STATE ROAD 45 (U.S. 41)
PROJECT DEVELOPMENT
AND
ENVIRONMENTAL STUDIES
HILLSBOROUGH AND PASCO COUNTIES, FLORIDA

State Project Nos. 10040-1506 & 14010-1510
W.P. Nos. 7113216 & 7115842
Federal Aid No. F-301-4(8)

NOISE REPORT

C.R. 582A (Fletcher Avenue) in Hillsborough County to State Road 52 in Pasco County

Submitted To:
THE FLORIDA DEPARTMENT OF TRANSPORTATION

Submitted By:
GREINER, INC.
Tampa, Florida

MARCH 1989

EXECUTIVE SUMMARY

A noise impact evaluation was conducted in order to determine the effect of proposed improvements to S.R. 45 (U.S. 41) from S.R. 582A (Fletcher Avenue) to S.R. 52.

The results of the evaluation indicate that the project will result in increased noise levels in noise sensitive areas, and the exceedance of FHWA Noise Abatement Criteria. Most of the impacted areas are single family homes and mobil homes.

A number of noise abatement measures were examined, and none were determined to be feasible for the reduction of noise levels at impacted locations. Noise barriers, in particular, are not considered feasible because S.R. 45 (U.S. 41) is an arterial roadway with numerous driveways and cross streets which do not facilitate the design of effective barriers. However, future noise impacts can be minimized through local land use ordinances regarding zoning, building setbacks and building construction codes.

The projected increase in noise is an unavoidable consequence of the proposed improvements.

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INTRODUCTION

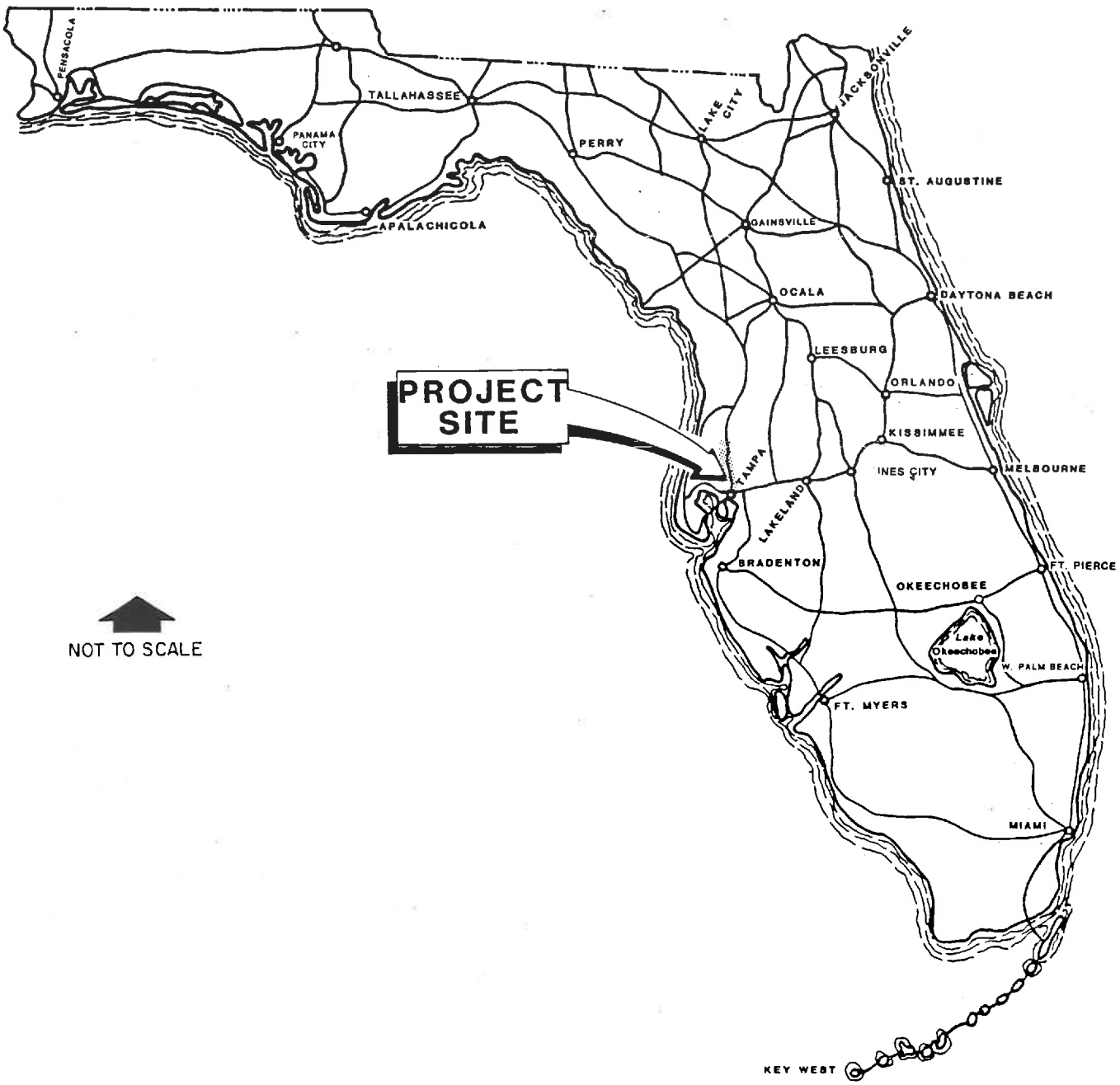
The Florida Department of Transportation (FDOT) is investigating the feasibility of improving an 18.5-mile section of S.R. 45 (U.S. 41) from C.R. 582A (Fletcher Avenue) in Hillsborough County to S.R. 52 in Pasco County. Location and vicinity maps of the project area are presented on Exhibits 1 and 2, respectively. The objective of this report is to document existing noise levels, anticipated noise levels, possible noise impacts, and the applicability of noise mitigation measures associated with the proposed improvements. This report is in accordance with Title 23 CFR, Part 772, U.S. Department of Transportation, Federal Highway Administration (FHWA), Procedures for Abatement of Highway Traffic Noise and Construction Noise.

Existing Facility

In its present configuration, S.R. 45 (U.S. 41) is a two-lane rural roadway. The existing roadway is predominantly 24 to 28 feet wide with 6- to 10-foot grassed shoulders. The existing right-of-way varies throughout the project from 66 to 100 feet in urban areas and 200 feet in rural areas, with the northernmost 0.8-mile section having a 100-foot right-of-way. The existing typical section is shown on Exhibit 3.

Proposed Improvements

This project involves upgrading the existing S.R. 45 (U.S. 41) facility to a multi-lane divided highway with grassed medians in rural areas and a multi-lane divided highway with raised or painted medians in urban areas.



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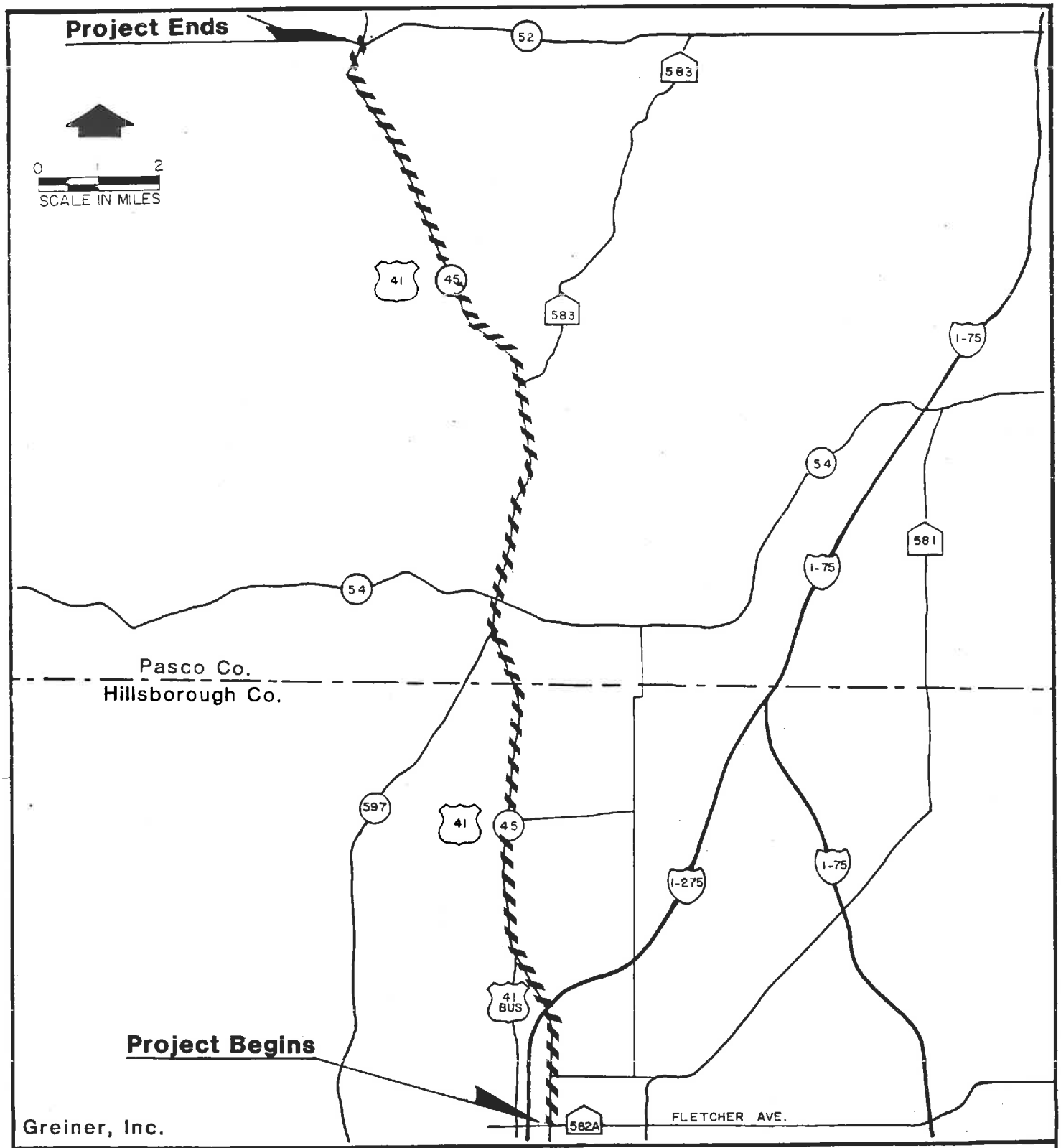
S.R. 45 (U.S. 41)

From C.R. 582A to S.R. 52
Hillsborough and Pasco Counties

LOCATION MAP

EXHIBIT 1



LEGEND

Project Area

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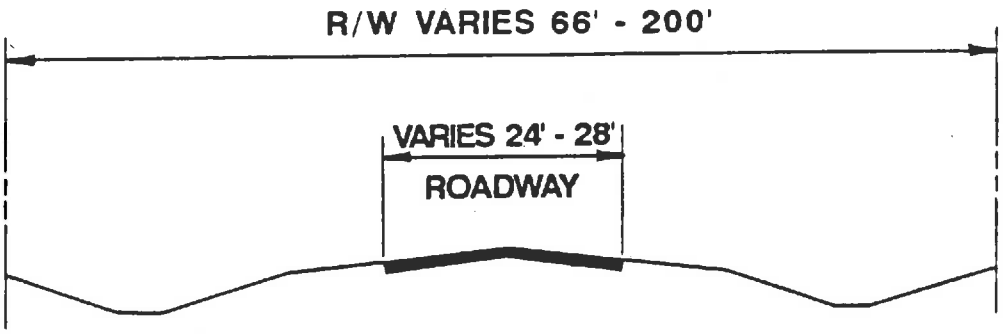
S.R. 45 (U.S. 41)

From C.R. 582A to S.R. 52

Hillsborough and Pasco Counties

VICINITY MAP

EXHIBIT 2



EXISTING TYPICAL SECTION

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S.R. 45 (U.S. 41)

From C.R. 582A to S.R. 52
Hillsborough and Pasco Counties

EXISTING TYPICAL SECTION

EXHIBIT 3

The S.R. 45 (U.S. 41) improvements begin at C.R. 582A (Fletcher Avenue) and extend north with a four-lane urban section to south of Florida Avenue. The improvements then transition into a six-lane urban section from Florida Avenue to north of C.R. 583. North of C.R. 583, the existing right-of-way widens to approximately 200 feet. In this area, a four-lane rural facility with four 12-foot lanes, 4-foot paved shoulders, a 46-foot grassed median, and open drainage ditches is proposed. Typical sections of the proposed improvements are provided on Exhibit 4. Further details regarding the proposed improvements are shown in a separate Preliminary Engineering Report for this project.

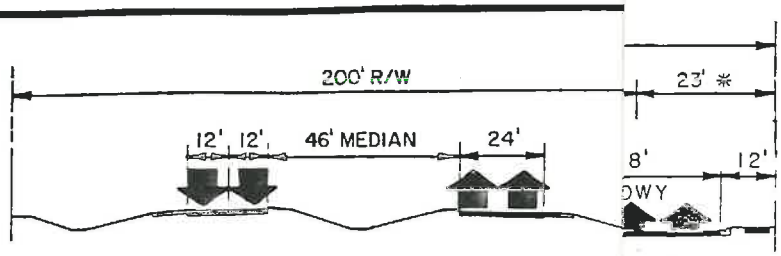
NOISE ANALYSIS

Noise Sensitive Areas

The existing land uses in the project area are primarily commercial, residential, and agricultural/pasture. Noise sensitive areas include single family homes, mobile homes, motels, a park, meeting halls, a cemetery, and churches. Existing land uses in the project area are shown on Exhibit 5. Because there are portions of the project area along existing S.R. 45 (U.S. 41) that are not fully developed, some changes in land use could occur in the future.

Existing Noise Levels

Noise monitoring was conducted in the project area in order to identify existing noise levels and to validate the computer model used in noise prediction analysis. The procedures for noise monitoring were based on the methodologies described in the



⑨ North of C.R 583 to S.R. 52

South of

Project Ends

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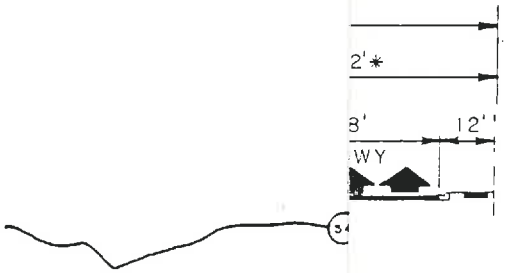
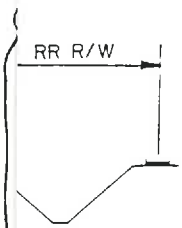


School

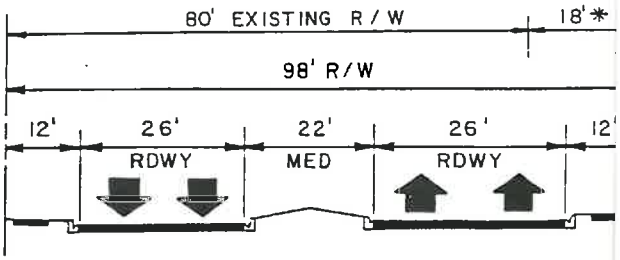
orth of



Project Begins

Drive

* RIGHT OF WAY ACQUISITION



① Fletcher Avenue to 139th Avenue

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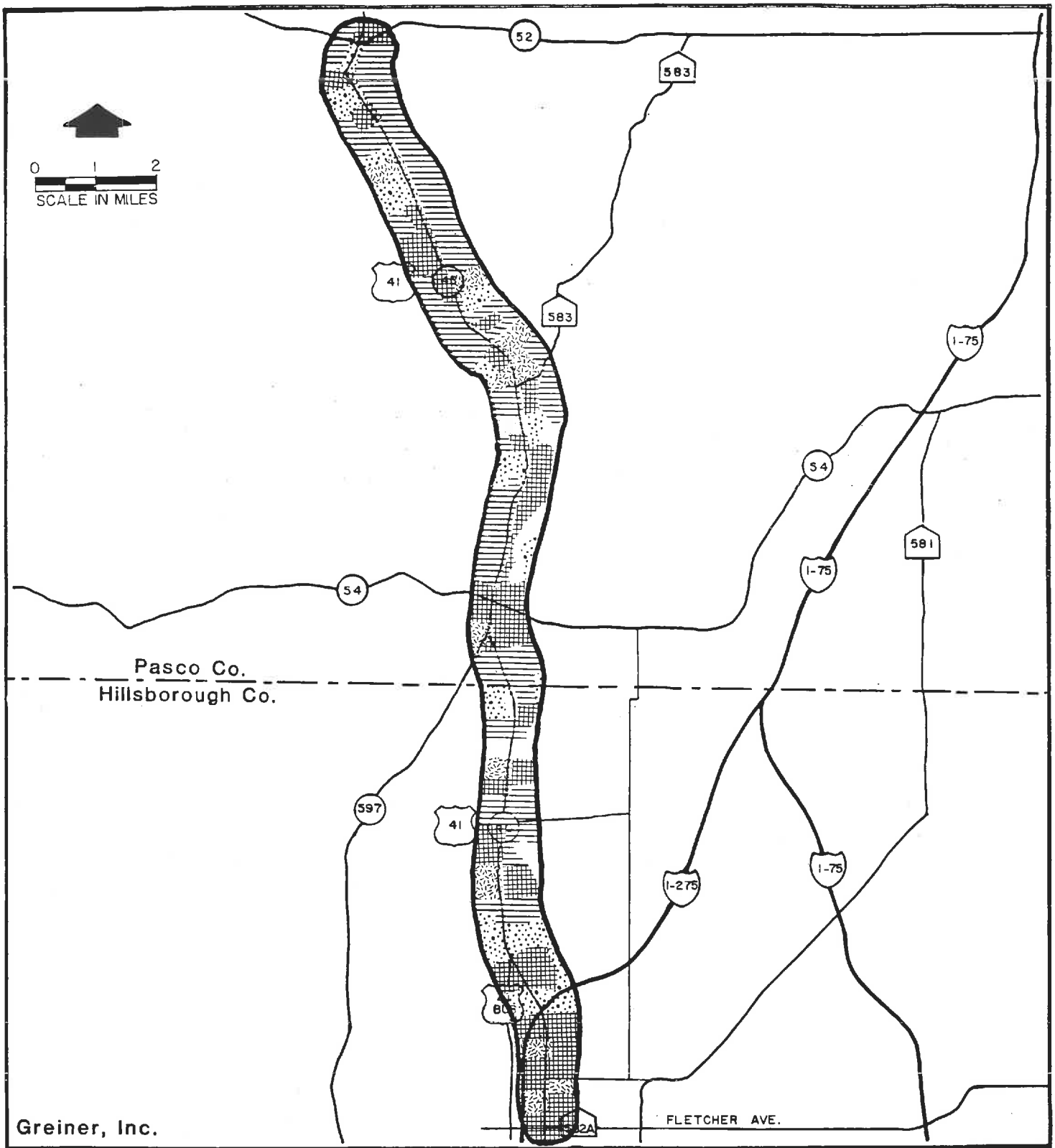
S.R. 45 (U.S. 41)

From C.R. 582A to S.R. 52
Hillsborough and Pasco Counties

PROPOSED TYPICAL SECTIONS

EXHIBIT 4



LEGEND

- Agricultural
- Business
- Mobile Home
- Park
- Single Family

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From C.R. 582A to S.R. 52
Hillsborough and Pasco Counties

EXISTING LAND USE

EXHIBIT 5

FHWA reports, Fundamentals and Abatement of Highway Traffic Noise and Sound Procedures for Measuring Highway Noise. The measure utilized for monitoring and prediction analyses was the hourly equivalent sound level, Leq (1). Hourly Leq is the equivalent steady state sound level which in an hour would contain the same acoustic energy as the time-varying sound level during the same period. Leq is measured in A-weighted decibels (dBA), which closely approximates human frequency response.

Noise measurements were taken at 9 sites in the study area (Exhibit 6) on July 11, 1988. Measurements were taken for a period of 15 minutes at each site with a Larson Davis Model 700 sound level analyzer. Sites were selected to be representative of a variety of traffic and land use characteristics. Traffic data, including volume, speed, and vehicle mix, were also obtained. Measured Leq noise levels were found to range from 55 to 69 dBA. The highest level, 69 dBA, was measured at site 2 which is located approximately 61 feet from the centerline of S.R. 45 (U.S. 41). The results of the monitoring are provided in Table 1.

Predicted Noise Levels

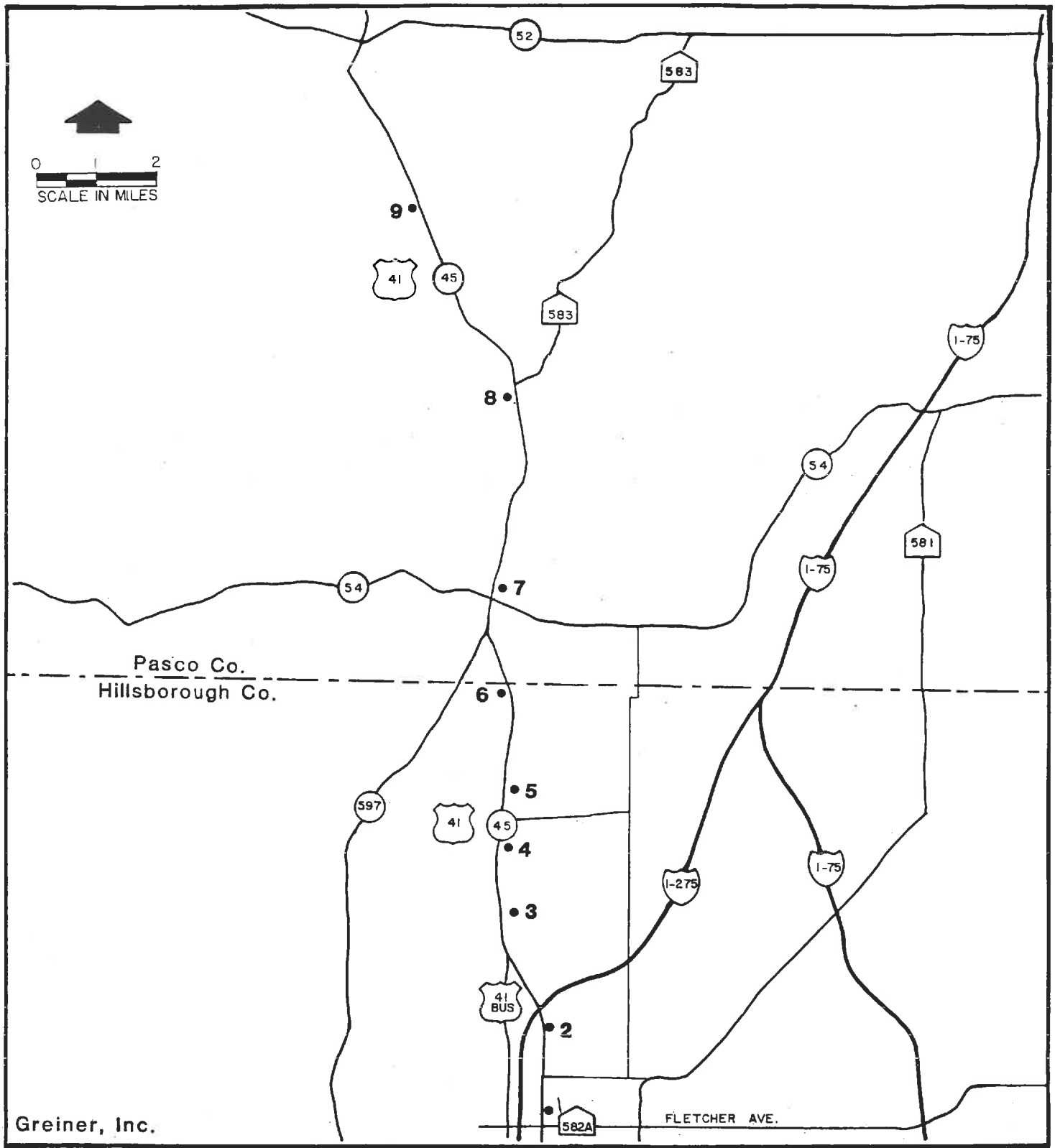
Existing and future noise levels within the study area were evaluated by considering noise measurements and by predicting traffic noise levels with the FHWA computer prediction model STAMINA 2.0/OPTIMA. The computer model was validated by running the program with the traffic data gathered during noise monitoring, and by comparing measured results with predicted results (Table 1). Predicted and measured levels were found to be within an acceptable difference of 3 dBA. Based on this comparison, the STAMINA/OPTIMA model was considered to be a reliable tool for the determination of noise levels for this project.

TABLE 1

NOISE MONITORING DATA SUMMARY

Site	Hourly Leq (dBA)		Hourly Vehicle Volume						Distance to Centerline (ft.)	Estimated Speed (MPH)	Note
			Near Lanes			Far Lanes					
	Measured	Predicted	A	MT	HT	A	MT	HT			
1	66	66	324	30	24	612	30	0	58	30	Kum Back Mobile Home Park
2	69	70	738	48	18	390	66	18	61	40	Town House Apartments
3	67	69	546	54	12	528	54	18	58	35	Pine Tree Village Mobile Home Park
4	66	65	582	18	6	534	12	0	79	40	Old Lutz Elementary School
5	62	60	438	30	12	468	18	24	177	35	Apostolic Pentacostal Church
6	58	61	540	36	12	492	12	12	169	40	Single Family Homes
7	64	67	456	6	12	486	30	18	70	40	Lake Padgett Mobile Home Park
8	61	64	504	36	18	522	24	12	101	40	Land O'Lakes Community Center
9	55	57	276	48	12	336	24	0	310	45	Church of God

NOTE: A = Automobile
MT = Medium Truck
HT = Heavy Truck



LEGEND

•4 Noise Monitoring Site

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NOISE REPORT

S.R. 45 (U.S. 41)

From C.R. 582A to S.R. 52
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NOISE MONITORING SITES

EXHIBIT 6.

Noise prediction analyses were performed for the Existing Condition in 1988 and the No-Build and Build Conditions in 2010. The traffic characteristics used to perform the analysis represent the conditions (vehicle volume and mix) present during the peak hour (demand) or at level-of-service (LOS) C, whichever was less. For modeling purposes, the posted speed limits were assumed for all roadway segments. Traffic assumptions for modeling are provided on Table 2. Traffic volumes for noise modeling were derived from traffic projections contained in a separate Traffic Memorandum for this project. Traffic projections assumed annual growth rates ranging from 1.3% (between C.R. 582A and Skipper Road) to 5% (between Dale Mabry Highway and S.R. 54). The Peak Hour Factor (K) was assumed to be 9% in Hillsborough County and 10% in Pasco County. Vehicle mix percentages during peak hour were assumed to be 95% cars, 1.7% medium trucks and 3.3% heavy trucks in Hillsborough County. In Pasco County vehicle mix percentages were assumed to be 94% cars, 2% medium trucks and 4% percent heavy trucks.

The approximate noise levels at properties adjacent to the roadway were estimated by determining the noise levels at specific distances from the roadway for the various segments of each study scenario. Table 3 compares the distances from the roadway centerline where noise levels of 67 dBA are estimated to occur. As would be expected, comparison of Table 2 and Table 3 shows that the areas of greatest change in traffic volumes are predicted to receive the greatest change in noise levels.

Noise Impact Analysis

The noise impact potential of the proposed project was determined by comparing land use, existing noise levels, and predicted noise levels with established criteria which consider exceedance and significant increase. FHWA Noise Abatement Criteria, shown in Table 4, establish guidelines for traffic noise impact assessment with respect to

TABLE 2

TRAFFIC DATA FOR NOISE ANALYSIS

Roadway Sections	Vehicle Type	Hourly Traffic Characteristics (LOS C or Peak) 1988 Existing Volume	Speed	2010 No-Build Volume	Speed	2010 Build Volume	Speed
C.R. 582A	A	1,349*	45	1,349*	45	2,318	45
(Fletcher Avenue)	MT	24*	45	24*	45	41	45
to Skipper Road	HT	47*	45	47*	45	80	45
Skipper Road	A	1,349*	45	1,349*	45	2,129	45
to Bearss Avenue	MT	24*	45	24*	45	38	45
	HT	47*	45	47*	45	74	45
Bearss Avenue	A	1,349*	50	1,349*	50	2,565	45
to Florida Avenue	MT	24*	50	24*	50	46	45
	HT	47*	50	47*	50	89	45
Florida Avenue	A	1,349*	50	1,349*	50	4,218*	45
to Crenshaw Lake Road	MT	24*	50	24*	50	75*	45
	HT	47*	50	47*	50	147*	45
Crenshaw Lake Road	A	1,349*	50	1,349*	50	3,976	45
to Proposed E.W. Arterial	MT	24*	50	24*	50	71	45
	HT	47*	50	47*	50	138	45
Proposed E.W. Arterial	A	1,349*	45	1,349*	45	4,147	45
to Sunset Lane	MT	24*	45	24*	45	74	45
	HT	47*	45	47*	45	144	45
Sunset Lane	A	1,349*	45	1,349*	45	3,352	45
to Lutz Lake Fern Road	MT	24*	45	24*	45	60	45
	HT	47*	45	47*	45	116	45
Lutz Lake Fern Road	A	1,180	45	1,349*	45	3,163	45
to County Line Road	MT	21	45	24*	45	57	45
	HT	41	45	47*	45	110	45
County Line Road	A	1,260	50	1,335*	50	3,055	45
to Dale Mabry Highway	MT	27	50	28*	50	65	45
	HT	54	50	56*	50	130	45
Dale Mabry Highway	A	1,335*	45	1,335*	45	5,593	45
to C.R. 54	MT	28*	45	28*	45	119	45
	HT	56*	45	56*	45	238	45

TABLE 2

TRAFFIC DATA FOR NOISE ANALYSIS
(Continued)

Roadway Sections	Vehicle Type	Hourly Traffic Characteristics (LOS C or Peak) 1988 Existing Volume	Speed	2010 No-Build Volume	Speed	2010 Build Volume	Speed
C.R. 54	A	1,335*	45	1,335*	45	4,174*	45
to Hale Road	MT	28*	45	28*	45	89*	45
	HT	56*	45	56*	45	177*	45
Hale Road	A	1,241	45	1,335*	45	3,835	45
to C.R. 583	MT	26	45	28*	45	82	45
	HT	53	45	56*	45	163	45
C.R. 583	A	1,090	55	1,335*	55	2,754*	55
to S.R. 52	MT	23	55	28*	55	59*	55
	HT	47	55	56*	55	117*	55

NOTE: A = Automobile
MT = Medium Trucks
HT = Heavy Trucks
* = Level-of-Service "C" volume

TABLE 3

NOISE ISOPLETH
Hourly Leq of 67 dBA

Roadway Section	Approximate Distance From Roadway Centerline (ft) 1988 Existing	2010 No-Build	2010 Build
C.R. 582A (Fletcher Avenue) to Bearss Avenue	96	96	130
Bearss Avenue to Florida Avenue	110	110	147
Florida Avenue to Proposed E.W. Arterial	110	110	195
Proposed E.W. Arterial to Sunset Lane	96	96	200
Sunset Lane to Lutz Lake Fern Road	96	96	175
Lutz Lake Fern Road to County Line Road	88	95	172
County Line Road to Dale Mabry Highway	115	118	173
Dale Mabry Highway to C.R. 54	105	105	265
C.R. 54 to Hale Road	105	105	221
Hale Road to C.R. 583	98	105	208
C.R. 583 to S.R. 52	118	138	218

TABLE 4

FHWA NOISE ABATEMENT CRITERIA

Activity Category	Leq (h)	Description of Activity Category
A	57 (Exterior)	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.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	0	Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

References: 23 CFR, Part 772

land use. When the traffic noise of a proposed roadway project is predicted to approach or exceed the criteria established for certain activity categories, noise abatement measures must be considered. For purposes of impact evaluation, the FDOT considers "approach" to normally mean within 2 dBA of the FHWA Noise Abatement Criteria. Consequently, for this evaluation, noise impacts were identified for any location within the study area which was predicted to exceed a noise level of 2 dBA less than the FHWA criteria for the appropriate activity category. For example, while the FHWA criteria for Activity Category B is 67 dBA, a value of 65 dBA was used in this evaluation to determine noise impacts. Areas which would approach or exceed criteria are identified in Table 5 and are shown on Exhibit 7. A summary of noise impacts is found on Table 6.

Predicted noise levels were determined to approach or exceed the Noise Abatement Criteria for Activity Categories B and E for the Existing, No-Build and Build Conditions. Activity Category B impacts were identified primarily at single family homes and mobile homes. Activity Category E impacts were identified primarily at motels.

Noise impacts may occur when noise levels are predicted to increase substantially, yet not approach or exceed the FHWA Noise Abatement Criteria. These impacts occur primarily when proposed roadway improvements are planned in the vicinity of noise sensitive areas where existing noise levels are relatively low. The figure shown on Exhibit 8 is used to determine if noise level increases are substantial by comparing existing levels with projected noise level increases for Activity Category B. Comparison of Exhibit 8 with predicted noise levels for the Build and No-Build conditions indicates that substantial increases do not occur within the study area.

TABLE 5

NOISE IMPACT ESTIMATES

Roadway Section	Site Number	Site Description	Activity Category	Worst-Case Exterior Hourly LEQ (dBA) 1988 Existing	2010 No-Build	2010 Build	Increase with project
C.R. 582A (Fletcher Avenue) to Bearss Avenue to Skipper Road	1-3	Palm Lane Trailer Terrace	B	63	63	66*	3
	4	Palm Lane Trailer Terrace	B	65*	65*	67**	2
	5-6	Single Family Homes	B	66*	66*	69**	3
	7-8	Fountain Palms Apts	B	67**	67**	70**	3
	9	Kum Back Mobile Home Park	B	72**	72**	73**	1
	10	Kum Back Mobile Home Park	B	71**	71**	71**	0
	11	Kum Back Mobile Home Park	B	69**	69**	69**	0
	12	Kum Back Mobile Home Park	B	66*	66*	67**	1
	13	Kum Back Mobile Home Park	B	65*	65*	66*	1
	14	Flying Cloud Motel	E	69	69	70*	1
	15	Flying Cloud Mobile Home Park	B	69**	69**	70**	1
	16	Flying Cloud Mobile Home Park	B	72**	72**	72**	0
	17-18	Flying Cloud Mobile Home Park	B	69**	69**	71**	2
	19	Flying Cloud Mobile Home Park	B	68**	68**	69**	1
	20	Flying Cloud Mobile Home Park	B	69**	69**	70**	1
	21	Flying Cloud Mobile Home Park	B	67**	67**	69**	2
	22-23	Flying Cloud Mobile Home Park (2nd row)	B	62	62	65*	3
Skipper Road to Bearss Avenue	24	Chalet Village Mobile Home Meeting Center	B	66*	66*	69**	3
	25	Mobile Home	B	65*	65*	67**	2
Bearss Avenue to Crenshaw Lake Road	26	Town House Apartments	B	68**	68**	71**	3
	27-28	Single Family Homes	B	63	63	65*	2
	29	Single Family Home	B	66*	66*	69**	3
	30	Single Family Home	B	69**	69**	71**	2
	31	Single Family Home	B	65*	65*	Taken with project	
Crenshaw Lake Rd to E.W. Arterial	32	Pinetree Village Mobile Home	B	69**	69**	73**	4
	33	Pinetree Village Mobile Home	B	68**	68**	73**	5
	34-35	Pinetree Village Mobile Homes	B	65*	65*	70**	5
	36-37	Pinetree Village Mobile Homes	B	61	61	66*	5
	38	Single Family Home	B	64	64	68**	4
	39-46	Single Family Homes	B	67**	67**	70**	3
	47	Mobile Home	B	63	63	68**	5
	48	Mobile Home	B	60	60	65*	5
	49	Mobile Home	B	62	62	67**	5

TABLE 5

NOISE IMPACT ESTIMATES
(continued)

Roadway Section	Site Number	Site Description	Activity Category	Worst-Case Exterior Hourly LEQ (dBA) 1988 Existing	2010 No-Build	2010 Build	Increase with project
E.W. Arterial to Sunset Lane	50	Single Family Home	B	65*	65*	69**	4
	51	Single Family Home	B	67**	67**	71**	4
	52	Single Family Home	B	61	61	66*	5
	53-55	Sunrise Park Mobile Homes	B	62	62	66*	4
	56	Sunrise Park Mobile Home	B	64	64	68**	4
	57	Single Family Home	B	62	62	66*	4
	58	Single Family Home	B	62	62	67**	5
	59	Single Family Home	B	64	64	70**	6
Sunset Lane to Lutz Lake Fern Road	60	Single Family Home	B	63	63	67**	4
	61	Single Family Home	B	61	61	65*	4
	62	Single Family Home	B	65*	65*	68**	3
	63	Single Family Home	B	72**	72**	Taken with Project	
	64	Family Home	B	74**	74**	Taken with Project	
	65	Single Family Home	B	65*	65*	69**	4
	66	Old Lutz Elementary	E	69	69	73**	4
	67	Lions Club	E	71*	71*	Taken with Project	
	68	Memorial Park	B	63	64	68**	5
Lutz Lake Fern Road to County Line Road	69-70	Single Family Homes	B	61	61	65*	4
	71	Single Family Home	B	64	65*	69**	5
	72-73	Single Family Homes	B	63	63	67**	4
	74	Single Family Home	B	62	62	66*	4
	75	Lutz Cemetery	B	68**	68**	72**	4
	76	Single Family Home	B	65*	66*	72**	7
	77	Single Family Home	B	63	64	69**	6
	78	Single Family Home	B	63	64	68**	5
	79-80	Single Family Homes	B	66*	66*	70**	4
	81	Single Family Home	B	61	61	65*	4
	82	Single Family Home	B	62	63	66*	4
	83	Single Family Home	B	62	62	65*	3

TABLE 5

NOISE IMPACT ESTIMATES
(continued)

Roadway Section	Site Number	Site Description	Activity Category	Worst-Case Exterior Hourly LEQ (dBA) 1988 Existing	2010 No-Build	2010 Build	Increase with project
County Line Road to Dale Mabry Hwy	84	Single Family Home	B	64	64	66*	2
	85	Mobile Home	B	65*	65*	67**	2
Dale Mabry Hwy to C.R. 54	86	Mobile Home	B	65*	65*	70**	5
C.R. 54 to Hale Road	87	Single Family Home	B	65*	65*	70**	5
	88	Mobile Home	B	62	62	67**	5
	89	Single Family Home	B	66*	66*	71**	5
	90	Single Family Home	B	60	60	65*	5
	91	Sunshine Village Mobile Home	B	66*	66*	71**	5
	92	Mobile Home	B	61	61	66*	5
	93	Mobile Home	B	63	63	69**	6
	94-95	Mobile Homes	B	67**	67**	71**	4
	96	Mobile Home	B	68**	68**	74**	6
	97	Mobile Home	B	60	60	65*	5
	98	Mobile Home	B	63	63	68**	5
	99	Single Family Home	B	61	61	67**	6
	100	Single Family Home	B	69**	69**	75**	6
	101	Single Family Home	B	60	60	65*	5
	102	Floridale Motel	E	66	66	71*	5
	103-104	Single Family Homes	B	60	60	65*	5
	105	Sugar N' Spice Day Care	E	70*	70*	72**	2
	106	Single Family Home	B	71**	71**	73**	2
	107	Single Family Home	B	62	62	66*	4
	108	Single Family Home	B	61	61	65*	4
	109-110	Single Family Homes	B	63	63	68**	5
	111	Single Family Home	B	68**	68**	73**	5
	112-114	Single Family Homes	B	63	63	67**	4
	115	Mobile Home	B	70**	70**	73**	3
	116	Mobile Home	B	63	63	67**	4
	117	Single Family Home	B	64	64	69**	5
	118	Sunny Palms Motel (left)	E	69	69	75**	6
	119	Sunny Palms Motel (right)	E	67	67	72**	5
	120	Cottage Next to Motel (1)	B	68**	68**	73**	5
	121-122	Cottage Next to Motel (2 & 3)	B	66*	66*	72**	6

TABLE 5

NOISE IMPACT ESTIMATES
(continued)

Roadway Section	Site Number	Site Description	Activity Category	Worst-Case Exterior Hourly LEQ (dBA) 1988 Existing	2010 No-Build	2010 Build	Increase with project
(continued)	123	Single Family Home	B	67**	67**	72**	5
S.R. 54	124	Mobile Home	B	64	64	69**	5
to Hale Road	125	Mobile Home	B	66*	66*	72**	6
	126	Garland Motel Court	E	67	67	73**	6
	127	Garland Motel Court	E	66	66	72**	6
	128	Garland Main Motel	E	65	65	70*	5
	129	Mobile Home	B	70**	70**	76**	6
	130	Mobile Home	B	66*	66*	70**	4
	131	Mobile Home	B	62	62	68**	6
	132	Mobile Home	B	61	61	66*	5
	133	Garland Apartments (Unit 1)	B	66*	66*	70**	4
	134	Garland Apartments (Unit 2)	B	62	62	68**	6
	135	Garland Apartments (Unit 3)	B	61	61	66*	5
	136-140	Condominiums (Units 1-5)	B	61	61	66*	5
Hale Road	141	Single Family Home	B	66*	66*	70**	4
to C.R. 583	142	Playground & Picnic Area	B	68**	68**	73**	5
	143	Baseball Diamond	B	61	61	66*	5
	144	Single Family Home	B	63	63	67**	4
C.R. 583	145	Drexel Court Motel	B	71**	72**	73**	2
to S.R. 52	146	Single Family Home	B	71**	72**	72**	1
	147	Single Family Home	B	65*	66*	69**	4
	148-150	Mobile Homes	B	65*	66*	70**	5
	151	Mobile Home	B	64	65*	69**	5
	152	Mobile Home	B	66*	67**	70**	4
	153-155	Mobile Homes	B	63	64	67**	4
	156	Winebago Park Within Lake Bambii	B	68**	69**	72**	4
	157-158	Lake Bambii Shuffle Board	B	67**	68**	72**	5
	159-160	Mobile Homes	B	62	63	67**	5
	161	Single Family Home	B	63	64	66*	3
	162	Mobile Home	B	65*	66*	69**	4
	163	Mobile Home	B	65*	66*	67**	2
	164	Single Family Home	B	67**	67**	70**	3
	165	Mobile Home	B	64	65*	69**	5

TABLE 5

NOISE IMPACT ESTIMATES
(continued)

Roadway Section	Site Number	Site Description	Activity Category	Worst-Case Exterior Hourly LEQ (dBA) 1988 Existing	2010 No-Build	2010 Build	Increase with project
(continued)	166-167	Mobile Homes	B	61	62	66*	5
C.R. 583	168	Single Family Home	B	67**	67**	69**	2
to S.R. 52	169	Mobile Home	B	60	61	65*	5
	170-171	Single Family Homes	B	61	62	65*	4
	172	Mobile Home	B	62	63	66*	4
	173	Single Family Home	B	62	63	66*	4
	174	Single Family Home	B	65*	66*	69**	4
	175	Single Family Home	B	69**	70**	71**	2
	176	Mobile Home	B	67**	68**	70**	3
	177	Mobile Home	B	65*	66*	69**	4
	178-181	Single Family Homes	B	65*	66*	69**	4
	182	Mobile Home	B	63	64	67**	4
	183	Mobile Home (R.V. Park)	B	65*	66*	68**	3
	184	Mobile Home	B	64	65*	67**	3
	185	Single Family Home	B	64	65*	67**	3
	186	Single Family Home	B	66*	67**	69**	3
	187	Single Family Home	B	65*	66*	68**	3
	188	Single Family Home	B	62	63	65*	3
	189	Single Family Home	B	67**	67**	69**	2
	190	Single Family Home	B	66*	67**	69**	3
	191	Single Family Home	B	64	65*	67**	3
	192	Single Family Home	B	63	64	67**	4
	193	Single Family Home	B	67**	67**	69**	2
	194	Mobile Home	B	62	63	66*	4
	195	Single Family Home	B	61	62	66*	5
	196	Single Family Home	B	64	65*	69**	5
	197	Single Family Home	B	65*	66*	69**	4
	198	Single Family Home	B	63	64	66*	3
	199	Single Family Home	B	62	63	65*	3
	200	Mobile Home	B	63	64	66*	3
	201	Mobile Home	B	62	63	65*	3
	202	Mobile Home	B	64	65*	67**	3
	203	Single Family Home	B	67**	67**	69**	2
	204	Single Family Home	B	62	63	65*	3
	205	Single Family Home	B	65*	66*	66*	1

TABLE 5

NOISE IMPACT ESTIMATES
(continued)

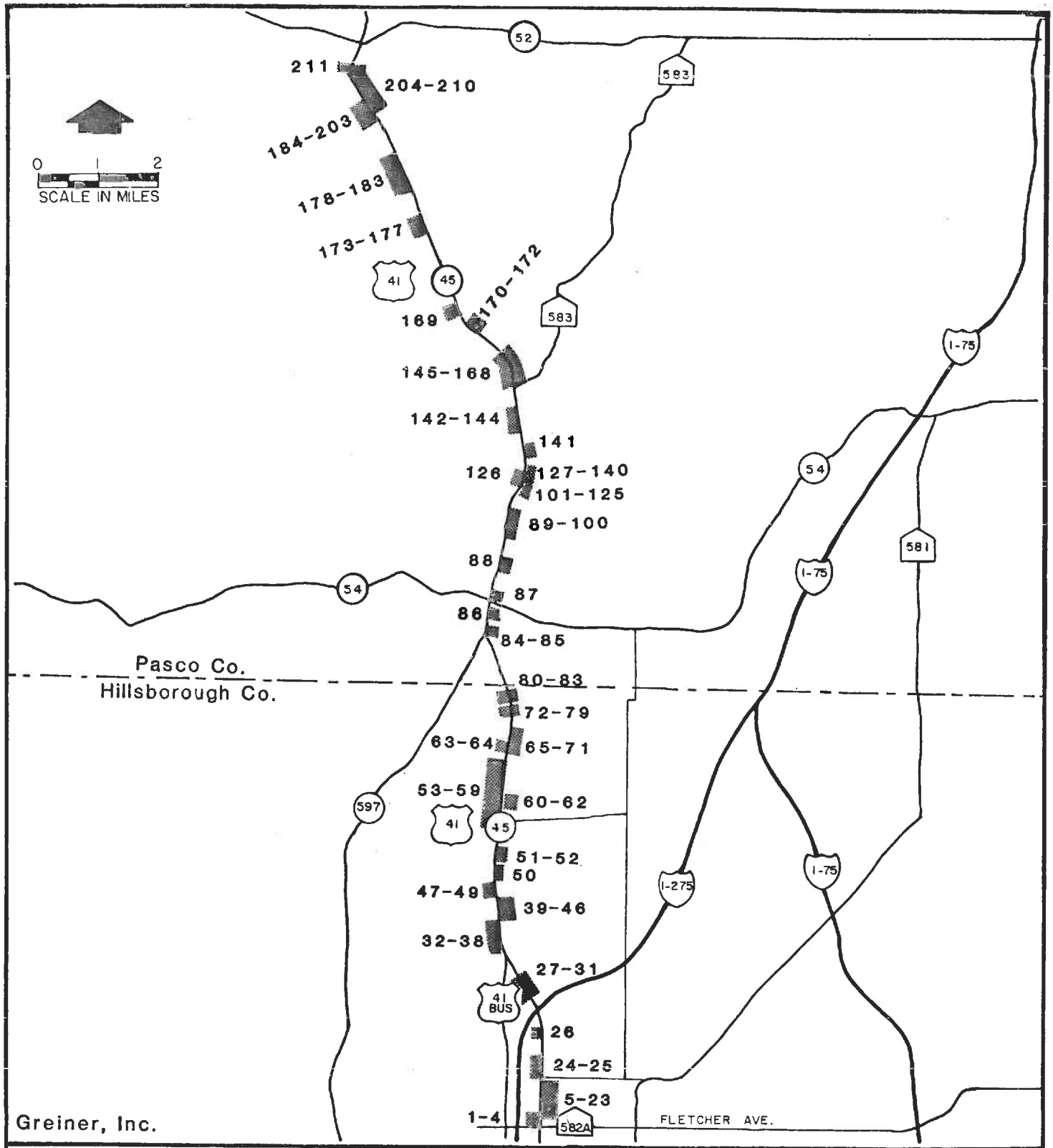
Roadway Section	Site Number	Site Description	Activity Category	Worst-Case Exterior Hourly LEQ (dBA) 1988 Existing	2010 No-Build	2010 Build	Increase with project
(continued)	206-209	Single Family Homes	B	64	65*	66*	2
S.R. 583	210	Single Family Home	B	69**	70**	70**	1
to S.R. 52	211	Single Family Home	B	68**	69**	69**	1

*Noise levels predicted to approach noise abatement criteria.
**Noise levels predicted to exceed noise abatement criteria.

TABLE 6

NOISE IMPACT SUMMARY

Land Use	Number of Locations Approaching or Exceeding FHWA Criteria		
	1988	2010	
	Existing	No-Build	Build
Single Family Homes (units)	50	57	98
Mobile Homes (units)	37	39	77
Apartments (buildings)	5	5	5
Motels (buildings)	1	1	8
Meeting Center (buildings)	2	2	1
Historic Site	0	0	1
Parks	1	1	2
Cemetery	1	1	1
Day Care Center	1	1	1
Total	100	109	196



LEGEND

Noise Impacted Area

FLORIDA DEPARTMENT OF TRANSPORTATION

NOISE REPORT

S.R. 45 (U.S. 41)

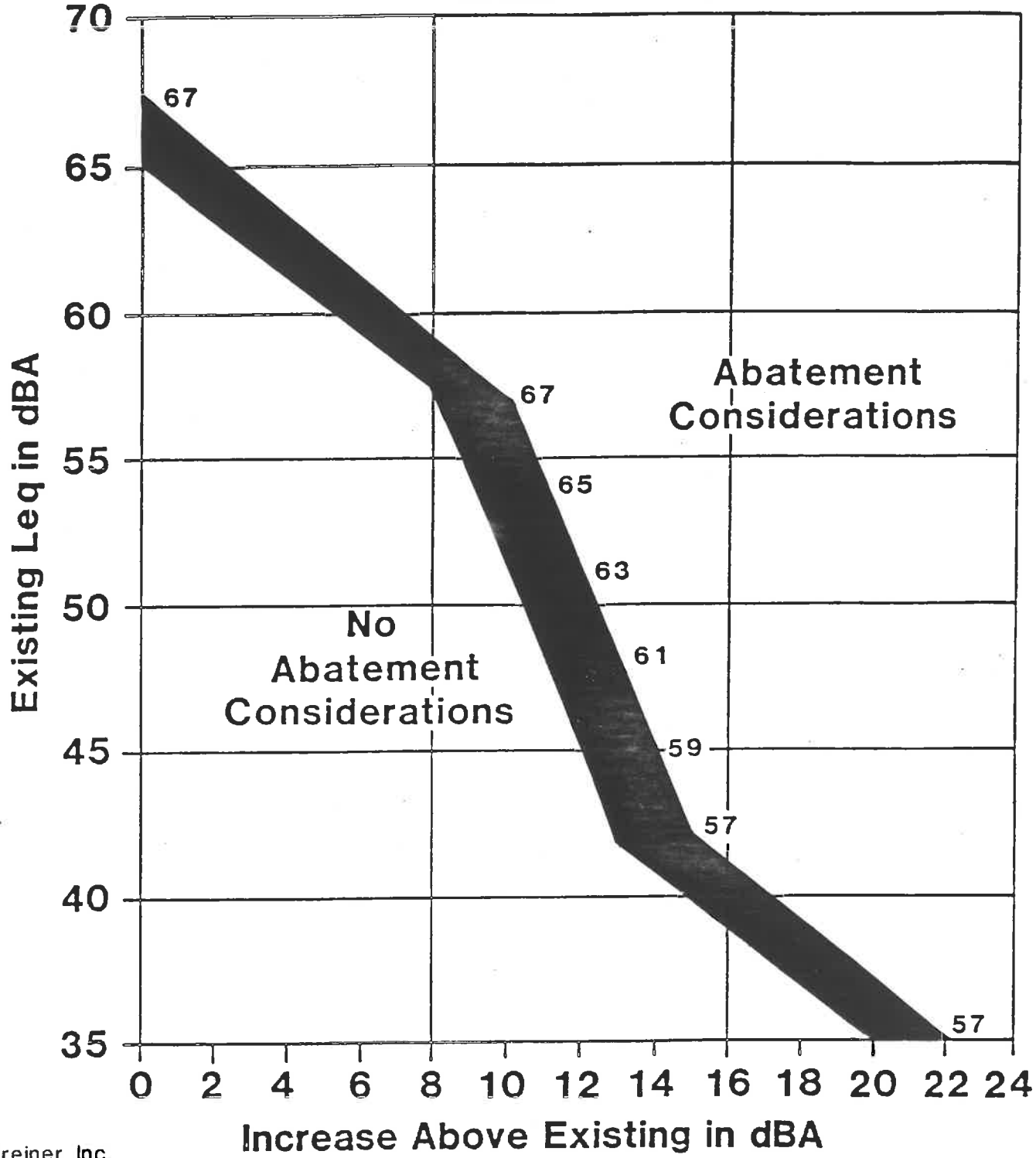
From C.R. 582A to S.R. 52

Hillsborough and Pasco Counties

NOISE IMPACTED AREAS

EXHIBIT 7

Activity Category B



Greiner, Inc.

FLORIDA DEPARTMENT OF TRANSPORTATION

NOISE REPORT

S.R. 45 (U.S. 41)

From C.R. 582A to S.R. 52

Hillsborough and Pasco Counties

SUBSTANTIAL INCREASE CRITERIA

EXHIBIT 8

Noise Abatement Measures

The FHWA requires that when the noise levels of a proposed federal roadway project approach or exceed Noise Abatement Criteria, various noise abatement measures must be considered. The following discussion addresses the applicability of these measures to the proposed project.

Alignment Selection

Alignment selection involves the orientation of the project location in such a way as to minimize impacts and costs. For noise abatement, alignment selection is primarily a matter of siting the roadway at a sufficient distance from noise sensitive areas. The selection of alternative alignments for noise abatement purposes must consider the balance between noise impacts and other engineering and environmental parameters. Alternatives on new alignment are not viable because it does not eliminate the need to improve S.R. 45 and would substantially affect wetlands. Shifting the alignment along the existing corridor is not effective because it does not substantially reduce noise levels and because sensitive sites are found on both sides of the roadway.

Traffic System Management Measures

Traffic management measures which limit vehicle type, speed, volume, and time of operations are often effective noise abatement measures. For this project, traffic management measures are not considered appropriate for noise abatement due to their effect on the capacity and level-of-service of the improved roadway. It was determined that a reduction in speed limit of 10 mph would result in a noise level reduction of approximately 2-3 dBA. Because most people cannot detect a noise

reduction of 3 dBA and because reducing the speed limit would reduce roadway capacity, it is not considered a viable noise abatement measure.

Noise Barriers

Noise barriers reduce noise levels by blocking the sound path between a roadway and sensitive areas. This measure is most often used on high speed limited access facilities where noise levels are high and there is adequate space for continuous barriers. S.R. 45 (U.S. 41) is an arterial roadway in which the areas impacted by noise are in locations unsuitable for barrier construction because connecting roadways and driveways do not allow for barriers which would be continuous enough to provide substantial noise reduction.

Property Acquisition

Property acquisition to provide buffer zones or space for barrier construction is not recommended or necessary for noise abatement for this project. Proper land use controls to establish and maintain existing buffered areas should be utilized by Hillsborough and Pasco counties.

Land Use Controls

One of the most effective noise abatement measures is the proper use of land use controls to minimize future impacts. Local jurisdictions with zoning control should

use the noise level isopleths provided in this report to develop policies to limit the growth of noise sensitive land uses adjacent to the roadway. These policies should be implemented through zoning and building codes.

Based on the noise analyses performed to date, there appears to be no apparent solutions available to mitigate the noise impacts at the identified noise impacted areas. If, upon evaluation during the final design phase, it is determined that noise abatement is feasible for a given location, such determinations will be made prior to granting approval of the re-evaluation for construction advertisement. Commitments regarding the exact abatement measures, if any, will be made before the construction advertisement is approved.

CONSTRUCTION NOISE

The construction and development of the proposed project would result in temporary noise increases within the study area. The noise would be generated primarily from heavy equipment used in hauling materials and building the roadway. Sensitive areas located close to the construction alignment may temporarily experience increased noise levels; however, no areas within the study area where quiet is of extraordinary significance would be impacted by construction noise.

Construction noise will be minimized to the greatest extent practicable through the adherence to controls listed in the latest edition of FDOT's Standard Specifications for Road and Bridge Construction.

COORDINATION WITH LOCAL OFFICIALS

Federal Aid Highway Program Manual (FHPM) 7-7-1 (Process Guidelines), FHPM 7-7-5 (Public Hearing and Location/Design Approval), and FHPM 7-7-3 delegate to highway agencies the responsibility for taking measures that are prudent and feasible to assure the location and design of highways are compatible with existing and planned land uses. The agency responsible for this project is the FDOT. The FDOT will promote compatibility between land development and the operation of the proposed facility. To accomplish this goal, the FDOT will cooperate with the Metropolitan Planning Organization and with local officials by furnishing:

1. appropriate generalized future noise levels (for various distances from highway improvement) for both developed and undeveloped lands or properties in the immediate vicinity of the project (Table 3);
2. information that may be useful to local communities to protect future land development from becoming incompatible with anticipated highway noise levels; and
3. the FHWA policy regarding land use development or changes which are initiated after issuance of FHPM 7-7-3 (described in paragraph [12c (2)] of that document).

Continued coordination with local agencies and officials has been accomplished during the development of this study and a copy of this report will be provided to appropriate local planning authorities in order to assist in the development of compatible future land use criteria.