NORTH DALE MABRY HIGHWAY (S.R. 597)

From Vicinities of
VAN DYKE ROAD IN HILLSBOROUGH COUNTY TO
S.R. 45/U.S. 41 IN PASCO COUNTY, FLORIDA

PRELIMINARY ENGINEERING REPORT

" SECOND DRAFT "

PREPARED
FOR

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN

BY
DSA GROUP, INC.

MARCH, 1988 Revised November 1989

State Project Nos. 10160--1510
14050--1503

Work Program Nos. 7113328,7115882

FAP NO. F--295--1(7)
DSA CM NO. 84078-F

255092 1 31 01
DALE MABRY FROM HILLS AVE
TO PASCO CO/L
(7113328)
PER 2ND DRAFT

PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am a Registered Professional Engineer in the State of Florida practicing with DSA GROUP, INC., a corporation authorized to operate as an engineering business, EB# 0000590, by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have reviewed and approved the evaluations, findings, opinions, conclusions, or technical advice hereby reported for:

Project: North Dale Mabry Highway (SR 597)
Project Development and Environmental Study

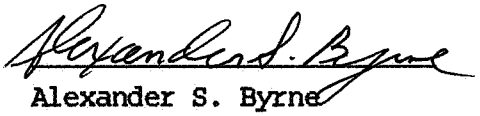
State Project Nos.: 10160-1510 and 14050-1503

Work Program Nos.: 7113328 and 7115882

Location: Hillsborough and Pasco Counties, Florida

Client: Florida Department of Transportation District Seven

I acknowledge that the procedures and references used to develop the results contained in this Report are standard to the professional practice of Highway Design and Civil Engineering as applied through professional judgement and experience.

Signature: 
Name: Alexander S. Byrne
FL P.E. No.: 15281
Date: November 20, 1989

DSA GROUP INC

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Van Dyke to U.S. 41 (SR 45)

1. ABSTRACT

The Florida Department of Transportation (FDOT) intends to use Federal aid funds authorized by the Federal Highway Administration (FHWA) to improve North Dale Mabry Highway between the vicinity of Van Dyke Road in Hillsborough County to the vicinity of U.S. 41 (SR 45) in Pasco County, a distance of approximately 4.6 miles (Figure 1).

The improvements are proposed to be done in two separate stages. Stage 1 consists of adding two additional lanes resulting in a four-lane divided rural highway within the existing 200 foot right-of-way (R/W). Stage II consists of converting the highway into a four-lane limited access urban highway with two-way, two-lane urban frontage roads. Additional R/W would be required for the mainline sections, for major intersections (potential interchange locations), and for stormwater detention/treatment and wetlands mitigation areas. The total cost for Stage I is estimated to be about $5.7 million, and the cost for Stage II is estimated to be about $26 million.

At the present time, the only activity funded besides the project development and environmental (PD & E) study is roadway design, which was begun in February of this year.

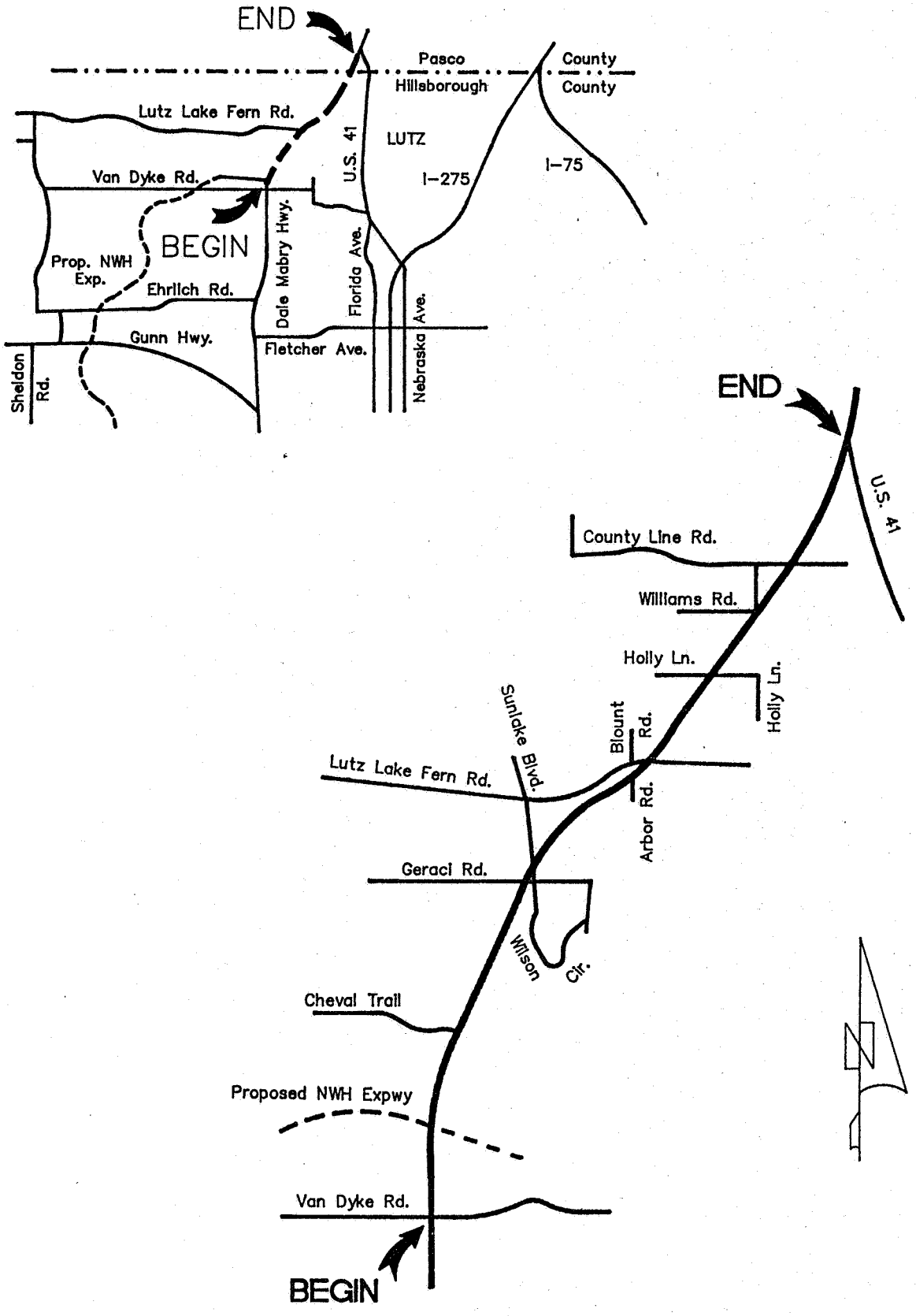

FIGURE 1 - LOCATION MAP

DALE MABRY HIGHWAY

2. INTRODUCTION

The purpose of this report is to document existing conditions and deficiencies in the existing facility and to document alternative design concepts which will provide adequate future highway service while minimizing social, economic, and environmental impacts. Analysis of the alternatives will identify those with the highest potential for implementation and document the reasons for rejection of other alternates.

The Dale Mabry Highway corridor study originally began in early 1984 as a single corridor study, from Euclid Avenue in Tampa to U.S. 41 (SR 45) in Pasco County, a total distance of about 20 miles. In early 1987, the study for the central portion of Dale Mabry (between approximately Kennedy Blvd. and Van Dyke Road) was put on hold pending outcome of the ongoing light rail transit (LRT) studies, since one LRT corridor under study included portions of the central section of Dale Mabry. As of March 1988, the LRT studies are still underway and the PD & E study is still on hold for this central section. Work has continued on the southern and northern segments, respectively. This report covers the northernmost segment only. The limits of the three study areas along with the corresponding State Project Numbers and Work Program Numbers are shown in Figure 2.

The first draft engineering report (which covered the entire 20-mile segment of Dale Mabry) was submitted in August, 1986. This revised second draft edition for the northernmost segment (Van Dyke to U.S. 41) incorporates all of the revisions made since the submittal of the first draft.

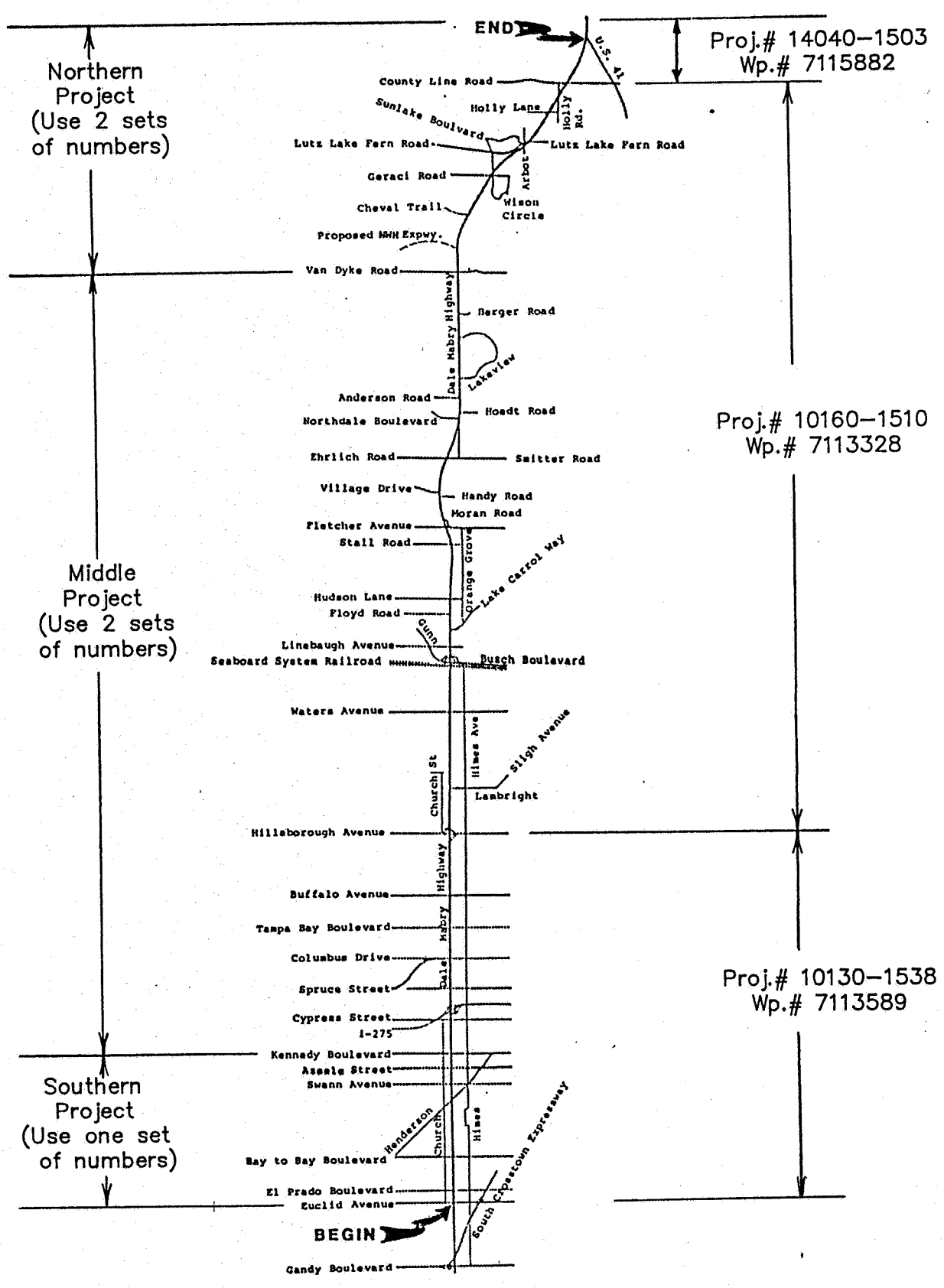

FIGURE 2 – LIMITS OF THE THREE STUDY AREAS

DALE MABRY HIGHWAY

3. EXISTING CONDITIONS

EXISTING STREET AND HIGHWAY SYSTEM

The existing highway network in the study area is illustrated in Figure 1. Dale Mabry Highway (SR 597 in this area) is functionally classified as a rural minor arterial north of Van Dyke Road. This particular segment of Dale Mabry connects the lower portion of the corridor (south of Van Dyke) to U.S. 41 and the Lutz area on the northern end. Major intersecting facilities between Van Dyke and U.S. 41 include Lutz Lake Fern Road and County Line Road. In addition, the Northwest Hillsborough Expressway is planned to terminate at Dale Mabry about one third mile north of Van Dyke. At this time, Hillsborough County is studying the possibility of extending the expressway further east as an arterial highway with general access or partial access control.

Typical Sections and Right-of-Way

The existing typical section consists of a two-lane rural highway offset within a 200 foot R/W (Figure 3). Drainage is provided by open ditches.

Horizontal and Vertical Alignment

Existing horizontal alignment is depicted schematically on the straight line diagram in Appendix A. There area approximately six horizontal curves mostly consisting of 1 degree curves.

Existing vertical alignment is also schematically shown on the straight line diagram. The maximum existing grade is 0.38% near Holly Lane.

VAN DYKE TO US 41 (2 Lane Rural)

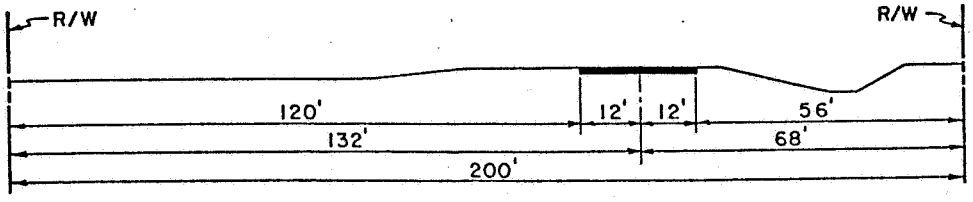

FIGURE 3 - Existing Typical Section

(Looking North)

Drainage Systems

Existing drainage is handled by longitudinal ditches as well as transverse cross drains (culverts); the locations of there cross drains are shown on the straight line diagram and they are described in greater detail in the Location Hydraulic Report (Appendix D).

Figure 4 shows existing drainage areas and outfall locations. Existing outfalls include various lakes and wetland areas contiguous to Dale Mabry. There area presently no provisions for attenuation of peak runoff flows; however, some treatment is provided in the vegetated ditches.

Pedestrian and Bicycle Facilities

There are presently no special provisions for either pedestrians or bicyclists; the area is predominantly rural at present and the current demand for there facilities is low.

Street Lighting

Due to the rural nature of this area, there are presently no street lighting facilities in this portion of Dale Mabry.

Traffic Signals

There are currently no traffic signals within this study portion of North Dale Mabry other than the one at U.S. 41 (SR 45). However, a traffic signal is being installed at Dale Mabry and Van Dyke in conjunction with the current six-laning job presently under construction.

The intersection of Dale Mabry and Lutz Lake Fern meets two of the warrants for a traffic signal, and a signal is planned to be installed in conjunction with the interim stage four laning improvements.

Speed Limits

This segment of Dale Mabry Highway is posted at 55 mph. This is considered safe due to the rural nature of the area and the wide, clear recovery areas.

Pavement Structural Conditions

Existing pavement conditions are summarized in Table 1. Ratings in the 80's are considered to be "good". Therefore, based on the latest evaluation, the existing pavement is in good condition.

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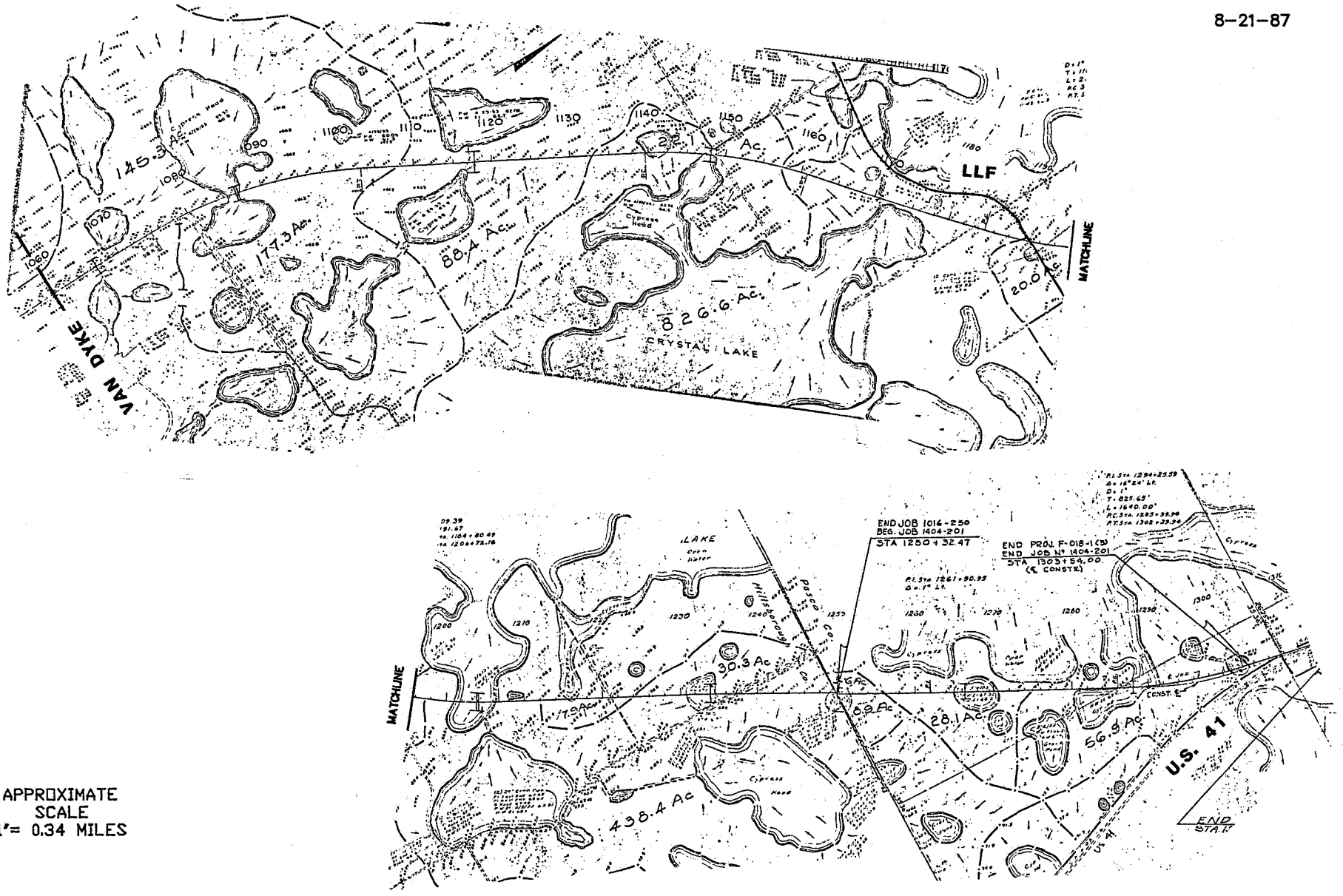


APPROXIMATE
SCALE
1"= 0.34 MILES

FIGURE 4 – DRAINAGE AREAS FOR DALE MABRY BETWEEN VAN DYKE AND U.S.41

TABLE 1 - Pavement Structural Ratings

Begin Mi. Post	End Mi. Post	Direction	Ratings: Defects	Ride	Basic	Segment Loc.
6.773	12.757	Combined	73	86	80	Hills. County
1.263	0.960	Combined	90	82	86	Pasco County

Source: FDOT Pavement Condition Survey (Surveyed 2/87)

Utilities

Existing utilities in this segment of Dale Mabry include

- o telephone: aerial and underground
- o CATV (Paragon Cable; overhead lines)
- o electric power (overhead; Tampa Electric Co.)
- o water line from Van Dyke to vicinity of Cheval (Hillsborough County Utilities)

Soils

Existing soils for the study area are illustrated in Figure 5. Descriptions and selected properties of these soils are given in Table 2.

Sources:

1. Soil Survey of Pasco County
   June, 1982
2. Soil Survey Update
   Hillsborough County Florida
   Interim Report April, 1987

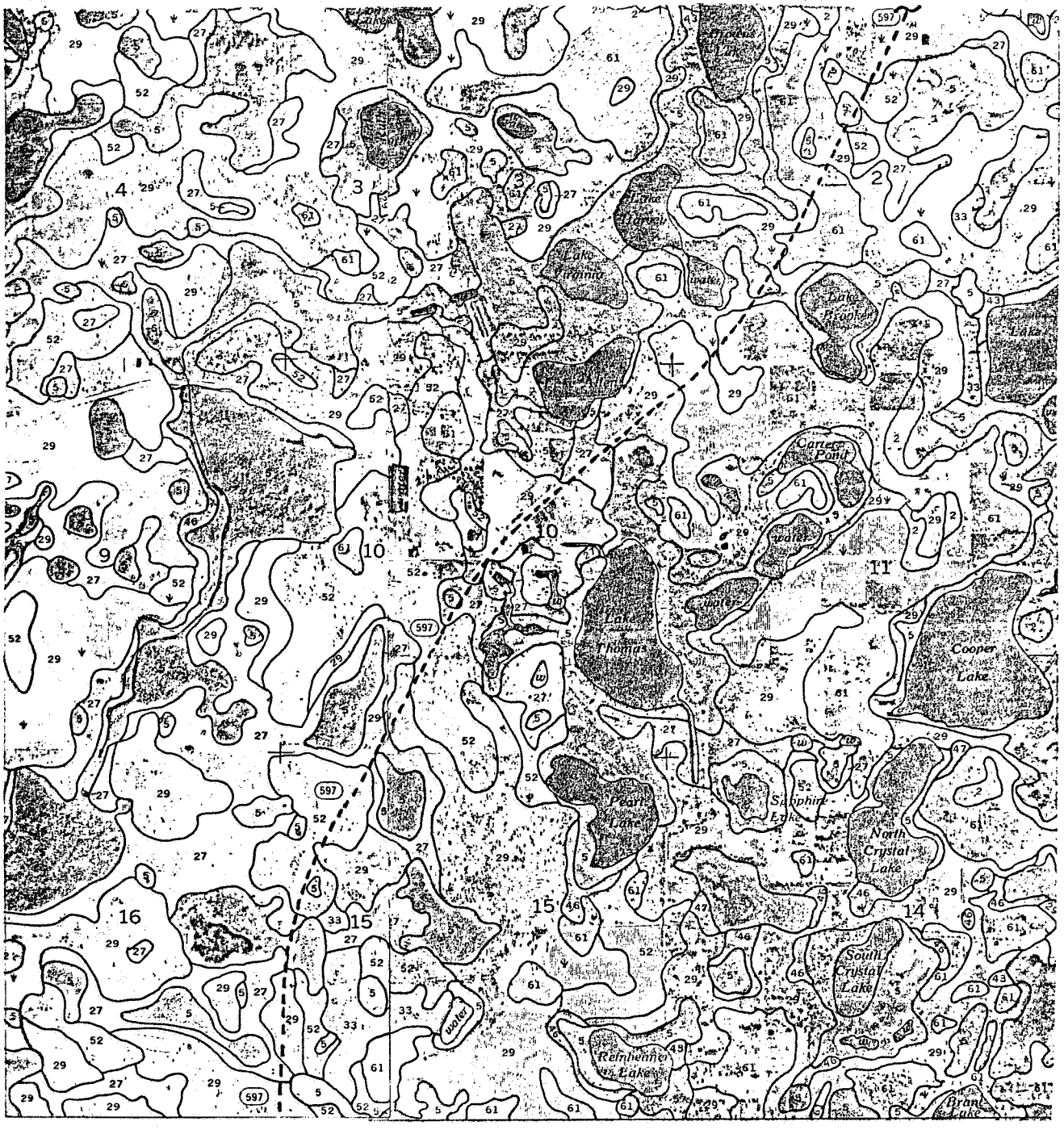


FIGURE 5 – EXISTING SOILS

DALE MABRY HIGHWAY

TABLE 2 - SOIL PROPERTIES

S = Sand
FS = Fine Sand
L = Loamy; M = Mucky

Pasco County Portion:

Map Symbol	Description	Eng. Index Properties Depth (In.)	USDA Texture	AASHTO Classif.	Probable Depth to High Water Table(Ft)
5	Myakka fine sand	0-27	FS	A-3	0-1.0
		27-38	S, FS, LFS	A-3, A-2-4	
21	Smyrna fine sand	0-13	FS	A-3	0-1.0
		13-25	S, FS	A-3,	
8	Sellers mucky loamy fine sand	0- 9	MLFS	A-3, A-2-4	+2-0
		9-24	S, FS, LFS	A-3, A-2-4	

Hillsborough County Portion

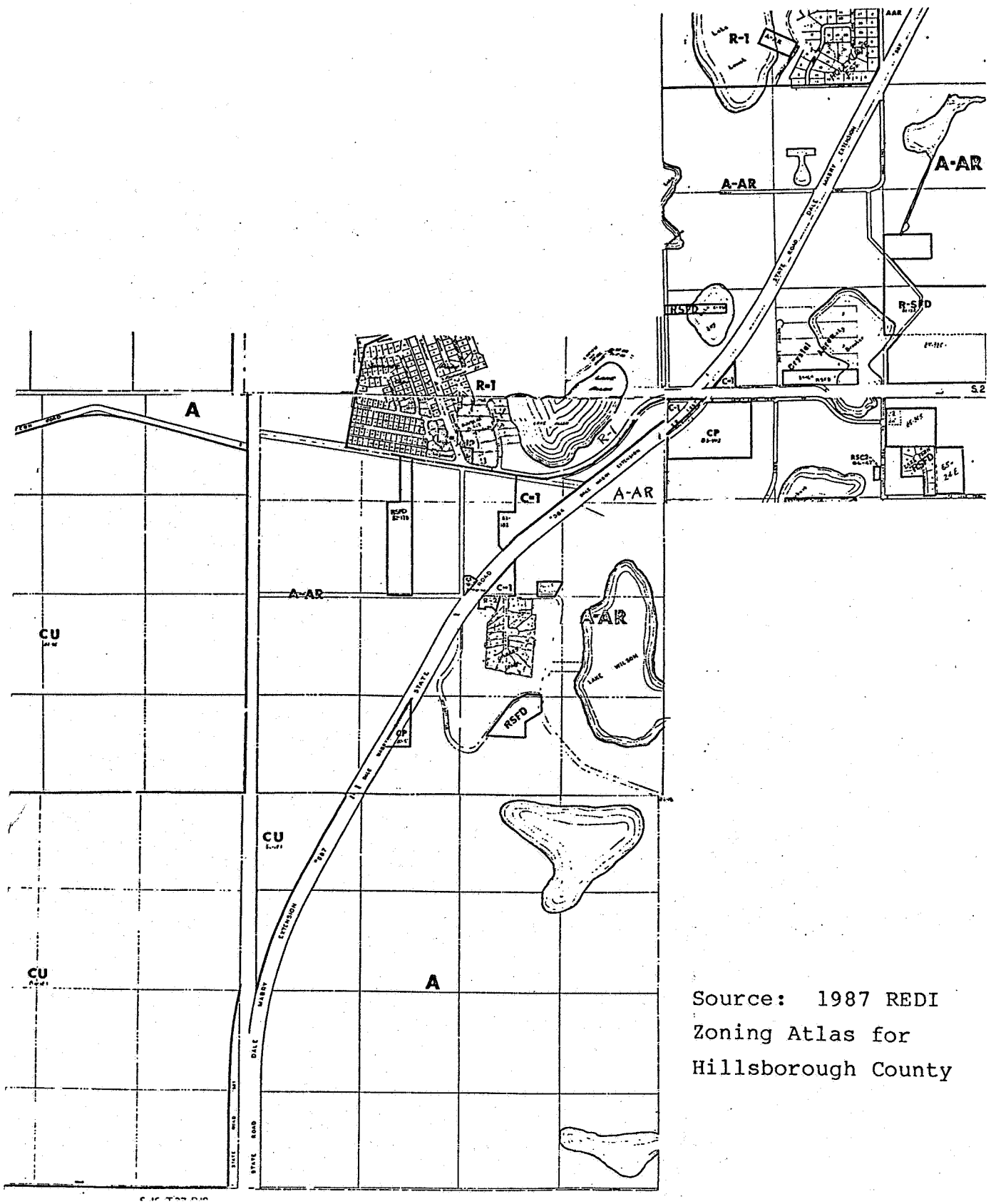
27	Malabar fine sand	0-12	FS	A-3	0-1.0
		12-30	S, FS	A-3, A-2-4	
5	Bassinger	0-7	FS	A-3	+2-1.0
		7-28	S, FS	A-3, A-2-4	
	Holopaw	0-6	MFS	A-3	+2-1.0
		6-52	S, FS	A-3	
	Samsula	0-34	Muck	---	+2-1.0
		38-80	S, FS, LS	A-3, A-2-4	
29	Myakka fine sand	0-20	FS	A-3	0-1.0
		20-30	S, FS, LFS	A-3, A-2-4	
52	Smyrna fine sand	0-12	FS	A-3, A-2-4	0-1.0
		12-20	S, FS, LFS	A-3, A-2-4	0-1.0
61	Zolfo	0-3	FS	A-3, A-2-4	2.0 - 3.5
		3-60	FS, S	A-3, A-2-4	

Sources: Soil Survey Update, Hillsborough County, Florida (interim Report, April 1987) Hillsborough Soil and Water Conservation District. Pasco County, Soil Survey, 1982.

Land Use and Zoning

Existing land use consists of mostly undeveloped land with numerous lakes and wetlands, scattered residences and businesses, and some agricultural lands. There is a higher concentration of businesses near the apex of Dale Mabry with U.S. 41.

Existing zoning for this area is shown in Figure 6. There is a 14.8 acre site in the southeast quadrant at the intersection of Dale Mabry and Lutz Lake Fern which was rezoned to C-P in 1983 (rezoning #83-403) and approved for a neighborhood shopping center (maximum of 110,000 square feet). A revised site plan was approved February 27, 1984, and it shows shops, a drug store, and a supermarket. There has been no development at the site to date however.



Source: 1987 REDI Zoning Atlas for Hillsborough County

FIGURE 6 – EXISTING ZONING

Environmental Factors & Potential 4(f) Lands

As previously mentioned in the report, there are numerous lakes and wetlands in this area of Dale Mabry, some of which will be impacted by proposed construction activities.

At present, there are 28 wetlands identified which may be impacted.

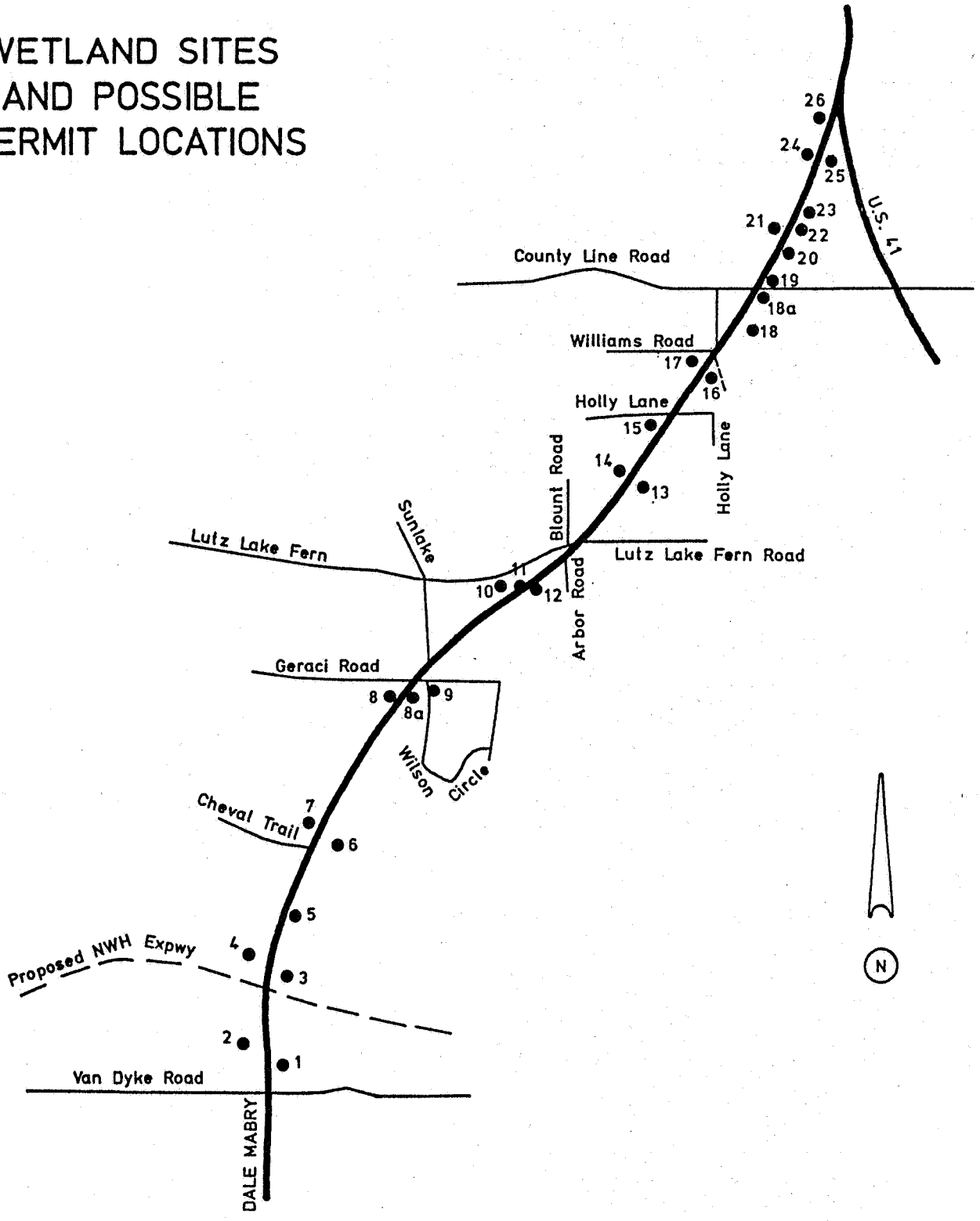
The wetlands are separated into two groups; directly impacted and indirectly impacted. Directly impacted is defined by the filling and/or excavation in the wetland. Filling and/or excavation in close proximity to a wetland which may alter water flow, cause wetland isolation, or cause potential water quality degradation due to storm water runoff are considered indirectly impacted. Seven of the twenty-eight wetlands (sites 1, 2, 3, 4, 7, 9 and 18) would be indirectly impacted by the proposed construction improvement. The remaining twenty-one (21) wetlands will be directly impacted. The locations of these wetland sites are shown on Figure 7.

The sites investigated include: five cypress wetlands greater than two acres, eleven cypress wetlands less than two acres, six scrub-shrub wetlands less than two acres, three grass ponds less than one acre, one remnant willow swamp, and two ditches.

The majority of the encroachments are predominantly within the landward edge of wetlands previously disturbed by the construction of the existing highway. Direct impacts to grass ponds and small cypress wetlands will generally be the complete loss of emergent marsh vegetation within the identified wetlands. All the wetlands investigated have had previous encroachments caused by the construction and maintenance of Dale Mabry. Detailed information on these wetlands including dominant vegetation, probable impacts, and potential mitigation is included in the Environmental Determination Form Package/Categorical Exclusion Document.

There are no known sites in the study area which would be considered "Section 4(f) sites" under the Department of Transportation Act, e.g., significant publicly-owned parks, recreation areas, wildlife and waterfowl refuges or any significant historic sites.

WETLAND SITES AND POSSIBLE PERMIT LOCATIONS



BIOLOGICAL RESEARCH ASSOCIATES, INC. TAMPA, FL 33610	NORTH DALE MABRY FIGURE 7	DESIGNED BY: NJH	PROJECT #: DSA08BRC
		DRAWN BY: DSH	DATE: 23 FEB. 1988
		CHECKED BY: NJH	SHEET ____ OF ____

Traffic Volumes

The average daily traffic in 1987 was estimated to range from 11,000 to 12,000 vehicles per day (VPD). (1988 counts will be available in September, 1988.)

The Department has only one count station (north of County Line Road) in this segment of Dale Mabry. Volumes are believed to be fairly uniform for this segment of Dale Mabry. South of Van Dyke the volumes increase to about 15,000 VPD.

Levels of Service

The existing level of service is estimated to be "D", based on FDOT generalized daily level of service maximum volumes for rural two-lane highways.* There are currently no traffic signals in this segment other than the existing signal at U.S. 41; at Van Dyke Road, a traffic signal was installed as part of the six-laning project (from Waters to Van Dyke) constructed in 1988.

*Source: Bureau of Multi-Modal Systems Planning, Florida Department of Transportation. Issue date: October 27, 1987; valid for use through December, 1988.

Traffic Accidents

Accident statistics were obtained for 1983 through 1986, inclusive (1987 accident statistics were not available at the time of this writing).

A summary of the accident data is included in Table 3.

A comparison of actual accident rates with Statewide averages is given in Table 4.

TABLE 4 - ACCIDENT RATE COMPARISON
(for 4.8 mile segment)

Year	No. Accidents Reported	Accident Rate (Acc/MVM)	Statewide Average Rate	Comparison to Statewide Average Rate
1983	30	1.8	1.7	6% higher
1984	35	2.0	1.3	54% higher
1985	34	1.9	1.3	96% higher
1986	38	2.0	1.0	100% higher

Probable factors contributing to these high rates include the high operating speeds, horizontal curves, lack of lanes for passing and lack of street lighting.

TABLE 3 - ACCIDENT STATISTICS FOR NORTH DALE MABRY

Segment: North of Van Dyke to Pasco County Line (3.5 miles; MP 9.300 - 12.767)

	1983	1984	1985	1986
Reported No. of Accidents	24	29	29	33
Reported No. of Injuries	15	37	33	34
Reported No. of Fatalities	1	4	0	0
Economic Loss ($ millions)	0.39	1.2	0.34	0.35

Segment: Pasco County Line to U.S. 41 (1.3 miles; MP 0.000 - 1.263)

Reported No. of Accidents	6	6	5	5
Reported No. of Injuries	1	5	4	6
Reported No. of Fatalities	0	0	0	0
Economic Loss ($ millions)	0.019	0.051	0.039	0.059

Totals for Both Segments (4.8 miles)

Reported No. of Accidents	30	35	34	38
Reported No. of Injuries	16	42	37	40
Reported No. of Fatalities	1	4	0	0
Economic Loss ($ millions)	0.41	1.25	0.38	0.41

4. PROJECTED CONDITIONS (YEAR 2010)

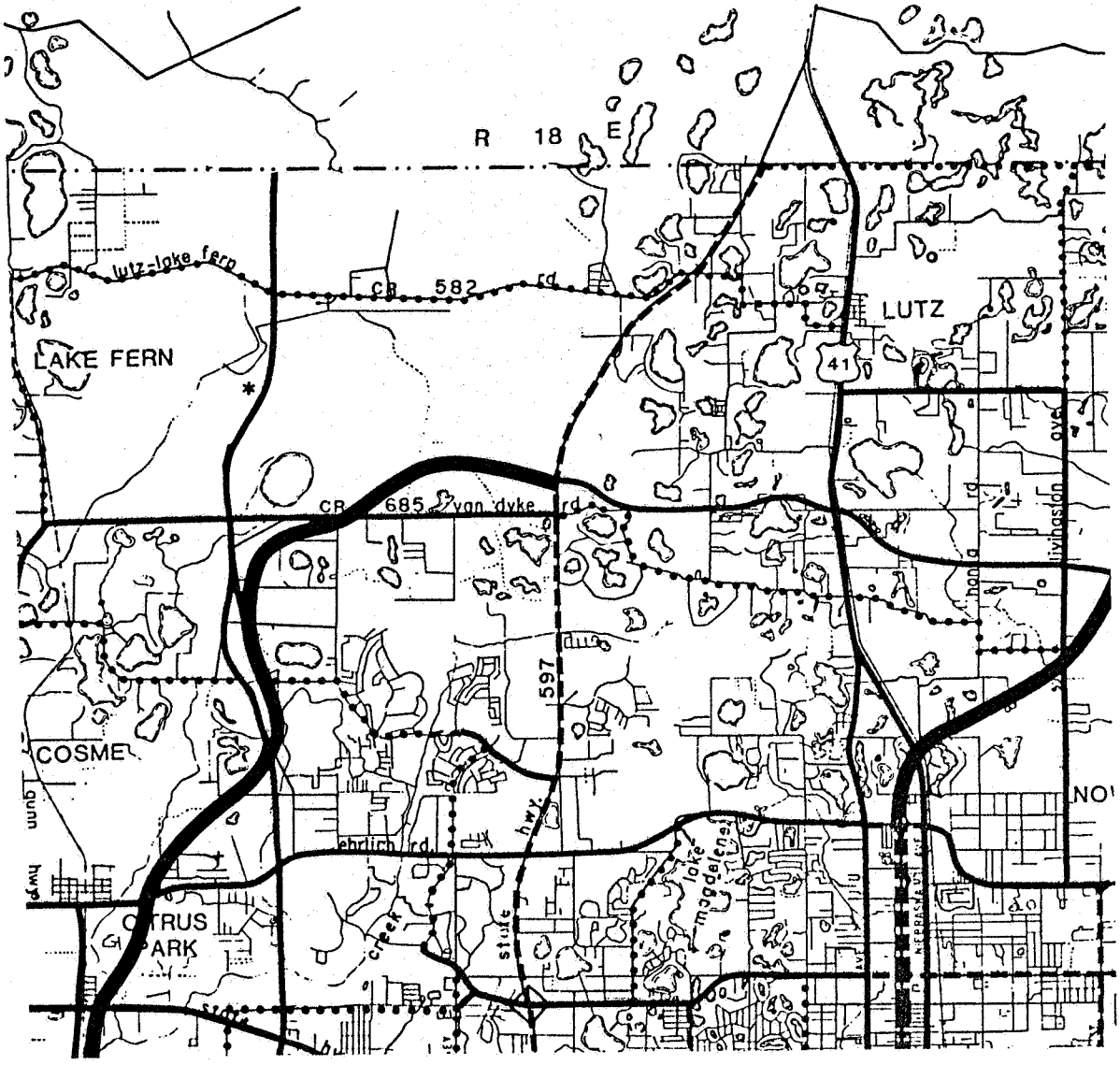
Future Traffic Demand

The maximum Year 2010 projected demand for this segment of Dale Mabry is 31,000 VPD (with the proposed NWH Expressway or 28,000 VPD without the expressway for this segment of Dale Mabry). This demand is expected to increase by another 6,000 ± VPD during the reconstruction of I-275/I-4 in Tampa as a result of traffic diversion, resulting in a total maximum demand of 37,000 VPD.

Appendix B from the Traffic Report gives systems traffic for various future years. Subsequent to the publishing of the systems traffic and approval by the Department, revisions were made to the volumes at the intersection of Dale Mabry and Lutz Lake Fern because the original projections didn't include volumes for the eastern leg of the intersection. These revised volumes are also included in Appendix B.

Future Street and Highway Network

A portion of Tampa Urban Area Metropolitan Planning Organization's (MPO) Year 2010 Street and Highway Plan is reproduced in Figure 8. On July 18, 1989, the plan was revised to re-designate the segment of Dale Mabry Highway between Van Dyke and U.S. 41 as a future four-lane expressway with two-lane frontage roads consistent with FDOT's proposed improvements.



Note: MPO's plan was revised in July, 1989, to designate Dale Mabry as a four-lane "partial access control" facility north of Van Dyke. (Their map hasn't been revised yet to reflect the change.)

LEGEND

FREEWAYS and EXPRESSWAYS

- 8 LANE OR MORE
- 6 LANE
- 4 LANE

ARTERIALS and COLLECTORS

- 8 LANE
- 6 LANE DIVIDED
- 4 LANE DIVIDED
- 4 LANE
- 2 LANE

Rev. 8-22-89

FIGURE 8 – MPO'S TUATS YEAR 2010 HIGHWAY PLAN

DALE MABRY HIGHWAY

Capacity Analysis for Year 2010 Demand

Capacity analysis was performed using Year 2010 projected demand to estimate future probable levels of service. The planning methodology of the 1985 Highway Capacity Manual (TRB Special Report No. 209) was used, and Table 6 from TRB Circular No. 212 was used to estimate "levels of service". The results of this analysis are included in Figure 9. For the purposes of this analysis, a four-lane divided arterial highway is assumed, with geometry of major (signalized) intersections as shown in the figure. Based on this analysis of intersections, a four-lane divided arterial would be expected to operate quite well.

Using the latest FDOT generalized level of service tables, and assuming a traffic signal at County Line Road (resulting in an average signal spacing of about 1.1 miles), the facility as a whole would be expected to operate at LOS C/D*.

Future Land Use

A portion of the latest long-range land use plan for Hillsborough County is included in Figure 10. (This plan is currently undergoing review and modification as part of the development of the County's Comprehensive Plan, which is to be completed by February, 1989).

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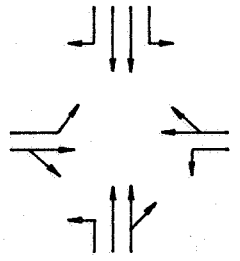
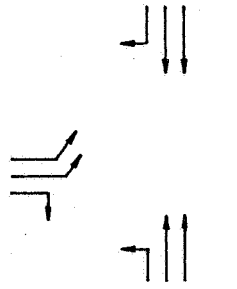
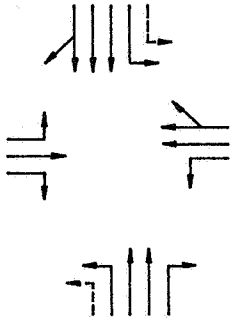
*Two-Way minor arterials, 1 signal per mile, 4 lanes

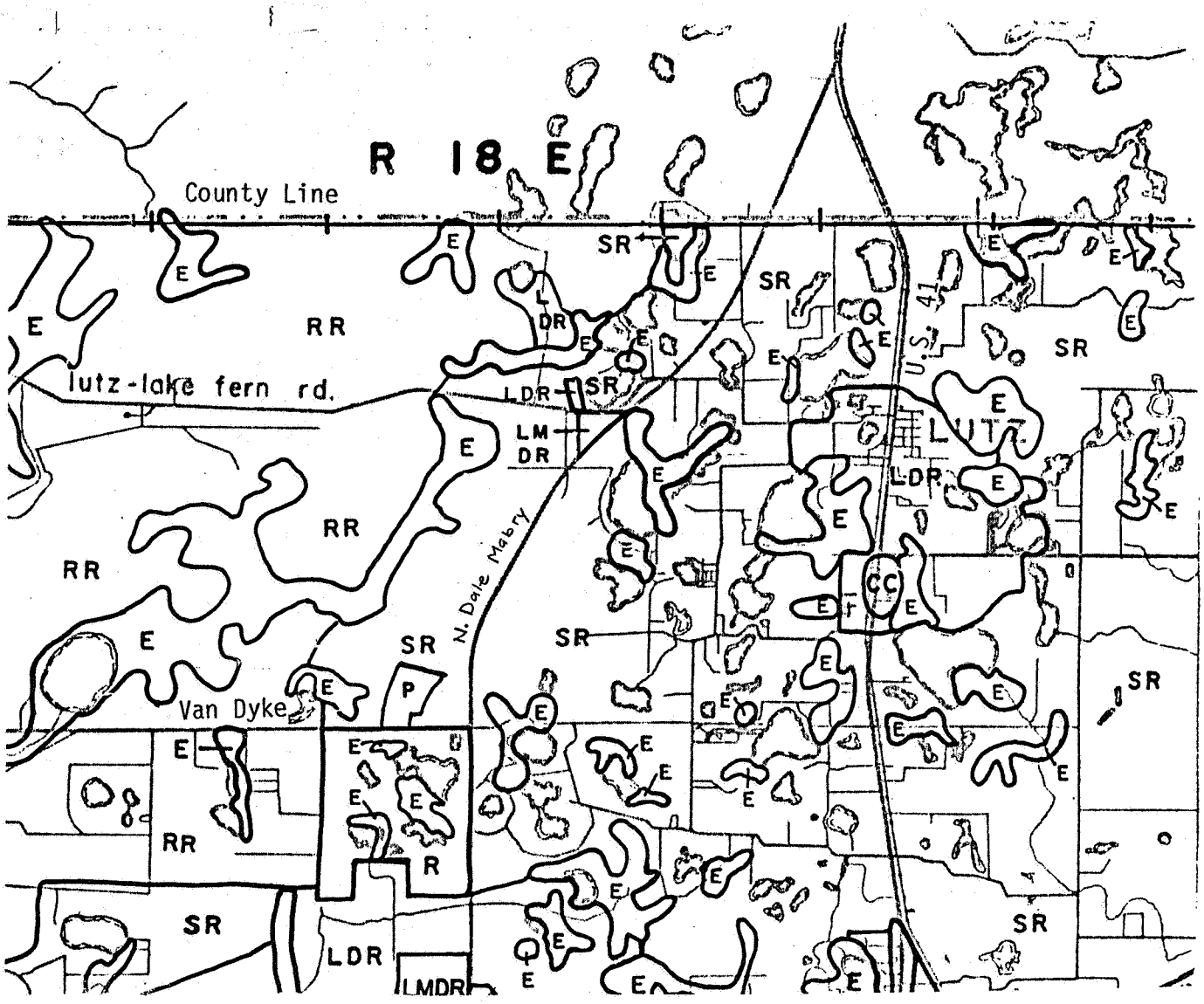
INTERSECTING STREET	ASSUMED GEOMETRY	YEAR 2010 PROBABLE LEVEL OF SERVICE [1]	3-11-88 COMMENTS
U.S. 41	—	—	Evaluated by FDOT as part of U.S. 41 PD&E study
County Line Road	—	—	Turning movement projections were not available
Lutz Lake Fern		LOS C (Planning critical sum = 1014–1063 vehicles)	Lutz–Lake Fern designated as two–lane collector in TUATS 2010 plan
NWH Expressway		LOS B (Planning critical sum = 740–902)	This portion of the NWH Expressway is currently under design
Van Dyke Rd.		LOS B (Planning critical sum = 896–899)	North & South approaches are currently under construction as part of 6–laning job. Van Dyke to be 4 lanes west of Dale Mabry & 2 lanes east of Dale Mabry according to TUATS 2010 plan

1. Based on TRB Circular #212 planning applications methodology

--- Recommended for future construction when warranted by volumes; median width on Dale Mabry will be sufficient

FIGURE 9 – FUTURE INTERSECTION GEOMETRY AND LEVELS OF SERVICE

DALE MABRY HIGHWAY



Legend: SR= Suburban Residential (2 du/gross acre)

E= Environmentally Sensitive Areas
LMDR= Low-Medium Density Residential (12 du/gross acre)
RR= Rural Residential (1 du/gross acre)

SOURCE: Hillsborough County City County Planning Commission

Map (Revised 2-3-88)

FIGURE 10 - LONG RANGE LAND USE PLAN MAP

DALE MABRY HIGHWAY

A review of Figure 10 shows that areas contiguous to North Dale Mabry are currently designated to be mostly "suburban residential" (maximum of one dwelling unit per gross acre); however, there are a number of parcels currently zoned commercial as previously shown in Figure 6.

Although this area is predominantly rural in nature at present, this is expected to change rapidly in the next few years due to new developments either under construction or planned, including:

- o Proposed Northwest Hillsborough Expressway
- o Calusa Trace Subdivision (west side of Dale Mabry, north of Van Dyke)
- o Cheval Polo & Golf Club (west side of Dale Mabry, north of Calusa Trace

- o St. Joseph's Hospital (satellite facility planned on Van Dyke west of Dale Mabry)
- o A regional shopping center proposed for the east side of Dale Mabry, north of Van Dyke (this is currently in the rezoning and DRI process)

5. NO-PROJECT ALTERNATIVES

The following sections introduce the no-project alternatives, which include the no improvement alternate, postponing the action, transit as an alternative mode, and upgrading facilities in other corridors.

No Improvement Alternate

A substantial transportation demand exists along Dale Mabry today, and it is projected to significantly increase over the next 25 years even with the construction of the proposed NWH Expressway. Traffic demand is expected to range from 28,000 to 31,000 vehicles per day on this segment of Dale Mabry by the year 2010. Maximum capacity of a two-lane rural highway would be approximately 23,000 vehicles per day (VPD)*. Therefore, approximately 5,000 to 8,000 VPD would have to be diverted to other facilities. Moreover, at maximum capacity, Dale Mabry Highway traffic would be operating at speeds equal to or less than 15 miles per hour. Congestion would increase travel times for motorists, resulting in increased fuel consumption, higher levels of air pollutants, and greater delays for emergency services, as well as higher numbers of accidents.

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* Based on FDOT generalized daily level of service maximum volumes for rural two-lane highways (October 27, 1987 issue date)

Conversely, if the project is not constructed, there would be no displacement of families or businesses, no wetland impacts would occur, construction impacts would not occur, right-of-way would not have to be acquired, and funds would not have to be expended. However, these seemingly beneficial attributes of not constructing an improved facility would be only at the expense of increased adverse impacts resulting from congestion.

Postponing the Action

Postponing major upgrading of Dale Mabry Highway would, depending on the length of postponement, have impacts similar to the no-improvement alternative.

Postponing the action may also jeopardize the future economic feasibility of the project. Based on current escalation of construction costs, project costs would double within 15 years.

Transit as an Alternative Mode

The Tampa Urban Area Transportation Study has indicated that 4.2 percent of the person trips within a one-half mile service area of transit routes in Hillsborough County will be using mass transit by the year 2000. This indicates that transit usage would not be sufficient to serve as an alternative to upgrading and improving Dale Mabry Highway.

Alternative Corridors

Alternate corridors were not considered feasible due to the extensive wetland systems in the area and the need to maintain direct linkage between the project terminii (Dale Mabry south of Van Dyke and U.S. 41 in Pasco County, respectively). There are no parallel routes in the vicinity of North Dale Mabry Highway in this area which could be used as alternate corridors.

6. VAN DYKE TO PROPOSED NORTHWEST HILLSBOROUGH EXPRESSWAY

The proposed Northwest Hillsborough Expressway is projected to intersect Dale Mabry Highway approximately 0.36 miles north of Van Dyke; in addition, Hillsborough County is currently planning an arterial highway "extension" of the expressway east of Dale Mabry, which would tie into Van Dyke (although no construction is planned within five years.)

At the present time, a segment of Dale Mabry between Van Dyke Road and Cheval Trail (approximately one mile north of Van Dyke) is being designed as a four-lane divided rural highway as shown in Figure 11. The proposed 34 ft. median is designed to be compatible with the Dale Mabry six-laning project currently under construction in the vicinity of and south of Van Dyke. (The figure also illustrates how the roadway could eventually be upgraded to a six-lane arterial at some later date). Stormwater runoff is proposed to be attenuated and treated in ditches by utilizing a combination of berms and ditch blocks.[1]

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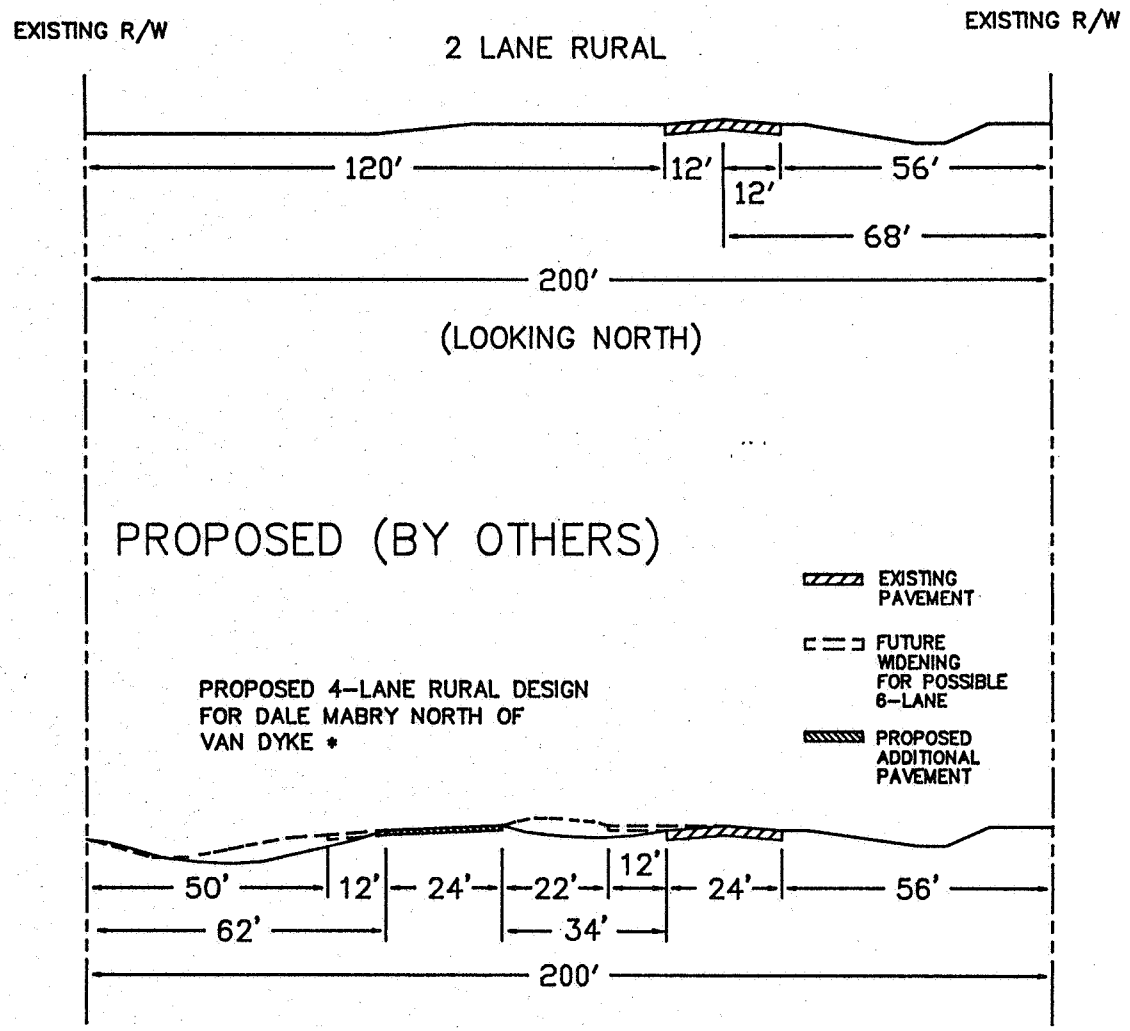
[1]Based on a conversation with David Harvey of Piercefield, Amaden & Associates, Inc., on March 25, 1987.

EXISTING TYPICAL SECTION



* BASED ON CALUSA TRACE'S PROPOSED 4-LANE TYPICAL SECTION NORTH OF VAN DYKE AND FDOT'S PROPOSED 6-LANE DESIGN SOUTH OF VAN DYKE

SCALE: 1=40'

FIGURE II - TYPICAL SECTIONS, VAN DYKE TO N.W. EXPRESSWAY

DALE MABRY HIGHWAY

This construction is proposed to be funded by a private developer as a condition of a development order associated with Calusa Trace, a large mixed-use development of regional impact (DRI) to be built west of Dale Mabry, north of Van Dyke.

In March of 1988 the consultant designing this portion of Dale Mabry was directed by the Department to modify their design to transition their proposed median width from 34 feet to 57 feet so that their design will be compatible with planned improvements north of the proposed Northwest Expressway.

7. DEVELOPMENT AND EVALUATION OF ALTERNATE DESIGNS, NORTHWEST HILLSBOROUGH EXPRESSWAY TO U.S. 41

INITIAL ALTERNATIVES CONSIDERED

Four Lane Rural VS. Limited Access

Two types of design concepts were initially* studied for this segment of Dale Mabry:

- o A four-lane divided rural design (similar to bottom typical section in Figure 11)
- o A four-lane divided limited access mainline with two-way, two-lane frontage roads (designed to be constructed within existing 200' right-of-way)

The first alternative would utilize the existing two-lane roadway as the two northbound lanes; a new two-lane roadway would be constructed west of the existing roadway to serve southbound traffic. A minimum four foot paved shoulder would be provided on the outside of each roadway to serve bicyclists. The estimated cost in 1985 dollars was approximately $7.5 million (for the entire 4.6 mile length between Van Dyke and U.S. 41).

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*For the first draft Engineering Alternatives Report, submitted in August, 1986.

The second alternative would provide a controlled access design. Two-way frontage roads were recommended for the reasons given in the following section. The cost of the four-lane urban design was estimated at approximately $27 million, including one million dollars for right-of-way. Additional right-of-way is required at the intersections of the frontage roads with major streets crossing Dale Mabry due to the proposed two-way operation of the frontage roads. In addition, approximately 22 acres of right-of-way for stormwater detention and treatment would be required at a cost of $7.4 million, for a total cost of about $35 million.

Two-way Versus One-Way Frontage Roads

Each system has certain advantages and disadvantages, which are summarized below:

One-Way Frontage Roads

Advantages	Disadvantages
o Well suited to urbanized areas with developed street network and parallel facilities.	o In areas without parallel facilities, increased vehicle miles of travel and inconvenience to local residents as well as increased response time for emergency vehicles.
o Good operation at interchanges (with grade separations) due to compact design possibilities and simplified signal phasing	o Potential operational and safety problems at at-grade intersections due to turn conflicts between mainline and frontage road traffic
o Requires less right-of-way at interchange areas and for typical section	o In North Dale Mabry area, these would result in a significant change in travel patterns for "local" residents resulting in probable dissatisfaction as well as a probable Environmental Impact Statement need

Two-Way Frontage Roads

Advantages	Disadvantages
o Well suited to rural areas where parallel facilities either don't exist or aren't likely to be developed	o Require more right-of-way in interchange areas or other major intersection areas since the frontage roads must flare out away from the main facility to prevent intersection operational and safety problems
o Less disruption to existing travel patterns; for example, residents contiguous to Dale Mabry wishing to go north or south wouldn't be forced to go in the direction opposite of the desired one (in some cases)	o Potential problem of headlight glare at night; glare screens may be required

Two-Way Frontage Roads are recommended for the following reasons:

- Less inconvenience (fewer vehicle miles of travel) for affected residents than with one-way frontage roads
- The need for future additional intersections and/or median U-turn provisions would be minimized.
- Better average response time for emergency services
- Since interchanges aren't likely in the foreseeable future, fewer operational problems would result at the at-grade intersections than with one-way frontage roads (unless the one-way frontage roads were also to flare out away from the main facility)
- The additional right-of-way required at the major intersection/interchange areas can be utilized for stormwater detention/wetlands mitigation
- Less potential for controversy with the affected residents, less disruption of travel patterns, and lower probability of the determination by FHWA of the need to prepare an E.I.S.

Due to the extensive wetland systems contiguous to Dale Mabry in this area, it is highly unlikely that alternate roadways parallel to Dale Mabry will ever be constructed (as would be required for a one-way frontage road system.)

CONTROLLED ACCESS ALTERNATIVES

Subsequent to the submittal of the initial alternatives report draft, a policy decision was made by the Department's Tampa Bay Urban Office to select an alternative including frontage roads as a part of the ultimate typical section, for the portion of Dale Mabry between the proposed NW Expressway and U.S. 41 in Pasco County. This policy decision was based on the following factors:

- Frontage roads are required to protect the utility of the highway and to protect the Department's investment in the facility.
- The segment of Dale Mabry north of the NW Expressway is planned to be utilized as part of a detour route to be used during the reconstruction of I-275 through Tampa, projected to occur in the early 1990's. The planned detour would utilize portions of: County Road 54 in Pasco County, Dale Mabry Highway, and the NWH Expressway. Approximately 6,000 vehicles per day are expected to be diverted to Dale Mabry as a result of this construction.

For all alternates, the frontage roads are proposed to begin immediately north of the Northwest Expressway and terminate south of U.S. 41 in Pasco County. For the 1/3 mile $\pm$ segment of Dale Mabry between Van Dyke and the proposed Northwest Expressway, a four-lane rural typical (expandable to ultimate six lanes) is currently under design, with no plans for incorporating frontage roads along this segment.

In addition to the use of frontage roads, other criteria considered in the selection of plausible alternatives included:

- Ability to stage-construct (to initially construct a four-lane roadway and later add the frontage roads).
- Minimizing impacts to the numerous wetlands in this area.
- Minimizing relocations of homes and businesses.
- Minimizing construction and right-of-way costs.

Six Lane Ultimate Stage Typicals

Initially, all typical sections evaluated with frontage roads included an ability to expand the mainline section from four to six lanes by adding additional pavement in the median. One such alternate utilizing urban typical sections is included in Figure 12. The figure illustrates three of the stages, which are described below:

The first stage would consist of construction of two southbound lanes with double-ditches on the west side of Dale Mabry. (The double ditch system would prevent co-mingling of stormwater runoff from the pavement with runoff from the adjacent land). Additional right-of-way would be required for a future ditch on the east side as well as for future stormwater detention areas and areas for wetlands mitigation. In addition, additional right-of-way would be needed in the vicinity of intersections of the frontage roads with major streets crossing Dale Mabry.

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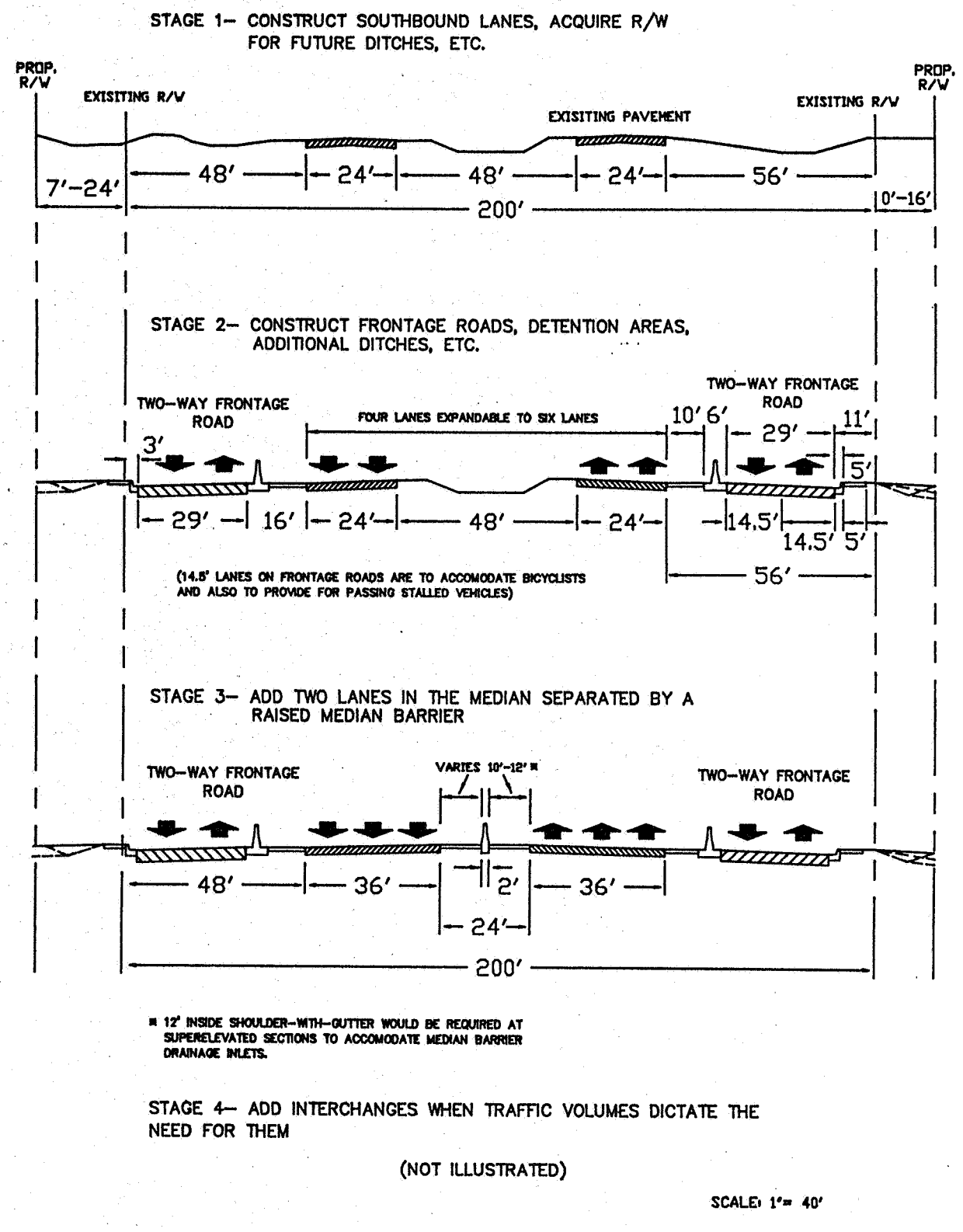

FIGURE 12 - FOUR-LANE EXPANDABLE TO SIX-LANE CONTROLLED ACCESS ALTERNATE

DALE MABRY HIGHWAY

Stage 2 would consist of construction of the two-way frontage roads including their intersections with streets intersecting Dale Mabry. Stormwater detention areas would be constructed as well as a ditch on the east side of Dale Mabry. (The need for these outside ditches with urban sections as well as other design details is explained later.)

Stage 3 would involve construction of two additional lanes in the median and the addition of a raised barrier wall, when the need for the expansion became warranted based on increased traffic volumes.

Stage 4 would consist of adding interchanges (grade separations) at major intersections, e.g. at NW Expressway, Lutz-Lake Fern, County Line Road, etc.

Four-Lane Ultimate Stage Typicals

In June, 1987, the Department decided to limit the ultimate mainline section to four lanes. This decision was based on the objective of minimizing right-of-way acquisition as well as the reasoning that sufficient roadway capacity would be available by ultimately adding interchanges at the major intersections, resulting in a four-lane expressway or freeway.

Several limited access alternates were considered utilizing various combinations of rural and urban drainage. In addition, an attempt was made to utilize all or part of the existing two-lane pavement in the ultimate typical section.

Figure 13 illustrates a concept utilizing rural mainline and frontage roads with various alignments. Total right-of-way required varies from 332' to 350' depending on the alignment selected.

Figure 14 is a variation on the above design by incorporating curb and gutter on the frontage roads in order to reduce the cross section width requirements. Total right-of-way varies from 320' to 336' depending on the alignment selected.

Figure 15 illustrates an alternate utilizing urban mainline and frontage roads. This latter typical section is discussed in detail in a subsequent section and chapter.

COMPARISON OF CONTROLLED ACCESS ALTERNATIVES

Initial Screening

The above three alternatives were screened for community impacts (right-of-way requirements and relocations) and impacts to lakes and wetlands. As evident from drainage maps of the area (Figure 4), the area between Van Dyke and U.S. 41 is characterized by numerous lakes and wetlands. Most of the wetlands are wooded with cypress. According to Executive Order 11990, new construction in wetlands is to be avoided unless there is no practicable alternative, and the proposed project must include all practicable alternatives to minimize harm to wetlands.

Table 5 includes a comparison of the above three alternates with respect to right-of-way requirements, relocations and wetland impacts. As noted in the table, it was assumed that all of the

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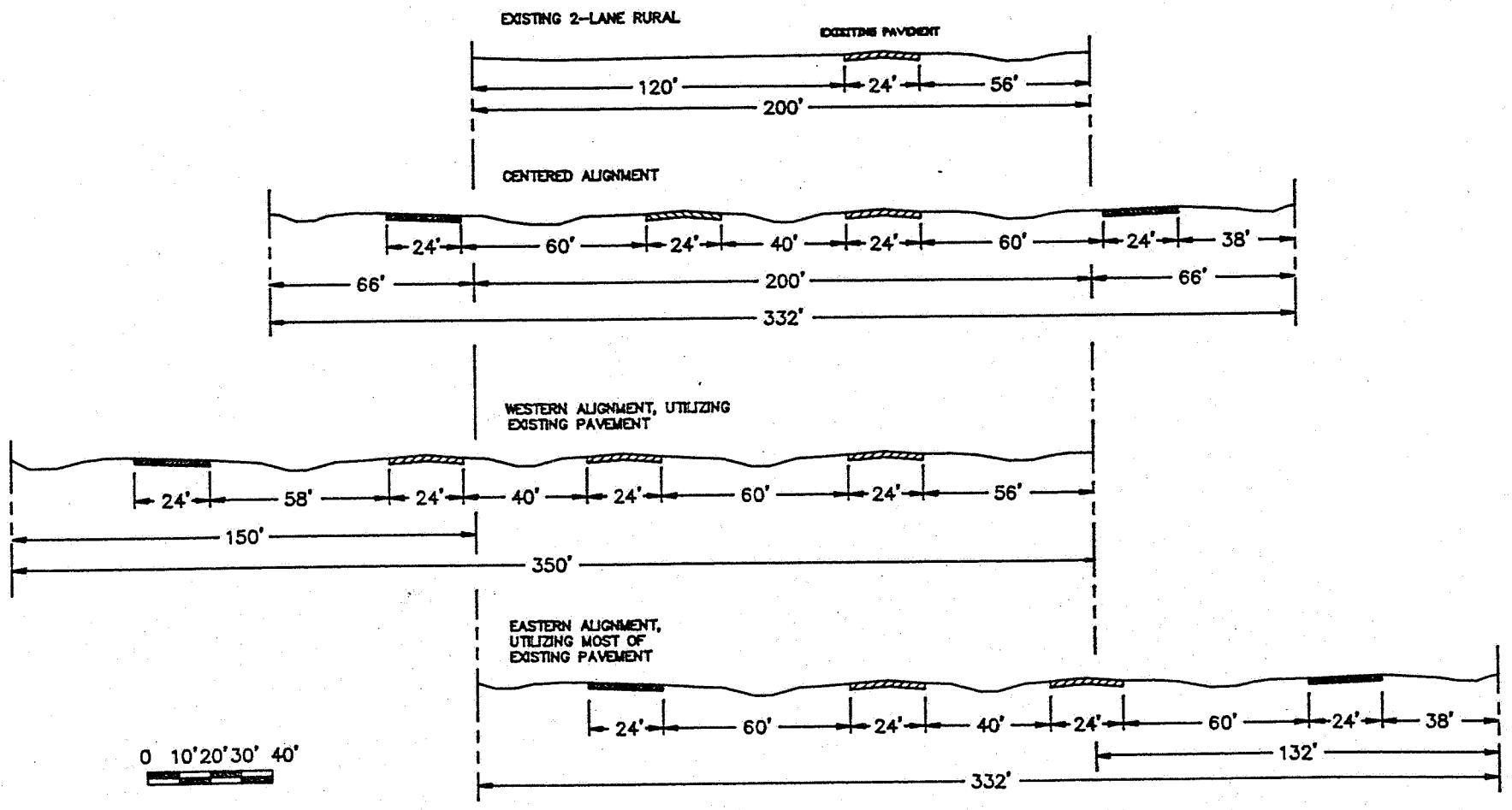


FIGURE 13 - 4-LANE RURAL WITH RURAL FRONTAGE ROADS ALTERNATE

DALE MABRY HIGHWAY

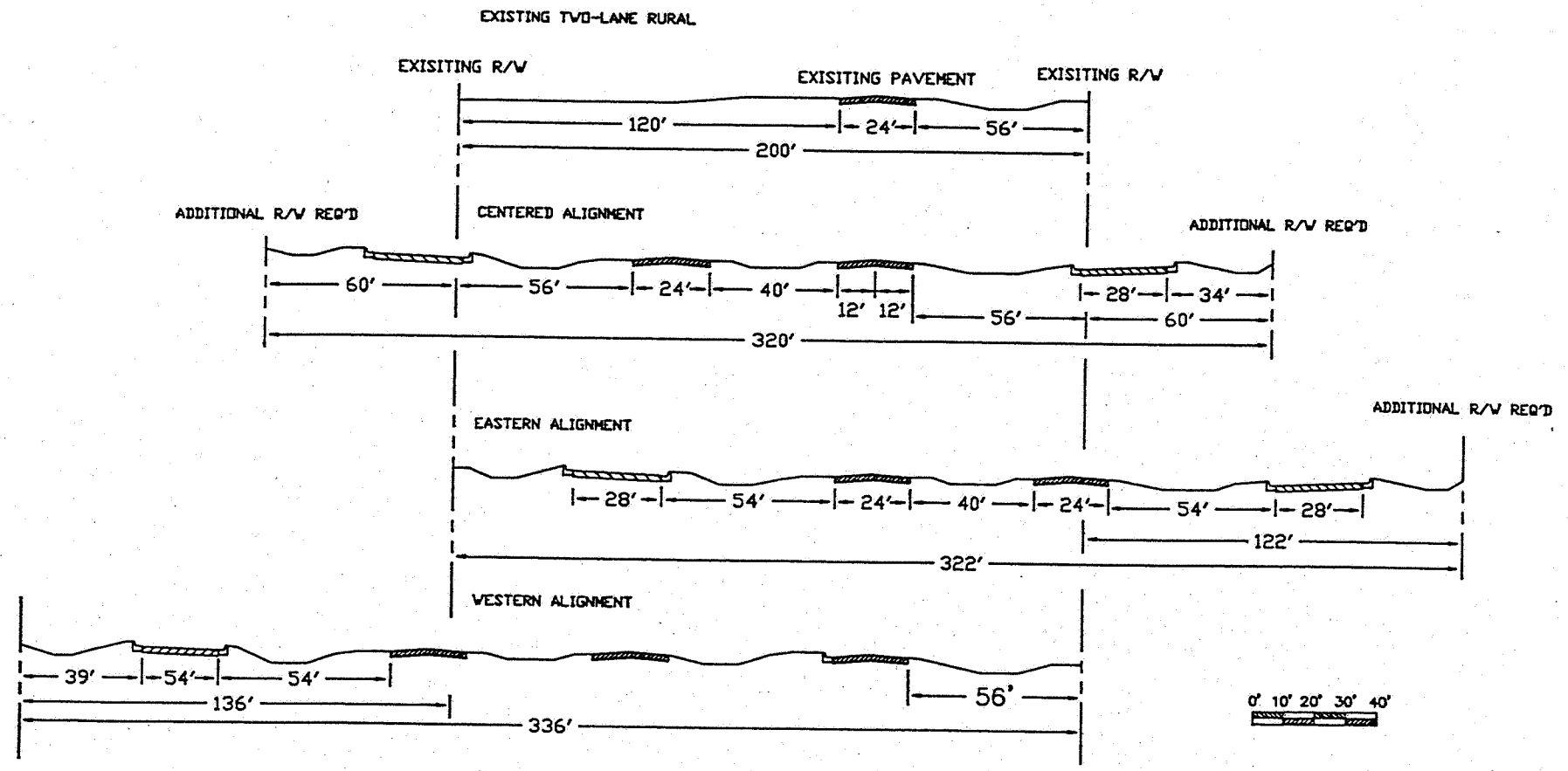


FIGURE 14 - 4-LANE RURAL WITH "URBAN" FRONTAGE ROADS ALRERNATE

DALE MABRY HIGHWAY

FOUR LANE "EXPRESSWAY" WITH
FRONTAGE ROADS AND POSSIBLE
STAGE CONSTRUCTION

SCALE: 1"= 40'

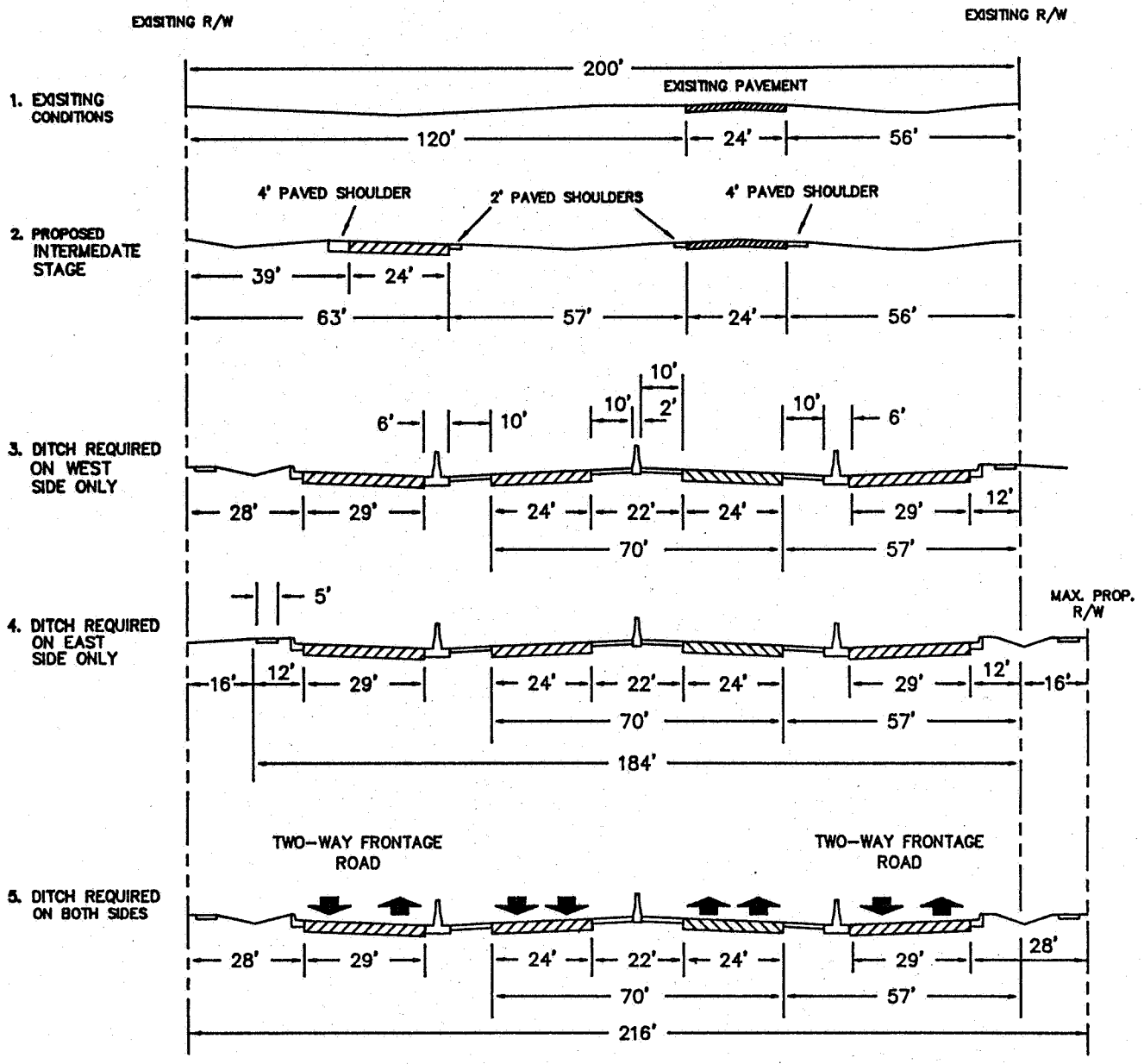


FIGURE 15 - . 4-LANE URBAN WITH URBAN FRONTAGE ROADS ALTERNATE

DALE MABRY HIGHWAY

TABLE 5 - SCREENING OF ALTERNATIVES FOR COMMUNITY AND WETLAND IMPACTS

Limits Used In Comparison: North of Prop. NW Expressway to south of U.S. 41 (1)
(Sta. 1091 to Sta. 1280, approximately 3.6 miles)

Limited Access Alternate	Alignment Evaluated	Additional Right-of-Way West	Additional Right-of-Way East	Total (2) R/W Width	Addit. R/W (3) (acres)	Total Est. # Relocations Res.	Total Est. # Relocations Bus.	Total Est. # Relocations Total	Approx. Acres of Lakes & Wetlands Lost Exist. R/W	Approx. Acres of Lakes & Wetlands Lost New R/W	Approx. Acres of Lakes & Wetlands Lost Total	Addit. (4) R/W for Wetlands Mitigation & Atten. (acres)	Total Addit. R/W Required (acres)
4-Lane Rural w/ Rural Frontage Roads	Centered	66'	66'	332'	58	5	8	13	13	7.2	20.2	30	88
	Eastern	--	132'	332'	58	1	6	7	13	5.9	18.9	27	85
	Western	150'	--	350'	65	4	2	6	13	12.2	25.2	40	105
4-Lane Rural w/ "Urban" Frontage Rds.	Centered	60'	60'	320'	52	4	8	12	13	6.4	19.4	28	80
	Eastern	--	122'	322'	53	1	6	7	13	5.2	18.2	26	79
	Western	136'	--	336'	59	4	2	6	13	10.9	23.9	37	96
4-Lane Urban w/Urban Frontage Roads	East Side (for ditch only)	--	16'	216'	7.0	0	1	1	13	--	13.0	32	39

(1) Due to the heavy commercial development north of Station 1280, it was assumed that all alternatives would have to transition to an urban typical section by the time Station 1280 is reached; therefore, the comparison only goes to Station 1280 on the north end, which is approximately 0.36 miles south of U.S. 41.

(2) Typical width exluding major intersection (future interchanges) areas; width would actually be less adjacent to wetland areas. All proposed R/W requirements are preliminary and subject to revision during the design stage.

(3) Excludes additional R/W required at major intersections and additional R/W required for wetlands mitigation and stormwater detention and treatment.

(4) Based on 2:1 ratio for wetlands mitigation; area for stormwater attenuation also included for the urban alternative.

alternatives would transition to an urban section near the north end of the study area due to the heavy existing commercial development in the vicinity of U.S. 41.

It is evident from the table that an urban typical section would minimize the number of relocations, acres of right-of-way required, and damages to wetlands. Even with the urban section, approximately 13 acres of wetlands would be lost or severely damaged as a result of construction due to the presence of wetlands within the existing 200' right-of-way.

Cost Comparison and Recommendation

Following the initial screening, a more detailed comparision was made, including costs, of the first and third alternates (rural typical vs urban typicals, respectively). The results of this comparsion are included in Table 6. The urban typical section is projected to be slightly less expensive when both right-of-way and construction costs are included.

Based on the following factors, the consultant recommended to the Department that the urban typical section alternate (for the ultimate stage) be selected as the preferred alternate:

(1) Potential overall cost savings (with a greater savings should R/W acquisition for the ultimate design be delayed);
(2) Impacts to welands would be minimized; and
(3) Displacement of residences and businesses would be minimized.

TABLE 6 - RURAL VS. URBAN TYPICALS
(For a 3.6 Mile Segment)
Rural Vs. Urban Ultimate Typical Sections
With Two-Way Frontage Roads

Alternate	Additional R/W Required	Additional R/W(acres)			Millions of Dollars		
		Mainline	Mit. & Atten.	Sum	Est. R/W & Reloc. Cost[1]	Est. Constr. Cost[2]	Total Est. Cost
4-Lane Rural w/Rural Frontage Roads (Eastern Alignment)	132' ±	58	27	85	$9.5	$ 6.2	$15.7
4-Lane Urban w/Urban Frontage Roads	16' ±	7	32	39	$4.0	$10.5	$14.5
			Difference		$5.5	$ 4.3	$ 1.2

1 Based on raw land costs of $1.50/SF for land fronting Dale Mabry and $0.75/SF for set back areas (e.g. wetlands mitigation and stormwater detention areas).

2 Provided by FDOT from their LRE program; engineering costs not included.

Each of these factors is discussed in greater detail as follows:

(1) Land prices are expected to escalate significantly due to development planned and currently underway, including the proposed Northwest Hillsborough Expressway, Calusa Trace, Cheval, and the planned regional mall north of Van Dyke. An urban ultimate typical section will minimize right-of-way requirements and costs, as shown in the previous Table. This expected savings in right-of-way costs is enough to offset the higher construction costs associated with the urban construction. In addition, the earlier that this land is acquired, the greater will be the savings in R/W costs.

(2) Based on presidential Executive Order 11990 ("Protection of Wetlands"), the FHWA has established a policy that "new construction in wetlands shall be avoided unless there is no practicable alternative to the construction..." According to the wetlands chapter of the FDOT PD & E Guidelines Manual, "some additional costs would normally be recognized as necessary and justified to meet national wetlands policy objectives." (In this particular case it is believed that the least costly alternative also minimizes impacts to wetlands.) Based on an informal field meeting with various permit review agencies (see Appendix, page C-1), it is believed that a rural typical section (for the ultimate stage) would present potential problems with environmental permitting.

(3) An urban ultimate typical would result in an estimated one relocation while a rural typical section would displace a minimum of seven (7) residences and businesses and a maximum of 11 or 12 relocations, if the rural section were carried all the way to U.S. 41 on the north end. These estimates are for an east-side widening only; the relocations would be nearly double this for a symmetrical widening.

In December 1987, after reviewing both the consultant's recommendation and the FDOT Value Engineering Team's recommendation for a rural ultimate typical section, the Department selected the urban typical section as the preferred alternate for the ultimate stage.

In March and April of 1988, minor revisions were made in the urban ultimate typical sections as follows:

- Ten-foot shoulders were added to the frontage roads adjacent to the barrier walls due to concerns related to safety.
- The northbound mainline pavement was shifted one foot to the east to exactly line up with the existing two-lane pavement (this resulted in one foot additional maximum right-of-way to be acquired, i.e., 17' instead of 16').
- Other minor adjustments were made to the proposed sidewalk width and placement, lane widths on frontage roads, etc.

All of the above changes are reflected in the revised typical section illustrated in Figure 16 (in the next chapter). This revised typical section is discussed more fully in the next chapter.

8. RECOMMENDED BUILD ALTERNATE

Introduction

The recommended alternate is shown in Figure 16 along with a possible staging plan. This typical would apply only to the area between the proposed NW Expressway and U.S. 41. The ultimate typical section consists of a four-lane limited access "expressway" with major intersections at-grade initially, to be eventually replaced with interchanges. Two-lane frontage roads are also proposed as part of the ultimate design; these would initially operate as two-way roadways (to eventually be converted to one-way frontage roads at the time that interchanges are constructed.)

Design Speed and Vertical and Horizontal Alignment

Recommended design speeds are 70 mph for the four-lane limited-access portion and 45 mph for the frontage roads.

Minimum radii of 300' are proposed for horizontal curves on the frontage roads in the vicinity of intersections, unless infeasible due to other constraints.

The proposed vertical alignment would closely follow existing alignment for the interim stage, and portions of the southbound lanes would be utilized as part of the west-side frontage road in the ultimate stage typical section.

FOUR LANE "EXPRESSWAY" WITH
FRONTAGE ROADS AND POSSIBLE
STAGE CONSTRUCTION

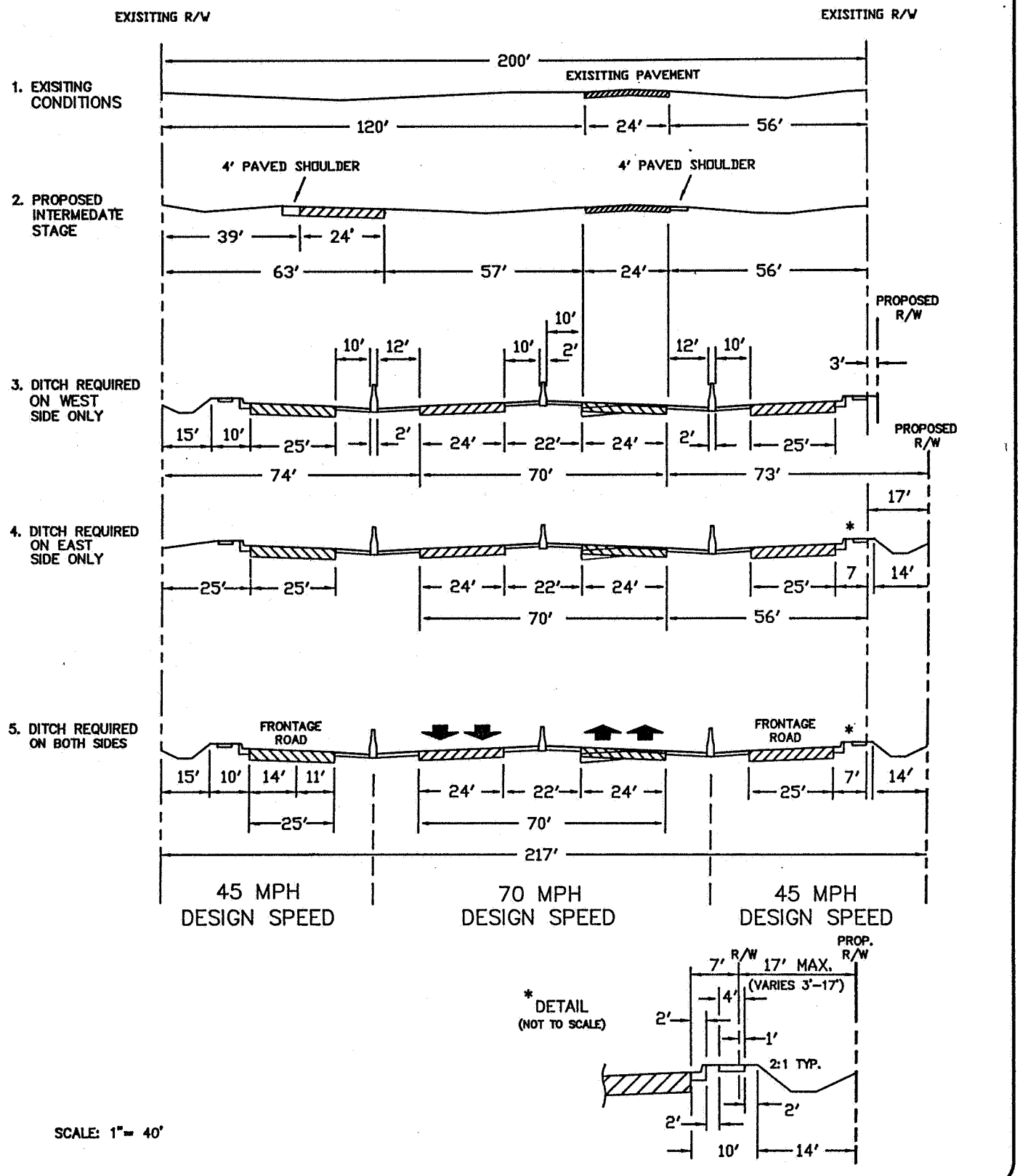


FIGURE 16 RECOMMENDED ALTERNATE NORTH OF N.W. EXPRESSWAY

DALE MABRY HIGHWAY

Interim Stage Four Laning

The interim Stage (typical #2 in Figure 16) would involve constructing a 24-foot pavement to handle southbound traffic and utilizing the existing two-lane pavement to carry northbound traffic. The new pavement for this intermediate stage would be sloped toward the median, to prevent co-mingling of runoff from the new pavement with runoff from the land adjacent to Dale Mabry on the west side. This will reduce the volume of water which has to be treated to comply with DER/SWFWMD regulations. (In some areas, it may be necessary to reconstruct the existing pavement at a higher grade in order to provide sufficient depth in the median for treatment and storage of runoff from the pavement.) In addition to overbuild and resurfacing of the existing roadway, shoulders would be provided on both roadways to facilitate drainage and bicycle travel.

Prior to construction, right-of-way would be acquired and/or reserved for future ditch sections (as required in typicals 4 and 5) as well as for future detention ponds and frontage road connections at major cross streets. The locations of these frontage road connections are shown on the conceptual design drawings available separately (a reduced-size set of the drawings is included as Appendix G of this report).

Ultimate Stage Improvements

The ultimate stage (typicals 3, 4, and 5) consists of constructing additional pavement, barrier walls and shoulders, underground storm sewers, frontage road intersections, detention ponds (for stormwater attenuation and treatment), and man-made wetlands ("mitigation areas") to help offset the loss of natural wetlands. Tentative sizing for attenuation and mitigation areas is included in Table 7. Subsequent to the development of this table, the Department decided to aggregate these detention/mitigation areas and locate them in the "infield areas" located adjacent to future major intersections (these areas are illustrated on the drawings included in Appendix G). Additional right-of-way for ditches would be required on the east side only; as shown in typicals 4 and 5, this would allow portions of the existing pavement to be utilized as a part of the ultimate typical section.

Drainage Considerations

The proposed ditches on the outside of the urban section would be required, as a minimum, in those areas where off-site drainage areas presently drain toward Dale Mabry. The ditches would be utilized for drainage purposes only because of the high water table in the area north of Van Dyke (estimated at 15"$\pm$ below natural ground based on soils information). In areas experiencing high water table, it is necessary to raise the elevation of the roadways in order to provide sufficient clearance between the pavement base and the design high water. An elevated urban section would block the existing natural drainage patterns and could cause flooding of properties

TABLE 7 - PRELIMINARY ESTIMATE OF R/W REQUIREMENTS FOR STORMWATER DETENTION AND WETLANDS MITIGATION AREAS

Limits: Proposed NW Expressway to U.S. 41 in Pasco County

Design Concept: 4-Lane urban mainline with two-way, two-lane urban frontage roads in a 217'± R/W

Pond No.	Approx. Station	Side (E/W)	Estimated Acreage Required		
			Attenuation(1)	Mitigation(2)	Total
1	1080	W	2.3	---	2.3
2	1115	E	5.5	---	5.5
3	1140	W	2.1	2.7	4.8
4	1170	W	1.8	---	1.8
5	1195	W	2.5	---	2.5
6	1210	E	2.3	4.0	6.3
7	1230	W	1.8	2.0	3.8
8	1265	E	2.7	4.6	7.3
9	1285	E	3.0	---	3.0
		TOTALS:	24.0	13.3	37.3

(1) Attenuation areas based on 20% of area of R/W except for north end where 25%± was used due to roadway being <1 foot above natural ground.

(2) Mitigation areas based on 2.5:1 ratio for wooded wetlands and 1.5:1 for non-wooded wetlands.

adjacent to Dale Mabry. Ditches would be required in these areas to convey drainage toward Dale Mabry to outfall sites or detention areas and thereby maintain existing drainage patterns.

For the urban portions of typicals 3, 4, and 5, runoff from the roadways and shoulders would be conveyed by a storm sewer system to detention areas for treatment and volume attenuation of peak rates of runoff. (Some of these detention areas could also include man-made wetlands). The infield areas at the major intersections are proposed to be used for this purpose.

Median and Frontage Road Widths

The proposed 22' median in the ultimate typical section would meet FDOT "Green Book" standards (pp. III-26, 30 and 32) and exceed AASHTO "Green Book" standards for a 4-lane expressway. In super-elevated sections where a median inlet is required, the 10' shoulder would include a 2' gutter. A minimum 28' median would be required at major intersections for dual lefts; however, no additional right-of-way would be required in order to accommodate the wider median since the frontage roads flare out away from Dale Mabry in the vicinity of major intersections, as shown on the conceptual design drawings (Appendix G).

The frontage roads are proposed to be 25' wide, to provide a 14' lane on the outside for bicyclists and motor vehicles and an 11' lane on the inside for motor vehicles only. Bicyclists on the inside would be expected to use a portion of the 10' paved shoulder. This shoulder on the frontage roads would provide a recovery area

and space for disabled vehicles. Shoulder widths of 10' are based on AASHTO and FDOT "Green Book" standards.

Major Intersection Improvements and Future Interchanges

For the ultimate limited access stage, major intersections are planned at the following locations:

Approximate Spacing	Major Intersection Potential Interchange Location
---	Van Dyke
0.36 mi.	
---	N.W. Expressway
0.36	
---	Vicinity of Calusa Trace (MP 9.9 ±)
1.8	
---	Lutz Lake Fern
1.1 mi.	
---	County Line Road
1.0 mi.	
---	U.S. 41
TOTAL: 4.6 miles	

Initially, these are proposed to be at-grade signalized intersections for the ultimate stage. In the vicinity of the signalized intersections, the median barrier wall would transition to a conventional concrete raised median, which would consist of a minimum 4' raised separator and one or more left turn lanes. As mentioned previously, interchanges could be eventually constructed at most of these locations when warranted by traffic demand. Because of the close proximity of the intersection proposed to serve Calusa Trace with the proposed Northwest Hillsborough Expressway, it is unlikely that an interchange will ever be provided at this location.

As shown on the conceptual design plans, the two-way frontage roads would bend away from Dale Mabry at the major cross streets to prevent intersections which are too closely spaced along the cross streets and which would cause traffic operational and safety problems.

In addition, in the areas of future major intersections (potential interchanges), the frontage roads were redesigned in April, 1988, to allow space for future slip ramps to be constructed should the need eventually arise to construct grade-separated interchanges. The revision in the frontage road design will allow higher design speeds on the frontage roads at the expense of increased right-of-way acquisition costs. However, no additional right-of-way will be required to construct the interchanges once right-of-way has been obtained for the frontage roads.

Estimated Costs and Impacts

Preliminary right-of-way and construction cost estimates for the recommended build alternate are included in Table 8.

TABLE 8 - PRELIMINARY COST ESTIMATES FOR RECOMMENDED ALTERNATE

(All costs in millions of 1987 dollars)

Segment: Dale Mabry Highway from Proposed NW Expressway to Vicinity of U.S. 41 in Pasco County

Design Alternate: Four-lane urban "expressway"*, with two-lane, two-way urban frontage roads in a typical R/W of 217'±

Component	(1) Additional Right-of-Way Acres	(2) Additional Right-of-Way Cost	(3) Construction Costs Interim Stage	(4) Including 15% for Engineering Incremental Costs for Ultimate Section	(5) Including 15% for Engineering Total Constr. Cost of Ultimate Section	(6) Total Costs Col.(2) + Col.(5)	Ultimate Section Potential Relocations Bus	Res	Total
Mainline & Frontage Rds.	31.5	5.0	$5.7	$8.7	$14.4	19.4	4	3	7
Stormwater Detention ponds and Wetlands Mitigation	35.3	6.2	---	---	---	6.2		---	
Totals	66.8	11.2	$5.7	$8.7	$14.4	25.6	4	3	7
						(say $26 million)			

* Cost of potential future interchanges not included; add $8.9 million per interchange, where applicable.

(2) R/W cost includes land, improvements, R/W support costs, appraisal fees, business & severance damages, administrative & legal settlement, attorney fees, court costs, and relocation costs; see Appendix F.

(3) Consists of adding two-lane rural to existing two lanes.

Bicycle and Pedestrian Accommodations

For the intermediate stage, minimum four foot paved shoulders are proposed to facilitate bicycle travel. For the urban ultimate stage, bicycles would be accommodated on the frontage roads through the provision of 14 foot lanes on one side and paved shoulders on the other side (adjacent to the barrier wall).

Sidewalks are proposed to be included for the ultimate stage; for the interim four laning, no provisions for pedestrians are included.

Utility Adjustments

Routine utility adjustments are anticipated due to construction of the proposed improvements. Relocation of utilities within the existing right-of-way will be required to be done at the individual utilities expense. No utility relocations are anticipated as part of the interim stage improvements. The ultimate stage improvements will involve several utility relocations, including a water main, buried telephone, and overhead power lines.

Maintenance of Traffic Concepts and Recommended Staging for Ultimate Design

For the intermediate stage, traffic would be maintained on the existing roadway while the new southbound lanes are being constructed.

For the ultimate stage, initially two additional lanes would be constructed in the median, for southbound mainline traffic. Then, southbound traffic would be shifted to the new lanes. Then the frontage roads would be constructed on either side of the mainline. Finally, northbound traffic would be shifted to the east frontage road while the northbound lanes are resurfaced and/or reconstructed.

At such time that interchanges become warranted, the frontage roads would be converted to one-way operation, and (at least in the vicinity of the interchanges) all traffic would be diverted to the frontage roads during the construction of the overpasses.

The following three stages for the ultimate design (four-lane "expressway" with frontage roads) are proposed:

Ultimate Stage #1: Two-way frontage roads would be constructed with no traffic signals on the frontage roads. Major intersections on Dale Mabry would be signalized, however.

Ultimate Stage #2: Traffic signals would be added on the frontage roads, where warranted. These signals would be coordinated with the traffic signals on Dale Mabry, resulting in a system of three traffic signals at most major cross streets intersecting Dale Mabry (e.g. at Lutz-Lake Fern and at County Line Road).

Ultimate Stage #3: At such time that interchanges become warranted, the frontage road system would be converted to a one-way pair and interchanges would be constructed. As previously mentioned, traffic would be diverted onto the on-way frontage roads during the construction of the interchange structures and approaches.

These ultimate stage scenarios will be re-evaluated in the future by the Department at such time that traffic projections are developed which show the need for frontage roads and interchanges.

Street Lighting

It is recommended that street lighting be included as part of the plans for both the interim and ultimate stages. The basis for this recommendation is contained in a memo in the Appendix (Appendix E, pp. E-17, 18).

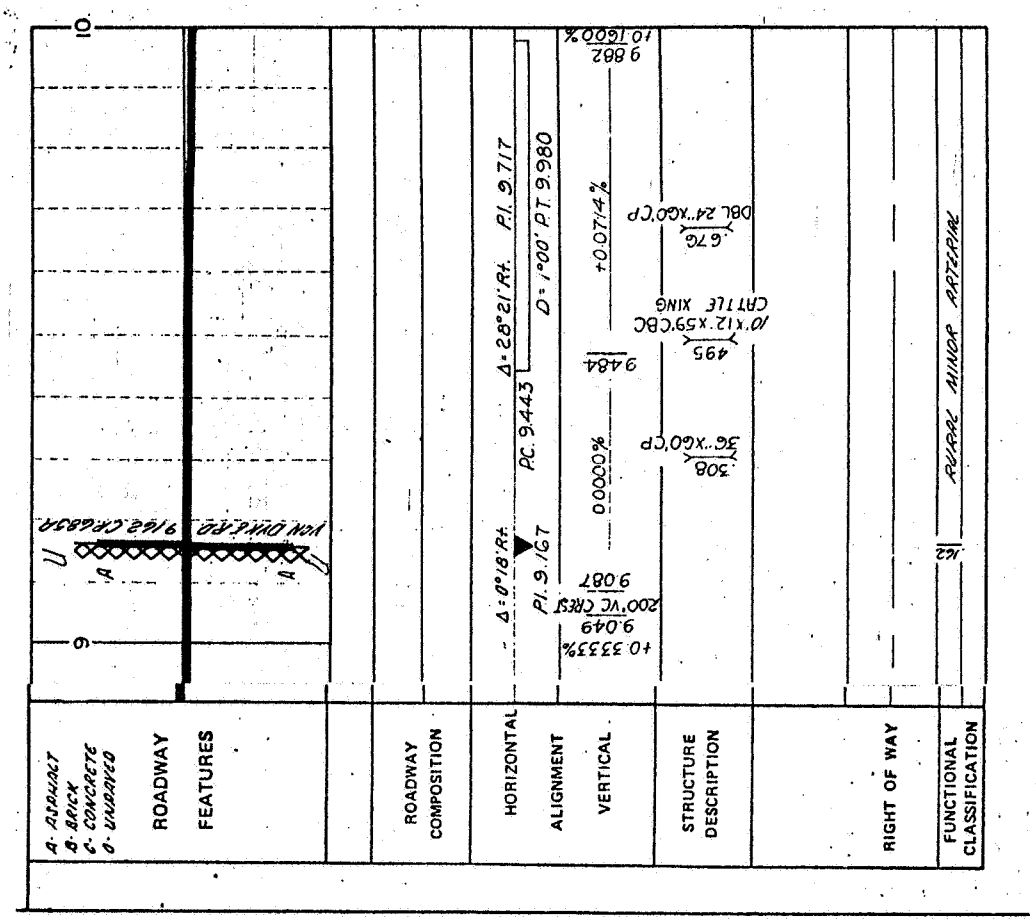
Public Involvement, Agency Coordination and Reviews

A public information workshop was held at Gaither High School on January 28, 1988, to inform the public about the project and to receive public comments. This workshop is documented in the Appendix, page E-1. One result of this workshop was a decision to relocate the proposed ultimate stage Lutz-Lake Fern intersection farther north to coincide with the location of the existing intersection; this change is documented in the Appendix, page E-4. Additional documentation on coordination with FHWA and local officials is included in the Appendix, Page E-5. Documentation regarding changes in the ultimate typical section made in April of 1988 is also included in Appendix E.

9. APPENDICES

APPENDIX A

STRAIGHT LINE DIAGRAM INVENTORY



352-16 (1972) NJ713

LAST REVISION								
DATE	1-23-82							
BY	E-B							

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

FLORIDA DEPARTMENT OF TRANSPORTATION — DIVISION OF PLANNIN

8505-1973

A-2

A- ASPHALT
B- BRICK
C- CONCRETE
D- UNPAVED

ROADWAY FEATURES

10 — 11 — 12

SUNLAKE BLVD. 10.840 B 89G
WILSON CIR. 10.806 B
GERACI RD. 10.835 B
44'-24'
2-12' RDWYS.
2-10' LWN SHLDS.
ARBOR DR. 11.488 D
FERN RD. 11.628 A
LUTZ LAKE
HOLLY LANE 12.206 A
WILLIAMS RD. 12.484 A
COUNTY LINE RD. 12.754 B
PASCO CO LINE 12.767
TGT

ROADWAY COMPOSITION

5 1/4" AC
8" LR

HORIZONTAL ALIGNMENT

PC 10.671 — D=1°00' — PI 10.873 — Δ=21°09' RT e=0.023'/' — PT 11.071
P.C. 11.526 — Δ=21°55' LT e=0.023'/' — D=1°00' — PI. 11.736 — P.T. 11.914

VERTICAL

+0.1600% 10.196 — 0.0000% 10.431 — +0.1000% 10.715 — 0.0000% 10.981 — -0.1167% 11.094 — 0.0000% 11.359 — 200' VC SAG 11.397 — +0.2714% 11.625 — 300' VC CREST 11.681 — -0.3500% 11.814 — 200' VC SAG 11.852 — 0.0000% 11.994 — 300' VC SAG 12.051 — +0.3793% 12.269 — 300' VC CREST 12.325 — 0.0000%

STRUCTURE DESCRIPTION

30" x 53' CP 10.262
24" x 60' CP 10.827
TRI 36" x 56' 11.259
DBL. 24" x 64' CP 11.877
24" x 88' CP 12.455

RIGHT OF WAY

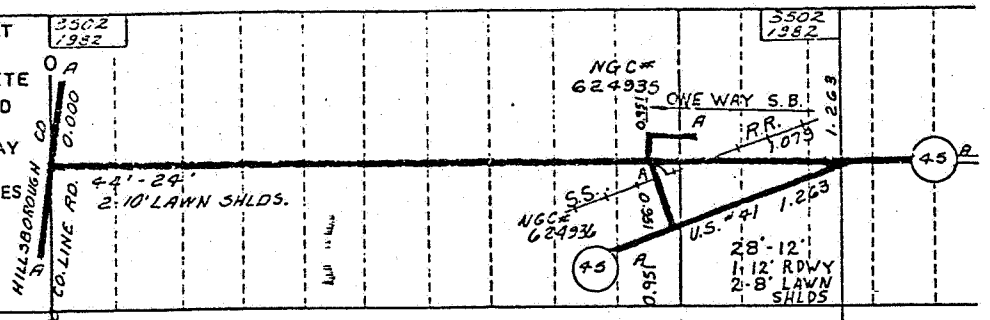
FUNCTIONAL CLASSIFICATION

RURAL MINOR ARTERIAL
FEDERAL AID PRIMARY

352-16 (1972)

	LAST REVISION	REVISED					
DATE	2-4-82						
BY	ERB						

A-ASPHALT
B-BRICK
C-CONCRETE
O-UNPAVED



ROADWAY COMPOSITION	(2"AC) + 2½"AC + ⅝"FC-2 8" LR
HORIZONTAL ALIGNMENT	P.I. 0.220 N 28°12'E N 27°12'E P.C. 0.754 P.I. 0.869 P.T. 0.981 Δ = 1°00'LT. D = 1°30' Δ = 17°54'38"LT. N 10°48'E 1.263
VERTICAL	
STRUCTURE DESCRIPTION	0.307 24" X 92' C.P. 0.714 30" X 65' C.P. 1.263
RIGHT OF WAY	
FUNCTIONAL CLASSIFICATION	RURAL MINOR ARTERIAL SECONDARY AND PRIMARY

TWO-WAY TOTAL DESIGN VOLUMES (WITH PROPOSED NWH EXPRESSWAY; LAKE LECLARE/DALE MABRY ALIGNMENT)

LEGEND

ADT = "Average Daily Traffic", in Thousands

N/AP = Not Applicable
N/AV = Not Available from Source Report

Part of TUATS network
Future (proposed) construction, part of TUATS
Local road not part of TUATS network

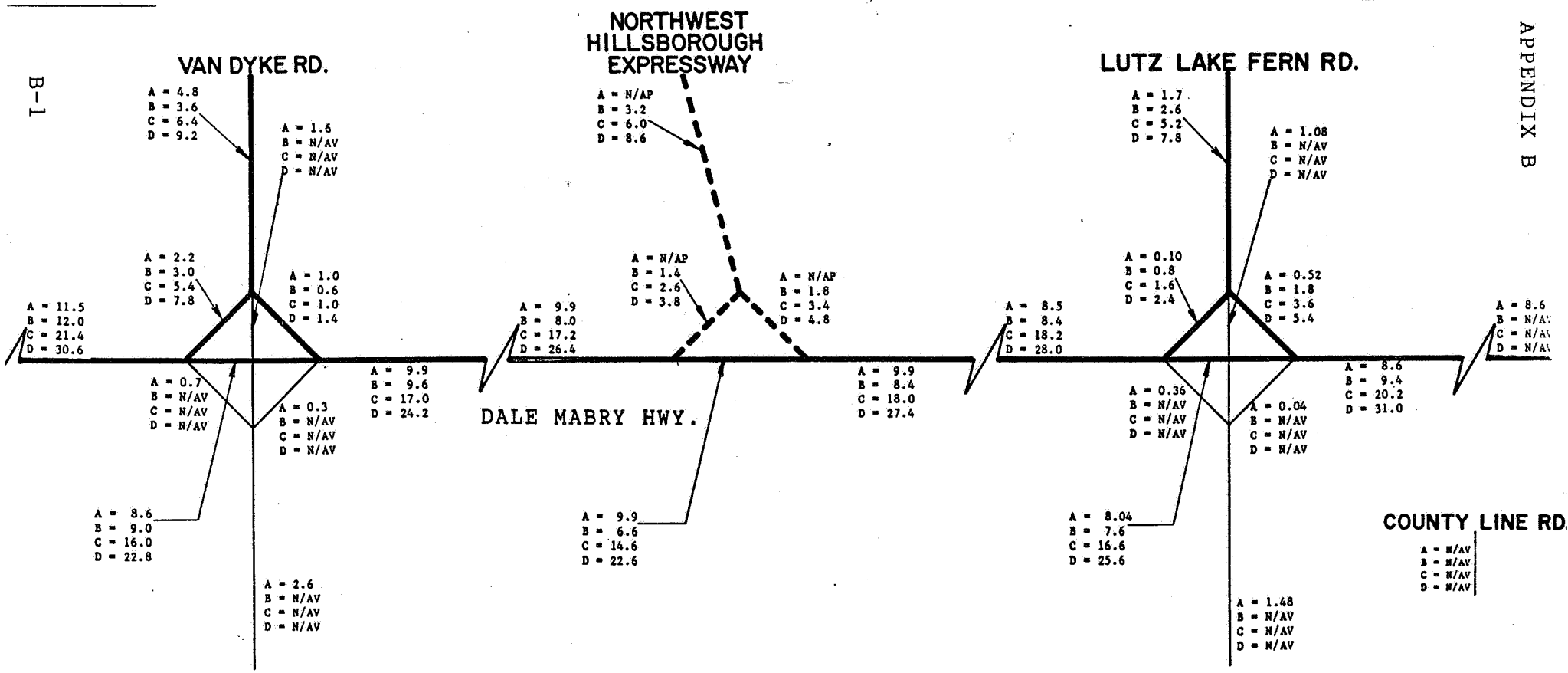
A = 1983 ADT
B = 1990 ADT
C = 2000 ADT
D = 2010 ADT

Volumes with the proposed NW Expressway (Lake LeClare/Dale Mabry Alignment)

Recommended Design Parameters

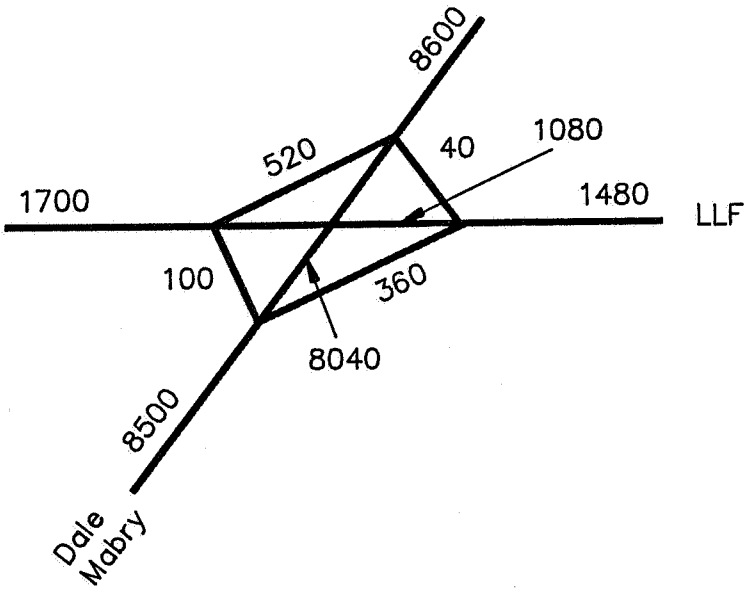
Design Yr.	K	D	T pk hr
1990	10%	65%	3%
2000	9.5%	63%	3%
2010	9%	60%	3%

Source: 1990-2010 volumes and K, D, and T factors from "Traffic Analysis -- Year 2010, Dale Mabry Highway and Other Major Roadways in Northwest Hillsborough County," October 1985, Barr, Dunlop & Associates, Inc. Numbers adjusted for intersection balance where required by DSA Group, Inc. 1983 ADT estimates prepared from turning movement and machine counts by DSA Group, Inc.



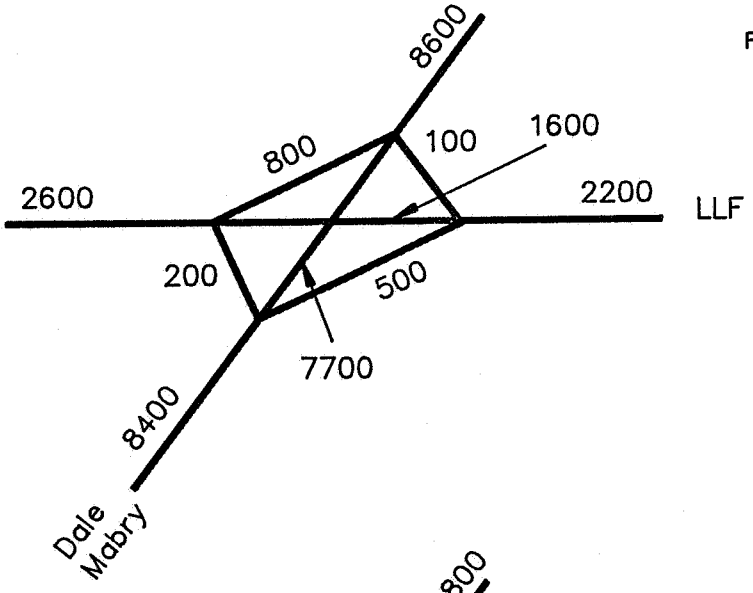
LUTZ LAKE FERN AT DALE MABRY – TRAFFIC DEMAND (ADT's)

1983 ADT's
Source: Traffic Report
for N. Dale Mabry
PD&E study

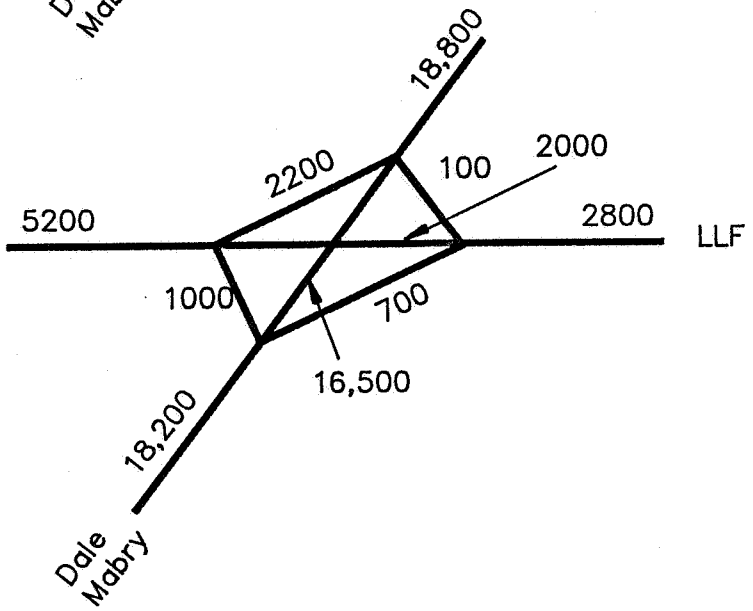


use K= 9%
For peak hour,

1990 Est. ADT's
"with the NWH Exp."
Source: Traffic Report
with 2/88 revisions



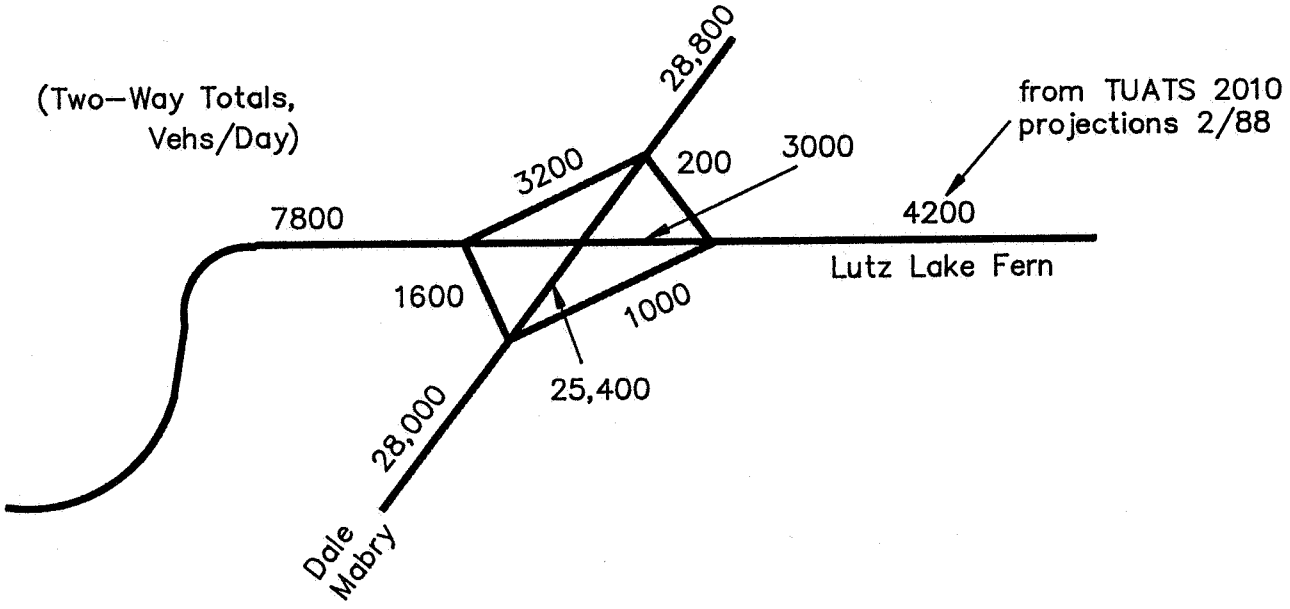
YEAR 2000 Est. ADT's
"with the NWH Exp"
Source: Traffic Report
with 2/88 revisions



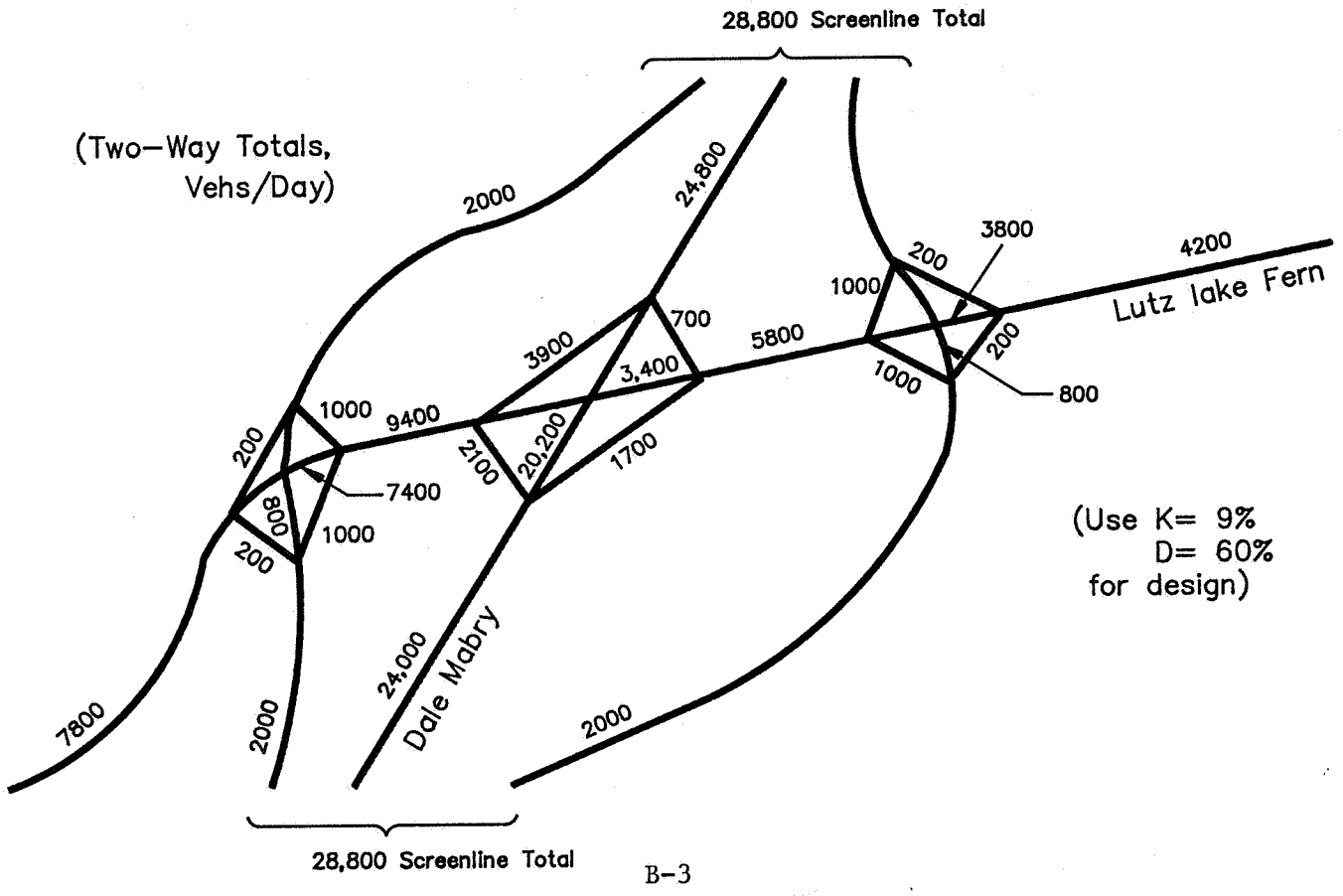
ESTIMATED DESIGN VOLUMES AT LUTZ LAKE FERN FOR YEAR 2010

1. Estimated Volumes without frontage roads:

Original design volumes modified to reflect latest TUATS 2010 vol. projection for eastern leg of Lutz Lake Fern at Dale Mabry



2. Volumes Adjusted for Frontage Road Scenario



APPENDIX C

TAMPA • RALEIGH • MIAMI • WINSTON-SALEM

DSA GROUP INC

DSA BUILDING, 2005 PAN AM CIRCLE, TAMPA, FLORIDA 33607 (813) 870-8670

MEMORANDUM

TO: Lisa Hansen

DATE: November 13, 1987

FROM: Jim Brice

SUBJECT: Field Assessment of Proposed Dale Mabry expansion from Van Dyke Road north to U.S. 41 Pasco Co.

On November 5, 1987 a field meeting was held with representatives of FDER, SWFWMD and DSA Group, Inc. The purpose of this meeting was to review wetland systems adjacent to Dale Mabry that would be impacted by any proposed roadway expansion. Because of the informal nature of the meeting the agencies comments were intended to serve only as guidance for planning purposes.

The results of this guidance meeting were as follows:

1. Proposed roadway expansion should be justified.

2. Although it was generally conceeded that roadway expansion probably could be justified, roadway expansion should be limited to that which could be justified.

3. It was recommended that environmental impacts be limited by the following planning and design considerations.,

   a. Limit construction as much as possible to the existing right-of-way. This area does contain wetlands but many of these areas have been previously cleared of mature Cypress trees or otherwise impacted.

   b. Use construction techniques that would contain the proposed roadway within the existing right-of-way. For example, an urban section with curb and gutter would contain the area of impact to within the existing R.O.W. There was opposition to the construction of a rural section which would replace mature Cypress systems with wet bottom ditches. Mitigation of mature Cypress systems with young trees would not be considered adequate compensation. It was explained that in some situations, wet bottom ditches would be preferred but this was not the situation when mature wooded systems would be removed to construct a ditch.

4. Stormwater should be treated in adjacent upland areas.

5. Probable mitigation ratios of 1.5 to 2 may be required to offset project impacts, according the the Water Management District. However, the issues of mitigation and ratios would depend upon impacts associated with final project design.

   DER's position regarding mitigation is that consideration of mitigation is not appropriate until a determination of permitability is made. If mitigation is to be entertained, it must offset the potential impacts identified as the cause of the negative permitting balance.

In summary, it was concluded from this meeting that design alternatives should be selected that minimize impacts to these wetland systems. Simply offering mitigation was not a cure-all that could be used in lieu of minimizing impacts to the wetlands by appropriate design considerations.

APPENDIX D

LOCATION HYDRAULIC REPORT

North Dale Mabry Highway (S.R. 597)

Van Dyke to U.S. 41

March 1, 1988
Rev. May 1, 1988

In accordance with the requirements set forth in F.H.P.M. 6-7-3-2, paragraph 7, a field review of the proposed project site was made. This review, in conjunction with a preliminary hydraulic analysis, allowed determination of the extent of any impacts to the base floodplain resulting from the proposed roadway improvements to S.R. 597 (Dale Mabry Highway).

The proposed improvement involves an initial expansion of 4.6 miles of North Dale Mabry from a 2 lane rural to a 4 lane rural facility, between the vicinities of Van Dyke Road and U.S. 41. When development of the corridor warrants further capacity, the roadway will be expanded to a four-lane urban limited access facility with two-way frontage roads on either side, beginning north of the proposed Northwest Expressway. Due to the substantial difference in both typical sections and method of drainage, potential impacts to the base floodplain resulting from the initial (A) and ultimate (B) roadway improvement will be addressed separately.

Base floodplains along much of the project are located east of the existing roadway and are quite extensive. Since the interim 4 lane section will involve use of the existing two lanes with addition of two lanes to the west, there will be minimal involvement through this area. The ultimate expansion will entail longitudinal floodplain encroachments through this area due to widening along the east side as well as isolated, transverse encroachments in the vicinity of wetlands. The existing roadway traverses a large base floodplain throughout the northernmost 1.6 miles of this project. In this area, both the interim and ultimate stage improvements will entail encroachments. However, these floodplains are extensive and will not be measurably impacted by relatively minor longitudinal encroachments; reduction in storage capacity resulting from roadway fill will be minor. There are no floodway maps in print covering this area (F.E.M.A. in Atlanta stated that a study is scheduled to begin within six months).

M.P. 9.308* 36" RCP: This culvert conveys runoff from 105 acres of undeveloped property lying west of Dale Mabry to the east and into a large wetland area. This wetland overflows to the south and east through a series of four minor crossdrains (3-18" RCP, 1-24" RCP) under Van Dyke Road east of Dale Mabry.

Approximately 30% of the 105 acre drainage basin lying west of the roadway consists of interconnected wetland areas. The Dale Mabry roadway widening project lying south of Van Dyke that is currently under construction transitions through this area from 4 lanes back to the 2 lane existing roadway. In conjunction with this project, this culvert is in the process of being replaced by a 3-42" CMP structure, having the same flow line elevation. At the time of the field review, there was standing water 18" deep at this structure, which is in accordance with an anticipated groundwater elevation during the dry season. There is no base floodplain associated with this structure indicated on panel 45 of the FIRM (see Attachment A); the only floodplain lies to the east of the existing roadway.

A) Initial 4-Lane Road Expansion: The 3-42" CMP that will be in place at the time of construction will be lengthened 90'(±) in order to meet clear recovery criteria. As shown in the attached calculation (Attachment B), extending the crossdrain will not result in a measurable increase in headwater elevation at this location for the base flood event.

* Van Dyke Road, the southern project limit, lies at M.P. 9.162.

B) Ultimate Roadway Expansion: Not applicable in this area; the frontage road concept does not extend this far south. The existing 200' right-of-way will allow expansion of this roadway to a 6-lane divided roadway with sufficient area available for maintaining a rural (ditch) section. There will be no longitudinal encroachment of the base floodplain associated with this expansion; widening should be exclusively to the west of existing two lanes

M.P. 9.676 2-24" RCP: This culvert conveys runoff from 140 acres of undeveloped property west of Dale Mabry to the east. This structure lies in a 50 acre cypress head that the existing roadway traverses. Panel 45 of the FIRM has designated the area lying to the east of the roadway as a Zone A base floodplain. The degree of siltation (8") and amount of vegetative overgrowth noted in the field review are indicative of adequate hydraulic capacity at this site; there is no evidence of excessive velocities through this structure. 12" of standing water was present at this structure at the time of field review.

A) Initial 4-Lane Roadway Expansion: It is anticipated that the existing structure will either be extended or replaced in kind during this phase of construction. The structure will have to be lengthened by approximately 100' in order to meet clear recovery criteria. Extension of this structure will have no measurable effect on the base flood elevation - losses due to increased length will be minimal (see sample calculation Attachment B). The minimal decrease in storage capacity of the base floodplain due to a transverse encroachment of the additional two lanes of roadway will be mitigated by storage of runoff in roadside ditches.

B) Ultimate Roadway Expansion: Not applicable in this area. The frontage road concept will not extend this far south. No longitudinal encroachment would be anticipated.

M.P. 10.262 30" RCP: This culvert conveys runoff from 88 acres of undeveloped property lying east of Dale Mabry back to the west and into a wetlands area lying 200'(±) west of the roadway. Approximately 15% of the contributing drainage area is comprised of a cypress head. At the time of the field review, this crossdrain was silted to a depth of 12", with standing water to a depth of 15". There was no evidence of hydraulic inadequacy such as erosion. It is anticipated that this structure will either be extended or replaced in kind during the roadway widening project(s). There is no base floodplain indicated on FIRM panel No. 65 at this location that crosses Dale Mabry; however, all area east of the roadway has been designated as such.

A) Initial Roadway Expansion: This crossdrain will be lengthened by approximately 100' in this phase, in order to meet clear recovery criteria. Extension of the culvert will cause no measurable increase in headwater elevation due to greater losses in the pipe (see sample calculation, Attachment B).

B) Ultimate Roadway Expansion: The typical roadway section reflecting a limited access facility with frontage roads will be in effect, with roadway drainage being provided through a storm sewer system. The high groundwater present throughout the length of this project will require that the roadway be placed in fill in order to protect any portion of the base from inundation. This will result in a back of curb elevation higher than that of

natural ground, which will block offsite drainage. As reflected in the proposed typical section, shallow swales will be created behind the curb as needed to maintain existing drainage patterns and allow conveyance of off-site runoff underneath the roadway, via ditch bottom inlets constructed over outfall structures. This crossdrain will have to be extended an additional 20' (±) to the east and 15' (±) to the west in order to accomplish this. This minimal increase in length will have no measurable impact on base flood elevation at this site. The longitudinal encroachment due to roadway widening to the east of the existing roadway will have little or no impact.

M.P. 10.827 24" RCP: This culvert conveys runoff from 22 acres of property lying west of the roadway to the east. The presence of Geraci Road and Sunlake Blvd. have resulted in development of this drainage basin. The east end of this crossdrain has been extended through use of a ditch bottom inlet and additional pipe in order to allow original drainage patterns to be maintained under a local side street. The field review showed no indication of inadequate hydraulic capacity such as erosion; it is therefore anticipated that this structure will either be lengthened or replaced in kind during the roadway expansion process. Any additional losses through the pipe due to its increased length will result in no measurable increase in headwater elevation during the 100 year storm event. There is no base floodplain involvement at this site indicated on the FIRM.

A) Initital 4-Lane Expansion: The structure will have to be lengthened by approximately 90' in order to meet clear recovery criteria. No measurable increase in headwater elevation would be anticipated (see sample calculation, Attachment B).

B) Ultimate Roadway Expansion: The typical section reflecting a limited access facility with frontage roads will be in effect, with roadway drainage being provided through storm sewer systems. As mentioned previously, the roadway will be in fill due to high groundwater elevation - proposed ditches located behing the back of curb will maintain existing drainage patterns and ditch bottom inlets will be constructed over the crossdrains in order to allow offsite drainage flow to occur without involvement of the storm sewer systems. Minor lengthening of this crossdrain will have no measurable impact on headwater elevation during the base flood event.

M.P. 11.259 3-36" RCP: This structure conveys runoff from an 800+ acre drainage basin westward under Dale Mabry. Approximately 30% of this undeveloped basin is comprised of lakes (Lake Thomas, Geraci Lake, etc.). The ultimate point of discharge for this drainage acrea is Lake Allen, which lies west of Lutz Lake Fern Road. A 2-36" RCP crossdrain under Lutz-Lake Fern Road functions as a downstream control for the pipe under Dale Mabry. There is a base floodplain along the east side of Dale Mabry in this area. What appears to be a steady movement of flow to the west was noted in the field review. There was no evidence of excessive velocity through this structure, which lends itself to consideration of either extension or replacement of this structure in kind during the roadway improvement process. As mentioned previously, no encroachment will be anticipated in conjunction with the interim improvement, but the ultimate section will involve a longitudinal encroachment.

A) Initial 4-Lane Expansion: The existing crossdrain will have to be extended by approximately 90' in order to meet clear recovery criteria. There is no measurable increase in base floodplain elevation anticipated due to this extension (see Attachment B).

B) Ultimate Roadway Expansion: As is the case with previous structures, this crossdrain will remain in place in order to maintain existing offsite drainage patterns. The use of ditch bottom inlets and extension of the structure by approximately 50' will have no measurable impact on its hydraulic performance and will not adversely impact the base floodplain.

M.P. 11.877 2-36" RCP: This structure conveys overflow from Lake Brooker lying east of Dale Mabry to the west and into a floodplain feeding Lake Harvey. A 440 acre basin discharges into Lake Brooker. When viewed in the field, water was standing to a depth of 18" at this structure, with siltation to a depth of 12". This crossdrain lies along the portion of Dale Mabry located in an extensive Zone A base floodplain; both initial and ultimate roadway expansion will entail encroachment. There is not, however, any viable alternative. Any impact to the base floodplain resulting from this encroachment will be immeasurable. During the design process, a hydraulic analysis will be performed addressing the desirability of raising the roadway grade through this area in order to prevent overtopping of the roadway for the 100 year event.

A) Initial 4-Lane Expansion: This structure will either be extended by 90'(±) or replaced in kind and lengthened in order to meet clear recovery criteria. If the roadway grade remains below the base flood elevation as is presently the case, during the 100 year event the roadway itself will function as a weir and the issue of increased headwater elevation will become a moot point. Regardless, increasing the length of this crossdrain will cause a minimal increase in headwater elevation due to greater losses in the pipe (see Attachment B for sample calculation).

B) Ultimate Roadway Expansion: Minor extension of the crossdrain will be required in order to maintain offsite drainage. No adverse impacts or increased headwater elevation are anticipated.

M.P. 12.455 24" RCP: This structure conveys runoff from a 30 acre undeveloped drainage basin eastward and under Dale Mabry. It is located in a wetland that overflows through a 24" RCP under Holly Lane and into a large cypress head. This cypress head is connected, via a ditch system, to Lake Brooker back to the south. When viewed in the field, water was standing to a depth of 12" at this crossdrain, with 6" of siltation. As noted previously, Dale Mabry lies within an extensive Zone A floodplain along this northern section. During an extreme event, the roadway itself will function as a weir and hydraulic adequacy of the crossdrain will not be at issue. However, there was no indication in the field of excessive velocities. It is anticipated that this structure will either be extended or replaced in kind during the upgrading process.

A) Initial 4-Lane Expansion: The structure will be lengthened by 90'(±) in order to meet clear recovery criteria. There will be no increase in headwater attributed to this extension during the 100 year storm due to the roadway's location within the floodplain. No measurable impacts to the floodplain are anticipated due to expansion of the roadway.

B) Ultimate Roadway Expansion: A minimal extension of the crossdrain will be required in this phase in order to maintain offsite drainage; again, no impacts to the floodplain would be expected.

M.P. 0.307 (Pasco Co.) 24" RCP: This pipe could not be located in the field. Extensive cypress heads lie both to the west and east of Dale Mabry in this area. A heavy overgrowth of cattails and laurel were present in both roadside ditches and it is not known whether this crossdrain is functional. The culvert was originally designed to convey runoff from a 28 acre basin lying east of the roadway to the west. Wetlands comprise approximately 20% of this undeveloped area. As with the previous structure, this culvert lies in an area of Dale Mabry surrounded by a base floodplain. During an extreme rainfall event, the roadway itself will function as a weir, and conveyance capacity of the crossdrain will not be an issue. Due to the moderate size of the drainage basin and the lack of development, it is reasonable to assume that adequate hydraulic capacity is provided by this crossdrain. If it is deemed to be structurally sound at the time of design, it will be extended; if not, it will be replaced in kind. Both initial and ultimate roadway improvements will result in filling in of the base floodplain; as in the previous instance, no viable alternative exists and no measurable adverse impacts to the floodplain are anticipated.

A) Initial 4-Lane Expansion: The crossdrain will need to be extended by 100' (±) in order to meet clear recovery criteria. Additional head losses will be minimal as a result of this extension and will result in no significant increase in headwater elevation (see Attachment B for sample calculation).

B) Ultimate Roadway Expansion: A minor amount of additional lengthening of the structure will be required during this phase in order to maintain off-site drainage patterns comparable to the existing condition. Back of curb ditches will prevent offsite runoff from entering the roadway storm sewer system. As stated previously, no significant impacts to the base flood-plain would be anticipated due to minor crossdrain extension.

M.P. 0.714 30" RCP: This structure drains a 57 acre basin lying to the east of Dale Mabry flowing westward and into a cypress head lying 250' off the roadway. The in-field investigation of this structure showed no evidence of structural or hydraulic inadequacy. It is anticipated that the crossdrain will either be extended or replaced in kind during the upgrading process. This portion of the roadway is also shown as being inundated during the base flood event, and would be functioning as a weir. Placement of this portion of the roadway in fill in order to avoid overtopping during the 100 year storm event will be addressed during the design process.

A) Initial 4-Lane Expansion: The structure will have to be extended by approximately 90'-100' in order to meet clear recovery criteria. As shown in Attachment B, this will cause no significant increase in the headwater elevation.

B) Ultimate Roadway Expansion: A minor amount of additional extension will be required in order to maintain existing offsite drainage patterns. Again, no measurble adverse impact to the base floodplain would result from this action.

ATTACHMENT A

Flood Insurance Rate Maps

Panels 45, 65, 425

S.R. 597
Dale Mabry Highway

In summary, there are extensive Zone A base floodplains located east of the existing roadway throughout the southernmost three miles of the project. The northernmost 1.6 miles of roadway lie within the Zone A base floodplain. The initial 4 lane roadway expansion will encroach into the base floodplain only through the northern end of the project, while the ultimate limited access facility with frontage roads will encroach throughout most of the project limits. However, the floodplains in question are extensive and will not be measurably impacted by relatively minor longitudinal encroachments. Neither will the transverse encroachments at crossdrain locations adversely impact the base floodplain elevation due to increased losses in longer runs of pipe (the minor increase in headwater elevation anticipated due to the lengthening of structures has been indicated in Attachment B). Final determination of hydraulic adequacy and raising of the roadway elevation will be made during the design process.

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

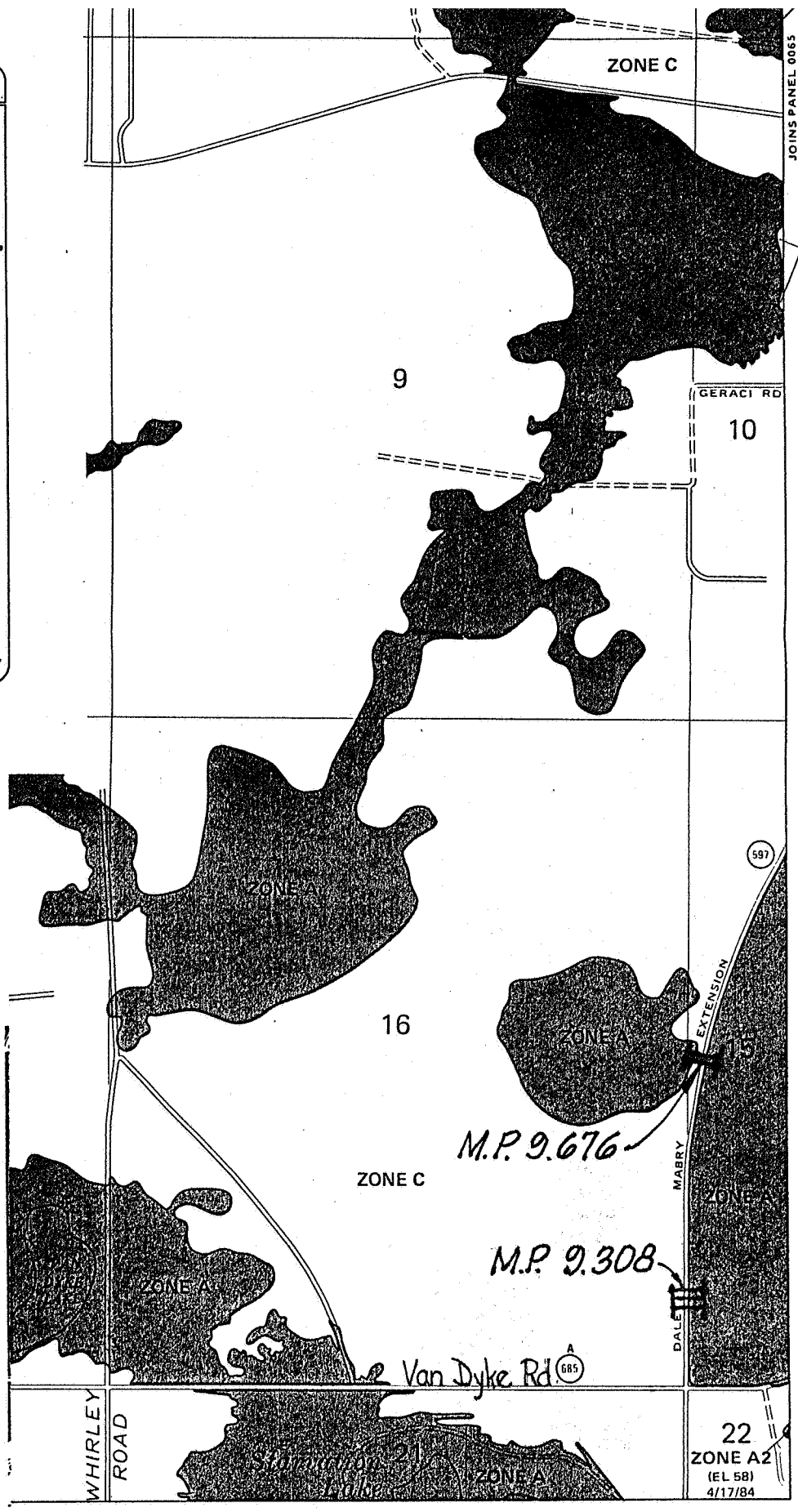
HILLSBOROUGH COUNTY, FLORIDA
(UNINCORPORATED AREAS)

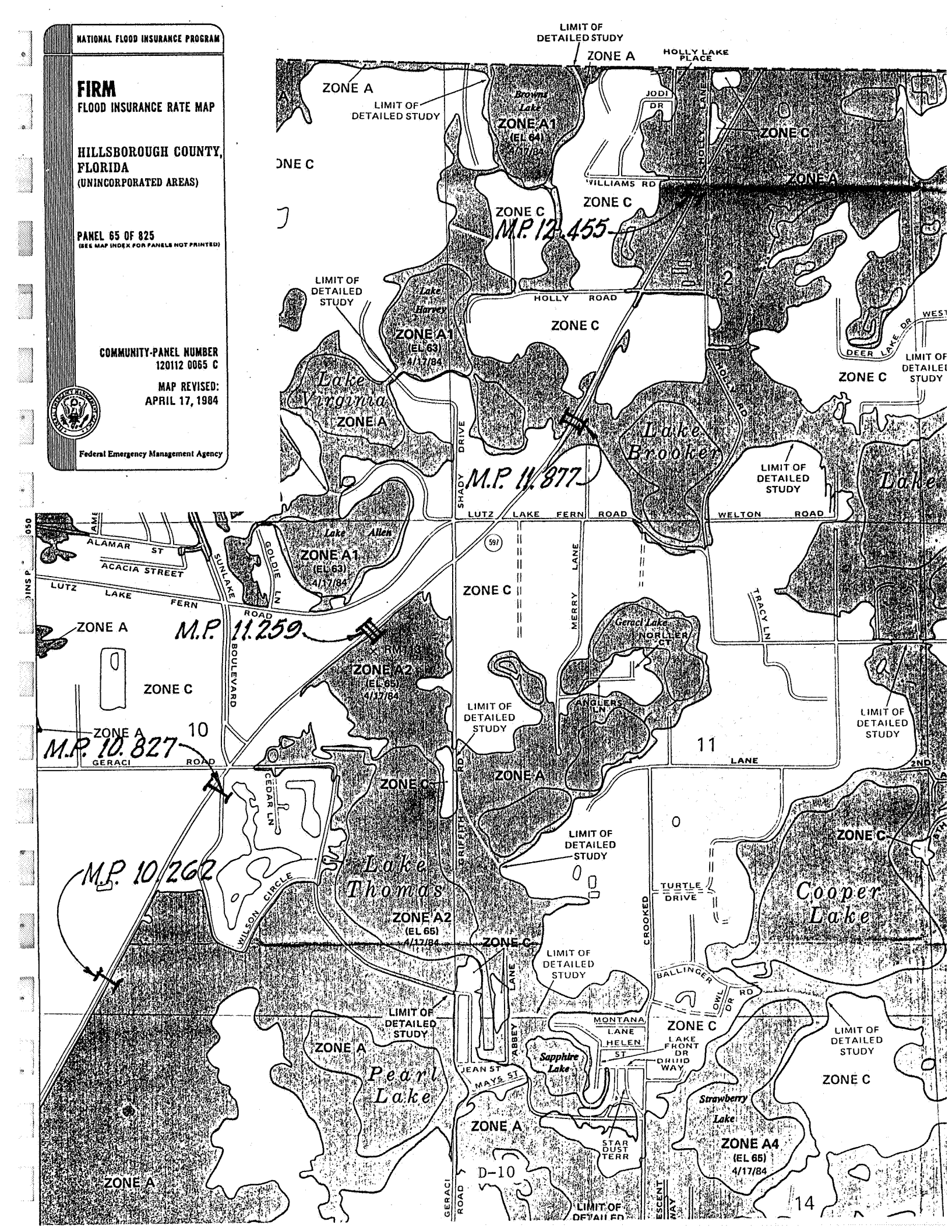
PANEL 45 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
120112 0045 C

MAP REVISED:
APRIL 17, 1984

Federal Emergency Management Agency




NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
HILLSBOROUGH COUNTY, FLORIDA
(UNINCORPORATED AREAS)
PANEL 65 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)
COMMUNITY-PANEL NUMBER
120112 0065 C
MAP REVISED:
APRIL 17, 1984
Federal Emergency Management Agency
LIMIT OF DETAILED STUDY
ZONE A
HOLLY LAKE PLACE
Brown's Lake
ZONE A1
(EL 64)
4/17/84
JODI DR
ZONE C
WILLIAMS RD
M.P. 12.455
HOLLY ROAD
Lake Harney
ZONE A1
(EL 63)
4/17/84
Lake Virginia
SHADY DRIVE
M.P. 11.877
Lake Brooker
DEER LAKE DR WEST
LUTZ LAKE FERN ROAD
WELTON ROAD
Lake Allen
ALAMAR ST
ACACIA STREET
SUNLAKE BOULEVARD
GOLDIE LN
M.P. 11.259
RM113
ZONE A2
(EL 65)
4/17/84
MERRY LANE
Geraci Lake
NORLLER CT
TRACY LN
ANGLERS LN
M.P. 10.827
GERACI ROAD
CEDAR LN
GRIFFITH RD
M.P. 10.262
WILSON CIRCLE
Lake Thomas
CROOKED
TURTLE DRIVE
Cooper Lake
BALLINGER
OWL DR
MONTANA LANE
HELEN ST
LAKE FRONT DR
DRIID WAY
ABBEY LANE
Sapphire Lake
JEAN ST
MAYS ST
Pearl Lake
STAR DUST TERR
Strawberry Lake
ZONE A4
(EL 65)
4/17/84
D-10
14

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

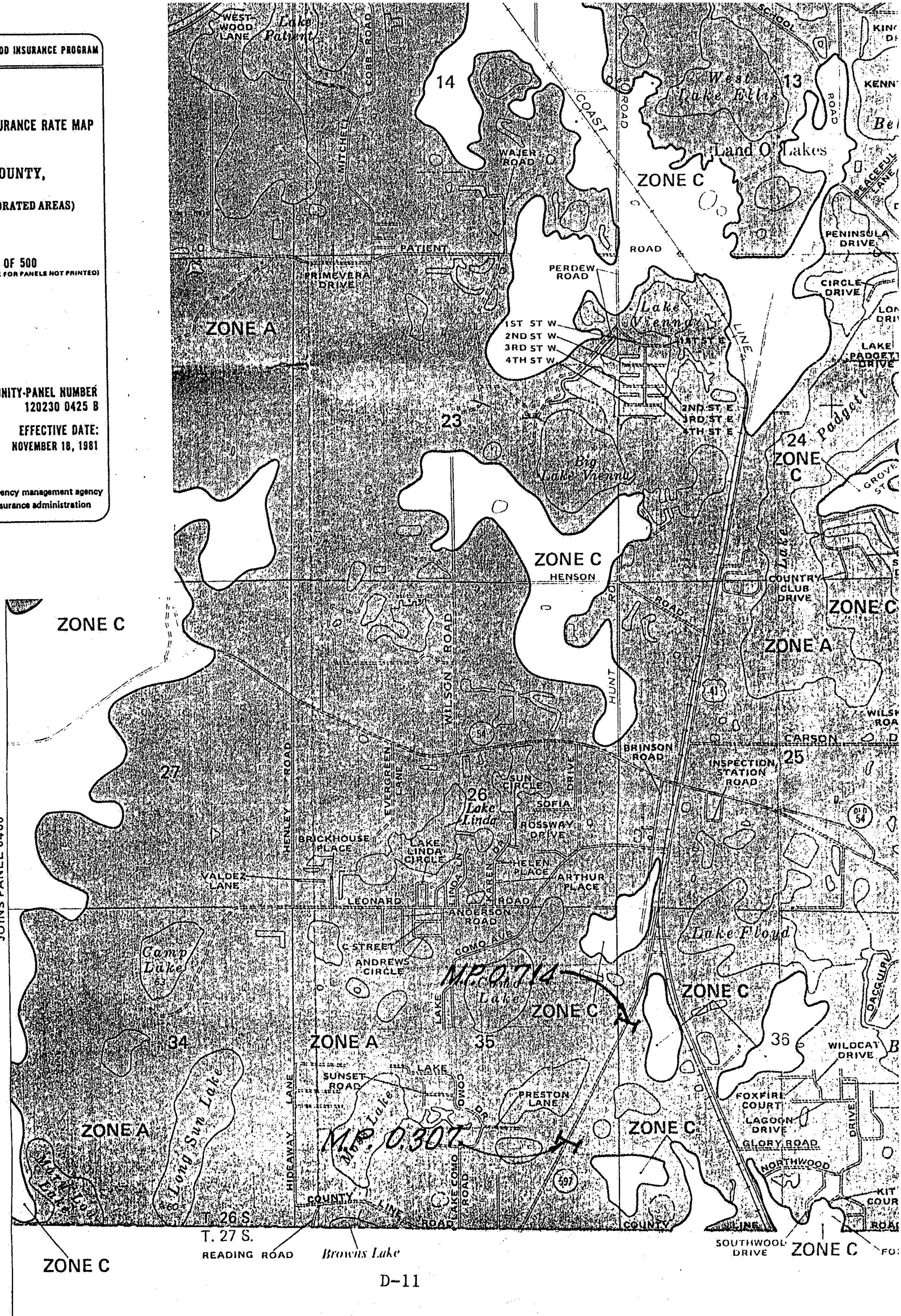
PASCO COUNTY, FLORIDA
(UNINCORPORATED AREAS)

PANEL 425 OF 500
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
120230 0425 B

EFFECTIVE DATE:
NOVEMBER 18, 1981

federal emergency management agency
federal insurance administration



ATTACHMENT B

Sample Calculation of Increased HW Elevation Due to Lengthening Crossdrain

DATE	DESIGN	DSA GROUP, INC. ENGINEERS	SHEET 1 OF 2
	CHECK	JOB Dale Mabry - S.R. 597 FOR FDOT	JOB NO.

SUBJECT Sample Calculation

$A = 88$ Acres 15% Cypress Head - tremendous storage capacity

(74.8 Ac effective) 85% undeveloped, sandy soils, 0.5% slope

$C = 0.15$ velocity ≈ 25 fpm $\Rightarrow 2500/25 \approx 100$ min.

$i_{25} = 2.7$"/hr

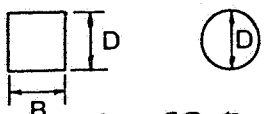
$Q_{25} = CiA = 0.15(2.7)74.8 = 30.3$ cfs

PROJECT: Dale Mabry

DESIGNER: _____

DATE: _____

HYDROLOGIC AND CHANNEL INFORMATION



D = Diameter or Height
B = Span

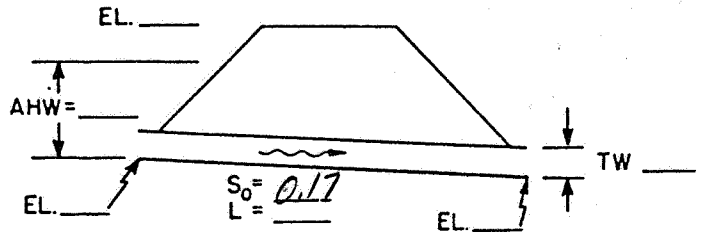
Q_1 = 30.3
Q_2 = _____

TW_1 = _____
TW_2 = _____

(Q_1 = DESIGN DISCHARGE, SAY Q_{25}
Q_2 = CHECK DISCHARGE, SAY Q_{50} OR Q_{100})

SKETCH

STATION : _____



MEAN STREAM VELOCITY = _____
MAX. STREAM VELOCITY = _____
LS_o _____

CULVERT DESCRIPTION (ENTRANCE TYPE)	Q (Q_{25})	SIZE D	SIZE B	HEADWATER COMPUTATION: INLET CONTROL $\frac{Q}{B}$	$\frac{HW}{D}$	HW	OUTLET CONTROL HW=H+DTW−LS_o: K_e	H	d_c	$\frac{d_c+D}{2}$	TW	DTW	LS_o	HW	CONTROLLING H.W.	OUTLET VELOCITY	COST	COMMENTS
Type 2	30.3	36"			1.18	2.95	0.2	0.9	1.75	2.13	1.25	2.13	0.1	2.93	2.95			L=60'
							0.2	1.35	1.75	2.13	1.45	2.13	0.3	3.18	3.18			L=160'

SUMMARY & RECOMMENDATIONS:

Increase in HWI elevation of 0.23' for increase in length of 100'

Design by _____ Checked by _____ Approved by _____

FIGURE 8-2
Worksheet for Culvert Capacity Calculations

TAMPA • RALEIGH • MIAMI • WINSTON-SALEM

DSA GROUP INC.

DSA BUILDING, 2005 PAN AM CIRCLE, TAMPA, FLORIDA 33607 (813) 870-8670

MEMORANDUM

TO: N. Dale Mabry PD&E Study File (Van Dyke to U.S. 41) DATE: February 2, 1988

FROM: Larry Weatherby, P.E., Project Manager

SUBJECT: Public Information Workshop; DSA CM No. 84078-F

A Public Information Workshop was held on January 28, 1988 from 5:00 - 8:00 p.m. at Gaither High School, Room 165, in North Tampa. It was attended by approximately 75 property owners and interested citizens (Attachment No. 1).

The workshop was conducted by personnel from DSA Group (Larry Weatherby, Ahed Daas, Alex Byrne, Lisa Hansen, and Carol Schemmer) with assistance from FDOT personnel (Marian Flanary, Dick Combs, Ed Johnson from Right-of-Way, and Tom Thompson). Mr. Jim Kennedy, FDOT Seventh District Director, also assisted in answering questions. In addition, Rosanne Clementi of Biological Research Associates (DSA's environmental subcontractor) was present to answer environmental questions.

A one-page handout was distributed which summarizes significant information about the project, including typical sections, costs, and schedules; attached to it was a statement form for receiving written comments (Attachment No. 2). Only one written statement was turned in at the workshop (Attachment No. 3).

Verbal comments and questions received at the workshop are summarized here. Some common questions asked by attendees include the following:

- What is the time frame for construction for each stage? What is the time frame for right-of-way acquisition?
- Why are the frontage roads needed?
- What effect will the frontage roads have on zoning?
- Why not use the existing wetlands for stormwater detention?

One observant couple correctly pointed out that the proposed four-lane "expressway" with frontage roads is not consistent with the MPO's Year 2010 Transportation Plan which shows a six-lane arterial for this portion of Dale Mabry.

Some specific concerns and suggestions include:

1. "The Lutz Lake Fern intersection should be moved further north to where Lutz Lake Fern presently intersects, so that a motorist in the future will be able to drive straight across Dale Mabry".

2. The owner of Western Drilling complained that his semi's won't be able to get to his property if they are coming from the north. (He is located on the east side of Dale Mabry directly south of the apex at U.S. 41). In addition, a motorist leaving his property would have difficulty getting back to the south. NOTE: The drawing shows 16' of R/W to be acquired on the east side in this area; however, this may not be necessary since there is no proposed frontage road adjacent to his property, and the existing ditch on the east side can be utilized in the ultimate design.

3. One property owner was upset at having a frontage road bisect his undeveloped property. (His property is located on the west side of Dale Mabry at the northernmost frontage road intersection with Dale Mabry).

4. One couple asked if the apex area between Dale Mabry and Wilson Circle could be used as a stormwater detention or wetlands mitigation site, so that the property couldn't be developed into a commercial use. (There are residences on the east side of Wilson Circle, near Dale Mabry). They said that it is currently zoned A-AR.

5. A couple of people said that Publix recently purchased a tract of land on the west side of Dale Mabry, north of Lutz Lake Fern. (If this is true, there may be a potential conflict with a potential stormwater detention area).

6. One person didn't like the idea of Cheval having direct access to Dale Mabry when direct access for a number of local public roads would be cut off.

7. One resident said that commercially-zoned property between Lutz-Lake Fern and Dale Mabry (west of Dale Mabry) is not supposed to have access to Lutz Lake Fern when it becomes developed (he was told this by zoning officials with Hillsborough County). (We suggested to him that if this is true, then we could possibly extend the frontage road on the west side of Dale Mabry to south of Lutz Lake Fern, to provide access to these properties located between Lutz Lake Fern and Dale Mabry).

Eleven attendees requested copies of bluelines of various sheets of the proposed conceptual design. These will be mailed today or tomorrow.

The above comments, as well as additional written comments expected to be received in the next two weeks, will be evaluated and appropriate revisions will be made to the proposed conceptual design.

LRW/lsl

CC: M. Lisa Hansen, DSA
Ahed Y. Daas, DSA
Tom McLaughlin, Kaiser Engineers

TAMPA • RALEIGH • MIAMI • WINSTON-SALEM

DSA GROUP INC.

DSA BUILDING, 2005 PAN AM CIRCLE, TAMPA, FLORIDA 33607 (813) 870-8670

MEMORANDUM

TO: North Dale Mabry PD&E Project File DATE: March 9, 1988

FROM: Larry Weatherby, P.E., Project Manager

SUBJECT: Location of Lutz-Lake Fern "Interchange" in the Ultimate Stage Design

---

On March 7, 1988, a decision was made to relocate the ultimate stage intersection of Lutz-Lake Fern at Dale Mabry to the location of the existing intersection (rather than re-aligning the western leg to tie more directly into Dale Mabry).

The decision to revise the proposed conceptual design is based on the following factors:

- Written and/or verbal comments have been received from at least four affected property owners all in opposition to the design presented at the January 28 public information workshop held at Gaither High School.
- Wetland impacts are expected to be reduced by relocating the ultimate stage intersection.
- Several County officials contacted (Ron Jones of MPO staff, Joe Zambito, and Carl Theroux) said they had no problem with either alternate design.
- Keeping the intersection at the existing Lutz-Lake Fern intersection would retain direct access to Dale Mabry from both the east and west legs of Lutz-Lake Fern and allow a straight through movement across the intersection at Dale Mabry.
- This revision gives equal importance to both legs of Lutz-Lake Fern, consistent with the TUATS 2010 plan map.
- Another advantage is that this revision will allow a frontage road to be extended south of Lutz-Lake Fern, on the west side of Dale Mabry, to serve the C-1 zoned properties located between Lutz-Lake Fern and Dale Mabry.

The main disadvantages of the change include:

- One business/residence relocation (Joys Printing).
- Right-of-way will be more expensive because the southeast quadrant at Lutz-Lake Fern and Dale Mabry was rezoned C-P in 1983 for a neighborhood shopping center (rezoning # 83-403; revised site plan approved 2-27-84). In addition, two other parcels (west and east quadrants) are zoned C-1.
- A skewed intersection will remain at Dale Mabry and Lutz-Lake Fern.
- Travel distance will be increased for northbound motorists on Dale Mabry wishing to go west on Lutz-Lake Fern compared to the previous alternate (which included a realigned Lutz-Lake Fern).

This change was discussed with both Alex Byrne and Tom McLaughlin and they concurred in this decision.

lsk

cc: Lisa Hansen
Alex Byrne
Quen Wilson
Tom McLaughlin, Kaiser Engineers

PUBLIC INVOLVEMENT & REVIEW RECORD
FOR DALE MABRY NORTH OF VAN DYKE
(AUGUST '86 THROUGH JANUARY '88, INCLUSIVE)

8-19-86	Draft of Dale Mabry Engineering Alternatives Report submitted to FDOT for review. (This report recommended two-way frontage roads for the limited-access alternate north of Van Dyke)
2-26-87	Coordination meeting held with Jim Kennedy to review FDOT's comments regarding the above report
3-10-87	Design concept sketches (showing four-lane expandable to six-lane urban with two-way frontage roads) sent to Larry Gaddy for his review
3-23-87	Comments received from Larry Gaddy
3-24-87	Meeting held with Jim Kennedy and FHWA Area Engineer, Bob Crim, to discuss design concepts
4-2-87	Another coordination meeting held with Jim Kennedy to discuss frontage road design concepts
4-20-87	Presentation given by Jim Kennedy to MPO's Technical Advisory Committee regarding proposed design concepts
5-5-87	Conceptual design drawings transmitted to Hillsborough County Road Department Engineering for review and comments
6-12-87	Slide presentation (prepared by DSA) given by Jim Kennedy to the MPO
6-17-87	Sketches of typical sections (showing two-way frontage roads) transmitted to Bartow FDOT, Pasco County, and Hillsborough County for review and comment.
6-26-87	Comments received from Hillsborough County concerning proposed design concepts

7-2-87	Comments received from MPO Staff Administrator, Joe Kubicki, concerning proposed design concepts
7-22-87	Meeting held with Larry Gaddy and David Buser of FDOT to discuss frontage road designs on south end of project
8-18-87	Another meeting held with FHWA Area Engineer, Bob Crim, to discuss proposed design concepts
8-21-87	Conceptual design drawings, etc., sent to FDOT Value Engineering (VE) Team in Bartow for their review
9-9-87	Draft of design scope of services document (including description of ultimate typical with two-way frontage roads) sent to FDOT
9-23-87	Presentation given by DSA to FDOT VE Team
10-1-87	Meeting held with Larry Gaddy and Jim Hatch regarding design scope
11-3-87	FDOT VE Team report received (recommending rural ultimate typical section)
11-24-87	Response sent to FDOT regarding VE report
12-3-87	Tampa FDOT office selected urban typical section for the ultimate stage conceptual design
12-15-87	Coordination meeting held with new FHWA Area Engineer, Steve Walker
12-17-87	Prints of conceptual design sent to Steve Walker
12-22-87	Draft of "13 Points" sent to FDOT and FHWA for review and comments
1-28-88	Public information workshop held at Gaither High School

KAISER ENGINEERS

INTER OFFICE MEMORANDUM

TO 87125-210
AT Tampa

DATE April 25, 1988

FROM T. McLaughlin

COPIES TO Attendees
R. L. Orth
W. E. Robertson
Teresa S. Estes

AT Tampa

JOB NO. 87125.210

SUBJECT Meeting at DSA Offices, April 19, 1988, 8:30 AM
RE: North Dale Mabry Typical Sections

In Attendance: Jim Hatch - FDOT
T. McLaughlin - KE
Lisa Hansen, Larry Weatherby
Alan Soroory - DSA

State Project No's: 14040-1501 / 7115971
10160-1527 / 7113789

North Dale Mabry From Van Dyke to U.S. 41

1. The roadway typical sections per the P.E. contracts from Van Dyke to Cheval (Piercefield/Genesis) and from Cheval to US-41 in Pasco (DSA) had been given to FDOT-7 on 4-14-88 for review and approval. This meeting was called to discuss the interim and ultimate sections, proposed grades, design speeds, superelevation, pavement to be salvaged when the "ultimate" frontage road is constructed, and the various choices available.

2. It should be noted that DSA's original typical section submittal was made on March 3, 1988, and the section was subsequently revised by the Department and Kaiser Engineers at the end of March. DSA's resubmittal was made on April 6, 1988, and the delay in obtaining an approved section package was not caused by DSA Group, Inc.

3. Looking at the ultimate concept design (4 lane "freeway" with two-lane frontage roads), there are four choices for the "intermediate" stage construction (adding two additional lanes to the existing two lane roadway):

   a) Construct only the four freeway lanes with concrete median barrier, and eliminate the median ditch. The basic problem here is the numerous median openings required due to the absence of frontage roads. This would also require demolition of the existing two lane highway.

   b) Construct the intermediate stage typical section as submitted on April 6, 1988. This will require removal of 14'± of the western pavement (southbound lanes) when the ultimate design is constructed. The design speed and intermediate vs. ultimate grades conflict. The new pavement must be installed with the ultimate grades, or milling will be required to obtain drainage for the frontage road inlets when the ultimate stage is constructed.

c) Construct the west frontage road at a 45 mph design speed, and use for southbound traffic. Keep the existing pavement in place and use for northbound traffic. Median will be greater than 57 ft. Problems are caused by the design speed (45 mph southbound and 70 mph northbound) and by the narrow width available back of curb to match the existing grade on the west side of the right-of-way.

d) Tear out the existing two lane highway and construct both east and west frontage roads only. Major problems are wasting the existing roadway, and the immediate need for the additional R/W to complete the intermediate stage construction. Design speed would be 45 mph.

4. DSA has currently generated designs for the intermediate and ultimate stages using 65 mph / 45 mph design speeds, and 0.2% grades with vertical curves.

5. The general consensus was to design for 70/45 mph speeds, (freeway/frontage road), use a 16 ft. shoulder width with full-depth base course, and maximize pavement salvage on the ultimate stage design by overbuilding the 16 ft. shoulder to obtain the frontage road grades, when they are constructed.

6. The superelevation for a one degree curve is 0.038 ft./ft. at 70 mph for a rural roadway; at 45 mph for a municipal roadway (frontage road) the superelevation is 0.02 ft/ft.

   The difference in cross-slope (0.018 ft/ft) was discussed, and it does not appear to be a problem. The intermediate stage construction will be at 0.038 ft./ft., and the same pavement and cross-slope will be used for part of the ultimate stage frontage road (west side). The intermediate stage shoulder should be constructed at the same cross slope as the adjacent lanes.

IK0198

KAISER ENGINEERS

INTER OFFICE MEMORANDUM

TO 87125-210
AT Tampa

DATE April 27, 1988

FROM T. McLaughlin

COPIES TO Attendees
R. L. Orth
W. E. Robertson
Teresa S. Estes

AT Tampa

JOB NO. 87125.210

SUBJECT Meeting at FDOT-7 Offices, April 20, 1988, 3:00 PM
RE: North Dale Mabry Typical Sections

In Attendance: Jim Hatch - FDOT
T. McLaughlin - KE
Larry Gaddy

State Project No's: 14040-1505 / 7115971
10160-1527 / 7113789

North Dale Mabry From Van Dyke to U.S. 41 (Hillsborough & Pasco)

1. This meeting was called to discuss the interim and ultimate sections, proposed grades, design speeds, superelevation, pavement to be salvaged when the "ultimate" frontage road is constructed, and the various choices available with consideration given to the information discussed at DSA on 4-19-88.

2. Choices for grades are as follows:

   a) 0.3% with vertical curves - 65 mph design speed;
   b) 0.2% with vertical curves - 65 mph design speed; (fewer vertical curves)(no curb and gutter)(shoulder cross-slope varies for drainage)
   c) 0.2% with vertical curves - 60 mph design speed; (no curb and gutter)(shoulder cross-slope varies for drainage)
   d) Flat grade - match existing ground - 70 mph design speed; (mill shoulder and overbuild pavement for ultimate design to obtain drainage; inlets are more frequent)

3. Inside shoulder should be 8′ wide, stabilized only; this will allow maximum latitude for setting grades in the future without milling pavement.

4. The west shoulder for the two new southbound lanes should b 4′ wide full-depth base & pavement, (same as roadway section) and 8′ width stabilization only (12 ft. total). The 4′ section should have the same cross-slope as the roadway section so it can be re-used as part of the ultimate frontage road.

IK0216

5. Referring to the sections submitted by DSA on April 6, 1988, the following changes and modifications were discussed:

   a) Shift the ultimate centerline of construction one foot to the east.

   b) This would require a 17 foot strip of right of way to be purchased instead of 16 feet.

   c) Right of way (17' width) should be purchased on the east only where a ditch is required, or the horizontal space is required due to elevation difference; otherwise, buy only a 2 foot strip of right of way to give a 2 foot clearance between the back of sidewalk and right of way line.

   d) In consideration of item (c) above, the right of way for the east half of the section should be shown as "103 feet to 117 feet (varies)".

   e) Due to the numerous wetlands, the right of way purchased will generally have to be 17 feet wide; the east ditch cannot be eliminated on the ultimate section for most of the length of the project.

6. The meeting concluded with the recommendation that the design speeds remain 70 mph for the freeway lanes, and 45 mph for the frontage roads. The design grades for the interim two-lane addition should be adjusted to match the existing grade, without introducing any 0.2% or 0.3% grades for future gutter drainage. It was decided that it would be best to not compromise the current design by trying to set grades for a future condition that may never be constructed - (curb and gutter with curb inlets).

KAISER ENGINEERS

INTER OFFICE MEMORANDUM

TO File 87125-210/240
AT Tampa

DATE April 28, 1988
FROM T. E. McLaughlin
AT Tampa
JOB NO. 87125-210

COPIES TO Attendees
Bill Robertson
Bob Orth

SUBJECT

FHWA - RECOMMENDED TYPICAL SECTION (R. 4/26/88)
NORTH DALE MABRY - VAN DYKE TO US 41
STATE PROJECT NO. 10160-1510/14040-1503

Meeting at FDOT-7 on April 27, 1988 at 10:00 A.M.

ATTENDEES

Steve Walker - FHWA	Tom McLaughlin - KE
Larry Gaddy - FDOT	Lisa Hansen - DSA
Jim Hatch - FDOT	A. Soroory - DSA
Teresa Estes - FDOT	Larry Weatherby - DSA

The meeting was called to discuss the proposed interim and ultimate sections and potential FHWA participation. Steve Walker had furnished a section showing a 28' raised median with one-way frontage roads on April 26, 1988.

1. With reference to the FHWA section, the following comments were made:

   a) Additional right of way would be required; cost would be $2 to $3 per S.F. average.

   b) Mitigation of wetlands would require a 2:1 or higher ratio.

   c) The 65 mph speed limit is less than the FDOT section.

   d) There would be no stormwater storage available in the median.

   e) The ultimate storm system cost would be double or more than the cost for the FDOT ultimate section.

   f) One-way frontage roads would add an estimated 20,000 vehicle miles per day to the roadway segment, due to the circuitous motion imposed on local traffic. (Estimate 1 mile between intersections, 10,000 vpd local, 2.0 mile avg/trip - additional.)

   g) The FHWA section proposes a design speed of 65 mph with a 60 mph posted speed; this will reduce the capacity of the roadway.

2. Steve Walker says FDOT/DSA section will give the appearance of a freeway with stop lights leading to more accidents at intersections.

3. Additional R/W required for the FHWA section causes greater wetlands impacts and many permit problems.

4. Need clearance from edge of road/curb/sidewalk to edge of right of way for elevation change to avoid cypress heads; there will be severe mitigation problems if this is not provided.

5. PD&E report was reviewed; reasons for choosing two-way over one-way frontage roads were discussed.

6. The PD&E report should consider the possibility of starting with a 2-way frontage road and later converting to one-way as a second stage ultimate design.

7. Also consider frontage roads without signalized intersections -- is this feasible? Up to this point, the basic concept has been that if traffic volumes warranted frontage roads, signals also would be required:

Ultimate Stage One:	Two-way frontage roads with at-grade signalized intersections.
Ultimate Stage Two: (proposed today)	One-way frontage roads with interchanges; convert entire corridor at one time.

8. PD&E report should show a minimum recommended interchange spacing with a brief discussion of interchanges. Frontage road "loops" are designed to become interchanges, if required later.

9. The meeting concluded with a recommendation to Lisa Hansen that the design work proceed in accordance with the typical sections submitted by DSA on April 25, 1988; grades for the new lanes should provide the best design based on the existing ground elevations in relation to the existing pavement surface.

TEM/csw

IK0213

KAISER ENGINEERS

INTER OFFICE MEMORANDUM

TO File 87125-210
AT Tampa

DATE April 28, 1988

FROM Tom E. McLaughlin

COPIES TO Bill Rutherford, Bill Robertson, Pamela Foster, Lisa Hansen, Darrell Faylo, James E. Hatch, R. L. Orth

AT Tampa

JOB NO. 87125-210

SUBJECT **CHRONOLOGY OF TYPICAL SECTION PACKAGE SUBMITTALS**

1. Typical Section Package submitted by DSA on March 3, 1988.
2. FDOT reviews & DSA resubmits on April 6, 1988 to KE.
3. Piercefield/Genesis submits sections on April 14, 1988 to KE.
4. KE submits typical section package from both consultants to FDOT on April 14, 1988.
5. FDOT reviews typical sections on April 20, 1988.
6. KE advises DSA of changes on April 21, 1988.
7. DSA resubmits typical section package on April 25, 1988 to KE.
8. KE transmits new typicals to FDOT on April 25, 1988.
9. KE discusses both Piercefield and DSA typical sections on April 26, 1988, with FDOT.
10. KE advises Piercefield and DSA of FDOT requested revisions to sections on April 26, 1988.
11. FHWA (Steve Walker) advises FDOT-7 that they will require a completely new section (Interim and Ultimate) for Federal Aid Participation, on April 26, 1988. Subsequent discussion with Steve Walker indicates that no major change to the typical sections will be required.
12. DSA was advised on 4-28-88 by KE and FDOT-7 at the meeting to remove any references to pavement thickness, LBR, or vertical pavement design dimensions from the 4-25-88 sections. A resubmittal should then be made as soon as possible.

TEM/csw

IK0211

KAISER ENGINEERS

INTER OFFICE MEMORANDUM

TO	File 87125-210/240	DATE	April 29, 1988
AT	Tampa	FROM	T. E. McLaughlin
COPIES TO	Attendees W. E. Robertson R. L. Orth	AT	Tampa
		JOB NO.	87125-240

SUBJECT

MEETING AT DSA OFFICE, 4-28-88, 9:00 A.M.
RE: NORTH DALE MABRY INTERIM AND ULTIMATE DESIGN AND TYPICAL SECTIONS

State Project No. 10160-1510/14040-1503
WPI No. 7113328/7115882

In Attendance:		
	Teresa Estes	Jim Hatch
	Lisa Hansen	A. Soroory
	Larry Weatherby	H. Campbell
	C. Giovenco	Tom McLaughlin

1. Lisa Hansen will proceed with the design (PE) based on the typical section submitted on 4-25-88 with the 57' grassed median and ditch. Federal Aid may or may not be required for this interim stage construction.

2. Larry Weatherby's PD&E report should address the various stages of construction and associated traffic volumes which will indicate need for the next stage: interim (4 lanes); ultimate #1 (4 lanes with two-way frontage roads without signals); ultimate #2 (4 lanes with two-way frontage roads with signals); ultimate #3 (4 lanes with two one-way frontage roads with signals and interchanges). The report should be prepared with the anticipation of receiving Federal Aid for all construction.

3. Report should indicate that the typical section will change as the intersections are approached.

4. The V.E. report should be addressed in the PD&E Engineering report with regard to the revisions made to the typical section.

5. Interim design and right of way reservation map preparation will proceed based on the DSA typical sections submitted on 4-25-88.

6. Larry Weatherby will write a letter for Teresa Estes on FDOT letterhead to FHWA - Steve Walker, referring to the V.E. report and proposed typical sections.

7. Mitigation of wetlands was discussed with DER, SWFWMD, and Jim Bryce of DSA in the field, and DER advised they would only require mitigation for the ultimate stage construction. This field assessment occurred on 11-5-87.

IK0220

8. Lisa Hansen suggested that the Department apply for and obtain "20 Year Permits" from DER and SWFWMD for the ultimate design as soon as it is available; this will secure the design against changes in agency requirements. Cost would be about $1000.00 per year to maintain the permit on active status. KE is to make a recommendation on this item to FDOT-7.

9. Jim Hatch discussed the design with DAS Kennedy on 4-27-88 and advised that Mr. Kennedy has no objection to one-way frontage roads for the "third stage ultimate" design, but he does want to use two-way frontage roads for the "first stage ultimate" design. Mr. Kennedy has indicated that the interim construction will probably not be federally funded.

TEM/csw

IK0220

FLORIDA DEPARTMENT OF TRANSPORTATION
BOB MARTINEZ
GOVERNOR
KAYE N. HENDERSON
SECRETARY

1300 North Westshore Boulevard, Suite 202
Tampa, Florida 33607

August 21, 1989

Mr. Tom Thomson, P.E.
Executive Director
Metropolitan Planning Organization
201 E. Kennedy Boulevard, Suite 600
Tampa, Florida 33602

RE: PD&E Study for N. Dale Mabry Highway
WPI NO.: 7115882 & 7113328
S.P. NO.: 14040-1503 & 10160-1510
F.A. NO.: F-295-1(7)
S.R. 597 Dale Mabry Highway from Van Dyke Road to U.S. 41 in Pasco
Hillsborough and Pasco Counties

SUBJECT: CONFORMANCE WITH MPO 2010 LONG RANGE PLAN

Dear Mr. Thomson:

This letter is in reference to the recent plan amendment passed by the MPO regarding collector roads on North Dale Mabry highway.

Since the MPO's plan has been amended to reflect current department concept designs for the referenced section of Dale Mabry, we would be most grateful if your office could send us a letter indicating plan conformance.

Please call at your convience if you require more information. Thank you for your assistance with this project.

Very truly yours,

FLORIDA DEPARTMENT OF TRANSPORTATION

James Edwards
Transportation Planning Manager

TEM/esj

cc: J. W. Dorzback, P.E.
Katherine Becher

KL00221

Metropolitan Planning Organization

September 8, 1989

Mr. Ronald Pscion
Director of Programming and Planning
Florida Department of Transportation
4950 West Kennedy Boulevard
Suite 500
Tampa, Florida 33601

Dear Ron:

Re: PD&E Study for North Dale Mabry Highway.
WPI No. 7115882 and 7113328
S.P. No. 14240-1503 and 10160-1510
F.A. No. F-295-1(7)
S.R. 595 Dale Mabry Highway from Van Dyke Road to U.S. 41 in Pasco.
Hillsborough and Pasco Counties
Conformance with MPO 2010 Long Range Plan.

At its July 18, 1989 meeting, the MPO amended its 2010 Long Range Transportation Plan to reflect the changes that were requested by Florida Department of Transportation relating to the North Dale Mabry Highway Project.

The requested changes involves a segment of Dale Mabry between Van Dyke Road and U.S. 41 in Pasco County. This is to be a two-stage project. The first stage will be a four-lane divided highway within the existing 200 foot right-of-way. The second stage will be the addition of two-way frontage roads on each side of the road to make a partially access controlled roadway.

This plan amendment is now included in the 2010 Long Range Transportation map; therefore, making this project is consistent with the plan.

Thomas L. Thomson, P.E., AICP
Executive Director

Tampa Urban Area
Metropolitan Planning Organization
201 E. Kennedy, Suite 600
Tampa, Florida 33602
813/272-5940

If I can be of further assistance on this project, please call me.

Sincerely,

Thomas L. Thomson
Executive Director

TLT/DW/jh

TAMPA URBAN AREA
METROPOLITAN PLANNING ORGANIZATION
NORTH DALE MABRY HIGHWAY PUBLIC HEARING
JULY 18, 1989

MEMBERS PRESENT	ORGANIZATION
John King	HARTline
Mayor Sandy Freedman	City of Tampa
Councilman Larry Smith	Tampa City Council
Councilwoman Linda Saul-Sena	Tampa City Council
Commissioner Bill Meriwether	City of Plant City
Will Bissett	Expressway Authority
Mayor Ed Simmon	City of Temple Terrace
Joe Chillura (Ex-officio)	The Planning Commission
Jim Kennedy (Ex-officio)	FDOT, District VII

MEMBERS NOT PRESENT	ORGANIZATION
Commissioner Pam Iorio	Board of County Commission
Commissioner Jim Selvey	Board of County Commission
Commissioner Phyllis Busansky	Board of County Commission

OTHERS PRESENT	ORGANIZATION
Tom Thomson	MPO Executive Director
Linda Ferraro	MPO Secretary
Lucie Ayer	Director, Transp. Dept.
David Woods	Princp. Plan., MPO Programs
Cheryl Harrison	Sr. Plan., MPO Studies
Larry Allen	Sr. Plan., MPO Studies
Bonnie Allen	Assistant Co. Attorney
Bob Krzeminski	FDOT
Bill Boothe	The Planning Commission
Mary Wiser	The Planning Commission
George Adriaansen	FDOT, District VII
Rick Adair	FDOT, District VII
David Twiddy	FDOT, District VII
Louis Fernandez	MPO TAC
Kay Menzel	Commissioner Iorio's Aide
Rich Barube	Commissioner Busansky's Aide
Joe Kubicki	King Engineering
Margaret Vizzi	MPO CAC
Ray Speer	Expressway Authority
Lee Royal	Citizen
Hugh Jones	Citizen - Lutz
James Drapp	Citizen
Dan Ruskiewicz	Citizen
John McKinnon	St. Pete Times
Geoffrey Mohan	Tampa Tribune

TAMPA URBAN AREA
METROPOLITAN PLANNING ORGANIZATION
PUBLIC HEARING ON NORTH DALE MABRY
JULY 18, 1989

MINUTES

The public hearing for North Dale Mabry was called to order by Chairman John King at 9:40 AM and was held in the Board of County Commission Chambers.

PUBLIC HEARING ON NORTH DALE MABRY HIGHWAY

A) Presentation by FDOT
B) MPO Staff Presentation
C) Public Input
D) Close Public Hearing

Mr. George Adriaansen of the FDOT District VII Office stated that the limits of this plan amendment are from North Dale Mabry (SR 597) from Van Dyke Road to north of the Hillsborough County Line. The project actually runs from Van Dyke north to U.S. 41.

Currently, the existing roadway is two-lane undivided and the 2010 Long Range Transportation Plan calls for a six-lane divided roadway. The FDOT presently has the PD&E Study underway and the project calls for an interim improvement of four-lane divided roadway with an ultimate improvement within the Year 2010 a four-lane divided arterial highway with two two-way frontage roads, one on each side. The roadway design itself would permit an ultimate four-lane expressway with two two-lane one way frontage roads.

The current level of service on Dale Mabry is "D" with 31,000 vehicles per day by the year 2010. The MPO's 2010 Long Range Transportation Models show volumes up to 54,500 on this section of Dale Mabry.

FDOT has forwarded an environmental document for this roadway to the Federal government. Additionally, the Planning Commission is conducting a North Dale Mabry Land Use Study and is considering possible changes to the land use plan in this area. The basis for this study is an intent to improve the quality of life in the area and control the land use.

Councilwoman Linda Saul-Sena asked how frequent would the breakouts be for local trips. Mr. Adriaansen stated that it is roughly every half of a mile.

B) Mr. Larry Allen of the MPO staff gave the staff presentation. He stated that the FDOT plan amendment for North Dale Mabry is consistent with the environment and the Comprehensive Plan. Staff recommends approval of this plan amendment.

C) Mr. Hugh Jones, 1722 Rivendel Road, Lutz, FL 33549 - Mr. Jones stated that he was concerned that none of the County Commissioners who are on the

MPO were in attendance at this meeting. He felt that they should be in attendance since the public hearings for U.S. 41 and North Dale Mabry deal with areas of the county.

Commissioner Bill Meriwether made a motion to close the public hearing to public comments; the motion was seconded by Mayor Sandy Freedman and carried.

Commissioner Meriwether made a motion to approve the plan amendment for North Dale Mabry Highway and that it be included in the 2010 Long Range Transportation Plan; the motion was seconded by Councilman Smith. Questions on the motion were held.

Mr. Will Bissett stated that he would abstain from voting on this plan amendment because he owns property on Dale Mabry north of Calusa Trace and it would be affected by the improvements.

The motion carried with Mr. Bissett abstaining.

ADJOURNMENT

There being no further business, the public hearing adjourned at 9:58 AM.

TAMPA • RALEIGH • MIAMI • WINSTON-SALEM

DSA GROUP INC

DSA BUILDING, 2005 PAN AM CIRCLE, TAMPA, FLORIDA 33607 (813) 870-8670

MEMORANDUM

TO: File/DSA CM Nos 84078-F1/88020-F2 DATE: May 24, 1988

FROM: H.A. Campbell, P.E. H. A. Campbell

SUBJECT: SR 597 (Dale Mabry Hwy) Project; State Project Nos 10160-1527 & 14040-1505
Highway Lighting

At the request of the FDOT, DSA has reviewed the need for Highway Lighting on S.R. 597 from Van Dyke to U.S. 41. It is DSA's first recommendation that FDOT consider, as a minimum, the installation of street lighting on the approaches and at the signalized intersection of S.R. 597 and Lutz Lake Fern Road. In conjunction with the U.S. 41 improvement project the S.R. 597 at U.S. 41 intersection and approaches should also be lighted. Any new signals permitted along this corridor should also provide for full approach and intersection lighting.

It is DSA's second and primary recommendation that the roadway sections in both Hillsborough and Pasco Counties contain complete Highway Lighting. The remaining paragraphs detail the considerations that led to these recommendations.

DSA has evaluated the corridor in two segments; 1) Van Dyke to the Pasco County line and 2) Hillsborough County line to U.S. 41. The two segments do not "require" Highway Lighting immediately when considering just the following facts:

1) The corridor is primarily rural in nature and the roadway design is "rural". FDOT typically does not provide highway lighting on rural roadways.
2) Applying NCHRP evaluation procedures to the proposed Geometric Operational and Surrounding Environment Factors as well as the Ratio of Night-to-Day Accidents yields about 50% to 70% of the minimum rating for lighting warrants.

However, there are other considerations that must be reviewed before a final recommendation could be provided:

A. The ratio of Night-to-Day accidents averaged over three years (1984, 1985 and 1986) seems to be moderately high (1.106 and 1.62).
B. Growth along this "rural" S.R. 597 corridor is inevitable. As the corridor becomes more urbanized in geometric, operational and surrounding environment factors the NCHRP warranting conditions will be met.
C. Construction of the ultimate section (Expressway) is not programmed and an interim street lighting plan will be needed, if the ultimate section can not be constructed within ten years.
D. Highway Lighting project no. 10160-3526 (W.P.I. 7113782) is slated for installation of street lights from Waters to Van Dyke. This area already has become urbanized.

(continued)

TAMPA • RALEIGH • MIAMI • WINSTON-SALEM

DSA GROUP INC

DSA BUILDING, 2005 PAN AM CIRCLE, TAMPA, FLORIDA 33607 (813) 870-8670

MEMORANDUM

TO: File/DSA CM Nos 84078-F2/88020-F2 DATE: May 24, 1988

FROM: H.A. Campbell, P.E.

SUBJECT: SR 597 (Dale Mabry Hwy) Project; State Project Nos 10160-1527 & 14040-1505
Highway Lighting

Therefore, it is DSA's recommendation that street lighting be installed as part of the road widening project. By constructing the roadway lighting as part of road construction, cost savings will result and night time safety will be improved.

lsk

cc: Larry Weatherby, P.E.
Lisa Hansen, P.E.

APPENDIX F

FORM 172-601
07/88

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY COST ESTIMATE
(Excluding Phase 33)

W.P. ITEM NO.	PROJECT NO.	DISTRICT
7113328 & 7115882	10160-1510 & 14040-1503	Seven
COUNTY	**FAP NO.**	**DATE**
Hillsborough & Pasco		April 12, 1988

LOCAL DESCRIPTION STATE ROAD: SR 597
FROM: Vandyke Road
TO: US 41 (SR 45)

EST. NUMBER OF PARCELS		EST. RELOCATEES	
BUSINESS	9	BUSINESS	4
RESIDENTIAL	5	RESIDENTIAL	3
UNIMPROVED	50	SIGNS	14
		(Pers. Prop) SPECIAL	5
TOTAL	64	TOTAL	26

R/W SUPPORT COSTS (PHASE 30)

1. DIRECT LABOR COST (Lump Sum) $25,000 X RATE 64 Parcels =		$ 1,600,000
2. INDIRECT OVERHEAD (LINE 1 X FACTOR incl. above) =		
3. R/W OPS:		
A. APPRAISAL FEES	incl. above	
B. BUSINESS DAMAGE CPA FEES	incl. above	
C. CT. REPORTER & WITNESS FEES	incl. above	
D. DEMOLITION CONTRACTS	incl. above	
E. MOVE COST ESTIMATES	incl. above	
	SUBTOTAL	----

FHWA USE ONLY
RELOCATION B PLAN COST _____
APPRAISER FEES (PROJECT) _____

TOTAL (PHASE 30) $ 1,600,000

R/W LAND COSTS (PHASE 31)

1. LAND, IMPROVEMENTS & SEVERANCE DAMAGE	$ 2,059,000
2. WATER RETENTION AREA (35.28 Acres)	2,879,000
3. ADMIN. SETTLEMENTS (FACTOR 20% X TOTAL OF LINES 1 & 2) =	987,600
4. CT. AWARDS & LEGAL SETTLEMENTS (FACTOR 40% X TOTAL OF LINES 1 & 2) =	1,975,200
5. BUSINESS DAMAGES	290,000
6. PROPERTY OWNER APPRAISER FEES ($4,000 x 64 parcels)	256,000
7. BUSINESS DAMAGE ESTIMATE (OWNER) CPA FEES ($7,500 x 5 bus. damages)	37,500
8. DEFENDANT ATTORNEY FEES (15% x lines 1 and 2)	740,700
9. OTHER CONDEMNATION COSTS (3% x lines 1 and 2)	148,200
TOTAL (PHASE 31)	$ 9,373,200

R/W ACQUISITION CONSULTANT (PHASE 33)
(Not Included)

TOTAL (PHASE 33) $ ----

RELOCATION COSTS (PHASE 38)

1. MOVING EXPENSES	$ 76,500
2. REPLACEMENT HOUSING COSTS	70,500
3. LAST RESORT HOUSING COSTS (ATTACH FORM 174-514)	-0-
TOTAL (PHASE 38)	$ 147,000
TOTAL ESTIMATE - ALL PHASES	$ 11,120,200 *

Not Including Phase 33

UPDATE NO. Orig. COST EST. SEQ. NO. _____
SUPERSEDES ESTIMATE DATED _____
DATA INPUT COMPLETED DATE _____

ESTIMATED BY: J. Curatelli, B. Morris KE DATE 4/11/88
REVIEWED BY: T. Graff L. McBean KE DATE 4/13/88

REMARKS Conceptual Estimate Only.

*Add $100,000 for '17' additional R/W instead of 16' addit. R/W
New Total = $11.2 million

APPENDIX G

CONCEPTUAL DESIGN DRAWINGS

(Reduced to Approximately
1" = 220' scale)


VAN DYKE ROAD
C.R. 685
UNDER CONSTUCTION PROJECT # 10160-3525
PROJECT LIMITS
PROPOSED
NORTHWEST HILLSBOROUGH EXPRESSWAY
ALIGNMENT
POSSIBLE IMPROVEMENTS BY OTHERS
4-LANE URBAN
with
FRONTAGE ROADS
PRELIMINARY
6-29-88

4-LANE URBAN
with
FRONTAGE ROADS
PRELIMINARY
6-29-88

PROPOSED DETENTION AREA

PROP. LAKE BY OTHERS

PROPOSED DETENTION AREA

PROP. CALUSA TRACE SUBDIVISION

PROPOSED BY OTHERS

CHEVAL TRAIL

DSH

4-LANE URBAN
with
FRONTAGE ROADS

PRELIMINARY

Designed	3-3-68
Drawn	Sheet 29
Traced	of 34
Checked	
Scale	

WILSON CIRCLE

GERRACI ROAD

GERRACI ROAD

4-LANE URBAN
with
FRONTAGE ROADS

PRELIMINARY

USH

ARBOR DRIVE

GERACI ROAD

SUN LAKE BLVD

4-LANE URBAN
with
FRONTAGE ROADS
PRELIMINARY

PROPOSED DETENTION AREA

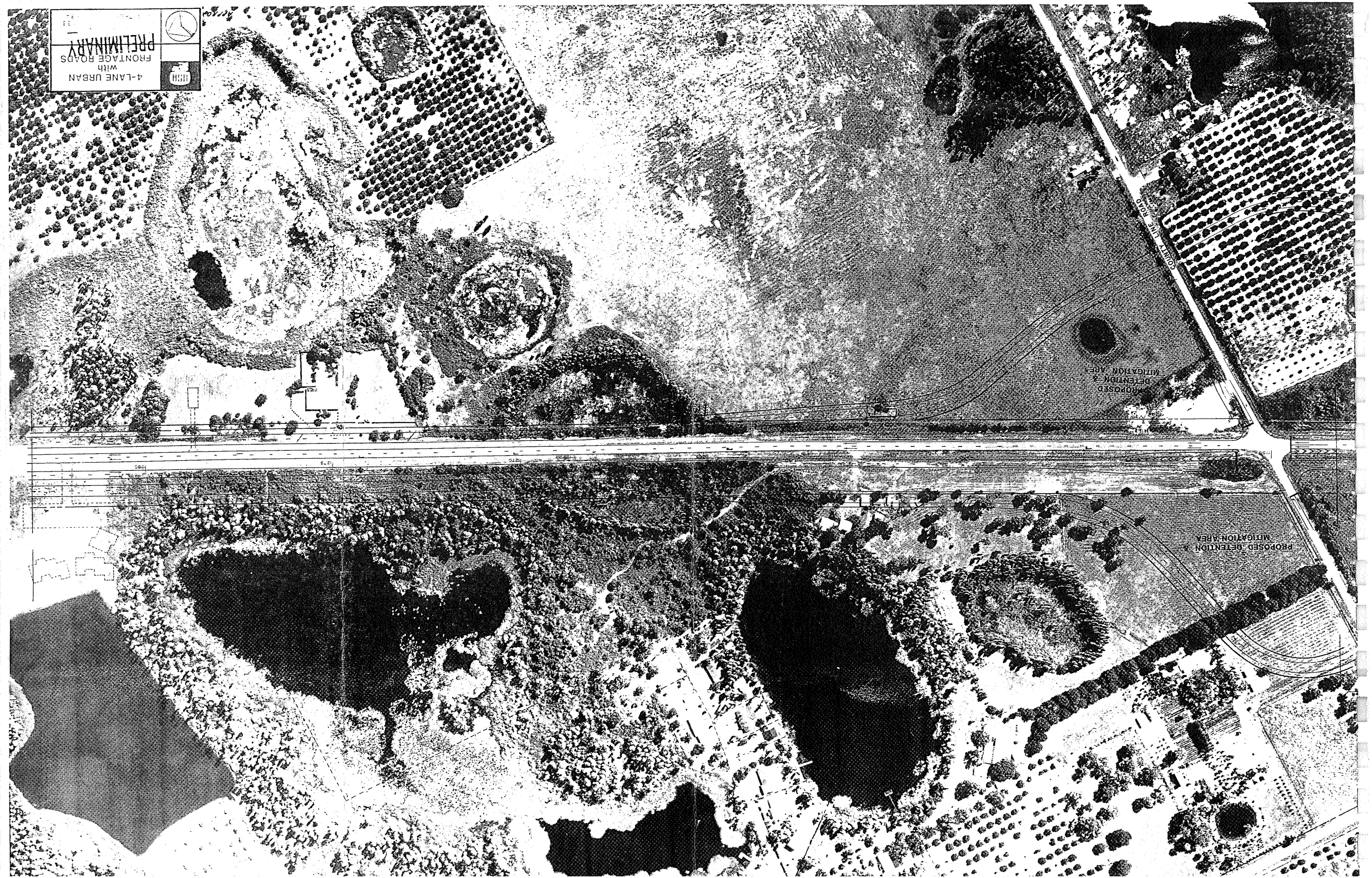
LUTZ-LAKE FERN ROAD

PROPOSED DETENTION AREA

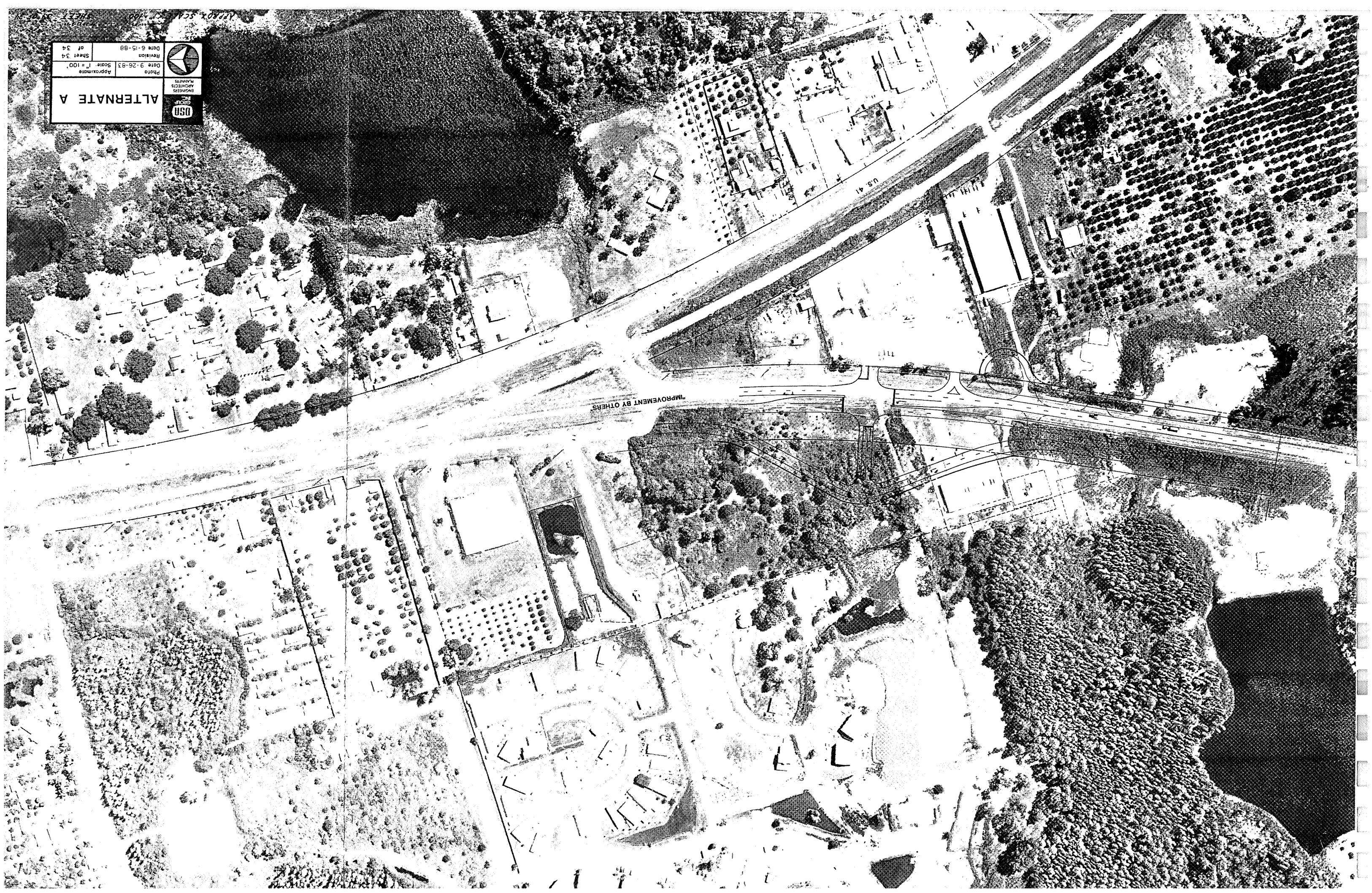
PROPOSED DETENTION AREA

BLOUNT RD


WILLIAMS ROAD
HOLLY LAKE PL.
HOLLY LANE
PROPOSED DETENTION & MITIGATION AREA
HOLLY LANE
HOLLY LANE
PROPOSED DETENTION & MITIGATION AREA
1220
1225
1230
1235
1240
1245
4-LANE URBAN
with
FRONTAGE ROADS
PRELIMINARY
Date 4-26-83
Revision
Date 3-3-88
Sheet 32
of 34


4-LANE URBAN
with
FRONTAGE ROADS
PRELIMINARY
PROPOSED
DETENTION &
MITIGATION AREA
COUNTY LINE ROAD
PROPOSED DETENTION &
MITIGATION AREA

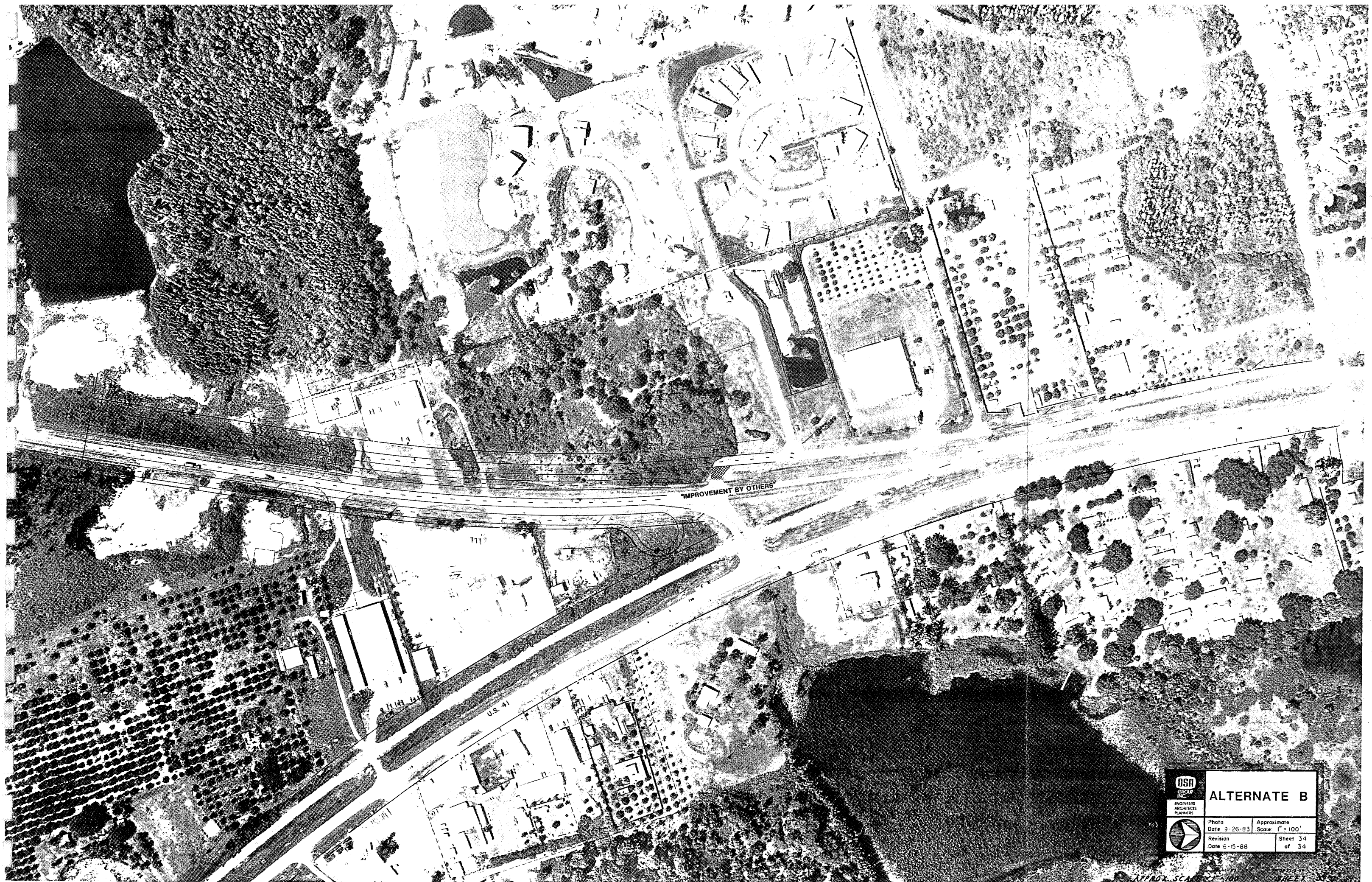

4-LANE URBAN
with
FRONTAGE ROADS
PRELIMINARY
US 41
I-275
"IMPROVEMENT BY OTHERS"
DETENTION AREA
DETENTION AREA



DSA GROUP
ENGINEERS
ARCHITECTS
PLANNERS

ALTERNATE A

Photo Date 9-26-83	Approximate Scale 1" = 100'
Revision Date 6-15-88	Sheet 34 of 34



DSA GROUP INC.
ENGINEERS ARCHITECTS PLANNERS

ALTERNATE B

Photo Date: 9-26-83	Approximate Scale: 1" = 100'
Revision Date: 6-15-88	Sheet 34 of 34

"IMPROVEMENT BY OTHERS"

U.S. 41

OSA GROUP INC.
ENGINEERS ARCHITECTS PLANNERS

ALTERNATE C

Photo Date 9-26-83	Approximate Scale 1" = 100'
Revision Date 6-15-88	Sheet 34 of 34

APPROX. SCALE 1" = 100'