

Final

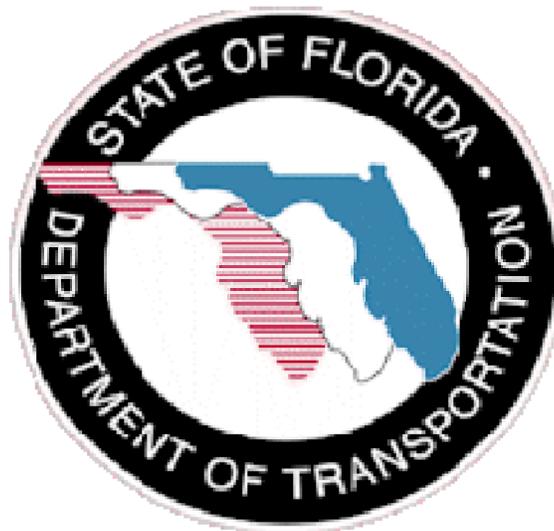
ENGLEWOOD INTERSTATE CONNECTOR (RIVER ROAD): FROM SOUTH OF US 41 TO NORTH OF CENTER ROAD, SARASOTA COUNTY

Noise Study Report Addendum

FPID: 200610-2-38-01
Sarasota County CIP No. 95760

Prepared for:
Florida Department of Transportation

June 2008



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Prepared for:
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June 2008

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Executive Summary

The Florida Department of Transportation (FDOT) is currently preparing design plans for the segment of the proposed Englewood Interstate Connector (EIC) from south of US 41 to North of Center Road in Sarasota County, a distance of approximately 3.9 miles. The existing roadway is currently a 2-lane undivided facility. The proposed improvements plan to upgrade the roadway to a 4-lane divided facility, and will be classified as a rural major arterial.

A Noise Study Report (NSR) was prepared in 2003 during the Project Development and Environment (PD&E) phase of the project. The NSR did not identify any locations within the current project corridor where noise abatement was determined to be feasible and cost reasonable.

Since changes in the proposed roadway alignment have occurred that differ from what was evaluated in the PD&E NSR, a reevaluation of those changes was conducted, with the results presented in this Noise Study Report Addendum.

The analysis was performed following Florida Department of Transportation (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 uses methodology established by the FDOT and documented in the PD&E Manual, part 2, Chapter 17 (April 2007). The prediction of existing and future traffic noise levels with the roadway improvements was performed using the Federal Highway Administration's (FHWA's) Traffic Noise Model (TNM).

Based on the results of this review, it appears that traffic noise levels will not substantially change over those found in the 2003 NSR. Additionally, since predicted traffic noise levels within the vicinity of the Stoneybrook community are not predicted to approach, meet, or exceed the NAC, abatement consideration is not warranted.

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1.0 Introduction

The Florida Department of Transportation (FDOT) is currently preparing design plans for the segment of the proposed Englewood Interstate Connector (EIC) from south of US 41 to North of Center Road in Sarasota County, a distance of approximately 3.9 miles (Figure 1-1). The existing roadway is currently a 2-lane undivided facility. The proposed improvements plan to upgrade the roadway to a 4-lane divided facility, and will be classified as a rural major arterial.

A Noise Study Report (NSR) was prepared in 2003 as a support document to the Project Development and Environment (PD&E) study. The PD&E NSR did not identify any locations along the current project corridor where noise abatement was determined to be feasible and cost reasonable.

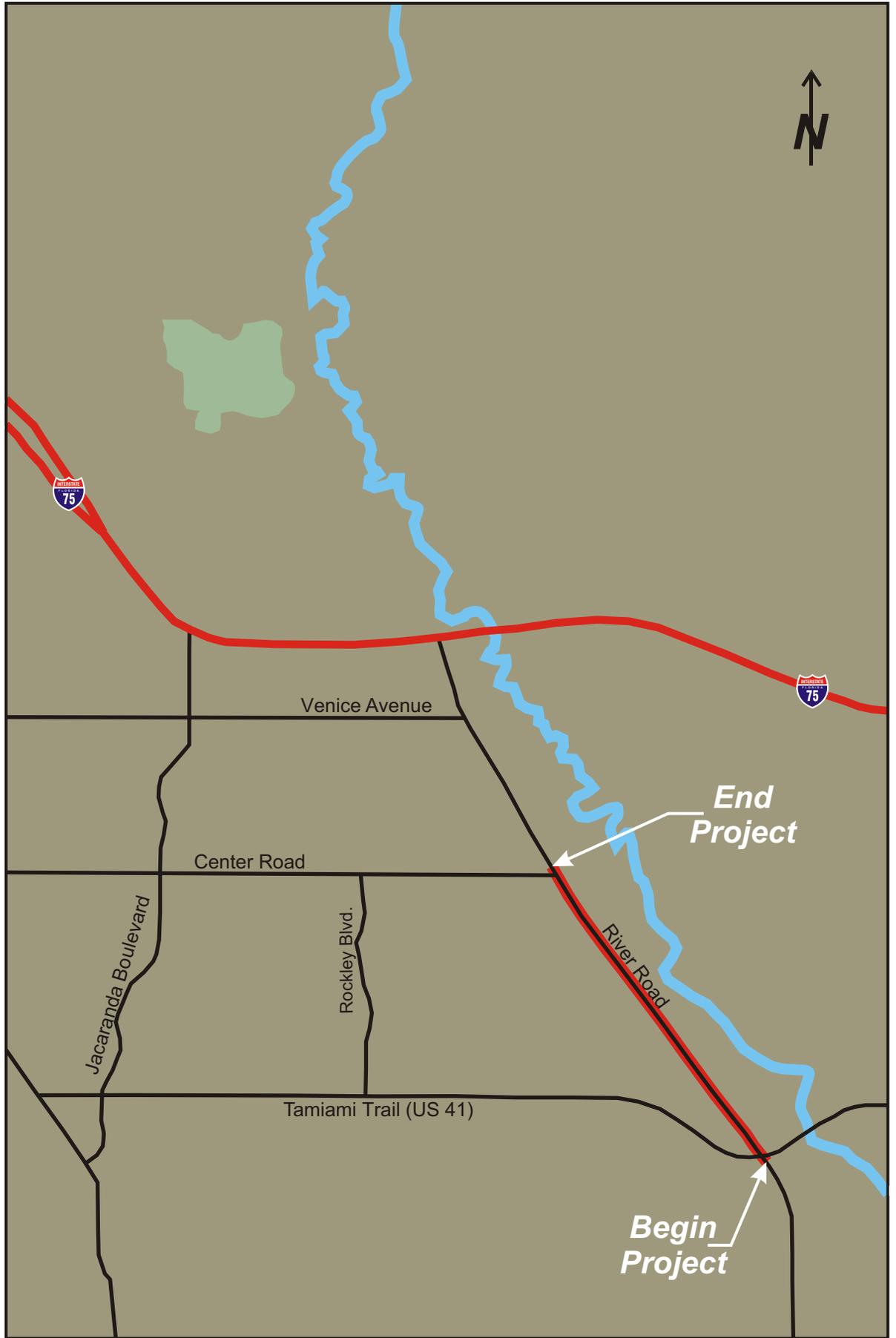
Since the completion of the PD&E NSR, a change in the proposed roadway alignment at the northern end of the project has occurred. This Noise Study Report Addendum will address the potential effects the alignment shift will have on residences in the Stoneybrook Community, located on the west side of the proposed EIC, north of Center Road.

1.1 Proposed Improvements

The PD&E NSR identified two potential alternatives for the proposed EIC, Alternative “N” and Alternative “X”. Alternative “N” would consist of heading north from SR 776 on Winchester Boulevard, then crossing South River Road to the proposed EIC. The new roadway would then continue north across U.S. 41 to North River Road, turning northwest along the existing River Road alignment to I-75. Alternative “X” would consist of heading north on Winchester Boulevard from SR 776 to South River Road, and would then utilize the existing River Road alignment to the interchange with I-75.

Based on a review of the design plans for the current project, it appears the alignment represented by Alternative “X” above is being utilized for the proposed improvements. The proposed typical section within the study area can be found on Figure 1-2.

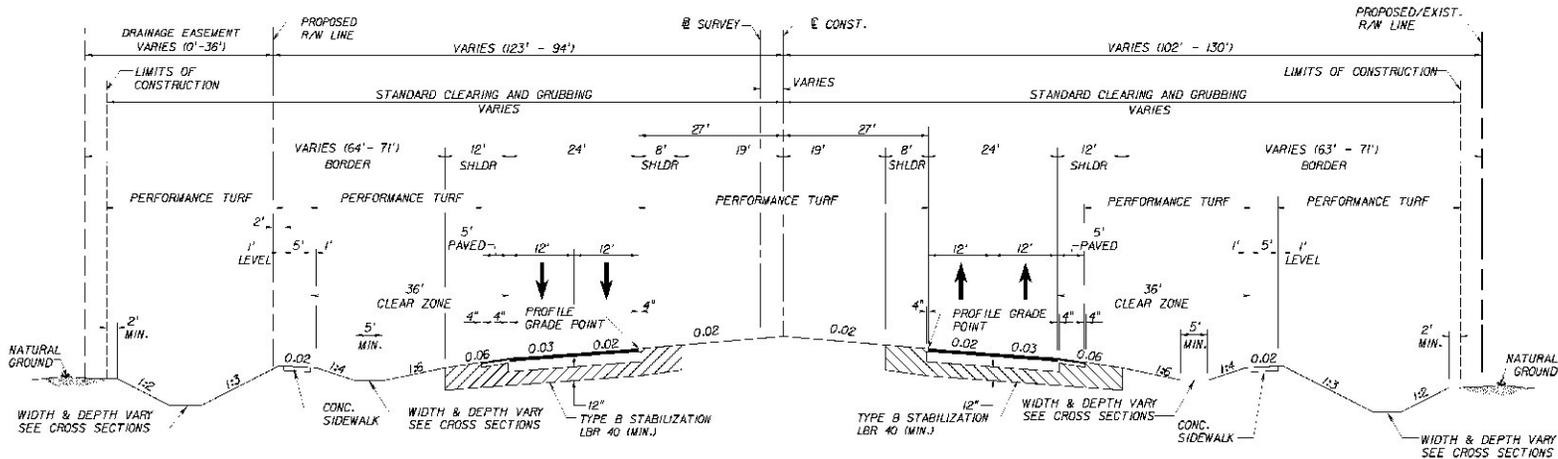
Englewood Interstate Connector



Project Location Map

Figure 1-1

Englewood Interstate Connector



TYPICAL SECTION
RIVER ROAD
CONST. STA. 655+00.00 TO STA. 719+19.28

NEW CONSTRUCTION

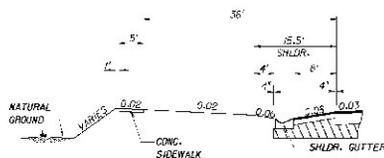
9" CEMENT-STABILIZED BASE COURSE (SCTP-265); WITH
3" TYPE S-1, ASPHALTIC CONCRETE STRUCTURAL COURSE (SCTP-331); AND
1" TYPE FC-3, ASPHALTIC CONCRETE FRICTION COURSE (SCTP-337)

SHOULDER PAVEMENT

4" CEMENT-STABILIZED BASE COURSE (SCTP-265); WITH
1/2" TYPE S-1, ASPHALTIC CONCRETE STRUCTURAL COURSE (SCTP-331), AND
1" TYPE FC-3, ASPHALTIC CONCRETE FRICTION COURSE (SCTP-337)

NOTES:

1. SEE TYPICAL SECTION DETAIL SHEET FOR SHOULDER PAVEMENT DETAILS;
2. SARASOTA COUNTY LAND DEVELOPMENT REGULATIONS CALL FOR PERFORMANCE TURF LIMITS SHOWN HERE.
3. PAVEMENT DESIGN IS ACCORDING TO SARASOTA COUNTY LAND DEVELOPMENT REGULATIONS.



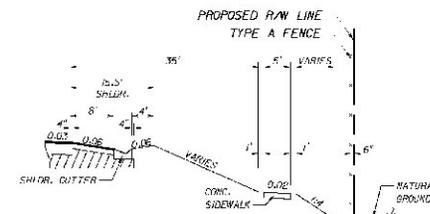
SHOULDER GUTTER SECTION

STA. 655+00.00 TO STA. 687+80.00 (LT)

TRAFFIC DATA

CURRENT YEAR	= 2005 AADT = 22,500	
ESTIMATED OPENING YEAR	= 2010 AADT = 23,900	
ESTIMATED DESIGN YEAR	2030 AADT = 30,000	
K = 10%	D = 5%	T = 9% (P4 HOUR)

DESIGN SPEED = 60 MPH
POSTED SPEED = 55 MPH



ALONG JELKS PRESERVE

STA. 655+00.00 TO STA. 687+80.00 (RT)

2.0 Methodology

In an effort to ensure that conclusions documented in the 2003 NSR have not changed, the FDOT had a review of the land use and the 2003 NSR conducted. The process included the following steps:

1. A review of the PD&E phase NSR to identify all potentially impacted noise sensitive receivers and any proposed noise abatement within the project limits.
2. A review of the existing land use to determine if additional noise sensitive receivers have been built since the 2003 NSR.
3. A review of the building permits that were issued between February 1, 2003 and April 9, 2003 within the project area by Sarasota County.
4. A review of the current design project to determine if any major changes in the proposed project have occurred since the date of the approved NSR.
5. A review of all state and federal requirements related to traffic noise impact assessment.

3.0 Review Results

Step 1

The first step in the review process involved the review of the 2003 NSR prepared for the PD&E phase. This NSR covered the area from State Road 776 (SR 776) north to Interstate 75 (I-75), which is a distance greater than the scope of this review. Within this project segment, the 2003 NSR identified no noise sensitive receptors that approached or exceeded the Federal Highway Administration (FHWA) Noise Abatement Criteria (NAC) shown in Table 3-1. No noise abatement was proposed within the current project segment.

Step 2

The second step in the review process was to conduct a field review of the project area to determine if any noise sensitive land use changes had taken place since the 2003 NSR had been completed. Using recent (2006) aerial photography that was available from the Sarasota County Geographic Information Service (GIS) website, it was determined that additional single-family (SF) residences were constructed along the project corridor. These residences are located in the Stoneybrook community, west of the proposed alignment, and north of Center Road.

**Table 3-1
FHWA 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)
<small>Source: Code of Federal Regulations, Title 23, Part 772 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.</small>		

Step 3

The third step in the process was to conduct a review of building permits issued by Sarasota County within the limits of the current project. Building records from February 1, 2003 through April 9, 2003 were reviewed. This period overlapped the time during which the 2003 NSR was completed and the date that the environmental document for this project was approved by FHWA, which is known as the Date of Public Knowledge (DPK). The DPK for this project is April 9, 2003. Based on the limited records available from the Sarasota County Appraiser and a review of recent (2006) aerial photography, it does not appear as though any Category B land uses were permitted within the time frame of concern.

Step 4

The fourth step in the process was to assess the current design project to determine if any major changes were proposed that were substantially different from what was assessed in the PD&E phase. Upon review of the current design plans, it was determined that there was a significant (greater than 12 feet) horizontal shift in the proposed alignment of the roadway over what was evaluated in the PD&E NSR. This horizontal alignment shift occurs in one location: in the vicinity of the Stoneybrook development, located on the west side of the proposed alignment, north of Center Road. This design change warranted a reevaluation of the noise impact on residences located in the Stoneybrook development.

In order to determine what affects the alignment shift would have on the noise levels of residences within Stoneybrook, 22 residences located in the first and second rows adjacent to the roadway were modeled. Both the previously proposed alignment and the current alignment were modeled to establish the difference in predicted traffic noise levels. Traffic noise conditions with the existing 2-lane undivided roadway were also modeled. The results of the evaluation are provided in Table 3-2.

**Table 3-2
Predicted Traffic Noise Levels**

Site ID*	# of Units	Land Use	L _{Aeq1h} (dBA)				
			Existing	Build (Previous Alignment)	Build (Current Alignment)	Difference From Previous to Current Alignment	Increase From Existing to Current Proposed Alignment
1	1	SF Residential	52.4	58.2	57.8	-0.4	5.4
2	1	SF Residential	53.6	59.3	58.8	-0.5	5.2
3	1	SF Residential	54.3	60.0	59.4	-0.6	5.1
4	1	SF Residential	54.4	60.1	59.5	-0.6	5.1
5	1	SF Residential	54.3	60.0	59.4	-0.6	5.1
6	1	SF Residential	54.3	60.0	59.4	-0.6	5.1
7	1	SF Residential	54.3	60.1	59.4	-0.7	5.1
8	1	SF Residential	54.3	60.1	59.4	-0.7	5.1
9	1	SF Residential	54.3	60.1	59.5	-0.6	5.2
10	1	SF Residential	54.3	60.2	59.6	-0.6	5.3
11	1	SF Residential	54.4	60.3	59.6	-0.7	5.2
12	1	SF Residential	53.9	59.7	59.1	-0.6	5.2
13	1	SF Residential	52.6	58.7	58.1	-0.6	5.5
14	1	SF Residential	51.3	57.4	56.9	-0.5	5.6
15	1	SF Residential	50.1	56.1	55.7	-0.4	5.6
16	1	SF Residential	50.4	56.4	55.9	-0.5	5.5
17	1	SF Residential	50.3	56.3	55.9	-0.4	5.6
18	1	SF Residential	50.3	56.3	55.8	-0.5	5.5
19	1	SF Residential	50.3	56.3	55.9	-0.4	5.6
20	1	SF Residential	50.3	56.4	55.9	-0.5	5.6
21	1	SF Residential	50.4	56.5	56.0	-0.5	5.6
22	1	SF Residential	49.4	55.7	55.3	-0.4	5.9

*Site locations can be found on the aerials in Appendix A.

As shown in Table 3-2, with the changes to the proposed roadway alignment, traffic noise levels are predicted to range from 55.3 to 59.6 dBA at the 22 residences evaluated. When compared to the previously proposed alignment, traffic noise levels are predicted to decrease from 0.4 to 0.7 dBA, which is a direct result of the proposed alignment moving east (further away) from the residences within Stoneybrook. Finally, traffic noise levels are predicted to increase from 5.1 to 5.9 dBA when compared to the existing condition. As such, since the predicted noise levels do not approach, meet, or exceed the NAC, or increase substantially, abatement consideration is not warranted.

Step 5

The fifth step was to review all federal and state rules, regulations, or laws for any changes that might alter the way traffic noise impacts are assessed. This review identified only one issue that was investigated for potential impact. This change involved the revision of FHWA requirements regarding traffic noise prediction. On May 2, 2005, FHWA issued a revision to 23 Code of Federal Regulations (CFR), Part 772 that allows the use of TNM 2.5 for projects previously analyzed using STAMINA 2.1. This issue is insignificant, since TNM Version 1.1 was used in the calculation of the results presented in the PD&E NSR. Version 2.5 of the TNM was used in this design change reevaluation.

4.0 Conclusions

Based on the results of this review, it does not appear that traffic noise levels in the vicinity of the Stoneybrook community will approach, meet, or exceed the NAC, or increase substantially from existing conditions. It is also concluded that traffic noise levels are predicted to decrease when compared to the original design concept since the proposed alignment shifts to the east, further away from the residences in Stoneybrook.

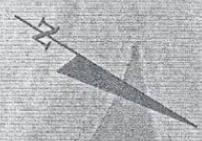
5.0 References

1. Final Noise Study Report, Englewood Interstate Connector, Sarasota and Charlotte Counties, Florida. Prepared by Wilbur Smith Associates; February 2003; 23 pp. + appendices.
2. 23 Code of Federal Regulations, Part 772: Procedures for Abatement of Highway Traffic Noise and Construction Noise. Federal Highway Administration; May 2, 2005; 8 pp.

APPENDIX A

Project Aerials

Scale: 1" = 400' Horiz.
1" = 40' Vert.



END PROJECT
END CONSTRUCTION
CONNECT TO PROJECT FRID 200610-3-82-01
CONST. RIVER ROAD STA. 655+00.00 =
SURVEY RIVER ROAD STA. 654+82.96 ± 8.00' RT

PHASE 1 DRAINAGE MAP

DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES

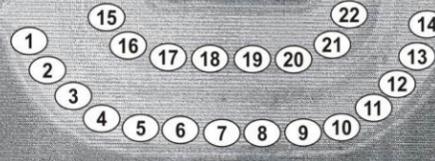
No.	REVISIONS	DATE	BY	SCALE AS NOTED	 HDR Engineering, Inc. 2601 Cattlemen Road Suite 102 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE 11-20-06	SARASOTA COUNTY PUBLIC WORKS	DESIGN ENGINEER MICHAEL J. JAROCH	Noise Study Report Addendum Project Aerials	SHEET NO. 1
				CHECKED BY MJJ		PROJECT NO. 200610-2-38-01		FL. LICENSE NO. 48951		

AERIAL FLIGHT DATE: 2/14/05



Stoneybrook

Existing 8' Berm



PHASE II DRAINAGE MAP
DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES

No.	REVISIONS	DATE	BY	SCALE	 HDR Engineering, Inc. 2601 Cattlemen Road Suite 102 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE	SARASOTA COUNTY PUBLIC WORKS	DESIGN ENGINEER	Noise Study Report Addendum Project Aerials	SHEET NO.
				AS NOTED		11-20-06		MICHAEL J. JAROCH		
				DESIGNED BY	PROJECT NO. 200610-3-38-01	SARASOTA FLORIDA	FL. LICENSE NO. 48951			2
			MJJ							
				DRAWN BY						
				SAS						
				CHECKED BY						
				MJJ						



END CONSTRUCTION
 END PROJECT
 SURVEY & CONST. RIVER ROAD
 STA. 745+68.11

1" = 400'

PHASE II DRAINAGE MAP
 DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES

No.	REVISIONS			DATE	BY	SCALE	 HDR Engineering, Inc. 2601 Cattlemen Road Suite 102 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE	SARASOTA COUNTY PUBLIC WORKS SARASOTA FLORIDA	DESIGN ENGINEER	Noise Study Report Addendum Project Aerials	SHEET NO.
						AS NOTED		11-20-06		MICHAEL J. JAROCH		
						DESIGNED BY		PROJECT NO.		FL. LICENSE NO.		
						MJJ		2006/0-3-38-01		48951		
						DRAWN BY						
					SAS							
					CHECKED BY							
					MJJ							