FINAL NOISE STUDY REPORT

S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Project Development and Environment Study
Pinellas County, Florida

Work Program Item Segment No: 410755 1

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

July 2007
Revised June 2008

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Prepared by:

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EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) conducted a Project Development and Environment (PD&E) Study for roadway and bridge improvement alternatives along S.R. 679 (Pinellas Bayway Structure E) at the Gulf Intracoastal Waterway in Pinellas County, Florida.

The objectives of this Noise Study Report (NSR) was to identify noise sensitive sites adjacent to the project corridor, to evaluate the significance of existing and future traffic noise levels at the sites with the improvements, and to evaluate the need for and effectiveness of noise abatement measures. Additional objectives include the evaluation of construction noise and vibration impacts and the identification of noise level "contours" adjacent to the corridor. Contours are the distances from the roadway that traffic noise levels are predicted to approach, meet, or exceed the Department's Noise Abatement Criteria (NAC).

Noise Sensitive Sites

Twenty noise sensitive sites (including 2 single family homes, 3 tennis courts, and 15 condominiums) were evaluated (Activity Category "B"). None of the sites approached, met or exceeded the NAC with the recommended alternative.

Future Traffic Noise Levels

As a 2-lane high level fixed bridge with a relocated channel, the modeling analysis indicates that traffic noise levels would range from 48.0 to 65.4 dBA. Noise levels are not predicted to approach, meet, or exceed the NAC. In addition, noise levels for the 20 sites modeled are predicted to change between 0 and 1.2 dBA with the project.

Noise Abatement Measures

The Department considers noise abatement measures such as: traffic management, alternative roadway alignment, property acquisition, and noise barriers. Based on the results of the analysis, it is not necessary for the Department to consider abatement measures because noise levels are not predicted to approach, meet, or exceed the Noise Abatement Criteria (NAC).

Noise Contours

To reduce the potential for additional noise sensitive sites to be located within an area with incompatible traffic noise, noise level contours were developed for the future improved roadway. The results of the analysis indicate that a level of 66 dBA (approaching the Department's NAC) would extend approximately 85 feet from the closest travel lane of the 2-lane roadway.

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1.0 INTRODUCTION

The Florida Department of Transportation (FDOT) conducted a Project Development and Environment (PD&E) Study for bridge and roadway improvement alternatives along S.R. 679 (Pinellas Bayway Structure E) over the Gulf Intracoastal Waterway, hereafter referred to as the Intracoastal Waterway. The project location map (Figure 1) illustrates the location and limits of the PD&E Study.

1.1 PURPOSE

The purpose of the PD&E Study is to provide documented environmental and engineering analyses to assist FDOT and the United States Coast Guard (USCG), the lead federal agency, in reaching a decision as to the type, location, and conceptual design of roadway and bridge improvements to the S.R. 679 (Pinellas Bayway Structure E) crossing of the Intracoastal Waterway. The PD&E Study also satisfies the requirements of the National Environmental Policy Act (NEPA) and other federal regulations.

The PD&E Study documents the need for the improvements, and presents the procedures that FDOT utilized to develop and evaluate various improvement alternatives including rehabilitation and replacement of the existing double-leaf bascule bridge (Bridge Number 150049) known locally as the Tierra Verde Bridge. FDOT collected information relating to the engineering and environmental characteristics essential for alternatives and analytical decisions. FDOT then established design criteria and developed preliminary alternatives. The comparison of alternatives is based on a variety of parameters utilizing a matrix format. This process identifies the alternative which would have the least impact, while providing the necessary improvements. The study also solicits input from the community and users of the facility. The design year for the analysis is 2030.

1.2 PROJECT DESCRIPTION

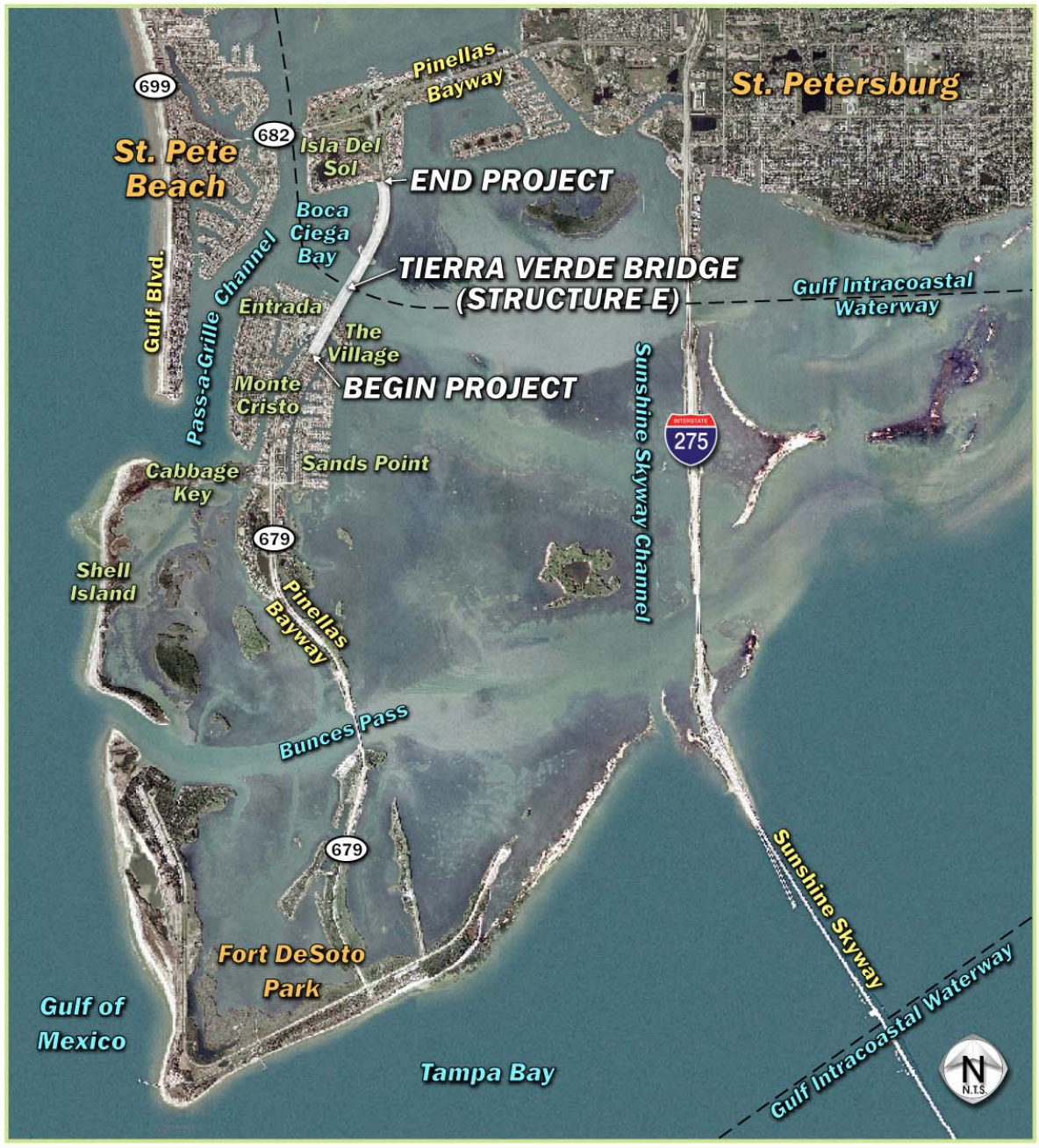
The PD&E Study limits encompass the portion of S.R. 679 from south of Madonna Boulevard (milepost 8.242) in Tierra Verde to south of S.R. 682 (milepost 9.335) in Pinellas County, Florida, a distance of 1.093 miles (mi). The project is located within Sections 8, 17, and 20, Township 32 South, Range 16 East, and within the Pass-A-Grille Beach United States Geological Survey (USGS) quad map (quad Number 3022). Structure E is a low-level bascule structure that spans the Intracoastal Waterway, a marked federal navigational channel which generally runs between the mainland and the nearly contiguous barrier islands along the Gulf of Mexico. S.R. 679 is not part of the National Highway System, the Florida Intrastate Highway System, or the Strategic Intermodal System (SIS); however, the Intracoastal Waterway within the PD&E Study area is on the SIS. In addition, both S.R. 682 and S.R. 679 are designated hurricane evacuation routes by the Florida State Emergency Response Team (SERT).

S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

WPI Segment No : 410755-1

PROJECT LOCATION MAP

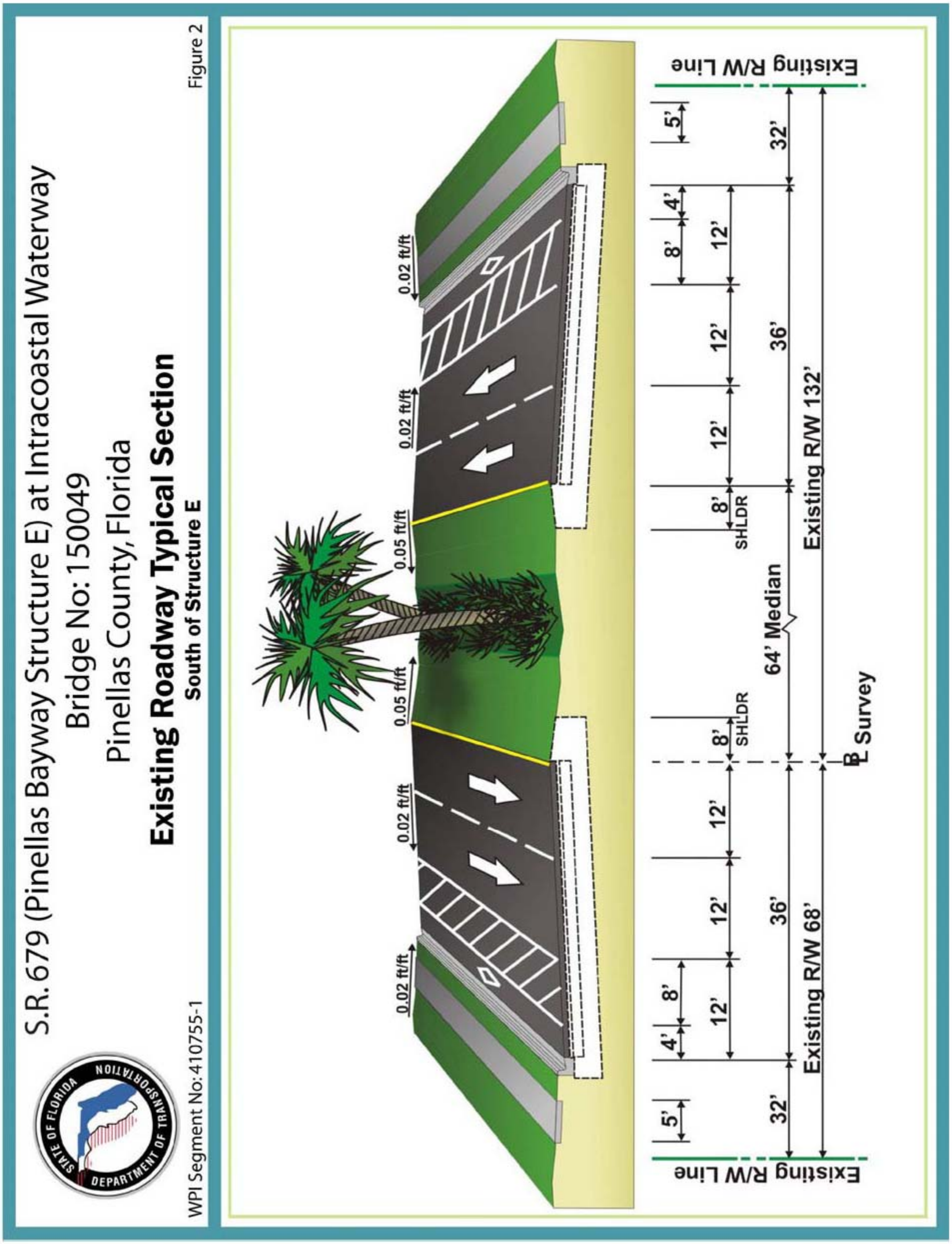
Figure 1



2.0 EXISTING FACILITY AND PROPOSED IMPROVEMENTS

S.R. 679 is a north-south urban minor arterial that provides the only vehicular access to the islands of Tierra Verde and Mullet Key, where Fort Desoto Park is located. As shown in Figure 2, the existing roadway south of the bridge (Structure E) features a four lane divided typical section with 12–foot (ft) travel lanes and a 64-ft landscaped median. The existing roadway along the causeway north of Structure E features a two-lane, undivided, rural typical section with lanes approximately 11 to 12 ft in width (see Figure 3). The existing bridge consists of two lanes and the approach span and bascule span are shown as Figure 4. The existing right-of way (ROW) width is 200 ft and the posted speed is 45 mph.

This proposed improvement consists of a high-level, fixed-span replacement bridge over the relocated Intracoastal Waterway navigation channel, 400 ft to the north of its existing location. The vertical navigational clearance will be 65 ft, which would allow over 99 percent of waterway users to pass under the bridge. The horizontal clearance between fenders is 100 ft. The proposed typical section includes one 12-ft lane and a 10-ft shoulder in each direction. A 5-ft sidewalk is included on the west side, separated from the shoulder by a concrete barrier wall. An 11-ft sidewalk is provided on the east side to accommodate a planned multi-use path. The overall width of the fixed span is 65 ft. The proposed design speed is 50 mph. The proposed typical sections are illustrated on Figures 5, 6, and 7.


S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida
Existing Roadway Typical Section
South of Structure E
WPI Segment No: 410755-1
Figure 2
0.02 ft/ft
0.02 ft/ft
0.05 ft/ft
0.05 ft/ft
0.02 ft/ft
0.02 ft/ft
5'
4'
8'
12'
12'
12'
8' SHLDR
8' SHLDR
12'
12'
12'
8'
4'
5'
32'
36'
64' Median
36'
32'
Existing R/W 68'
Existing R/W 132'
℄ Survey
Existing R/W Line
Existing R/W Line

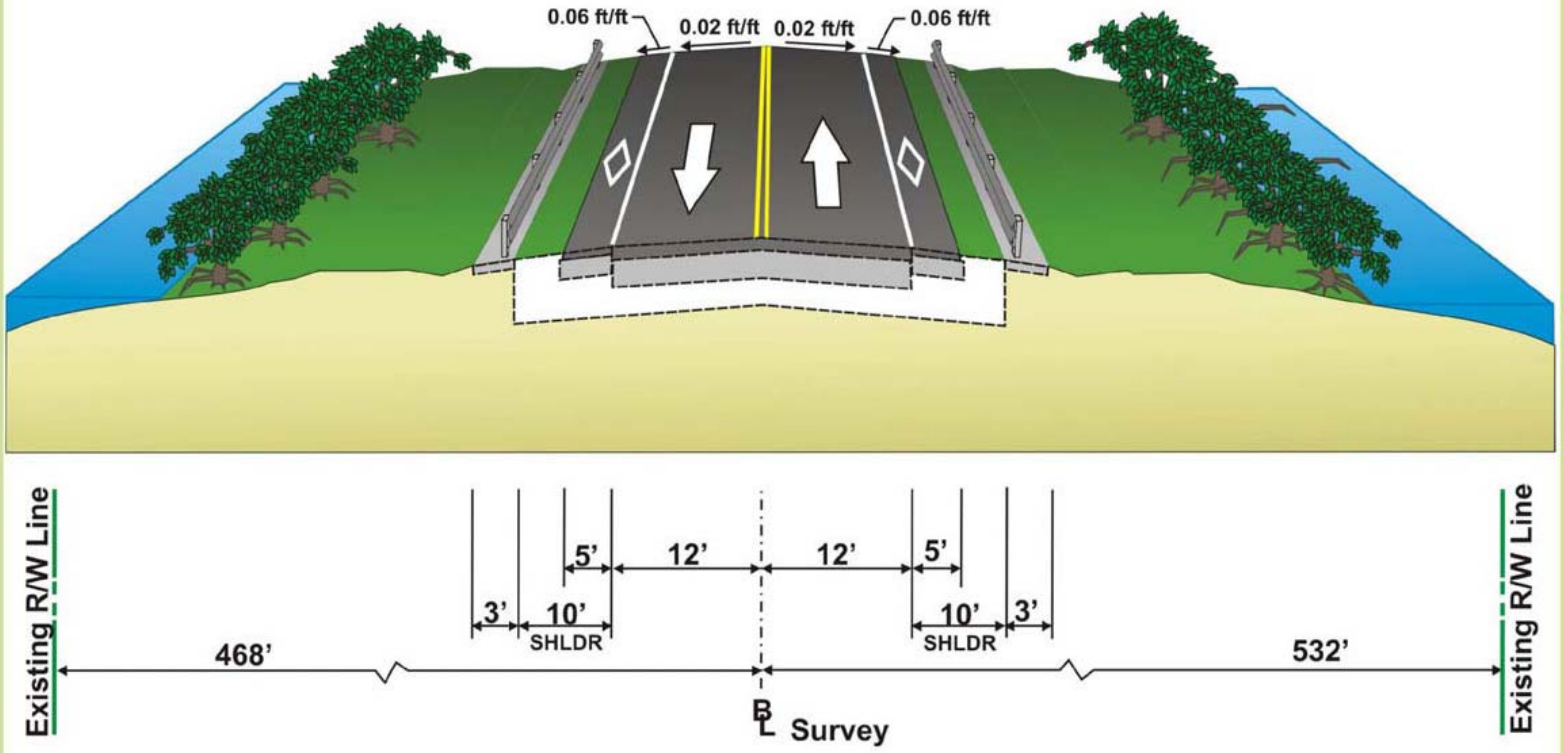
S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

Existing Roadway Typical Section

North of Structure E

WPI Segment No: 410755-1

Figure 3

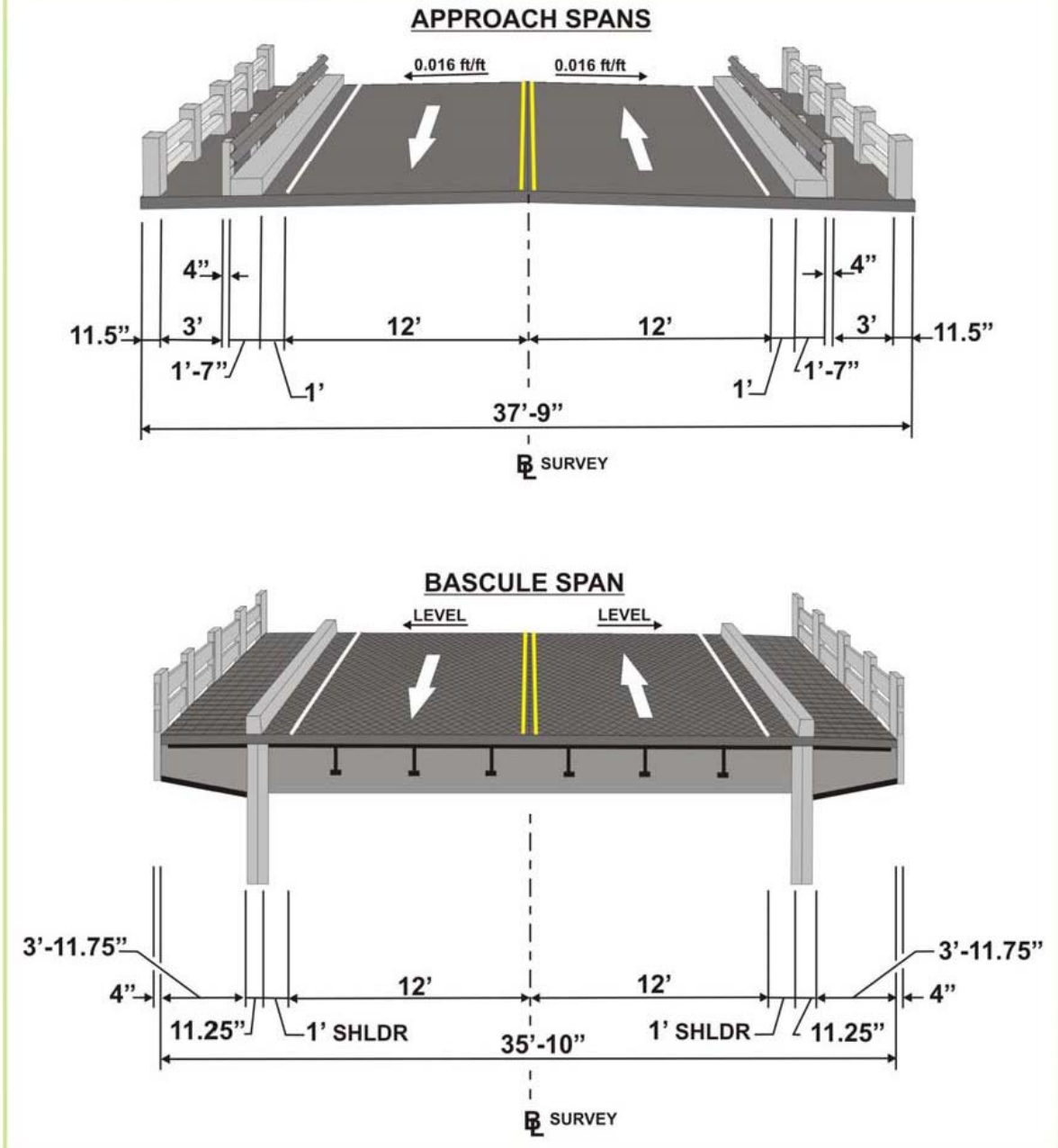


S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

Existing Bridge Typical Sections

WPI Segment No : 410755-1

Figure 4



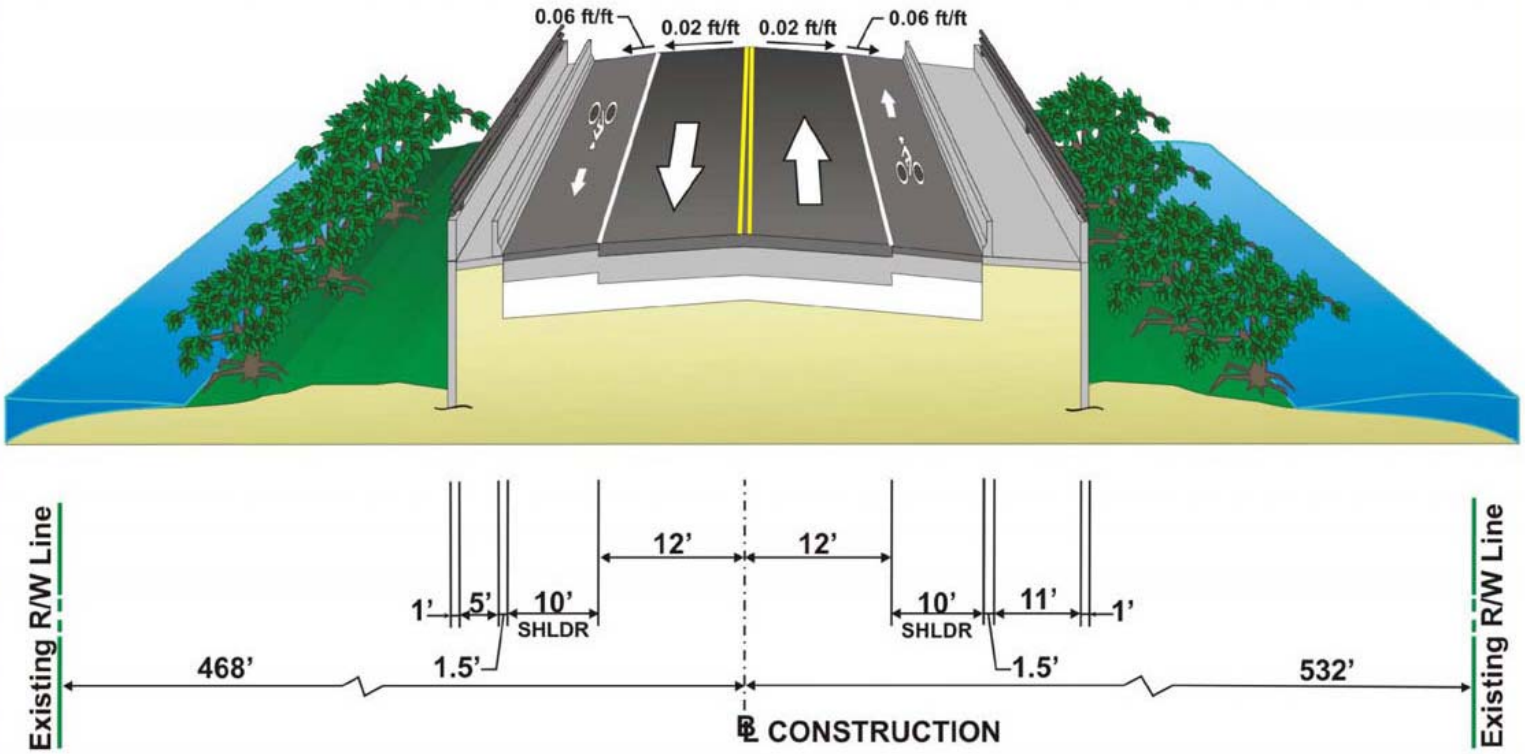
S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

Proposed Roadway Typical Section

Northern Approach to Structure E

WPI Segment No: 410755-1

Figure 5



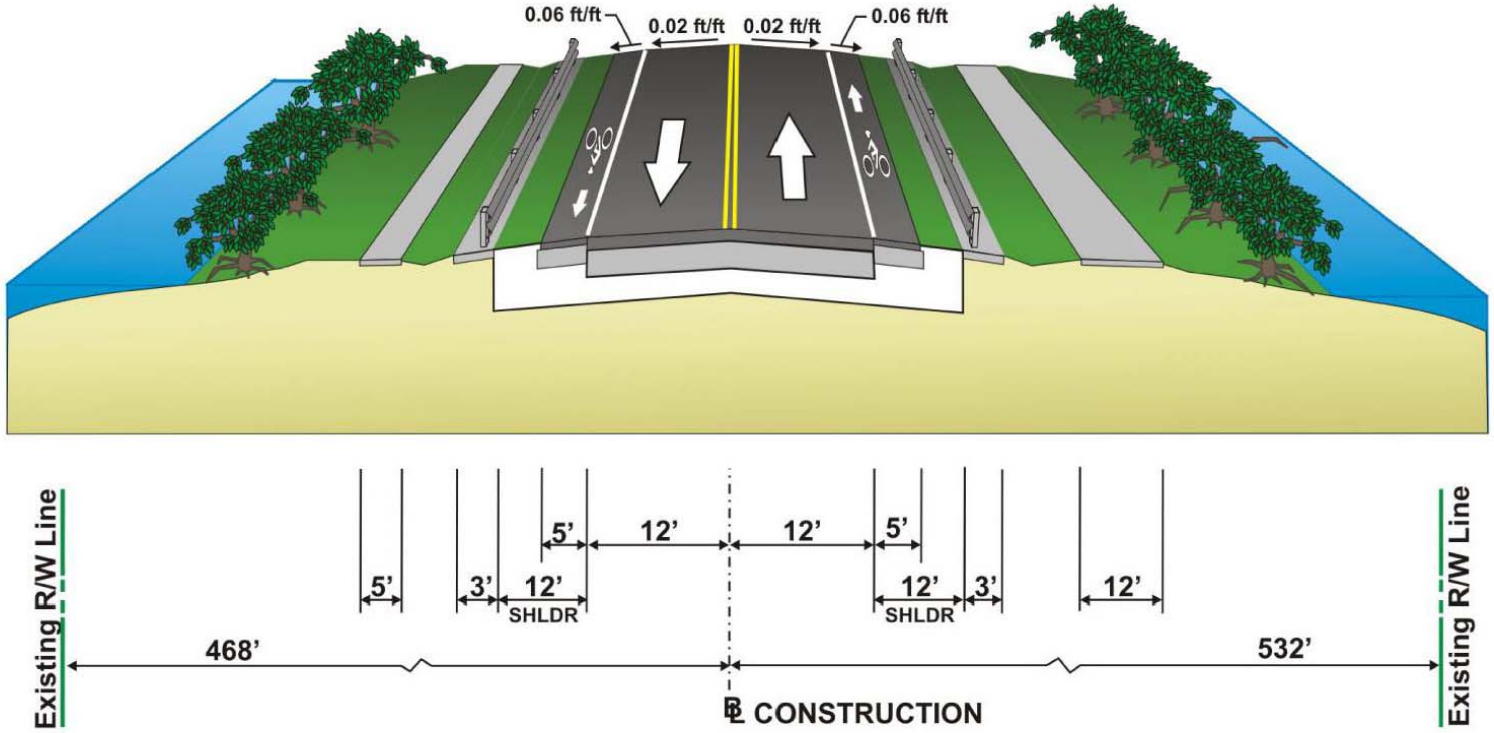
S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

Proposed Roadway Typical Section

WPI Segment No: 410755-1

Recommended Alternative - North of Structure E

Figure 6

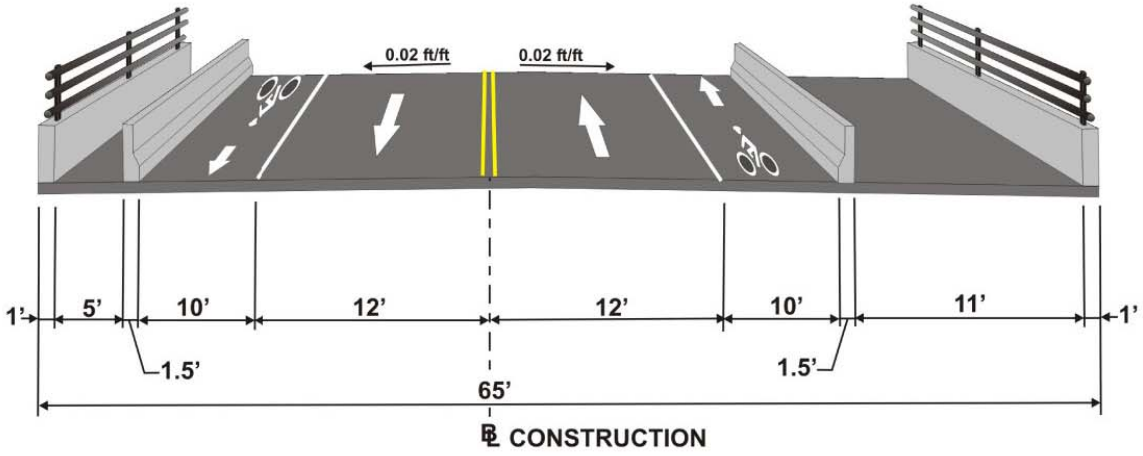


S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

Proposed Bridge Typical Sections
Recommended Alternative

WPI Segment No : 410755-1

Figure 7



3.0 TRAFFIC NOISE ANALYSIS

3.1 Methodology

The traffic noise analysis for this NSR was performed following FDOT procedures (PD&E Manual, Part 2, Chapter 17, October 6, 2003) that comply with 23 Code of Federal Regulations (CFR) Part 772 (Procedures for Abatement of Highway Traffic Noise and Construction Noise). Future traffic noise levels were predicted using the FHWA's computer model for the prediction and analysis of highway traffic noise – the Traffic Noise Model (TNM - Version 2.5). The TNM simulates the process of sound energy propagation, in one-third octave bands, between highways and nearby receivers taking the intervening ground's acoustical characteristics and topography, and intervening structures (i.e., buildings) into account.

The objectives of the Noise Study Report (NSR) are:

- To identify noise sensitive sites adjacent to the project corridor;
- To evaluate the significance of existing and future traffic noise levels at the noise sensitive sites with the improvements; and
- To evaluate the need for and effectiveness of noise abatement measures.

Additional objectives include providing noise contours (distances from the roadway that traffic noise levels are predicted to approach, meet, or exceed the Department's Noise Abatement Criteria (NAC) and an evaluation of construction noise and vibration impacts.

The noise levels presented and discussed in this NSR are expressed in decibels (dB) on the A-weighted scale (dBA). The A-weighted scale is widely used in environmental studies because this scale closely resembles the non-linearity of human hearing and correlates well with human perceptions regarding the annoying aspects of noise. All sound and traffic noise levels are reported as one hour equivalent levels (L_{Aeq1h}), values which theoretically contain the same amount of acoustic energy as an actual time-varying A-weighted sound level over a period of 1 hour.

The existing (2005) and forecast future year (2030) traffic data used in the TNM to evaluate the roadway are presented in Table 1 and in Appendix B. These data reflect the roadway's design level-of-service "C" (LOS C) traffic volumes. Because this project is not a capacity improvement project, the traffic volumes used for the noise analysis are the same for Existing/No-Build and the Build condition. The forecast percentage of trucks and the posted speeds for all vehicles on the facility are also provided in Table 1.

Table 1 Traffic Data								
Number of Lanes	LOS C Average Daily Traffic[a]	Direction of Travel	Number of Lanes	LOS C Hourly Traffic Data[b]				Posted Speed (mph)
				Total Volume	TNM Input			
					Cars	MT [c]	HT [d]	
2	13,800	NB	1	869	841	28	8	45
		SB	1	432	414	14	4	45

[a] Source: FDOT 2002 Generalized LOS Tables
[b] Peak hour factor (K)=9.48%, directional factor (D)=67.1%, truck factor (T)=4.1% (.93% MT/3.16% HT).
[c] Medium trucks
[d] Heavy trucks

3.2 Noise Sensitive Sites

Noise-sensitive sites are defined as properties where frequent human use occurs and where a lowered noise level would be of benefit. To evaluate traffic noise, the Department has established the NAC based on FHWA's own NAC. As shown in Table 2, the criteria vary according to a property's activity category.

When predicted traffic noise levels approach, meet or exceed the NAC or, when predicted noise levels increase substantially, the noise abatement measures are to be considered. The FDOT defines "approach" to be within 1 dBA of the NAC. The FDOT also considers that a substantial increase would occur if traffic noise levels are predicted to increase 15 or more dBA from existing levels as a direct result of a transportation improvement project.

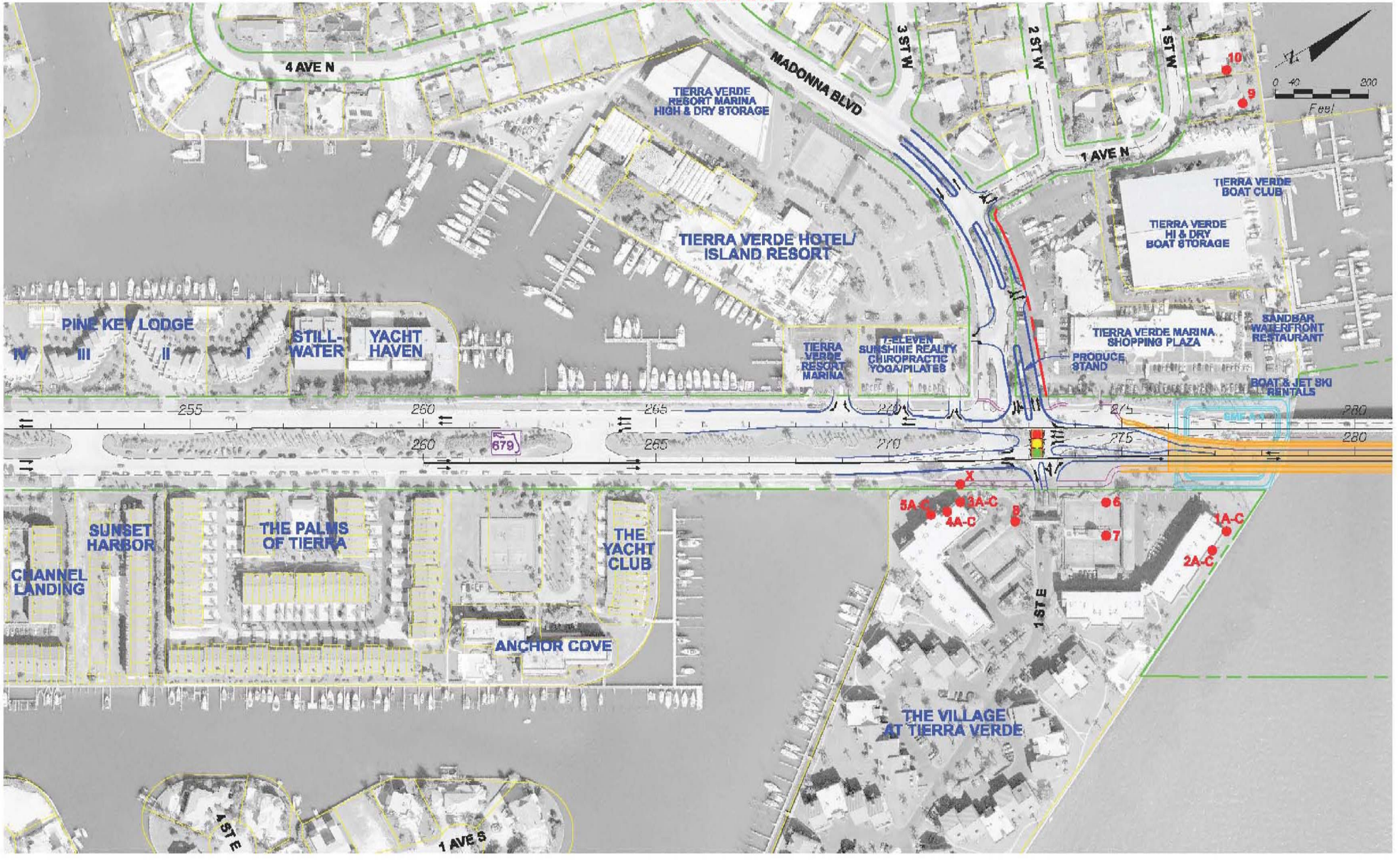
Based on a field review and a review of available aerials and roadway plans, the noise sensitive sites closest to the project are The Village at Tierra Verde condominiums. Fifteen units and 3 tennis courts were selected for the traffic noise analysis. Two single family homes located in a residential neighborhood located west of the Tierra Verde Hi and Dry Boat Storage were also evaluated. The locations of the noise sensitive sites are illustrated in Figure 8.

All noise sensitive sites were evaluated as Activity Category "B" (Table 2). As such, exterior traffic noise levels were determined to affect the residences if the predicted exterior traffic noise level was 66.0 dBA or more (within 1 dBA of the NAC for an Activity Category B) or if traffic noise levels were predicted to increase 15 dBA or more as a result of the roadway when compared to existing levels.

Table 2 Noise Abatement Criteria		
Activity Category	**Description**	**L_{Aeq1h}**
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)
B	Picnic area, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.	67 (Exterior)
C	Developed lands, properties or activities not included in Categories A or B above.	72 (Exterior)
D	Undeveloped lands.	N/A
E	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.	52 (Interior)
Source: Florida Statutes 335.17 L_{Aeq1h} - values that contain the same amount of acoustic energy as a time-varying A-weighted sound level over a period of one hour.		

PRELIMINARY

FLIGHT DATE: MAY 7, 2008



300 — BASELINE SURVEY, CENTERLINE OF CONSTRUCTION
PARCEL LINES
EXISTING EDGE OF PAVEMENT
EXISTING RIGHT-OF-WAY
PROPOSED RIGHT-OF-WAY
PROPOSED EDGE OF PAVEMENT
PROPOSED BRIDGE
PROPOSED BARRIER/RETAINING WALL
PROPOSED SIDEWALK
1A-C NOISE SENSITIVE SITES
X FIELD MEASUREMENT LOCATION

PBSJ
5300 West Cypress Street
Suite 200
Tampa, Florida 33607-1768
(813) 282 7275

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 679	PINELLAS	410755-1-22-01

S.R. 679 (PINELLAS BAYWAY STRUCTURE E) AT INTRACOASTAL WATERWAY
NOISE SENSITIVE SITES

FIGURE 8

3.3 Measured Noise Levels

As previously stated, future noise levels with the proposed improvements were modeled using TNM. To ensure that these predictions are as accurate as possible, the computer model was validated using measured noise levels at locations adjacent to the project corridor. Traffic data, including mix, volumes, and speeds, were recorded during each measurement period.

The field measurements for SR 679 were conducted in accordance with the applicable requirements. Each field measurement was obtained using the Casella CEL 593 Type 1 Sound Level Meter. The meter was calibrated before and after each monitoring period with a Casella CEL 284 Sound Level Calibrator.

The measured field data were used as input in the TNM to determine if, given the topography and actual site conditions of the area, the computer model could "recreate" the measured noise levels with the existing roadway. Following FDOT guidelines, a noise prediction model is considered valid for the use of predicting traffic noise levels if the measured and predicted noise levels are within a tolerance standard of 3 dBA. Initial field measurements were taken on April 25, 2006 along SR 679 at approximately station 271+30, near the Village at Tierra Verde. The location at which the measurements were taken can be seen in Figure 8. The sound level meter was placed approximately 60 feet from the edge of the northbound through lane at a height of 5 feet. Three sets of 10 minute measurements were taken during the mid-morning. Data collected in the field can be found in Appendix B.

Table 3 presents the field measurements and the computer validation results for SR 679. As shown, the ability of the model to accurately predict noise levels for the project was confirmed.

Table 3
Validation Data

Location	Measurement Period (April 25, 2006)	Measured L_{Aeq1h} (dBA)	Modeled L_{Aeq1h} (dBA)	Difference
South of Madonna Blvd	10:33 am	62.5	63.5	1.0
	10:45 am	62.6	62.5	0.1
	11:02 am	62.2	62.0	0.2

3.4 Outdoor Sound Propagation

There are numerous factors that affect the propagation of sound in the outdoors from a source to a receiver (listener). These factors include meteorological conditions, the amount and type of vegetation between the source (roadway) and the receiver, the existence of intervening structures, the elevation of the source and/or the receiver, the surrounding topography and the type of ground surface between the source and the receiver. The attenuation (reduction) of sound levels due to intervening structures occurs when a receiver's view (line-of-sight) is obstructed or partially obstructed by dense objects (i.e., rows of buildings, residences, and barriers). The attenuation provided by a row of buildings depends on the number of buildings, the length and height of the buildings, and the amount of space between the buildings.

Generally, surfaces such as grass and trees tend to reduce sound levels as these surfaces absorb sound energy. In comparison, surfaces such as water and concrete reflect, rather than absorb the sound energy. To be conservative, data representing the water surrounding the bridge was included in the TNM.

3.5 Results of the Analysis

Table 4 presents the predicted future traffic noise levels at the evaluated residences with proposed high level fixed span bridge over a relocated channel. As shown, traffic noise levels are predicted to range from 47.6 to 65.4 dBA and are not predicted to approach, meet, or exceed the NAC. When compared to the predicted Existing/No-Build noise levels, future Build traffic noise levels are predicted to increase by 0 to 1.2 dBA, with 3 of the 20 noise sensitive sites predicted to experience an inaudible decrease in traffic noise levels. As such, none of the sites are predicted to experience a substantial increase (15 dBA or more) in traffic noise levels as a result of the proposed improvements.

Detailed results of the traffic noise analysis were published separately. Hardcopy and electronic versions of all TNM input/output are available for review at the Florida Department of Transportation, District Seven.

Table 4 Predicted Traffic Noise Levels					
Noise Sensitive Site No.	**Site Description.**	**L_{Aeq1h} (dBA)**			**Build Approaches, meets or exceeds NAC?**
		Existing(2005) No-Build (2030)	**Build (2030)**	**Difference between Existing/No-Build and Build**	
1a	North bldg 1st floor condo	58.7	58.5	.2	No
1b	North Bldg 2nd floor condo	60.1	61.0	.9	No
1c	North Bldg 3rd floor condo	59.9	61.1	1.2	No
2a	North bldg 1st floor condo	57.2	56.8	.4	No
2b	North Bldg 2nd floor condo	58.8	59.4	.6	No
2c	North Bldg 3rd floor condo	58.7	59.9	1.2	No
3a	South Bldg 1st floor condo	64.7	65.4	.7	No
3b	South Bldg 2nd floor condo	64.6	65.2	.6	No
3c	South Bldg 3rd floor condo	64.4	65.0	.6	No
4a	South Bldg 1st floor condo	63.6	64.1	.5	No
4b	South Bldg 2nd floor condo	63.6	64.0	.4	No
4c	South Bldg 3rd floor condo	63.6	63.9	.3	No
5a	South Bldg 1st floor condo	63.5	63.9	.4	No
5b	South Bldg 2nd floor condo	63.5	63.8	.3	No
5c	South Bldg 3rd floor condo	63.5	63.8	.3	No
6	Tennis court	61.8	61.5	.3	No
7	Tennis court	57.2	58.2	1	No
8	Tennis court	58.7	59.1	.4	No
9	Single Family	48.9	48.9	0	No
10	Single Family	47.8	48.0	.2	No

4.0 LAND USE CONTROLS

Local officials can promote compatibility between land development and roadways. Land use controls can be used to minimize traffic noise in future developments or areas where redevelopment occurs. Land uses such as residences, motels, schools, churches, recreation areas and parks are considered incompatible with highway noise levels above 67 dBA. Noise level contours were developed for the future improved roadway facility. This noise contour delineates the distance from the improved roadway's edge of pavement where the NAC would be approached (within 1 dBA of the NAC or 66 dBA). The 66 dBA noise contour can be used by Pinellas County to restrict development of exterior land uses which would be considered incompatible with traffic noise generated from SR 679. As shown in Figure 9, without a noise barrier or other shielding (i.e., from a building(s)) and from the closest travel lane, a noise level of 66 dBA is estimated to extend approximately 85 feet from the near travel lane.

A copy of this report will be provided to Pinellas County. Pinellas County officials can use the noise contour data to establish compatible development of currently undeveloped parcels or compatible redevelopment in areas where land use changes.

5.0 CONSTRUCTION NOISE AND VIBRATION

During the construction phase of the proposed project, short term-noise may be generated by stationary and mobile construction equipment. The range of construction noise depends on the noise characteristics of the equipment and the activities involved (e.g. pile driving), the construction schedule (time of day and duration of the activity), and the distance from a noise sensitive site.

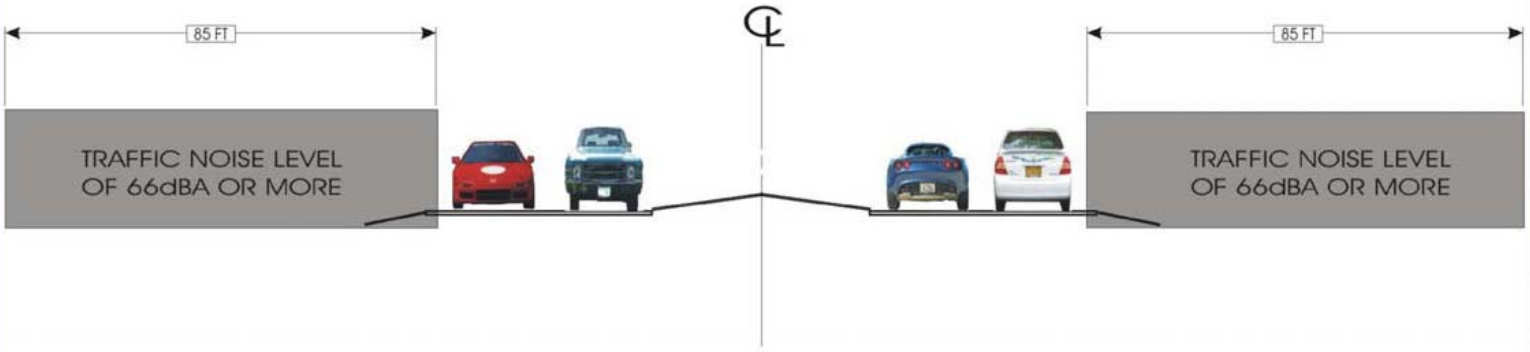
Residences of The Village of Tierra Verde could be considered susceptible to construction noise and vibration. Construction noise could be temporary at any location and should be controlled by adherence to the most recent edition of the FDOT's Standard Specifications for Road and Bridge Construction.

S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway
Bridge No: 150049
Pinellas County, Florida

TRAFFIC NOISE CONTOUR

WPI Segment No: 410755-1

Figure 9



Distances do not reflect any reduction in noise levels that would result from existing structures (sheilding)

NOT TO SCALE

6.0 REFERENCES

Florida Statute 335.17, State Highway Construction; Means of Noise Abatement, 1989.

Title 23 CFR, Part 772, Federal Highway Administration, U.S. Department of Transportation, Procedures for Abatement of Highway Traffic Noise and Construction Noise, April 2001.

Florida Department of Transportation, Standard Specifications for Road and Bridge Construction, 2004.

Federal Highway Administration, Measurement of Highway-Related Noise: Final Report, October 2003.

Florida Department of Transportation, PD&E Manual, Part2/Chapter 17 – Noise, 4/18/2007.

APPENDICES

Appendix A – FDOT Noise Data Sheets

Appendix B – Validation Documentation

Appendix C – TNM Input/Output (*published separately as a Technical Appendix)*

APPENDIX A

TRAFFIC DATA FOR NOISE STUDIES

DATE: 1/13/06 PREPARED BY: SK

Financial Project Number: 410755-1-22-10

Project Description: SR 679 at Intracoastal Waterway PD&E Study

Segment Description: 1 segment only

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

NOTE: ADT is the LOS(C) volume reference in the FDOT tables or Demand, whichever is less.

Existing Facility		**No-Build (Design Year)**		**Build (Design Year)**	
Year: 2005		Year: 2030		Year: 2030	
Number of Lanes: 2		Number of Lanes: 2		Number of Lanes: 2	
ADT	LOS(C):13,800	ADT	LOS(C): 13,800	ADT	LOS(C):13,800
	Demand: 19,300		Demand: 23,600 (weekend ADT)		Demand: 23,600 (weekend ADT)
Posted Speed (mph): 45		Posted Speed (mph): 45		Posted Speed (mph): 45	
K% =9.48%		K% = 9.48%		K% = 9.48%	
D% = 67.1%		D% = 67.1%		D% = 67.1%	
T%=	24 hrs:8.2%	T%=	24 hrs : 8.2%	T%=	24 hrs: 8.2%
	Design hr: 8.2%		Design hr: 8.2%		Design hr: 8.2%
DHV	% Heavy Trucks:3.16%	DHV	% Heavy Trucks: 3.16%	DHV	% Heavy Trucks: 3.16%
	% Medium Trucks: .93%		% Medium Trucks: .93%		% Medium Trucks: .93%
	% Buses:0		% Buses:		% Buses:
	% Motorcycles:0		% Motorcycles:		% Motorcycles:

APPENDIX B

NOISE DATA
FIELD VALIDATION

Project Description: SR 679 Pinellas Bayway Date: 4/25/06

FPN#: 410755-1 -22-01

Monitoring Location: Tierra Verde Condominiums

Distance: 59 feet from edge of NB through lane

Width of Lanes: 12 feet Grade: meter was 3 feet above the road

Microphone Height: 5 feet Run Length: 10 minutes Start time: 10:33 am

---

Traffic:

Cars=	54	x6	324	42	mph (avg)
	60	x6	360	42	mph (avg)
MT =	1	x6	6	39	mph (avg)
	1	x6	6	39	mph (avg)
HT =		x6			mph (avg)
		x6			mph (avg)
Motorcycles=		x6			mph (avg)
		x6			mph (avg)
Buses =	1	x6	6	.35	mph (avg)
		x6			mph (avg)

Posted Speed Limit: 45 mph

Unusual Events: Mocking Birds

Results:

Lav (Leq) 62.5 dB
Lpk (peak) 82.8 dB

Computer 63.5 dB

NOISE DATA
FIELD VALIDATION

Project Description: SR 679 Pinellas Bayway Date: 4/25/06

FPN#: 410755-1 -22-01

Monitoring Location: Tierra Verde Condominiums

Distance: 59 feet from edge of NB through lane

Width of Lanes: 12 feet Grade: meter was 3 feet above the road

Microphone Height: 5 feet Run Length: 10 minutes Start time: 10:45 am

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Traffic:

Cars=	46	x6	276	43 mph (avg)
	44	x6	264	43 mph (avg)
MT =		x6		mph (avg)
		x6		mph (avg)
HT =		x6		mph (avg)
	1	x6	6	40 mph (avg)
Motorcycles=		x6		mph (avg)
		x6		mph (avg)
Buses =		x6		mph (avg)
		x6		mph (avg)

Posted Speed Limit: 45 mph

Unusual Events: Mocking Birds, Boom box

Results:

Lav (Leq) 62.6 dB
Lpk (peak) 82.1 dB

Computer 62.5 dB

NOISE DATA
FIELD VALIDATION

Project Description: SR 679 Pinellas Bayway Date: 4/25/06

FPN#: 410755-1 -22-01

Monitoring Location: Tierra Verde Condominiums

Distance: 59 feet from edge of NB through lane

Width of Lanes: 12 feet Grade: meter was 3 feet above the road

Microphone Height: 5 feet Run Length: 10 minutes Start time: 11:02 am

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Traffic:

Cars=	NB	61	x6	366	41 mph (avg)
	SB	61	x6	366	41 mph (avg)
MT=	NB	5	x6	30	34 mph (avg)
	SB	3	x6	18	34 mph (avg)
HT=	NB		x6		mph (avg)
	SB	1	x6	6	34 mph (avg)
Motorcycles=	NB		x6		mph (avg)
	SB		x6		mph (avg)
Buses =	NB		x6		mph (avg)
	SB		x6		mph (avg)

Posted Speed Limit: 45 mph

Unusual Events: Mocking Birds, Truck muffler

Results:

Lav (Leq) 62.2 dB
Lpk (peak) 82.6 dB

Computer 62.0 dB

APPENDIX C

Published Separately