Project: US 41 Date: 9/13/2013

Work Program Item Seg. No.: 430056-1 Prepared By: American

Financial Project ID Number(s): Dec. 2014 Revisions

Federal Aid Number(s):

Segment Description: US 41 from Port Sutton Road to South of SR 676 (Causeway Boulevard) Alternative: N/A

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility		No-Build (Design Year)		Build (Design Year)	
Lanes:	6	Lanes:	6	Lanes:	6
Year:	2013	Year:	2040	Year:	2040
ADT: LOS (C)	53,700	ADT: LOS (C)	53,700	ADT: LOS (C)	53,700
Demand	36,400	Demand	68,550	Demand	68,550
Posted Spd:	50 mph / 80 kmh	Posted Spd:	50 mph / 80 kmh	Posted Spd:	50 mph / 80 kmh
K=	9.00 %	K=	9.00 %	K=	9.00 %
D=	64.27 %	D=	50.00 %	D=	50.00 %
T=	11.0 % for 24 hrs.	T=	11.0 % for 24 hrs.	T=	11.0 % for 24 hrs.
T=	5.50 % Design hr	T=	5.50 % Design hr	T=	5.50 % Design hr
1.91	% Medium Trucks DHV	1.91	% Medium Trucks DHV	1.91	% Medium Trucks DHV
3.64	% Heavy Trucks DHV	3.64	% Heavy Trucks DHV	3.64	% Heavy Trucks DHV
0.05	% Buses DHV	0.05	% Buses DHV	0.05	% Buses DHV
0.23	% Motorcycles DHV	0.23	% Motorcycles DHV	0.23	% Motorcycles DHV

APPENDIX C
Validation Documentation

NOISE MEASUREMENT DATA SHEET

Measurements Taken By: Wayne Arner Date: 10/17/14
Time Study Started: 10:18 Time Study Ended: 11:25
Project Identification:
Financial Project ID: 430056 1 22 01
Project Location: US 41 from Kracker Avenue to South of Causeway Boulevard

Site Identification: Site 1: East side of US 41, north of Ohio Street, between Eastwood Estates Mobile Home Park and The Park at Palm Grove Mobile Home Park, 60 feet from edge of nearest travel lane.

Weather Conditions:
Sky: Clear X Partly Cloudy ____ Cloudy ____ Other ____
Temperature 78F Wind Speed 1 mph Wind Direction N Humidity 63%

Equipment:
Sound Level Meter:
Type: Larson Davis 831 Serial Number(s): 1285
Did you check the battery? Yes X No ____
Calibration Readings: Start 114.0 End 114.0
Response Settings: Fast ____ Slow X
Weighting: A X Other ____

Calibrator:
Type: Larson Davis CAL 200 Serial Number: 5592
Did you check the battery? Yes X No ____

TRAFFIC DATA

Roadway Identification	US 41 Northbound		US 41 Southbound	
	Run 1-Run 2-Run 3		Run 1-Run 2-Run 3	
Vehicle Type	Volume	Speed (mph)	Volume	Speed (mph)
Autos	79-64-93	50-51-53	82-98-84	54-52-54
Medium Trucks	4-5-3	49-52-57	5-6-5	49-51-54
Heavy Trucks	5-6-11	49-48-50	5-7-10	50-52-52
Buses	1-0-0	49-0-0	0-0-0	0-0-0
Motorcycles	1-0-0	52-0-0	0-3-0	0-52-0
Duration	10 minutes per run		10 minutes per run	

RESULTS [dB(A)]

L_{EQ} 64.9-65.1-68.2 Lmax 76.2-77.4-82.3

Background Noise: Birds and insects.
Major Sources: US 41
Unusual Events: Flyover during run 1. Lulls in traffic.

KB Environmental Sciences

NOISE MEASUREMENT DATA SHEET

Measurements Taken By: Wayne Arner Date: 10/17/14
Time Study Started: 2:33 Time Study Ended: 3:38
Project Identification:
Financial Project ID: 430056 1 22 01
Project Location: US 41 from Kracker Avenue to South of Causeway Boulevard

Site Identification: Site 2: East side of US 41, north of Gibsonton Drive, near corner of Estelle Avenue and Indiana Street, near First Baptist Church, about 170 feet from US 41.

Weather Conditions:
Sky: Clear X Partly Cloudy ____ Cloudy ____ Other ____
Temperature 83F Wind Speed 2 mph Wind Direction NE Humidity 49%
Equipment:
Sound Level Meter:
Type: Larson Davis 831 Serial Number(s): 1285
Did you check the battery? Yes X No ____
Calibration Readings: Start 114.0 End 113.9
Response Settings: Fast ____ Slow X
Weighting: A X Other ____
Calibrator:
Type: Larson Davis CAL 200 Serial Number: 5592
Did you check the battery? Yes X No ____

TRAFFIC DATA

Roadway Identification	US 41 Northbound		US 41 Southbound	
	Run 1-Run 2-Run 3		Run 1-Run 2-Run 3	
Vehicle Type	Volume	Speed (mph)	Volume	Speed (mph)
Autos	91-107-122	47-48-49	136-169-150	50-46-45
Medium Trucks	3-6-4	43-43-44	5-1-4	45-45-44
Heavy Trucks	8-5-10	44-44-43	1-2-3	41-44-47
Buses	1-1-2	43-43-44	0-2-0	0-45-0
Motorcycles	2-2-0	47-48-0	3-3-2	50-46-45
Duration	10 minutes per run		10 minutes per run	

RESULTS [dB(A)]

L_{EQ} 60.9-60.4-61.4 Lmax 72.8-72.5-72.7

Background Noise: Primarily US 41
Major Sources: US 41
Unusual Events: Passbys on Estelle Avenue, flyover during run 2, distant barking, lulls in traffic

KB Environmental Sciences