

FINAL POND SITING REPORT

**GANDY BOULEVARD (SR 694) PD&E STUDY
FROM WEST OF US 19 TO EAST OF 4th STREET
PINELLAS COUNTY**

**Work Program Item Segment No: 256931 1
Federal Aid Project No: N/A**

**This project evaluates pond siting alternatives for Gandy Boulevard (SR 694) from west
of US 19 to east of 4th Street
Pinellas County, Florida.**

Prepared for:

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

May 2002

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study to evaluate improvement alternatives along Gandy Boulevard (SR 694) from west of US 19 to east of 4th Street in the cities of Pinellas Park and St. Petersburg in Pinellas County, Florida, a distance of about 3.9 miles. The objective of the PD&E Study is to provide documented environmental and engineering analyses, which will help the FDOT and the Federal Highway Administration (FHWA) reach a decision on the type, conceptual design and location of the necessary improvements along the Gandy Boulevard (SR 694) corridor to accommodate future transportation needs in a safe and efficient manner.

This Pond Siting Report (PSR) identifies pond site alternatives and includes an alternative analysis for selection of a preferred alternative for the project corridor. This study analyzes pond site alternatives that are hydraulically feasible and environmentally permittable based on the best available information. These alternatives were then compared based on Section 4(f) involvement; cultural resources; environmental impacts including wetlands, upland habitat and protected species involvement; petroleum and hazardous materials contamination; and economic factors including right-of-way costs.

The preferred pond sites are listed in the table below.

PREFERRED POND	STATION - LOCATION	AREA (ac)
200 - B	47+00; LT	4.25
300 - B	53+00; LT	2.64
400 - A	70+00; LT	2.00
500 - A	91+00; LT	1.26
600 - C	95+00; RT	2.49
700 - A	142+50; RT	3.36
800 - A	148+00; LT	3.16
900 - A	177+00; RT	2.01
1000 - B	187+00; RT	1.74
1100 - A	191+00; CTR	2.04

TABLE OF CONTENTS

EXECUTIVE SUMMARY	ES-1
1.0 INTRODUCTION	1
2.0 PROJECT DESCRIPTION	3
3.0 EXISTING DRAINAGE CONDITIONS	4
3.1 Topography and Hydrologic Features	4
3.2 Existing Drainage Patterns and Stormwater Management Facilities	6
3.3 Existing Cross Drains	6
4.0 PROPOSED IMPROVEMENTS	7
4.1 Proposed Drainage	7
4.2 Pond Aesthetics	8
5.0 ENVIRONMENTAL EVALUATION	8
5.1 Jurisdictional Wetland Involvement	8
5.2 Cultural Features	9
5.2.1 Section 4(f) Involvement	9
5.2.2 Archaeological and Historic	9
5.3 Threatened and Endangered Species	10
5.4 Hazardous Materials and Petroleum Site Data	10
6.0 FLOODPLAINS/FLOODWAYS	10
6.1 Flooding History	10
6.2 Flood Insurance Rate Maps	11
6.3 Flood Zone Description	11
6.4 Floodplain Compensation	11
6.5 Regulatory Floodways	13
7.0 GEOTECHNICAL DATA	13
8.0 ALTERNATIVE POND SITE INFORMATION	15
8.1 Stormwater Management Methodology and Criteria	15
8.2 Pond Siting Alternative Analysis	16
9.0 RECOMMENDATIONS	28

LIST OF FIGURES

Figure 1-1	Project Location Map.....	2
Figure 3-1	Drainage Map.....	5
Figure 6-1	FEMA Map	12
Figure 7-1	Soils Map	14

LIST OF TABLES

Table 3-1	Regional Drainage Boundaries	4
Table 3-2	Existing Cross Drains	7
Table 7-1	Summary of Soil Groups	13
Table 8-1	Alternative Matrix Analyses Basin 200.....	18
Table 8-2	Alternative Matrix Analyses Basin 300.....	19
Table 8-3	Alternative Matrix Analyses Basin 400.....	20
Table 8-4	Alternative Matrix Analyses Basin 500.....	21
Table 8-5	Alternative Matrix Analyses Basin 600.....	22
Table 8-6	Alternative Matrix Analyses Basin 700.....	23
Table 8-7	Alternative Matrix Analyses Basin 800.....	24
Table 8-8	Alternative Matrix Analyses Basin 900.....	25
Table 8-9	Alternative Matrix Analyses Basin 1000.....	26
Table 8-10	Alternative Matrix Analyses Basin 1100.....	27
Table 9-1	Preferred Pond Sites.....	28

LIST OF APPENDICES

Appendix A Concept Plans

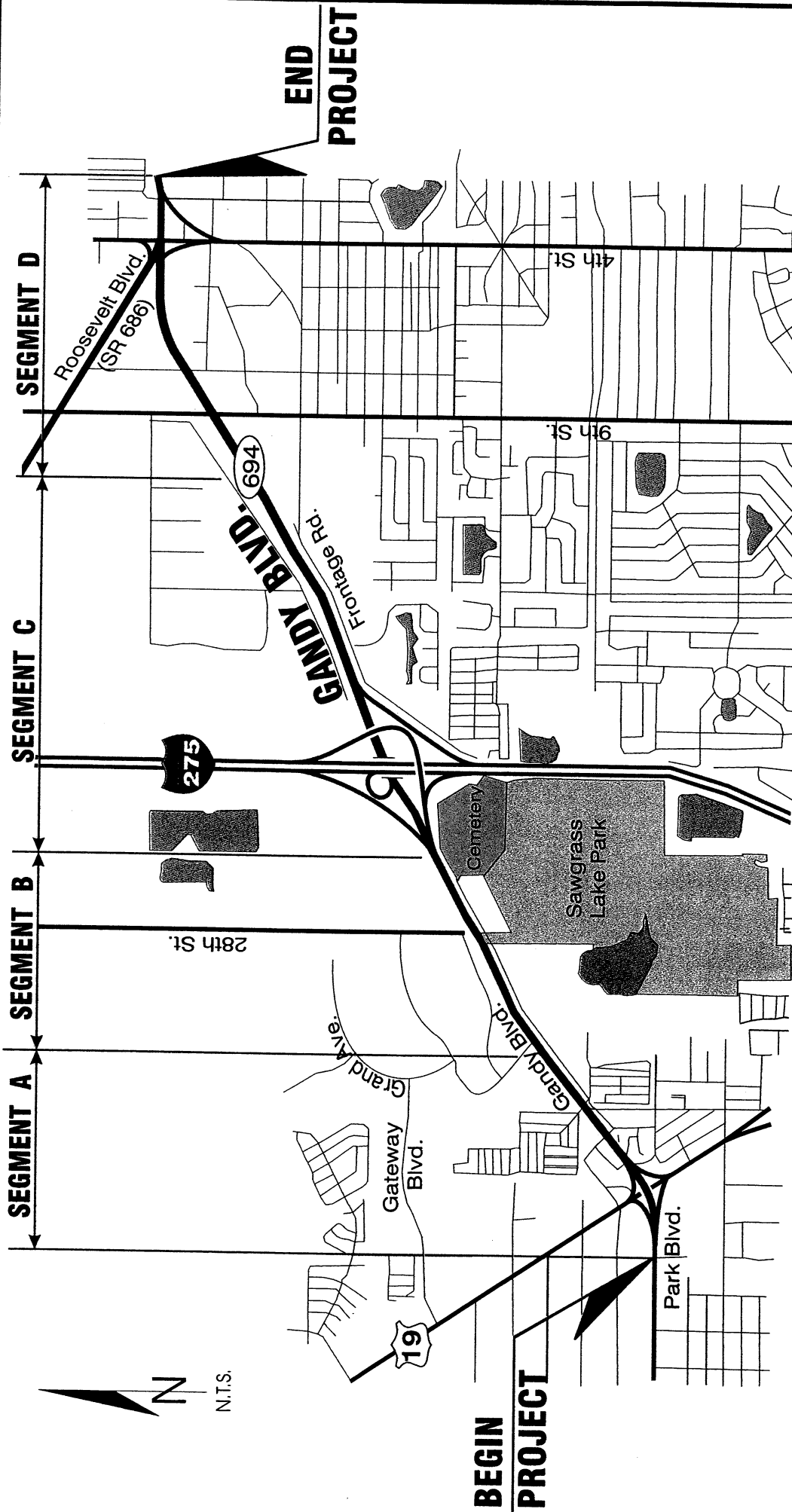
Appendix B Correspondence

Appendix C Pond Size Calculations

1.0 INTRODUCTION

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study to evaluate improvement alternatives along Gandy Boulevard (SR 694) from west of US 19 to east of 4th Street in the cities of Pinellas Park and St. Petersburg in Pinellas County, Florida. The project location map in Figure 1-1 illustrates the location and limits of the Study. The objective of the PD&E Study is to provide documented environmental and engineering analyses, which will help the FDOT and the Federal Highway Administration (FHWA) reach a decision on the type, conceptual design and location of the necessary improvements along the Gandy Boulevard (SR 694) corridor to accommodate future transportation needs in a safe and efficient manner.

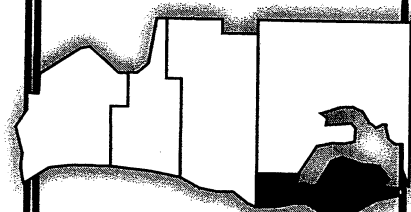
This Pond Siting Report (PSR) identifies pond site alternatives and includes an alternative analysis for selection of a preferred alternative for the project corridor. This study analyzes pond site alternatives that are hydraulically feasible and environmentally permissible based on the best available information. These alternatives were then compared based on Section 4(f) involvement; cultural resources; environmental impacts including wetlands, upland habitat and protected species involvement; petroleum and hazardous materials contamination; and economic factors including right-of-way costs.



LEGEND

- Segment A: West of US 19 to west of Grand Ave.
- Segment B: West of Grand Avenue to west of I-275
- Segment C: West of I-275 to west of 9th Street
- Segment D: West of 9th Street to east of 4th Street

PROJECT LOCATION MAP



FLORIDA DEPARTMENT OF TRANSPORTATION

GANDY BOULEVARD (SR 694)

PD&E STUDY

From West of US 19 to
East of 4th Street

Pinellas County, Florida



WPI SEG NO: 256931 1

FIGURE 1-1

2.0 PROJECT DESCRIPTION

Through the PD&E Study process, the FDOT is evaluating improvement alternatives along the Gandy Boulevard (SR 694) corridor. The Gandy Boulevard (SR 694) corridor is primarily an east/west facility, which in its entirety, extends from a western terminus at Gulf Boulevard in Pinellas County to an eastern terminus at Bayshore Boulevard in Hillsborough County. The Gandy Boulevard (SR 694) corridor is functionally classified as an east/west principal urban arterial highway and is part of the Florida Intrastate Highway System (FIHS). The facility also serves as a major hurricane evacuation route for residents in Pinellas County. The proposed PD&E study limits encompass the portion of Gandy Boulevard (SR 694) from west of the U.S. 19/Gandy Boulevard (SR 694) interchange to east of 4th Street and include proposed interchanges at: 4th Street and Gandy Boulevard (SR 694); 9th Street and Gandy Boulevard (SR 694); and interchange improvements at I-275. The total length of the Study is approximately 3.9 miles. This project has been evaluated in the Major Investment Study (MIS), which initiated in 1996.

For PD&E Studies, projects are divided into segments based on the existing land use, interchange locations, and projected traffic volumes for the design year. Because the portion of Gandy Boulevard (SR 694) from west of US 19 to east of 4th Street contains similar land use characteristics and projected traffic volumes, this project will be divided into four segments based on the new interchanges that are proposed in the corridor. The segments of the project are identified as follows:

- Segment A: West of U.S. 19 to west of Grand Avenue
- Segment B: West of Grand Avenue to west of I-275
- Segment C: West of I-275 to west of 9th Street
- Segment D: West of 9th Street to east of 4th Street

3.0 EXISTING DRAINAGE CONDITIONS

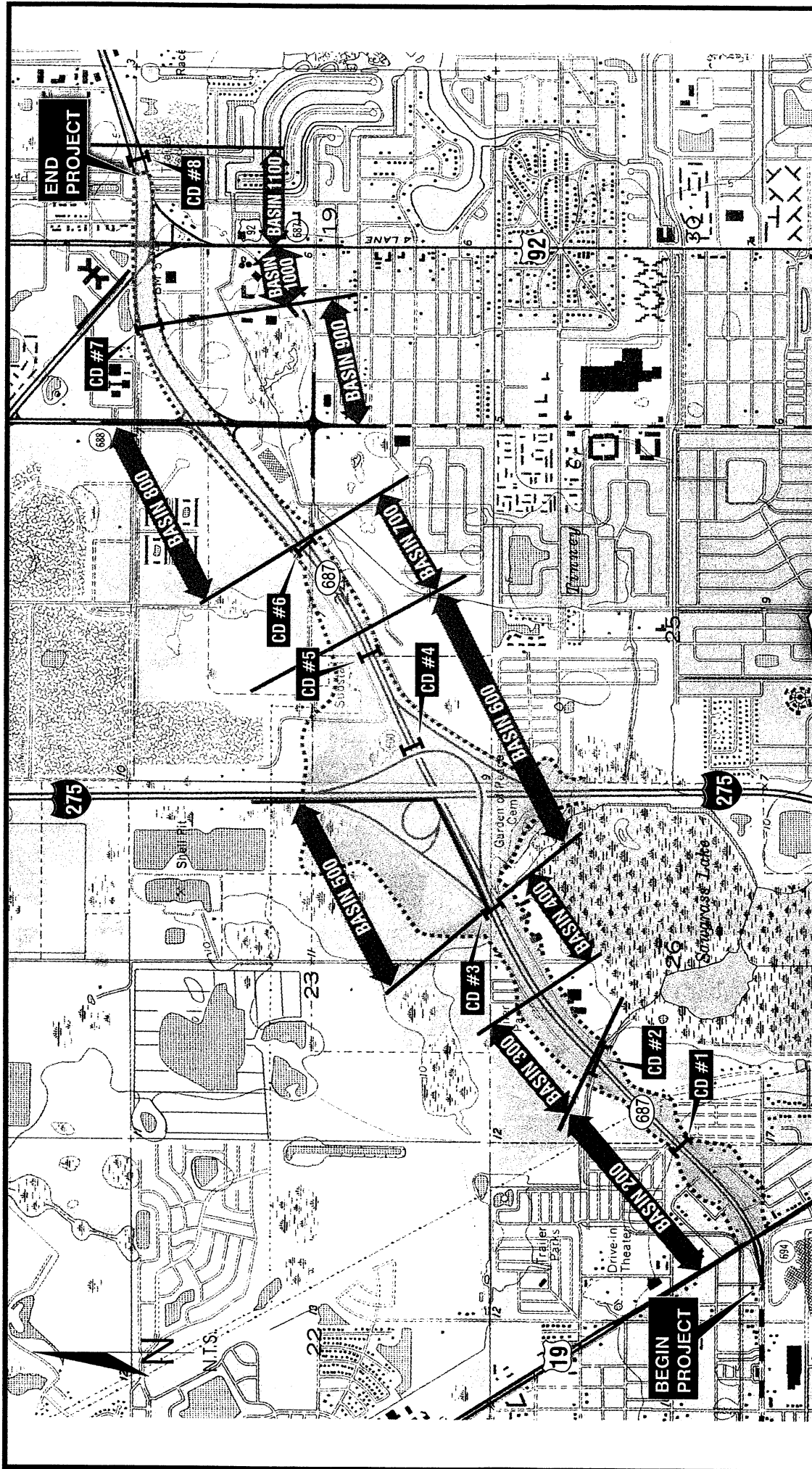
3.1 Topography and Hydrologic Features

The Gandy Boulevard (SR 694) corridor is located in an urbanized low-lying coastal region of Pinellas County. Elevations throughout the project corridor range from approximately +5 to +15 feet above National Geodetic Vertical Datum (NGVD) of 1929.

The soils are predominantly nearly level, poorly drained sandy soils with the seasonal high water table (SHWT) estimated near the existing ground. Table 3-1 describes the regional drainage boundaries. The drainage map is shown in Figure 3-1. It should be noted that the drainage map was not delineated to encompass the overall drainage basin, but rather to delineate the limits of direct runoff to the proposed project.

Table 3-1
Regional Drainage Boundaries

REGIONAL DRAINAGE BASIN	REGIONAL SUB-BASINS	BASIN BOUNDARIES	DRAINING TO CROSS DRAIN NO.
SAWGRASS LAKE BASIN	200	From US 19 to Grand Avenue	1 & 2
	300	From Grand Avenue to Sta. 67+00	2
	400	From Sta. 67+00 to Sta. 82+00	3
	500	From Sta. 82+00 to Sta. 86+18	N/A
	600	From Sta. 86+18 to Sta. 127+50	4 & 5
TINNEY CREEK BASIN	700	From Sta. 127+50 to Sta. 143+00	6
	800	From Sta. 143+00 to 9 th Street	6
	900	From 9 th Street to Sta. 181+35	7
	1000	From Sta. 181+35 to Roosevelt Boulevard	N/A
	1100	From Roosevelt Boulevard to Sta. 295+85	8



LEGEND

-  Basin Boundary
-  Cross Drain

DRAINAGE MAP

FLORIDA DEPARTMENT OF TRANSPORTATION

CANDY BOULEVARD (SR 694)

PD&E STUDY

From West of US 19 to
East of 4th Street
Pinellas County, Florida



WPI SEG NO: 256931 1

FIGURE 3-1

3.2 Existing Drainage Patterns and Stormwater Management Facilities

The existing drainage patterns were determined using the FDOT construction plans, United States Geological Survey (USGS) quadrangle maps, Southwest Florida Water Management District (SWFWMD) contour aerials, FDOT drainage maps, and field reviews.

The existing drainage for Gandy Boulevard (SR 694) primarily consists of open ditch systems that collect runoff from the roadway and minor offsite areas. Ditch bottom inlets within the median convey roadway runoff to the existing outfalls. The roadway stormwater runoff flows eastward through the Sawgrass Lake and Tinney Creek drainage basins, which ultimately discharges to Old Tampa Bay.

There are two existing stormwater management facilities (SMFs) located within the median at the intersection of 4th Street and Gandy Boulevard (SR 694). These SMFs provide treatment and attenuation for the intersection improvements that were constructed in 1998.

3.3 Existing Cross Drains

A review of FDOT construction plans, straight line diagrams (SLDs), Flood Insurance Rate Maps (FIRMs), and field reviews identified eight existing cross drains within the limits of the Gandy Boulevard (SR 694) PD&E Study. The existing cross drains are listed in Table 3-2 and are shown in Figure 3-1.

Hydraulic equivalency for replacement or modification of the existing cross drains will be determined in subsequent design phases of this project.

Table 3-2
Existing Cross Drains

CROSS DRAIN NO.	STATION	APPROXIMATE LOCATION	PIPE SIZE AND MATERIAL
1	37+00	South of Sunset Palms	Double 24" RCP
2	53+50	At Grand Avenue	Triple 8' x 4' CBC
3	82+00	West of I-275	Double 6' x 4' CBC
4	108+00	East of I-275	Double 24" RCP
5	122+00	South of Florida Power Corporation	24" RCP
6	143+00	West of Budget Self Storage	5' x 4' CBC
7	181+50	West of Roosevelt Boulevard	Double 7' x 3' CBC
8	296+00	South of Gateway Mobile Park	5' x 3' CBC

Notes:

- CBC - Concrete Box Culvert
- RCP - Reinforced Concrete Pipe

4.0 PROPOSED IMPROVEMENTS

4.1 Proposed Drainage

The Gandy Boulevard (SR 694) roadway will be drained by closed and open drainage systems. Treatment and attenuation will be provided within wet detention ponds. It is assumed for this preliminary analysis that there will be one preferred pond site alternative for each basin. During the design phase, compensatory treatment and attenuation may be an alternative for adjacent basins in order to minimize the number of ponds and reduce project costs.

Due to the SHWT elevation near the existing ground elevation, constructing berms, roadway embankment, or drawing down the SHWT at proposed pond sites, may be required. If the design requires drawing down the SHWT, impermeable liners may be incorporated to prevent adverse impacts to the water table of adjacent properties. This should be evaluated during the project's design phase.

The post-development peak discharge for the 25-year/24-hour rainfall event will not exceed the pre-development peak discharge, in order to comply with SWFWMD regulations. The

ponds will also comply with FDOT Regulation 14.86 to meet critical duration requirements. A pre-application meeting to discuss drainage and floodplain compensation methodology was held with SWFWMD on September 13, 2001. The minutes from this meeting are included in Appendix B. See Section 8.1 for pond sizing methodology and criteria.

4.2 Pond Aesthetics

In order to maintain the archaeological and cultural characteristics of the adjacent communities and this roadway corridor, various levels of aesthetic treatment should be considered for the pond sites in the design phase. Sites adjacent to the proposed right-of-way will be considered for architectural fencing. Black vinyl fencing will be used for sites away from the proposed right-of-way. More gentle slopes, clusters of landscaping and irregular pond shapes are examples of pond aesthetic improvements that may be considered in the design phase. The addition of these elements may increase right-of-way requirements, and/or construction costs.

5.0 ENVIRONMENTAL EVALUATION

5.1 Jurisdictional Wetland Involvement

A Wetlands Evaluation Report (WER) was prepared as part of the PD&E Study. The findings of the WER are incorporated by reference into this PSR.

Six wetlands were identified within the project study area that would be affected by the pond site alternatives. Wetlands N7, N8, and N9 would be affected by Pond Site Alternative 300-A. Wetlands N6 and N7 would be affected by Pond Site Alternative 300-B. Wetlands S24 and N22 would be affected by Pond Site Alternatives 600-B and 700-B respectively. More information regarding the type, classification, and functionality assessment for these wetlands may be found in the WER.

Although Pond Site Alternative 300-B has wetland impacts, it was selected over the Pond Site Alternative 300-C1 and 300-C2 because the mitigation cost is minimal when compared to the difference in right-of-way costs, see Table 8-2.

5.2 Cultural Features

5.2.1 Section 4(f) Involvement

No pond site alternatives have Section 4(f) involvement.

5.2.2 Archaeological and Historic

A Preliminary Cultural Resource Assessment Survey (CRAS) was conducted for the Gandy Boulevard (SR 694) PD&E Study. The CRAS included the 33 pond site alternatives.

The preliminary study conducted for the project area concluded that no archaeological sites or historic structures listed, determined eligible, or considered potentially eligible for listing in the National Register of Historic Places (NRHP) are located within any pond alternative site. The NRHP-eligible Yardage Unlimited Building (8PI487) at 10000 Gandy Boulevard, at the southeast corner of the Gandy/4th Street intersection, is directly east of proposed pond alternative 1100-C. 8PI1213, an artifact scatter type archaeological site that has been evaluated as not significant, is located at the southeast corner of the 9th Street/Gandy Boulevard interchange. It is contained, in part, within proposed pond alternative 900-B. Therefore, this proposed pond alternative site is considered to have a high archaeological site location potential. Of the remaining 32 proposed pond locations, eight are considered to have a moderate potential, and 24 are classified as having a low probability. A windshield survey indicated that no recorded or unrecorded historic structures are located within any of the 33 proposed pond alternative sites.

5.3 Threatened and Endangered Species

An Endangered Species Evaluation Memorandum was prepared as part of the PD&E Study. Based on preliminary evaluation of the Florida Natural Areas Inventory (FNAI), Florida Fish Wildlife Conservation Commission and the University of Florida GEOPLAN Data Basis, no listed species occur within the areas of proposed pond alternatives. However, field evaluations of the preferred pond sites should be conducted during the design phase to determine whether listed species occur within the project limits.

5.4 Hazardous Materials and Petroleum Site Data

A Contamination Screening Evaluation Report (CSER) was conducted for the Gandy Boulevard (SR 694) PD&E Study. The CSER was performed to determine potential hazardous materials and petroleum involvement from properties or operations located adjacent to the project.

A total of 33 drainage pond site alternatives were evaluated. Of the 33 sites, one received a potential contamination risk rating of MEDIUM (100C), six received a potential contamination risk rating of LOW (200B, 300C-2, 400B, 800B, 800C, and 1000C) and 26 received a rating of NO. More information regarding contamination at the pond site alternatives may be found in the CSER.

6.0 FLOODPLAINS/FLOODWAYS

6.1 Flooding History

FDOT drainage maps, USGS quadrangle maps, SWFWMD topographic maps, and FEMA FIRMs were used to identify flood-prone areas within the Gandy Boulevard (SR 694) project corridor. FDOT maintenance personnel were interviewed in August 2001 about local drainage conditions (See Appendix B). Additionally, field inspections were conducted in

September 2001 to identify obvious drainage problems. At that time, no flooding problems were associated with the existing drainage conditions for the length of this project.

6.2 Flood Insurance Rate Maps

FEMA has prepared a Flood Insurance Study (FIS) for the City of St. Petersburg, Florida dated March 30, 1983 and Pinellas Park, Florida dated February 17, 1989. The following FIRM Community-Panel Numbers were used to determine locations of floodplain encroachments along the project corridor: 125148 0003 B and 125148 0004 B; (dated September 30, 1983); 120251 0006 E and 120251 0009 E (dated February 17, 1989); and 125139 0206 C, and 125139 0208 C (dated June 1, 1983).

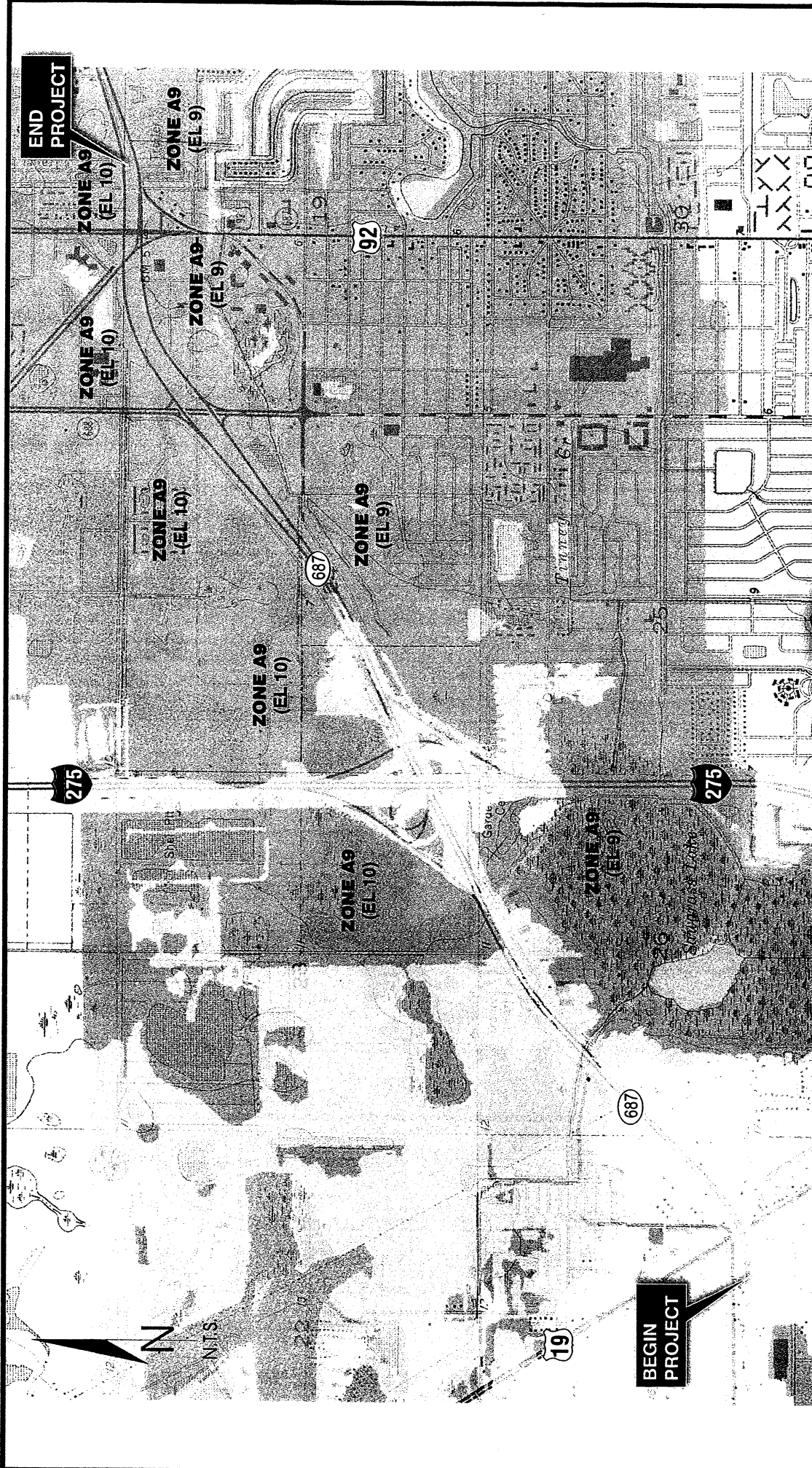
Coordination with local FEMA representatives conducted in August 2001 confirmed that the above referenced FIS and FIRMs include the latest revisions for the project limits. The FEMA Map is shown in Figure 6-1.

6.3 Flood Zone Description

The western portion of the project, from west of US 19 to east of Grand Avenue, is zoned outside of the 500-year floodplain. Gandy Boulevard (SR 694), from Grand Avenue to approximately 16th Street, is zoned within the 500-year floodplain. The remainder of the project, from 16th Street to east of 4th Street, is located within areas designated as coastal flooding.

6.4 Floodplain Compensation

Due to the direct connection of the floodplain to Old Tampa Bay (which is considered a virtual infinite reservoir as an arm of the Gulf of Mexico), no encroachment to the 100-year floodplain will cause an increase in the maximum storm surge flood heights. The FEMA



LEGEND

- 100-Year Flood (Zone A9)
- 500-Year Flood (Zone B)
- Water Bodies

**FEMA
MAP**

FLORIDA DEPARTMENT OF TRANSPORTATION

GANDY BOULEVARD (SR 694)

PD&E STUDY

From West of US 19 to
East of 4th Street

Pinellas County, Florida



WPI SEG NO: 256931.1

FIGURE 6-1

floodplain is based on the stillwater 100-year storm surge. Portions of the project that are directly connected to Old Tampa Bay will not require storm surge floodplain compensation. In the design phase, more detailed survey; design and geotechnical information will be available. At that time, the requirement for storm surge floodplain compensation can more accurately be defined.

6.5 Regulatory Floodways

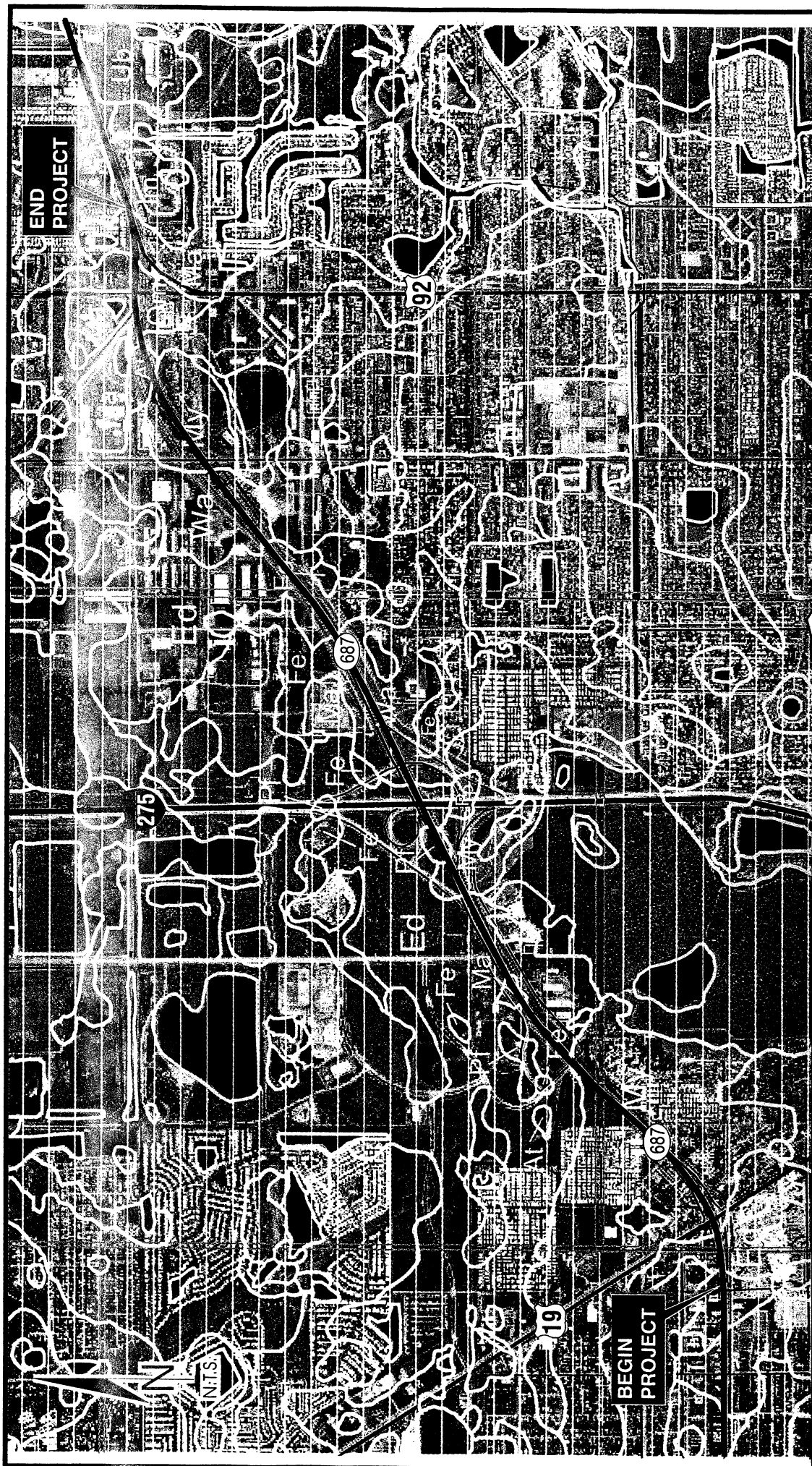
There are no regulatory floodways within the Gandy Boulevard (SR 694) project corridor.

7.0 GEOTECHNICAL DATA

Williams Earth Science, Inc. prepared a geotechnical report for the PD&E Study. The soil groups encountered within the proposed project corridor is summarized in Table 7-1 and shown in Figure 7-1.

Table 7-1
Summary of Soil Groups

SOIL NAME (UNIT SYMBOL)	PERMEABILITY (in/hr)	SEASONAL HIGH WATER TABLE DEPTH (ft)	HYDROLOGIC GROUP
Astatula (As) - Fine Sand	> 20	40" - 60"	A
Astor (At) - Fine Sand	6.3 - 20	< 10"	D
Elred (Ed) - Fine Sand	6.3 - 20	< 10"	B/D
Felda (Fe) - Fine Sand; Poned	6.3 - 20	< 10"	D
Immokalee (Im) - Fine Sand	0.63 - 20	< 10"	B/D
Made Land (Ma)	---	---	---
Manatee (Mn) - Loamy Fine Sand	6.3 - 20	< 10"	D
Myakka (My) - Fine Sand	2.0 - 6.3	< 10"	B/D
Okeechobee (Ok) - Muck	6.3 - 20	< 10"	D
Oldsmar (Om) - Fine Sand	2.0 - 20	< 10"	B/D
Pinellas (Pf) - Fine Sand	6.3 - 20	< 10"	B/D
Pompano (Ps,Pp) - Fine Sand; Poned	6.3 - 20	< 10"	B/D
Tidal Swamp (Ts)	Variable	< 10"	D
Wabasso (Wa) - Fine Sand	2.0 - 20	< 10"	B/D



LEGEND

- Segment A: West of US 19 to west of Grand Ave.
- Segment B: West of Grand Avenue to west of I-275
- Segment C: West of I-275 to west of 9th Street
- Segment D: West of 9th Street to east of 4th Street

SOILS MAP

FLORIDA DEPARTMENT OF TRANSPORTATION

GANDY BOULEVARD (SR 694)

PD&E STUDY

From West of US 19 to
East of 4th Street

Pinellas County, Florida



WPI SEG NO: 256931 1

FIGURE 7-1

Source: Soil Survey of Pinellas County, September 1972

Notes:

- ¹American Association of State Highway and Transportation Officials
- ²Unified Soil Classification System
- ³SP - Poorly graded sand (with gravel)
- ⁴SP-SM - Poorly graded sand (with sand and gravel)
- ⁵SM - Silty sand (with gravel)
- ⁶Pt - Peat and highly organic

8.0 ALTERNATIVE POND SITE INFORMATION

8.1 Stormwater Management Methodology and Criteria

Each pond site alternative is summarized in the Alternative Matrix Analyses in Tables 8-1 through 8-10. The locations of the alternative pond sites are shown on the Concept Plans in Appendix A. The ponds were sized to accommodate the required treatment and attenuation volumes per basin. The treatment volume was calculated for 1-inch over the directly connected impervious area (DCIA) or 1.5-inch over the DCIA if the pond site alternative outfalls into an Outstanding Florida Water (OFW). The only OFW located within the proposed project corridor is Tinney Creek, which affects basins 700 through 1100. There is also an OFW located within the Gateway facility, but it is located north of the project corridor and is not affected by the proposed project. Sawgrass Lake is not an OFW even though it meets all the qualifications to be considered an OFW. According to the Department of Environmental Protection (DEP) in Tallahassee, the State does not have all the necessary information to claim sovereignty of the lake, therefore it is not within the Pinellas aquatic preserve OFW (See Appendix B).

Attenuation volumes were calculated using the SCS 100-year/24-hour post minus pre volumes per basin. Weighted curve numbers (CNs) were calculated using the various right-of-way widths of each basin. The maximum allowable stage in the pond for a 25-year storm event (DHW₂₅) was estimated using the following procedure. $DHW_{25} = (\text{lowest edge of pavement draining to pond}) - (1 \text{ foot of freeboard}) - (\text{estimated friction loss in pipe between})$

lowest edge of pavement and pond). The calculations used to estimate the size of each pond site alternative are included in Appendix C.

The project has been divided into ten roadway drainage basins, as shown on the Drainage Basin Map in Figure 3-1. Each basin has at least three pond site alternatives. The following alternative pond sites were evaluated for each basin:

- 1) Basin 200: Pond Sites 200-A, 200-B and 200-C
- 2) Basin 300: Pond Sites 300-A, 300-B, 300-C-1, and 300-C-2
- 3) Basin 400: Pond Sites 400-A, 400-B, 400-C-1, and 400-C-2
- 4) Basin 500: Pond Sites 500-A, 500-B and 500-C
- 5) Basin 600: Pond Sites 600-A, 600-B and 600-C
- 6) Basin 700: Pond Sites 700-A, 700-B, 700-C-1, and 700-C-2
- 7) Basin 800: Pond Sites 800-A, 800-B and 800-C
- 8) Basin 900: Pond Sites 900-A, 900-B and 900-C
- 9) Basin 1000: Pond Sites 1000-A, 1000-B and 1000-C
- 10) Basin 1100: Pond Sites 1100-A, 1100-B and 1100-C

8.2 Pond Siting Alternative Analysis

A review of the best available information and field reconnaissance was conducted to assess the potential pond site alternative locations. The following parameters of each site were analyzed in the selection process:

- The “Available Area” for each alternative was obtained from the Pinellas County Property Appraiser’s Tax Maps.
- The “Existing Average Ground Elevation” was obtained from the SWFWMD Aerials (1”=200’).
- The “Soil Type” information and estimated depth to the SHWT was obtained for each of the alternatives from the SCS Soil Survey of Pinellas County, Florida and the Geotechnical Report provided by Williams Earth Sciences,

Inc. According to the SCS Soil Survey, the depth to the SHWT was 10" below the existing ground elevation. The SHWT elevation was estimated by subtracting the average depth to the SHWT from the average existing ground elevation. In order to convey stormwater from the low edge of pavement, meet the required clearances and provide the required treatment and attenuation volumes, the SHWT elevations were estimated to be a maximum of 1 ft to 2 ft below the SCS's estimated depth to the SHWT. Evidence suggests that a similar permitted stormwater management facility, west of 4th Street between the westbound and eastbound lanes on Gandy Boulevard (SR 694), was determined to be 4 ft lower than the SCS's SHWT estimate. The SHWT elevations will be adjusted, as appropriate, in the design phase when more detailed survey and geotechnical information is available.

- The maximum allowable stage in the pond for a 25-year storm event (DHW_{25}) was estimated using the following procedure. $DHW_{25} = (\text{lowest edge of pavement draining to pond}) - (1 \text{ foot of freeboard}) - (\text{estimated friction loss in pipe between lowest edge of pavement and pond})$.
- The "Impact on Wetlands, Cultural Resources, Threatened or Endangered Species" and "Contamination Impact" is based on the information included in Section 5.0 of this report.
- The "Right-of-Way Cost Estimate" information was approved by the FDOT Right-of-Way Department.

The resulting information in Tables 8-1 through 8-10 was used to analyze each pond site for selection of a preferred alternative for each basin. The preferred alternatives are highlighted in the tables and the recommendations are summarized in Section 9.0.

Table 8-1
Alternative Matrix Analyses
Basin 200

EVALUATION CRITERIA	ALTERNATIVES		
	200 - A	200 - B	200 - C
LOCATION (Station)	41+50.00	47+00.00	53+00.00
SIDE (LT, RT)	LT	LT	RT
POND AREA (acres)	4.76	4.25	3.91
SOILS NAMES & HYDROLOGIC GROUPS	Myakka (B/D) Elred (B/D)	Myakka (B/D) Elred (B/D)	Myakka (B/D)
PROXIMITY TO OUTFALL (feet)	147	33	40
PIPE COSTS (Assume 36" Class II Conc. Pipe @ \$47/LF)	\$6,909	\$1,551	\$1,880
RECORDED ARCHAEOLOGICAL SITES/SITE POTENTIAL	None / Low	None / Low	None / Moderate
WETLANDS (acres)	0	0	0
WETLAND MITIGATION COST (\$82,281/acre)	\$0	\$0	\$0
THREATENED AND ENDANGERED SPECIES (Plant and Animals)	None	None	None
CONTAMINATION RISK RATING	No	Low	No
RIGHT-OF-WAY COST ESTIMATE	\$2,990,900	\$2,672,000	\$7,708,000
TOTAL ESTIMATED COST	\$2,997,809	\$2,673,551	\$7,709,880

Notes:

- Total Treatment and Attenuation Volume Required for Basin 200: 2.91 ac-ft
- Variances in the pond site alternative size are due to one or all of the following: Differences in the estimated seasonal high water table elevation and estimated average ground elevations.
- Pond Site Alternative 200-C impacts approximately 55 residential homes.
- Wetland Mitigation Cost from FDEP FY 2001/2002.

Table 8-2
Alternative Matrix Analyses
Basin 300

EVALUATION CRITERIA	ALTERNATIVES			
	300 - A	300 - B	300 - C - 1	300 - C - 2
LOCATION (Station)	57+50.00	53+00.00	56+75.00	58+50.00
SIDE (LT, RT)	LT	LT	RT	RT
POND AREA (acres)	3.50	2.64	0.85	1.86
SOILS NAMES & HYDROLOGIC GROUPS	Elred (B/D) Pinellas (B/D)	Elred (B/D) Felda (B/D)	Elred (B/D)	Elred (B/D)
PROXIMITY TO OUTFALL (feet)	515	200	49	102
PIPE COSTS (Assume 36" Class II Conc. Pipe @ \$47/LF)	\$24,205	\$9,400	\$2,303	\$4,794
RECORDED ARCHAEOLOGICAL SITES/SITE POTENTIAL	None / Moderate	None / Low	None / Low	None / Low
WETLANDS (acres)	0.31	0.17	0	0
WETLAND MITIGATION COST (\$82,281/acre)	\$25,507	\$13,988	\$0	\$0
THREATENED AND ENDANGERED SPECIES (Plant and Animals)	None	None	None	None
CONTAMINATION RISK RATING	No	No	No	Low
RIGHT-OF-WAY COST ESTIMATE	\$3,551,800	\$2,129,200	\$804,100	\$2,746,000
ESTIMATED COST	\$3,601,512	\$2,152,588	\$806,403	\$2,750,794
TOTAL ESTIMATED COST	\$3,601,512	\$2,152,588	\$3,557,197	

Notes:

- Total Treatment and Attenuation Volume Required for Basin 300: 2.67 ac-ft
- Variances in the pond site alternative size are due to one or all of the following: Differences in the estimated seasonal high water table elevation and estimated average ground elevations.
- Wetland Mitigation Cost from FDEP FY 2001/2002.

Table 8-3
Alternative Matrix Analyses
Basin 400

EVALUATION CRITERIA	ALTERNATIVES			
	400 - A	400 - B	400 - C - 1	400 - C - 2
LOCATION (Station)	70+00.00	70+50.00	76+00.00	70+00.00
SIDE (LT, RT)	LT	RT	LT	LT
POND AREA (acres)	2.00	2.68	0.77	1.20
SOILS NAMES & HYDROLOGIC GROUPS	Elred (B/D)	Elred (B/D) Myakka (B/D)	Elred (B/D)	Elred (B/D)
PROXIMITY TO OUTFALL (feet)	308	0	45	420
PIPE COSTS (Assume 36" Class II Conc. Pipe @ \$47/LF)	\$14,476	\$0	\$2,115	\$19,740
RECORDED ARCHAEOLOGICAL SITES/SITE POTENTIAL	None / Moderate	None / Low	None / Low	None / Moderate
WETLANDS (acres)	0	0	0	0
WETLAND MITIGATION COST (\$82,281/acre)	\$0	\$0	\$0	\$0
THREATENED AND ENDANGERED SPECIES (Plant and Animals)	None	None	None	None
CONTAMINATION RISK RATING	No	Low	No	No
RIGHT-OF-WAY COST ESTIMATE	\$953,400	\$5,046,800	\$590,000	\$620,000
ESTIMATED COST	\$967,876	\$5,046,800	\$592,115	\$639,740
TOTAL ESTIMATED COST	\$967,876	\$5,046,800	\$1,231,855	

Notes:

- Total Treatment and Attenuation Volume Required for Basin 400: 1.51 ac-ft
- Variances in the pond site alternative size are due to one or all of the following: Differences in the estimated seasonal high water table elevation and estimated average ground elevations.
- Wetland Mitigation Cost from FDEP FY 2001/2002.

Table 8-4
Alternative Matrix Analyses
Basin 500

EVALUATION CRITERIA	ALTERNATIVES		
	500 - A	500 - B	500 - C
LOCATION (Station)	91+00.00	98+00.00	91+00.00
SIDE (LT, RT)	LT	LT	LT
POND AREA (acres)	1.26	1.31	1.37
SOILS NAMES & HYDROLOGIC GROUPS	Elred (B/D) Myakka (B/D) Pinellas (B/D)	Elred (B/D)	Elred (B/D)
PROXIMITY TO OUTFALL (feet)	194	354	700
PIPE COSTS (Assume 36" Class II Conc. Pipe @ \$47/LF)	\$9,118	\$16,638	\$32,900
RECORDED ARCHAEOLOGICAL SITES/SITE POTENTIAL	None / Low	None / Low	None / Moderate
WETLANDS (acres)	0	0	0
WETLAND MITIGATION COST (\$82,281/acre)	\$0	\$0	\$0
THREATENED AND ENDANGERED SPECIES (Plant and Animals)	None	None	None
CONTAMINATION RISK RATING	No	No	No
RIGHT-OF-WAY COST ESTIMATE	\$0	\$0	\$702,800
TOTAL ESTIMATED COST	\$9,118	\$16,638	\$735,700

Notes:

- Total Treatment and Attenuation Volume Required for Basin 500: 1.22 ac-ft
- Variances in the pond site alternative size are due to one or all of the following: Differences in the estimated seasonal high water table elevation and estimated average ground elevations.
- Wetland Mitigation Cost from FDEP FY 2001/2002

Table 8-5
Alternative Matrix Analyses
Basin 600

EVALUATION CRITERIA	ALTERNATIVES		
	600 - A	600 - B	600 - C
LOCATION (Station)	104+00.00	103+00.00	95+00.00
SIDE (LT, RT)	LT	RT	RT
POND AREA (acres)	2.90	3.25	2.49
SOILS NAMES & HYDROLOGIC GROUPS	Elred (B/D) Wabasso (B/D)	Elred (B/D) Wabasso (B/D)	Elred (B/D) Myakka (B/D)
PROXIMITY TO OUTFALL (feet)	415	157	288
PIPE COSTS (Assume 36" Class II Conc. Pipe @ \$47/LF)	\$19,505	\$7,379	\$13,536
RECORDED ARCHAEOLOGICAL SITES/SITE POTENTIAL	None / Low	None / Low	None / Moderate
WETLANDS (acres)	0	0.31	0
WETLAND MITIGATION COST (\$82,281/acre)	\$0	\$25,507	\$0
THREATENED AND ENDANGERED SPECIES (Plant and Animals)	None	None	None
CONTAMINATION RISK RATING	No	No	No
RIGHT-OF-WAY COST ESTIMATE	\$0	\$0	\$0
TOTAL ESTIMATED COST	\$19,505	\$32,886	\$13,536

Notes:

- Total Treatment and Attenuation Volume Required for Basin 600: 3.54 ac-ft
- Variances in the pond site alternative size are due to one or all of the following: Differences in the estimated seasonal high water table elevation and estimated average ground elevations.
- Wetland Mitigation Cost from FDEP FY 2001/2002.

Table 8-6
Alternative Matrix Analyses
Basin 700

EVALUATION CRITERIA	ALTERNATIVES			
	700 - A	700 - B	700 - C - 1	700 - C - 2
LOCATION (Station)	142+50.00	129+00.00	127+00.00	135+00.00
SIDE (LT, RT)	RT	LT	LT	LT
POND AREA (acres)	3.36	2.84	2.20	0.58
SOILS NAMES & HYDROLOGIC GROUPS	Elred (B/D)	Elred (B/D) Wabasso (B/D)	Wabasso (B/D)	Elred (B/D)
PROXIMITY TO OUTFALL (feet)	68	133	327	0
PIPE COSTS (Assume 36" Class II Conc. Pipe @ \$47/LF)	\$3,196	\$6,251	\$15,369	\$0
RECORDED ARCHAEOLOGICAL SITES/SITE POTENTIAL	None / Low	None / Low	None / Low	None / Low
WETLANDS (acres)	0	0.006	0	0
WETLAND MITIGATION COST (\$82,281/acre)	\$0	\$494	\$0	\$0
THREATENED AND ENDANGERED SPECIES (Plant and Animals)	None	None	None	None
CONTAMINATION RISK RATING	No	No	No	No
RIGHT-OF-WAY COST ESTIMATE	\$1,502,400	\$1,895,300	\$1,650,800	\$542,400
ESTIMATED COST	\$1,505,596	\$1,902,045	\$1,666,169	\$542,400
TOTAL ESTIMATED COST	\$1,505,596	\$1,902,045	\$2,208,569	

Notes:

- Total Treatment and Attenuation Volume Required for Basin 700: 1.57 ac-ft
- Variances in the pond site alternative size are due to one or all of the following: Differences in the estimated seasonal high water table elevation and estimated average ground elevations.
- Wetland Mitigation Cost from FDEP FY 2001/2002.

Table 8-7
Alternative Matrix Analyses
Basin 800

EVALUATION CRITERIA	ALTERNATIVES		
	800 - A	800 - B	800 - C
LOCATION (Station)	148+00.00	160+00.00	147+50.00
SIDE (LT, RT)	LT	RT	RT
POND AREA (acres)	3.16	1.73	4.34
SOILS NAMES & HYDROLOGIC GROUPS	Elred (B/D) Wabasso (B/D)	Myakka (B/D) Wabasso (B/D)	Wabasso (B/D)
PROXIMITY TO OUTFALL (feet)	46	244	178
PIPE COSTS (Assume 36" Class II Conc. Pipe @ \$47/LF)	\$2,162	\$11,468	\$8,366
RECORDED ARCHAEOLOGICAL SITES/SITE POTENTIAL	None / Low	None / Low	None / Low
WETLANDS (acres)	0	0	0
WETLAND MITIGATION COST (\$82,281/acre)	\$0	\$0	\$0
THREATENED AND ENDANGERED SPECIES (Plant and Animals)	None	None	None
CONTAMINATION RISK RATING	No	Low	Low
RIGHT-OF-WAY COST ESTIMATE	\$7,649,600	\$7,666,900	\$11,163,900
TOTAL ESTIMATED COST	\$7,651,762	\$7,678,368	\$11,172,266

Notes:

- Total Treatment and Attenuation Volume Required for Basin 800: 2.29 ac-ft
- Variances in the pond site alternative size are due to one or all of the following: Differences in the estimated seasonal high water table elevation and estimated average ground elevations.
- Wetland Mitigation Cost from FDEP FY 2001/2002.

Table 8-8
Alternative Matrix Analyses
Basin 900

EVALUATION CRITERIA	ALTERNATIVES		
	900 - A	900 - B	900 - C
LOCATION (Station)	177+00.00	174+00.00	170+00.00
SIDE (LT, RT)	RT	RT	LT
POND AREA (acres)	2.01	2.72	2.63
SOILS NAMES & HYDROLOGIC GROUPS	Myakka (B/D)	Myakka (B/D)	Myakka (B/D)
PROXIMITY TO OUTFALL (feet)	33	83	406
PIPE COSTS (Assume 36" Class II Conc. Pipe @ \$47/LF)	\$1,551	\$3,901	\$19,082
RECORDED ARCHAEOLOGICAL SITES/SITE POTENTIAL	None / Moderate	8PI1213 / High	None / Low
WETLANDS (acres)	0	0	0
WETLAND MITIGATION COST (\$82,281/acre)	\$0	\$0	\$0
THREATENED AND ENDANGERED SPECIES (Plant and Animals)	None	None	None
CONTAMINATION RISK RATING	No	No	No
RIGHT-OF-WAY COST ESTIMATE	\$1,376,400	\$970,200	\$4,416,000
TOTAL ESTIMATED COST	\$1,377,951	\$974,101	\$4,435,082

Notes:

- Total Treatment and Attenuation Volume Required for Basin 900: 1.95 ac-ft
- Variances in the pond site alternative size are due to one or all of the following: Differences in the estimated seasonal high water table elevation and estimated average ground elevations.
- Pond site alternative 900-B is located on a utility easement. A high-pressured oil transmission line is located within this right-of-way and would have to be relocated.
- Wetland Mitigation Cost from FDEP FY 2001/2002.

Table 8-9
Alternative Matrix Analyses
Basin 1000

EVALUATION CRITERIA	ALTERNATIVES		
	1000 - A	1000 - B	1000 - C
LOCATION (Station)	83+50.00	187+00.00	181+00.00
SIDE (LT, RT)	RT	RT	LT
POND AREA (acres)	1.45	1.74	3.37
SOILS NAMES & HYDROLOGIC GROUPS	Myakka (B/D)	Oldsmar (B/D)	Astor (B/D) Made Land
PROXIMITY TO OUTFALL (feet)	131	79	62
PIPE COSTS (Assume 36" Class II Conc. Pipe @ \$47/LF)	\$6,157	\$3,713	\$2,914
RECORDED ARCHAEOLOGICAL SITES/SITE POTENTIAL	None / Moderate	None / Low	None / Low
WETLANDS (acres)	0	0	0
WETLAND MITIGATION COST (\$82,281/acre)	\$0	\$0	\$0
THREATENED AND ENDANGERED SPECIES (Plant and Animals)	None	None	None
CONTAMINATION RISK RATING	No	No	Low
RIGHT-OF-WAY COST ESTIMATE	\$1,026,400	\$0	\$3,104,600
TOTAL ESTIMATED COST	\$1,032,557	\$3,713	\$3,107,514

Notes:

- Total Treatment and Attenuation Volume Required for Basin 1000: 1.27 ac-ft
- Variances in the pond site alternative size are due to one or all of the following: Differences in the estimated seasonal high water table elevation and estimated average ground elevations.
- Wetland Mitigation Cost from FDEP FY 2001/2002.

Table 8-10
Alternative Matrix Analyses
Basin 1100

EVALUATION CRITERIA	ALTERNATIVES		
	1100 - A	1100 - B	1100 - C
LOCATION (Station)	191+00.00	200+00.00	196+00.00
SIDE (LT, RT)	CTR	LT	RT
POND AREA (acres)	2.04	1.36	1.60
SOILS NAMES & HYDROLOGIC GROUPS	Oldsmar (B/D)	Oldsmar (B/D) Made Land	Oldsmar (B/D) Made Land
PROXIMITY TO OUTFALL (feet)	55	730	0
PIPE COSTS (Assume 36" Class II Conc. Pipe @ \$47/LF)	\$2,585	\$34,310	\$0
RECORDED ARCHAEOLOGICAL SITES/SITE POTENTIAL	None / Low	None / Low	None / Low
WETLANDS (acres)	0	0	0
WETLAND MITIGATION COST (\$82,281/acre)	\$0	\$0	\$0
THREATENED AND ENDANGERED SPECIES (Plant and Animals)	None	None	None
CONTAMINATION RISK RATING	No	No	Medium
RIGHT-OF-WAY COST ESTIMATE	\$0	\$1,536,900	\$5,015,400
TOTAL ESTIMATED COST	\$2,585	\$1,571,210	\$5,015,400

Notes:

- Total Treatment and Attenuation Volume Required for Basin 1100: 1.63 ac-ft
- Variances in the pond site alternative size are due to one or all of the following: Differences in the estimated seasonal high water table elevation and estimated average ground elevations.
- Wetland Mitigation Cost from FDEP 2001/2002.

9.0 RECOMMENDATIONS

Table 9-1 summarizes the preferred pond sites for the proposed project.

Table 9-1
Preferred Pond Sites

PREFERRED POND	STATION - LOCATION	AREA (ac)
200 - B	47+00; LT	4.25
300 - B	53+00; LT	2.64
400 - A	70+00; LT	2.00
500 - A	91+00; LT	1.26
600 - C	95+00; RT	2.49
700 - A	142+50; RT	3.36
800 - A	148+00; LT	3.16
900 - A	177+00; RT	2.01
1000 - B	187+00; RT	1.74
1100 - A	191+00; CTR	2.04

BASIN 200

The preferred pond site is approximately 4.25 ac with an estimated cost of \$2,673,551. This pond is located on a vacant lot west of the Gateway Center near the Gandy Boulevard and Grand Avenue Intersection and just west of Cross Drain No. 2. Based on the proximity to outfall, and lowest estimated cost, the preferred alternative for Basin 200 is Pond Site 200-B.

BASIN 300

The preferred pond site, Pond Site 300-B, is approximately 2.64 ac with an estimated cost of \$2,152,200. This pond is located on part of a vacant lot east of existing Grand Avenue and includes portions of the existing Grand Avenue. The preferred site is also located adjacent to Cross Drain No. 2. Based on land use, proximity to outfall, lowest estimated cost and number of parcels to be taken, the preferred alternative for Basin 300 is Pond Site 300-B.

BASIN 400

The preferred pond site, Pond Site 400-A, is approximately 2.00 ac with an estimated cost of \$967,876. This pond is located on the back corner of a vacant parcel that is adjacent to the GTE Americast building and has a Contamination Risk Rating of NO. Based on land use, proximity to outfall, lowest estimated cost, and the least number of parcels to be impacted, the preferred alternative for Basin 400 is Pond Site 400-A.

BASIN 500

The preferred pond site, Pond Site 500-A, is approximately 1.26 ac with an estimated cost of only \$9,118 since no additional right-of-way costs would be incurred. The pond is located on a vacant lot within the northwest infield area of the Gandy Boulevard (SR 694) and I-275 Interchange and is near Cross Drain No. 3. Based on proximity to outfall and lowest estimated cost, the preferred alternative for Basin 500 is Pond Site 500-A.

BASIN 600

The preferred pond site, Pond Site 600-C, is approximately 2.49 ac with an estimated cost of only \$13,536 since no additional right-of-way costs would be incurred. The pond is located on a vacant lot located within the southwest infield area of the Gandy Boulevard (SR 694) and I-275 Interchange. Based on the proximity to outfall, wetland impacts and lowest estimated cost, the preferred alternative for Basin 600 is Pond Site 600-C.

BASIN 700

The preferred pond site, Pond Site 700-A, is approximately 3.36 ac with an estimated cost of \$1,505,596. The pond is located on a vacant lot adjacent to the North Gate Center and is downstream of Cross Drain No. 6 with a Contamination Risk Rating of NO. Based on the proximity to outfall, lowest estimated cost and the least number of parcels to be impacted, the preferred alternative for Basin 700 is Pond Site 700-A.

BASIN 800

The preferred pond site, Pond Site 800-A, is approximately 3.16 ac with an estimated cost of \$7,651,842. The pond is adjacent to the Westbay Corporate Center and located near Cross Drain No. 6. The pond site is currently occupied by Compulink and has a Contamination Risk Rating of NO. The preferred pond site is 1.43 ac larger than Pond Site 800-B due to the elevation of the existing ground as well as the estimated elevation of the SHWT. Pond size calculations are provided in Appendix C. It should also be noted that Pond Site 800-B is located adjacent to Penske Auto/K-Mart. This facility is a retail store, which includes an automobile repair and service center (Penske Auto Center) and the Pinellas County used oil drop-off facility. Based on proximity to outfall, lowest estimated cost and contamination rating, the preferred alternative for Basin 800 is Pond Site 800-A.

BASIN 900

The preferred pond site, Pond Site 900-A, is approximately 2.01 ac with an estimated cost of \$1,377,951. The total estimated cost for Pond Site 900-A is approximately 142 percent greater than Pond Site 900-B. However, Pond Site 900-B is located on a utility easement, which includes a high-pressured oil transmission line. The cost for relocating this utility line is not included in the total estimated cost, but is anticipated to be greater than the difference in total estimated costs. The preferred pond site is located on a vacant lot, which is adjacent to Pine Bush Villa Condos and along eastbound Gandy Boulevard (SR 694) adjacent to Cross Drain No. 7. Based on the proximity to outfall and not requiring a relocation of a high-pressured oil transmission line, the preferred alternative for Basin 900 is Pond Site 900-A.

BASIN 1000

The preferred pond site, Pond Site 1000-B, is approximately 1.74 ac with an estimated cost of only \$3,713 since no additional right-of-way costs would be incurred. The proposed site is located within the existing right-of-way on a vacant lot located between eastbound Gandy Boulevard (SR694) and Bankers Insurance Group. The pond site is located adjacent to Cross Drain No. 7 and has a Contamination Risk Rating of NO. Based on proximity to outfall and lowest estimated cost, the preferred alternative for Basin 1000 is Pond Site 1000-B.

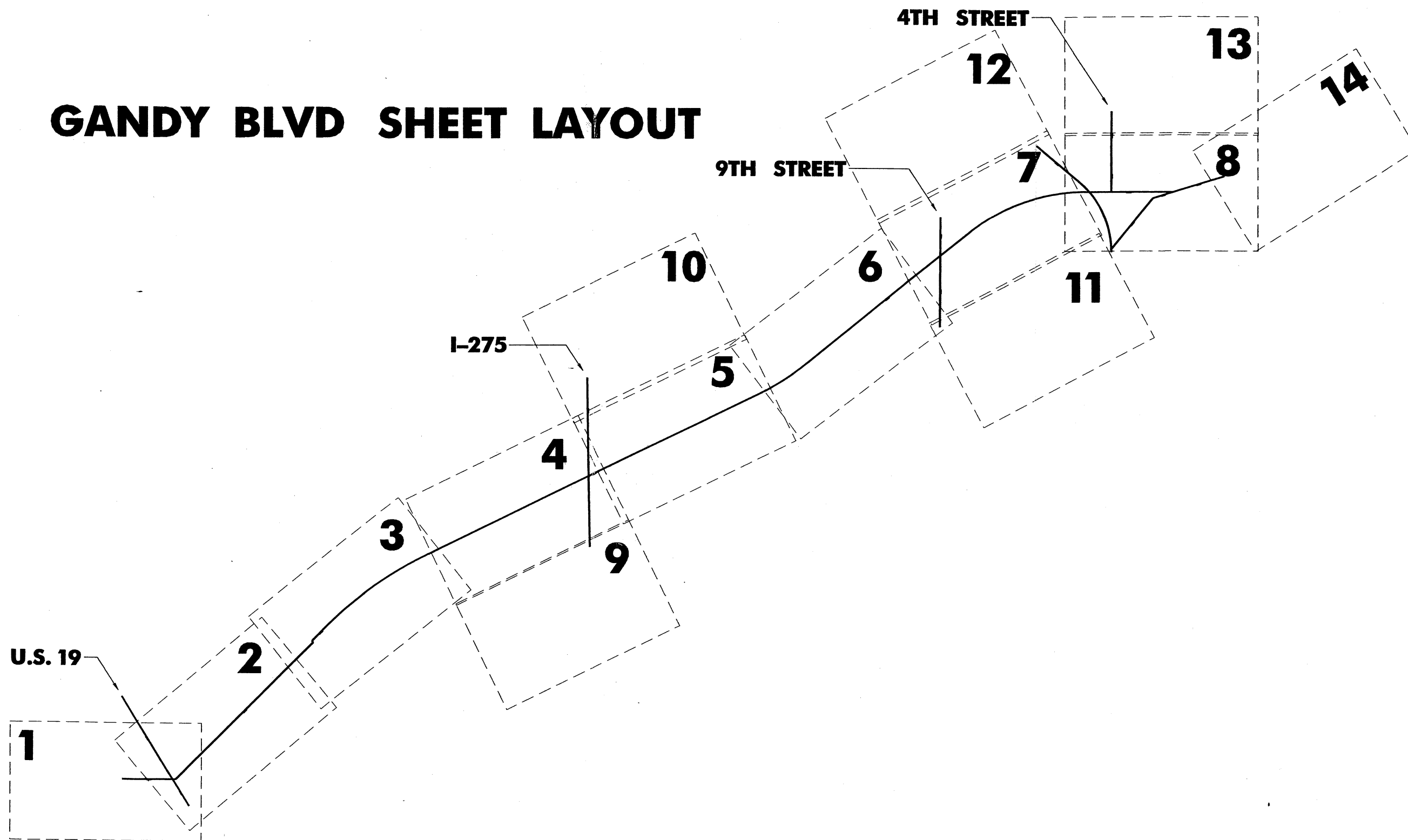
BASIN 1100

The preferred pond site, Pond Site 1100-A, is the existing SMF located west of the Gandy Boulevard (SR694) and 4th Street Intersection. The existing SMF is to be expanded to approximately 2.04 ac in order to accommodate the additional areas to be treated/attenuated for the proposed project. The estimated cost for the preferred site is estimated to be \$2,585 since no additional right-of-way be incurred. Based on the proximity to outfall and lowest estimated cost, the preferred alternative for Basin 1100 is Pond Site 1100-A.

Appendix A

Concept Plans

GANDY BLVD SHEET LAYOUT



15-MAY-2002 14:00
G:\Gandy\whitney.dgn

5 PLAN SHEET LAYOUT

PBSJ ENGINEERING
PLANNING

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 694	PINELLAS	256931-1

**SR. 694 (GANDY BLVD) PDE STUDY
FROM U.S. 19 TO EAST OF 4TH STREET
PINELLAS COUNTY, FLORIDA**

SHEET
NO.

00



FLIGHT DATE : FEBRUARY 10, 2000

— EXISTING RIGHT OF WAY	— PROPERTY LINES	— WETLAND BOUNDARY AND OTHER SURFACE WATERS	● POND SITE	● AIR QUALITY RECEPTOR SITES
— PROPOSED RIGHT OF WAY	— CENTERLINE OF CONSTRUCTION	— BRIDGE STRUCTURE OR RETAINING WALL	● RESIDENTIAL RELOCATION	● RECEIVER LOCATION
— EDGE OF PAVEMENT	— SIDEWALK	— EXISTING PAVEMENT	▲ POTENTIAL CONTAMINATION SITE	— NOISE WALL

PBS ENGINEERING PLANNING

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 694	PINELLAS	256931-1

**SR. 694 (GANDY BLVD) PDE STUDY
FROM U.S. 19 TO EAST OF 4TH STREET
PINELLAS COUNTY, FLORIDA**

SHEET NO.

1



FLIGHT DATE : FEBRUARY 10, 2000

15-MAY-2002 13:55
D:\Gandy\blm\02.dgn

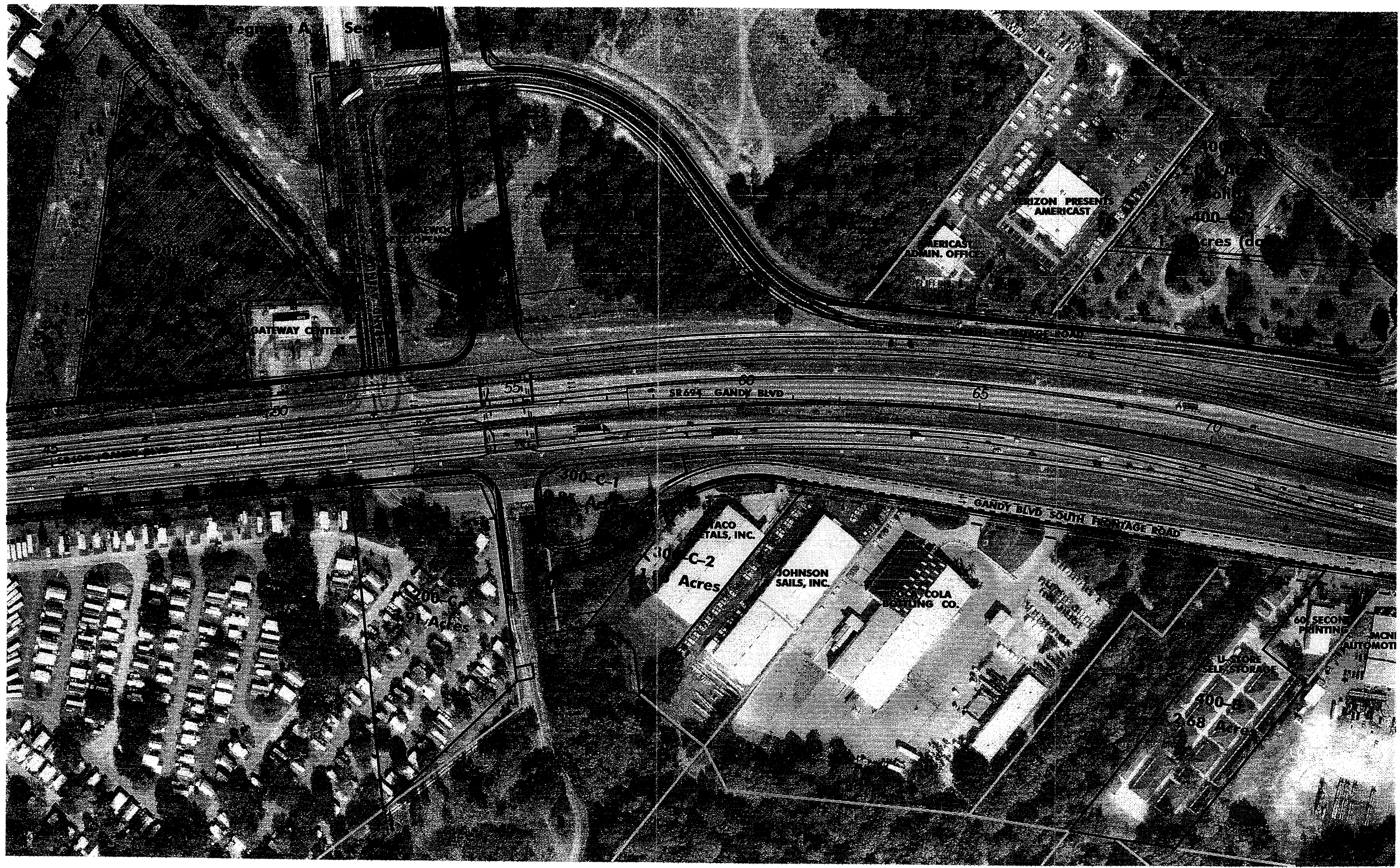
— . — . EXISTING RIGHT OF WAY	— . — . PROPERTY LINES	— . — . WETLAND BOUNDARY AND OTHER SURFACE WATERS	● POND SITE	● AIR QUALITY RECEPTOR SITES
— . — . PROPOSED RIGHT OF WAY	— . — . CENTERLINE OF CONSTRUCTION	— . — . BRIDGE STRUCTURE OR RETAINING WALL	● RESIDENTIAL RELOCATION	● RECEIVER LOCATION
— . — . EDGE OF PAVEMENT	— . — . SIDEWALK	— . — . EXISTING PAVEMENT	▲ POTENTIAL CONTAMINATION SITE	— . — . NOISE WALL

PBSJ **ENGINEERING PLANNING**

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 694	PINELLAS	256931-1

**SR 694 (GANDY BLVD) PDE STUDY
FROM U.S. 19 TO EAST OF 4TH STREET
PINELLAS COUNTY, FLORIDA**

SHEET NO.
2



FLIGHT DATE : FEBRUARY 10, 2000

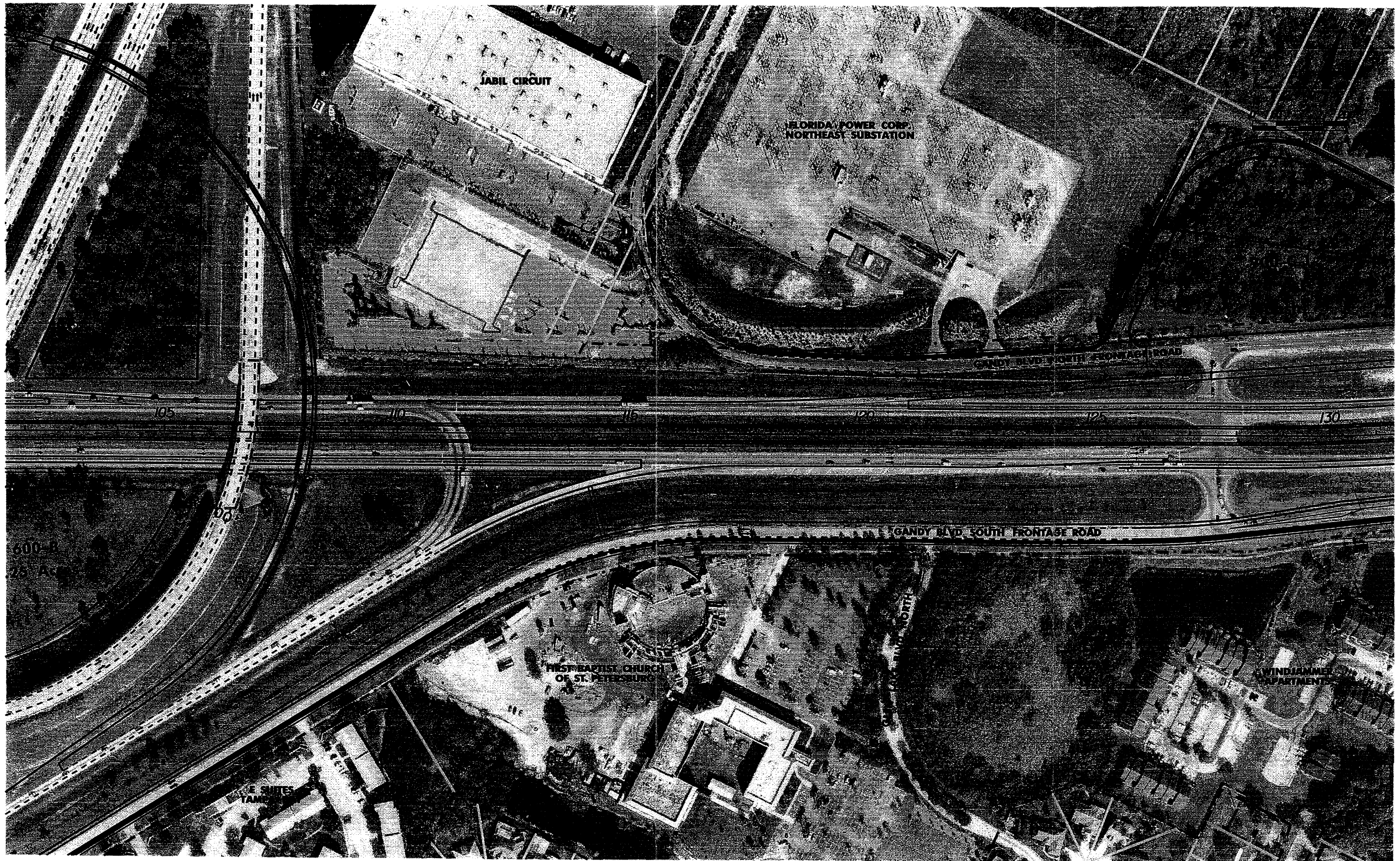
- EXISTING RIGHT OF WAY - PROPOSED RIGHT OF WAY - EDGE OF PAVEMENT	- PROPERTY LINES - CENTERLINE OF CONSTRUCTION - SIDEWALK	- WETLAND BOUNDARY AND OTHER SURFACE WATERS - BRIDGE STRUCTURE OR RETAINING WALL - EXISTING PAVEMENT	- POND SITE - RESIDENTIAL/BUSINESS RELOCATION - POTENTIAL CONTAMINATION SITE - NOISE WALL
--	--	--	--

PBS&J ENGINEERING PLANNING

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 694	PINELLAS	256931-1

**SR. 694 (GANDY BLVD) PDE STUDY
FROM U.S. 19 TO EAST OF 4TH STREET
PINELLAS COUNTY, FLORIDA**

SHEET NO.
3



FLIGHT DATE : FEBRUARY 10, 2000

15-MAY-2002 13:56
G:\Sandy\100105.dgn

- | | | | | |
|--|--|--|---|--|
| <ul style="list-style-type: none"> - - - EXISTING RIGHT OF WAY - - - PROPOSED RIGHT OF WAY - - - EDGE OF PAVEMENT | <ul style="list-style-type: none"> - - - PROPERTY LINES - - - CENTERLINE OF CONSTRUCTION - - - SIDEWALK | <ul style="list-style-type: none"> - - - WETLAND BOUNDARY AND OTHER SURFACE WATERS - - - BRIDGE STRUCTURE OR RETAINING WALL - - - EXISTING PAVEMENT | <ul style="list-style-type: none"> ■ POND SITE ■ RESIDENTIAL RELOCATION ■ POTENTIAL CONTAMINATION SITE | <ul style="list-style-type: none"> ● R1 AIR QUALITY RECEPTOR SITES ● R2N RECEIVER LOCATION — NOISE WALL |
|--|--|--|---|--|

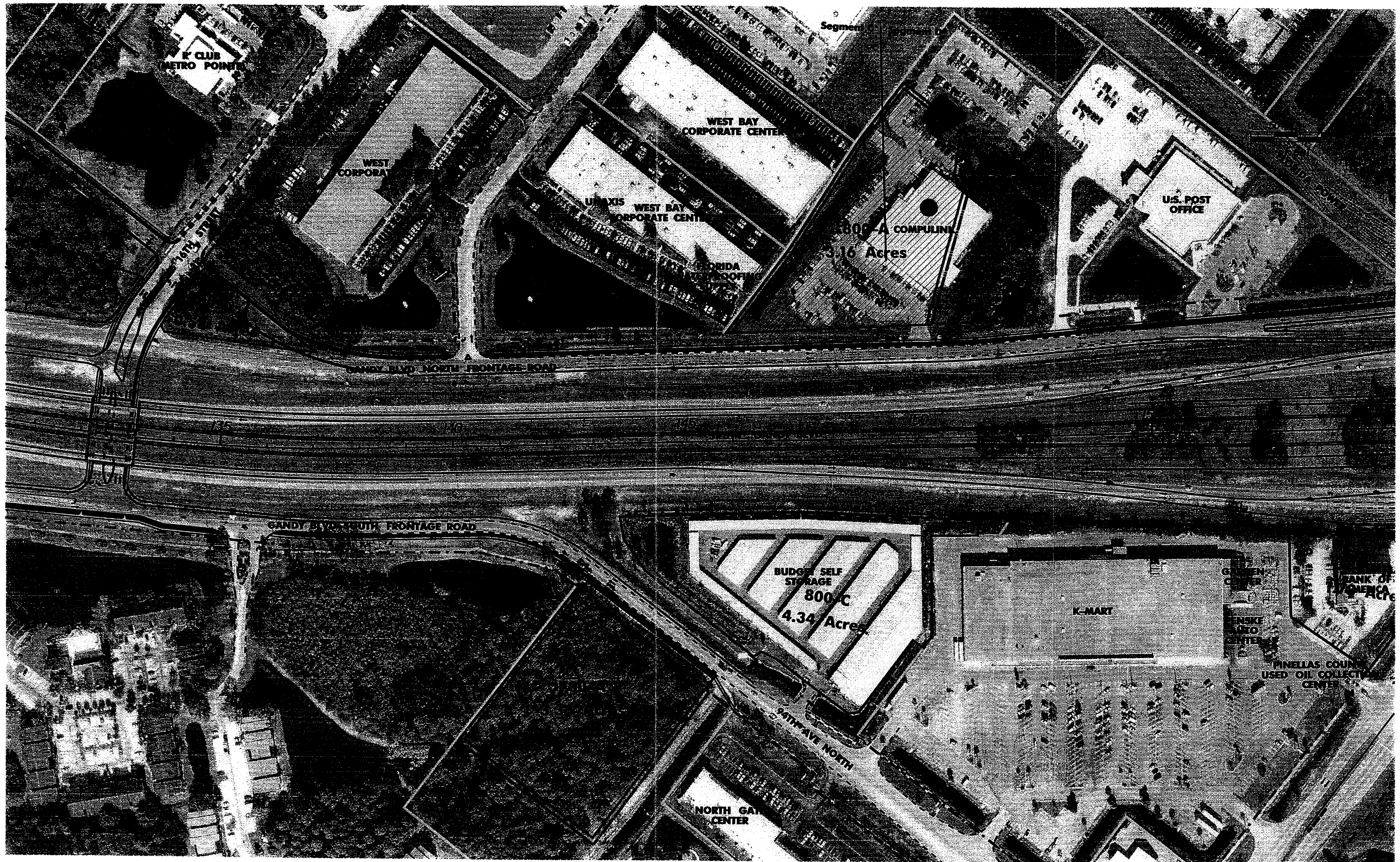
PBSJ

ENGINEERING
PLANNING

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 694	PINELLAS	256931-1

**SR. 694 (GANDY BLVD) PDE STUDY
FROM U.S. 19 TO EAST OF 4TH STREET
PINELLAS COUNTY, FLORIDA**

SHEET NO.
5



FLIGHT DATE : FEBRUARY 10, 2000

- EXISTING RIGHT OF WAY - PROPOSED RIGHT OF WAY - EDGE OF PAVEMENT	- PROPERTY LINES - CENTERLINE OF CONSTRUCTION - SIDEWALK	- WETLAND BOUNDARY AND OTHER SURFACE WATERS - BRIDGE STRUCTURE OR RETAINING WALL - EXISTING PAVEMENT	- POND SITE - RESIDENTIAL RELOCATION - POTENTIAL CONTAMINATION SITE	- AIR QUALITY RECEPTOR SITES - RECEIVER LOCATION - NOISE WALL
--	--	--	---	---

PBSJ ENGINEERING PLANNING

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 694	PINELLAS	256931-1

**SR 694 (GANDY BLVD) PDE STUDY
FROM U.S. 19 TO EAST OF 4TH STREET
PINELLAS COUNTY, FLORIDA**

SHEET NO.
6



FLIGHT DATE : FEBRUARY 10, 2000

15-JAN-2002 11:27
G:\P\256931\256931-1.dwg

— EXISTING RIGHT OF WAY	— PROPERTY LINES	— WETLAND BOUNDARY AND OTHER SURFACE WATERS	— POND SITE	— AIR QUALITY RECEPTOR SITES
— PROPOSED RIGHT OF WAY	— CENTERLINE OF CONSTRUCTION	— BRIDGE STRUCTURE OR RETAINING WALL	— RESIDENTIAL RELOCATION	— RECEIVER LOCATION
— EDGE OF PAVEMENT	— SIDEWALK	— EXISTING PAVEMENT	— POTENTIAL CONTAMINATION SITE	— NOISE WALL

PBS ENGINEERING PLANNING

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 694	PINELLAS	256931-1

**SR. 694 (GANDY BLVD) PDE STUDY
FROM U.S. 19 TO EAST OF 4TH STREET
PINELLAS COUNTY, FLORIDA**

SHEET NO.
7



FLIGHT DATE : FEBRUARY 10, 2000

- EXISTING RIGHT OF WAY - PROPOSED RIGHT OF WAY - EDGE OF PAVEMENT	- PROPERTY LINES - CENTERLINE OF CONSTRUCTION - SIDEWALK	- WETLAND BOUNDARY AND OTHER SURFACE WATERS - BRIDGE STRUCTURE OR RETAINING WALL - EXISTING PAVEMENT	- POND SITE - RESIDENTIAL RELOCATION - POTENTIAL CONTAMINATION SITE	- AIR QUALITY RECEPTOR SITES - RECEIVER LOCATION - NOISE WALL
--	--	--	---	---

PBSJ ENGINEERING PLANNING

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 694	PINELLAS	256931-1

**SR. 694 (GANDY BLVD) PDE STUDY
FROM U.S. 19 TO EAST OF 4TH STREET
PINELLAS COUNTY, FLORIDA**

SHEET NO.
8



FLIGHT DATE : FEBRUARY 10, 2000

15-MAY-2002 13:59
D:\cadd\pinellas\0303.dgn

— • — EXISTING RIGHT OF WAY	— • — PROPERTY LINES	— • — WETLAND BOUNDARY AND OTHER SURFACE WATERS	— • — POND SITE	— • — AIR QUALITY RECEPTOR SITES
— • — PROPOSED RIGHT OF WAY	— • — CENTERLINE OF CONSTRUCTION	— • — BRIDGE STRUCTURE OR RETAINING WALL	— • — RESIDENTIAL RELOCATION	— • — RECEIVER LOCATION
— • — EDGE OF PAVEMENT	— • — SIDEWALK	— • — EXISTING PAVEMENT	— • — POTENTIAL CONTAMINATION SITE	— • — NOISE WALL

PBSJ ENGINEERING PLANNING

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 694	PINELLAS	256931-1

**SR 694 (GANDY BLVD) PDE STUDY
FROM U.S. 19 TO EAST OF 4TH STREET
PINELLAS COUNTY, FLORIDA**

SHEET NO.
9



FLIGHT DATE : FEBRUARY 10, 2000

15-JAN-2002 13:59
D:\env\envr\ell.dgn

— EXISTING RIGHT OF WAY	— PROPERTY LINES	— WETLAND BOUNDARY AND OTHER SURFACE WATERS	⊙ POND SITE	● AIR QUALITY RECEPTOR SITES
— PROPOSED RIGHT OF WAY	— CENTERLINE OF CONSTRUCTION	— BRIDGE STRUCTURE OR RETAINING WALL	⊙ RESIDENTIAL RELOCATION	● RECEIVER LOCATION
— EDGE OF PAVEMENT	— SIDEWALK	— EXISTING PAVEMENT	⚠ POTENTIAL CONTAMINATION SITE	— NOISE WALL

PBS ENGINEERING PLANNING

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 694	PINELLAS	256931-1

**SR. 694 (GANDY BLVD) PDE STUDY
FROM U.S. 19 TO EAST OF 4TH STREET
PINELLAS COUNTY, FLORIDA**

SHEET NO.
II



FLIGHT DATE : FEBRUARY 10, 2000

- EXISTING RIGHT OF WAY - PROPOSED RIGHT OF WAY - EDGE OF PAVEMENT	- PROPERTY LINES - CENTERLINE OF CONSTRUCTION - SIDEWALK	- WETLAND BOUNDARY AND OTHER SURFACE WATERS - BRIDGE STRUCTURE OR RETAINING WALL - EXISTING PAVEMENT	- POND SITE - RESIDENTIAL RELOCATION - POTENTIAL CONTAMINATION SITE	- AIR QUALITY RECEPTOR SITES - RECEIVER LOCATION - NOISE WALL
--	--	--	---	---

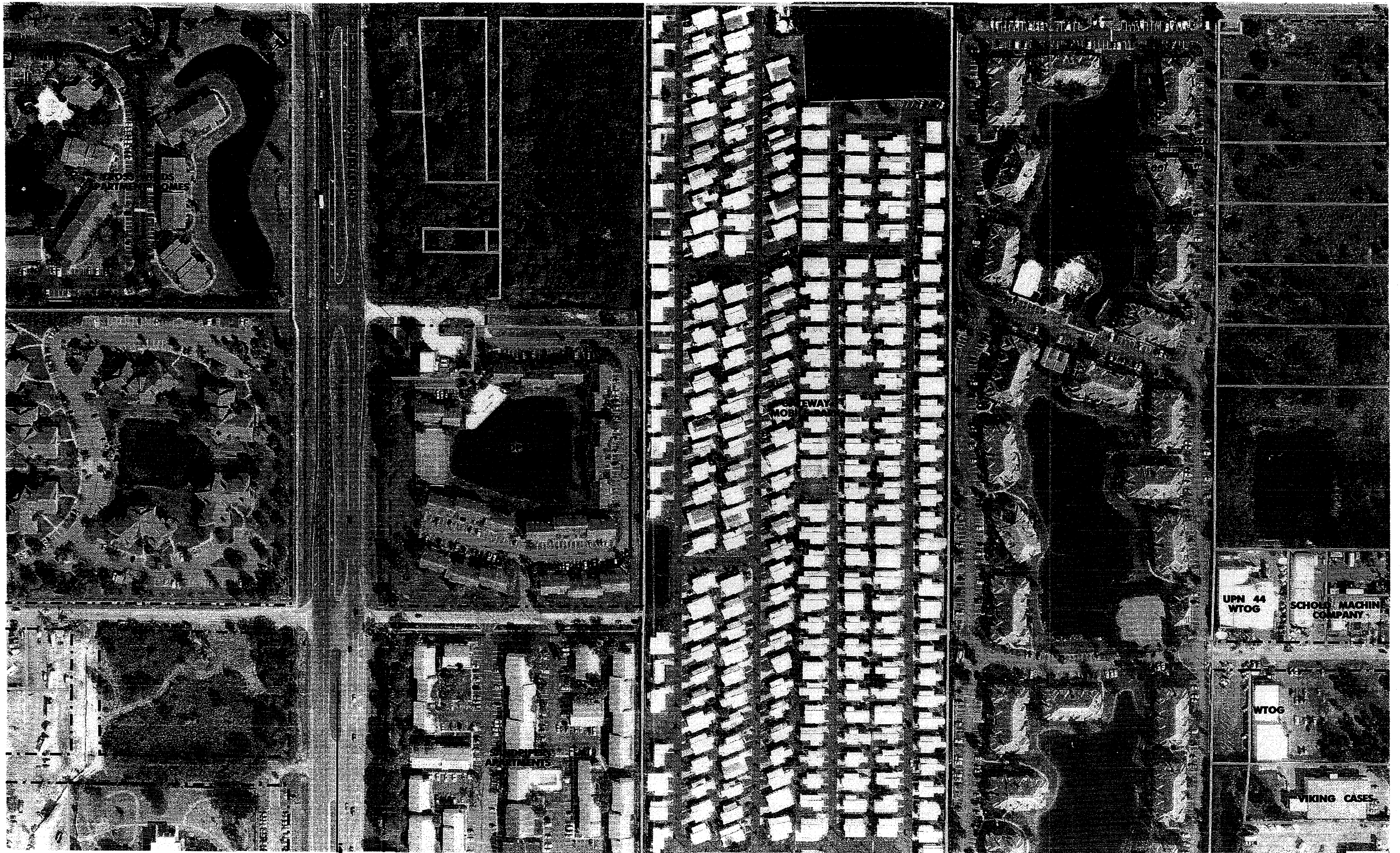


STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 694	PINELLAS	256931-1

**SR. 694 (GANDY BLVD) PDE STUDY
FROM U.S. 19 TO EAST OF 4TH STREET
PINELLAS COUNTY, FLORIDA**

SHEET NO.
12

15-MAY-2002 17:59
G:\pde\pinell2.dgn



FLIGHT DATE : FEBRUARY 10, 2000

15-AUG-2002 14:00
A:\perry\perry03.dgn

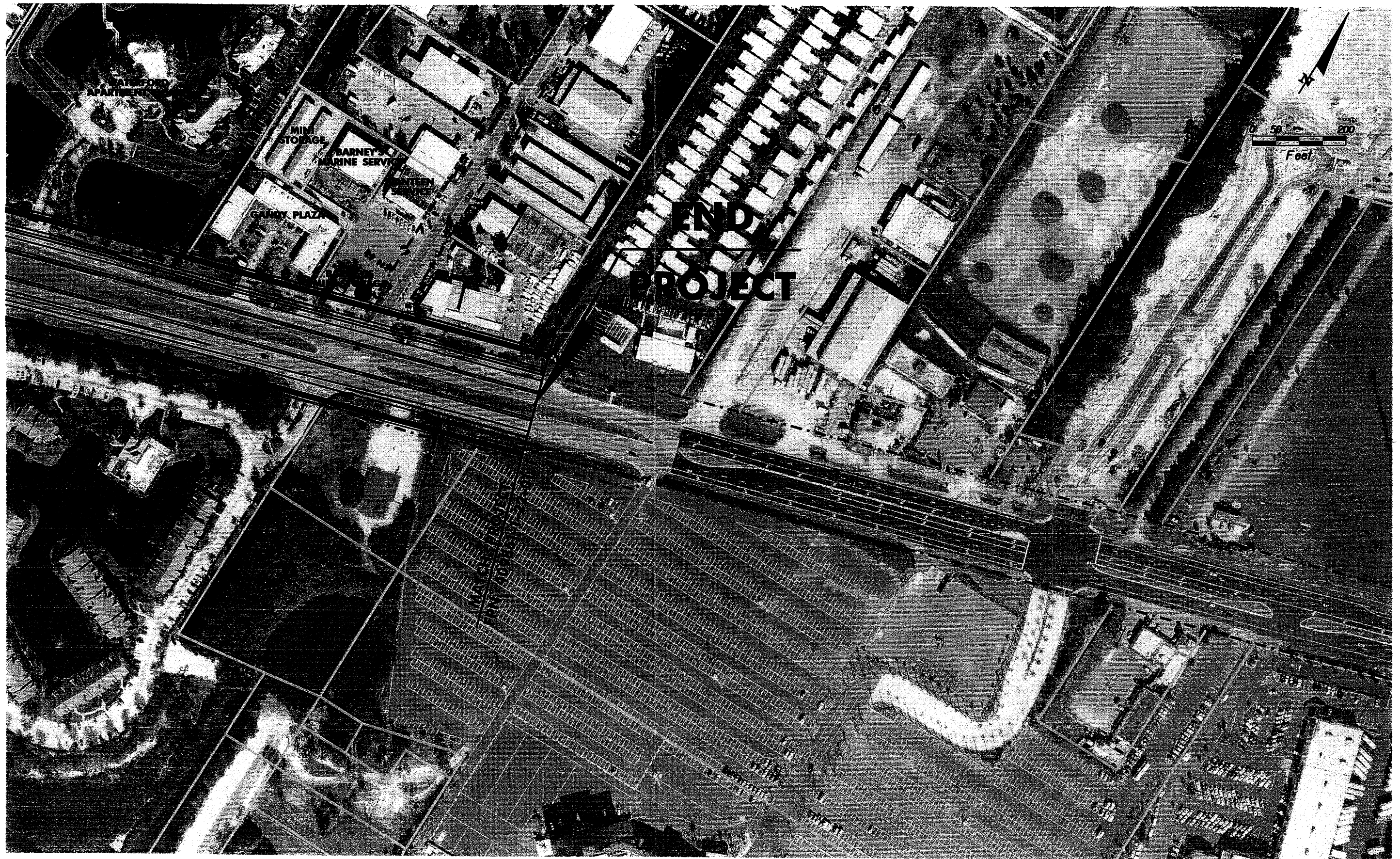
- | | | | | |
|---------------------------|--------------------------------|---|--------------------------------|------------------------------|
| — . EXISTING RIGHT OF WAY | — . PROPERTY LINES | — . WETLAND BOUNDARY AND OTHER SURFACE WATERS | ⊡ POND SITE | ⊙ AIR QUALITY RECEPTOR SITES |
| — . PROPOSED RIGHT OF WAY | — . CENTERLINE OF CONSTRUCTION | — . BRIDGE STRUCTURE OR RETAINING WALL | ⊙ RESIDENTIAL RELOCATION | ⊙ RECEIVER LOCATION |
| — . EDGE OF PAVEMENT | — . SIDEWALK | — . EXISTING PAVEMENT | ⊙ POTENTIAL CONTAMINATION SITE | — . NOISE WALL |

PBS ENGINEERING PLANNING

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 694	PINELLAS	256931-1

**SR. 694 (GANDY BLVD) PDE STUDY
FROM U.S. 19 TO EAST OF 4TH STREET
PINELLAS COUNTY, FLORIDA**

SHEET NO.
13



FLIGHT DATE : FEBRUARY 10, 2000

15-AUG-2002 14:00
G:\env\pinellas\pinellas.dgn

— EXISTING RIGHT OF WAY	— PROPERTY LINES	— WETLAND BOUNDARY AND OTHER SURFACE WATERS	■ POND SITE	■ AIR QUALITY RECEPTOR SITES
— PROPOSED RIGHT OF WAY	— CENTERLINE OF CONSTRUCTION	— BRIDGE STRUCTURE OR RETAINING WALL	● RESIDENTIAL RELOCATION	● RECEIVER LOCATION
— EDGE OF PAVEMENT	— SIDEWALK	— EXISTING PAVEMENT	▲ POTENTIAL CONTAMINATION SITE	— NOISE WALL

PBSJ ENGINEERING PLANNING

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 694	PINELLAS	256931-1

**SR. 694 (GANDY BLVD) PDE STUDY
FROM U.S. 19 TO EAST OF 4TH STREET
PINELLAS COUNTY, FLORIDA**

SHEET NO.
14

Appendix B

Correspondence



Southwest Florida Water Management District
Resource Regulation Division
ERP Pre-Application Meeting NOTES

FILE No.

Date: 9.13.01

Time: 10 AM

Project Name: SR 694 - Gandy Study

Attendees: Michelle Hopkins
Alberto Martinez
Bang Nguyen
Shelly Plaherty
John Cerrata

County: Pinellas

Total Land acreage: R/W

S/T/R: 23-27/30/16

16-20 / 30/17

Project acreage:

Prior Onsite/Offsite Permit activity:

Project is in the PD & E stage

Project Overview:

Proposed roadway improvement project, Gandy from east of 4th Street to west of US 19. The project involves creating a new roadway section, adding frontage roads, limited access, etc. Gandy will be elevated over major intersections to maintain traffic flow. The basic concept will be to allow traffic flow, limit access and still maintain local traffic.

Site Information Discussion: (Site Topography, SHW Levels, Flood plain Elevations, Conveyance and Storage, Tailwater Conditions, Adjacent Offsite Contributing Sources, Receiving Waterbody, Karst Formations, Existing Wells, Contaminated Sites / Coordination w/ FDEP, etc.)

- Need to establish 100 year floodplain limits. Demonstrate no net encroachment in a 100 year floodplain.
- Provide soil borings for the ponds. Have District staff review water levels in wetlands and receiving waters.
- No known work in contaminated soils - at least for ponds.

Environmental Discussion: (Wetlands Onsite, Wetlands On Adjacent Properties, Site Visit, Delineation, Permanent/Temporary Impacts, SHWL, Wetland Hydrology, Drawdown Issues, Alternatives Analysis, Elimination/Reduction, Secondary and Cumulative Impacts, T&E species, Conservation Easements, Buffers, Mitigation Options, Mitigation Costs, OFW, Aquatic Preserve, etc.)

Wetland limits need to be reviewed by District staff, along with surface water limits.

Wetland/surface water impacts will ~~exceed~~ ^{exceed} 1 acre, which will require an Individual Permit.

Mitigation will probably be through the Senate Bill

Foreign Lands Discussion: (Title Determination, Delegated Authority, Correct Form of Authorization, Content of Application, Assessment of Fees, Coordination with FDEP, etc.)

Need to verify that no work will occur in Sov. Submerged Lands, if so may involve Sov. Submerged authorization.

If discharging to areas claimed as Sov. Submerged lands, OFW requirements need to be met for treatment - since Sov. Submerged areas are aquatic preserves which are OFW

Water Quantity Discussion: (Basin Description, Design Storm Event, Pre/Post Volume, Pre/Post Discharge, Local Requirements, Other)

Attenuation will probably be required for a 25 yr, 24 hr storm, unless the system discharges to a tidal system. At a minimum, they need to model the 25 yr, 24 hr storm to calculate peak stages, etc.

When they determine the final discharge locations, we can make a final determination of whether or not attenuation is required.

Water Quality Discussion: (Type of Stormwater Treatment, Technical Characteristics, Non-presumptive Alternatives, Construction Phase Water Management and Erosion Control, Contaminated Sites, Ground Water Protection, etc.)

Water quality treatment will be provided through wet-detention. For on-line systems, they will treat 1" over existing impervious area. If necessary, they may take credit for treatment of existing untreated roadway to compensate for not treating proposed areas. This will affect existing areas that drain through existing ditches. If discharging directly to an OFW, will need to treat $1\frac{1}{2} \times 3$ volumes.

Operation And Maintenance, Legal Information: (Ownership or Perpetual Control, Eminent Domain, Work on District Property, Inspections During Const., O&M Entity, System O&M Instructions, Homeowner Association Documents, Coastal Zone Requirements, Public Safety, etc.)

- Provide evidence of ownership / control of project area.
- Provide names / addresses of property to be acquired.

Application Type And Fee Required: (40D-4.041 Permits Required, 40D-1.607 Fee Schedule, etc.)

- ERP Individual
- \$2500 fee
- Forms, A, C, E & G (Sov. Lands)

Other: (Future Pre-Application Meetings, Fast Track, Submittal Date, Construction Start Date, Required District Permits - WUP, WOD, Well Construction, etc.)

- N/A

Disclosure: The District ERP pre-application meeting process is a service made available to the public to assist interested parties in preparing for submittal of a complete permit application. Information shared at pre-application meetings is superseded by the actual permit application submittal. District permit decisions are based upon information submitted during the application process and Rules in effect at the time the application is complete.

The following person was present and authored these ERP Pre-Application Meeting NOTES on behalf of the SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT:

District Staff Representative

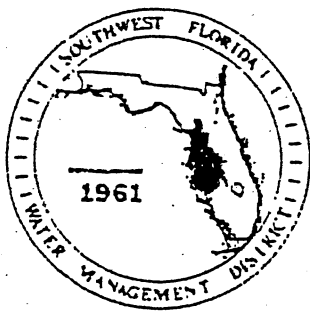
Name and Title

Signed

Date

Michelle Hopking

9-13-01



Southwest Florida Water Management District

MEETING: SR 694 - Gandy Study

LOCATION: SWFWMD - Tampa

DATE: 9.13.01 TIME: 10 AM

NAME

REPRESENTING

PHONE

Michelle Hopkins

SWFWMD

785-7481

Alberto Martinez

SWFWMD

985-7481

BANG NGUYEN

PBOD

289-5300

Shelly Finerty

PBOD

289-5300

JOHN CERRETA

PB C & J

782-7075



**SR 694 (GANDY BOULEVARD) PD&E STUDY
FROM US 19 TO EAST OF 4TH STREET, PINELLAS COUNTY
FPID NO. 256931-1-32-01**

To: Distribution / File: 15489-7.06
From: Bang Nguyen
Meeting Date & Location: October 5, 2001 at FDOT Dist-7 Tampa Office

ATTENDEES:

Bang Nguyen (PBQD)
Shelly Flaherty (PBQD)
John Littlefield (PBQD)
John Cerreta (PBS&J)
Tim Polk (PBS&J)
Megan Arasteh (FDOT)
Kirk Bogen (FDOT)
Ming Gao (FDOT)
Todd Mecklenborg (FDOT)
Joe Thompson (FDOT)

Purpose:

The purpose of the meeting was to discuss the proposed pond alternatives for the Gandy Boulevard (SR 694) PD&E Study.

Discussion:

John Cerreta opened the meeting with a brief discussion of the project limits, the segments within the limits and the proposed typical sections for each segment. Existing Gandy Blvd. is primarily a four lane divided rural highway and is proposed to be a limited access urban highway with frontage and/or collector roads. Certain segments of the proposed Gandy Blvd. are to be 6 lanes while the rest is to be 4 lanes.

Bang Nguyen discussed the methodology used to calculate the volume of treatment and attenuation required for each basin. The SCS Method (Post minus Pre 100 yr/24hr storm event) was used to determine the volume of attenuation required for each basin. The volume to be treated for each basin was determined by the outfall of the ponds within each basin. If the pond alternatives discharged into an Outstanding Florida Water (OFW), then 1.5" over the post impervious area plus DCIA (directly connected impervious area) is required. However, if the ponds did not discharge into an OFW, then 1.0" over the post impervious area is required.



The following summarizes any items/issues that were discussed for each basin:

Basin 100: No pond alternatives determined because basin is located beyond construction limits.

Basin 200: Determine if existing gun range (located near Coca Cola facility and Sawgrass Lake) can be used as a pond alternative.

Determine if proposed pond alternative 200C (south of residential community and west of Sawgrass Lake) is a wetland.

Sawgrass Lake Park is not considered an Outstanding Florida Water (OFW).

Locate the DRI or Developmental Plans at the Gateway Center. Contact County/City.

Basin 300: No changes to proposed pond alternatives suggested.

Basin 400: Include the U-Store Self Storage facility as a pond alternative.

For pond alternative 400A (east of Americast), use northern corner (triangular shape) of parcel rather than rectangular shape along back of parcel.

Pond alternative 400B-2, use same methodology as 400A, using a smaller portion (400B-2 is one of two ponds for this particular alternative).

Basin 500: No changes to proposed pond alternatives suggested.

Basin 600: No changes to proposed pond alternatives suggested.

Basin 700: Determine if pond alternative 700A (open area next to North Gate Center and southeast of the Budget Self Storage facility) is a wetland.

Basin 800: Consider using the Budget Self Storage facility (next to K-Mart) as a pond alternative.

Basin 900: Determine what business facility (located northeast corner of westbound Gandy Blvd. and northbound 9th Street) is located within pond alternative 900B.

Basin 1000: No changes to proposed pond alternatives suggested.

Basin 1100 &

Basin 1200: Combine and treat both basins as one basin.



Meeting Minutes

Consider using the existing pond (between westbound and eastbound Gandy Blvd. and west of 4th Street) as a pond alternative.

Consider using the open area between Sandpiper Apartments and Gateway; Mobile Park as a pond alternative.

Consider using the triangular area (surrounded by northbound 4th Street, eastbound Gandy Blvd. and 99th Avenue North) as a pond alternative.

Determine if Antique Shop located along 99th Avenue North (within the triangular area mentioned above) is a historical site.

Avoid using any part of a mobile park community as pond alternatives.

Floodplain: No floodplain compensation required due to the project limits within a tidally influenced area.

CC: Attendees
John Romero (PBQD)
Steve Gordillo (PBSJ)



**Telephone
Conversation
Memorandum**

project : Gandy Blvd. (SR 694) PD&E
 : Study: From US 19 to E. of
 : 4th St.

FPID no.: 256931-1-32-01

date: September 12,
 2001

from: Bang Nguyen, PBQD

talked to: Don Wolfe FDOT-7 Maintenance Engineer
Phone no: (727) 570 - 5101

Item discussed: **Flood History within the project limits**

Don Wolfe indicated that there have been no drainage or flooding problems within the proposed project limits. He also indicated that there hasn't been any sort of scour problems and that all cross drains located within the proposed limits have performed sufficiently.

action required: **None**

distribution:

file: 15489-4.20
☐ Other(s):

by:



Telephone
Conversation
Memorandum

project : Gandy Blvd. (SR 694) PD&E FPID no.: 256931-1-32-01 date: October 9, 2001
 : Study: From US 19 to E. of
 : 4th St.

from: Bang Nguyen, PBQD talked to: John Cerreta, P.E. PBS&J (813) 282-7275
 Phone no: Ext: 372

Item discussed: **Gateway DRI and historical site for pond alternative in Basin 1100**

John Cerreta informed me that the antique shop located within Basin 1100 was indeed a historical site. Also, he mentioned that I should contact the Planning Dept over at FDOT-7 for information concerning the Gateway Center.

action required: **Avoid using historical site as pond alternative and contact Planning Dept. at FDOT-7.**

distribution:

by: Bang Nguyen

file: 15489-7.05

☐ Other(s):



**Telephone
Conversation
Memorandum**

project : Gandy Blvd. (SR 694) PD&E
: Study: From US 19 to E. of
: 4th St.

FPID no.: 256931-1-32-01 date: October 12, 2001

from: Bang Nguyen, PBQD

talked to: Todd Mecklenborg (813) 975-6457
Phone no:

Item discussed: **Sawgrass Lake**

Todd Mecklenborg informed me that on his list, Sawgrass Lake was not an OFW and that it was controlled by a structure located south of the Gandy Blvd./I-275 Interchange. He also mentioned that he believes the area south and east of the Gandy Blvd./I-275 Interchange was tidally influenced.

action required:

distribution:

file: 15489-7.05

☐ Other(s):

by: Bang Nguyen

Nguyen, Bang

From: Klemm, Janet [Janet.Klemm@dep.state.fl.us]
Sent: Thursday, December 20, 2001 8:51 AM
To: Jordan, Nan
Cc: Nguyen, Bang
Subject: RE: Sawgrass Lake

Hi Nan,

Thank you for being patient with the request for determination of Sawgrass Lake. I spoke with Scott Woolam of State Lands (850) 488-8123. He says that after researching it, they don't have the information needed to claim sovereignty of the lake. This means that it is not within the aquatic preserve, and therefore not within the Pinellas aquatic preserve OFW.

I hope you have a wonderful holiday,

Janet Klemm
(850) 921-9928

-----Original Message-----

From: Jordan, Nan [mailto:JordanNa@pbworld.com]
Sent: Wednesday, December 19, 2001 4:55 PM
To: Klemm, Janet
Cc: Nguyen, Bang
Subject: Sawgrass Lake

<<...OLE_Obj...>>

Hi Janet. Hope the holidays find you well. I called and left a message with you earlier today, however, I will not be back in the office until the day after Christmas, so I wanted to give you another contact, in the event that you got a response from the title determination people and were able to make a decision on the OFW status of Sawgrass Lake in Pinellas County.

I have included Bang Nguyen in the cc on this e mail. You can either e-mail us both with a response or you can reach him at (813)-207-2923 if you need to discuss it.

Your assistance on this and the multitude of other projects you have helped us with this year is really appreciated.
Have a wonderful holiday.

Nan

Nan Jordan, Environmental Manager
Parsons Brinckerhoff Quade & Douglas, Inc.
5405 West Cypress Street, Suite 300
Tampa, Florida 33607
Direct Phone No.: (813) 207-2967
Office Phone No.: (813) 289-5300
Office Fax No.: (813) 289-4405
Email: jordananna@pbworld.com <mailto:jordananna@pbworld.com>

<<...OLE_Obj...>>

<<N. Nan Jordan.vcf>>

MEETING MINUTES

Date/Time: January 24, 2002 / 10:00 a.m.

Location: Florida Department of Transportation
District 7 EMO

Subject: Work Program Item Segment No. 256931 1
S.R. 694 (Gandy Blvd.) PD&E Study from U.S. 19 to East of 4th Street
Pinellas County

Attendees: FDOT: Gabor Farkasfalvy, Kirk Bogen, Dwayne Kile,
Kacia Monts, Yvonne Arens
PBS&J: Steve Gordillo, John Cerreta

Author: John Cerreta, PBS&J

Copies To: Attendees, Bob Clifford (FDOT), File 100694.xx (2G)

The meeting was held in response to comments from Dwayne Kile in reference to the classification of Gandy Boulevard (SR 694) and the design speed in the Draft Preliminary Engineering Report (PER).

Since the facility is on the Florida Intrastate Highway System, Mr. Kile suggested changing the classification to freeway (other) and increasing the design speed from 50 mph to 60 mph.

Steve Gordillo said Gandy Boulevard from west of US 19 to east of 4th Street is classified as a controlled access facility in an urbanized area and the design speed should be 50 mph. James W. Golden (Manager, FIHS Planning-Systems Planning Office) confirmed the facility classification and design speed via an E-mail dated January 22, 2002.

The group decided to classify the facility as an Urban Principal Arterial with a design speed of 60 mph. The decision would be consistent with the classification for US 19 (SR 55). Also, the design speed for the Frontage Roads will be 50 mph

Finally, the connectivity of the pedestrian and bicycle facilities throughout the corridor was also discussed. Ensure that coordination with the appropriate FDOT and MPO staff takes place.

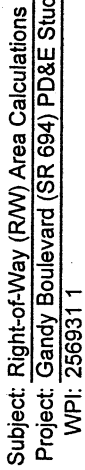
jac/dg

Please notify the author of any necessary revisions to these minutes. Otherwise, the foregoing shall be deemed an accurate account of the subject meeting. Thank you.

Appendix C

Pond Size Calculations

Right-of-Way Area Calculations



TOTAL AREA (ac) =		281.28	281.28
--------------------------	--	---------------	---------------

• NOTE: EXISTING AND PROPOSED RW AREA MEASURED USING MICROSTATION

BASIN NUMBER	STATION		LENTH (ft)	EXISTING AREAS (ac)			PROPOSED AREA (ac)			ADDITIONAL IMPERVIOUS AREA (ac)	
	FROM	TO		R.O.W.	IMPERVIOUS	PERVIOUS	R.O.W.	IMPERVIOUS	PERVIOUS		
200	18+85.00	53+63.00	3478	25.38		12.08	13.30	25.38	19.04	6.34	6.96
300	53+63.00	67+00.00	1337	18.63		5.09	13.54	18.63	13.24	5.39	8.15
400	67+00.00	82+04.00	1504	15.56		5.67	9.89	15.56	9.41	6.15	3.74
500	82+04.00	100+45.00	1841	38.42		8.60	29.82	38.42	10.38	28.04	1.79
600	100+45.00	127+45.00	2700	87.14		20.91	66.23	87.14	27.30	59.84	6.39
700	127+45.00	143+00.00	1555	16.82		4.89	11.93	16.82	7.89	8.93	3.01
800	143+00.00	165+00.00	2200	28.10		6.78	21.32	28.10	11.28	16.82	4.50
900	165+00.00	181+36.00	1636	19.42		3.92	15.50	19.42	8.47	10.95	4.55
1000	181+36.00	188+62.00	726	13.47		3.90	9.57	13.02	6.26	6.76	2.36
1100	188+62.00	295+85.00	1593	18.34		7.78	10.56	18.79	9.95	8.84	2.17
Totals			18570	281.28		79.60	201.68	281.28	123.22	158.06	43.62

Existing Impervious Area Calculations



Subject: Existing Impervious Area Calculations
Project: Gandy Boulevard (SR 694) PD&E Study From West of US 19 To East of 4th Street
WPI: 256931 1

Page: 1 of 5
Made by: BHN
Date: 10/1/01
Checked by: SDF
Date: 12/13/01

BASIN	DESCRIPTION	STATION		LENGTH (ft)	OFFSET	TRAVEL LANES			SHOULDER			CURBS			BARRIER WALL			MEDIAN BARRIER WALL			SIDEWALK			TURN LANES ENTRANCES & MISC.			EXISTING IMPERVIOUS AREA (ac)	TOTAL EXISTING IMPERVIOUS AREA (ac)
		FROM	TO			QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)					
BASIN 200	Gandy Blvd. Bridge over US 19 (WB)	18+85.00	21+04.00	205	LT	2	12.00	2	7.00	0	0.00	0	0.00	1	1.54	1	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.20	12.08	
	Gandy Blvd. Bridge over US 19 (EB)	18+85.00	21+04.00	205	RT	2	12.00	2	7.00	0	0.00	0	0.00	1	1.54	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.19		
	Gandy Blvd. Approach (WB)	21+04.00	30+75.00	960	LT	2	12.00	1	7.00	1	5.00	0	0.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.84		
	Gandy Blvd. Approach (EB)	21+04.00	32+08.00	1091	RT	2	12.00	1	7.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.90		
	(WB) Ramp onto US 19	20+23.00	30+75.00	1035	LT	1	19.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.55		
	Connection from (WB) Ramp onto (NB) US 19	19+36.00	20+23.00	99	LT	1	19.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.05		
	Connection from (WB) Ramp onto (SB) US 19	19+36.00	20+23.00	102	LT	2	16.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.08		
	(EB) Ramp onto Gandy Blvd.	21+04.00	32+08.00	1099	RT	1	16.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.50		
	Connection from (NB) US 19 onto (EB) Ramp	19+36.00	21+04.00	195	RT	1	21.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.11		
	Connection from (SB) US 19 onto (EB) Ramp	19+36.00	21+04.00	186	RT	1	20.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.10		
	(NB) US 19 at Gandy Blvd.	493+37.00	498+47.00	510	RT	3	12.00	0	0.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0	0.00	1	5.00	0	0.00	0.50		
	Gandy Blvd. Mainline (WB)	30+75.00	53+55.00	2280	LT	3	12.00	1	5.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2.67		
	Gandy Blvd. Mainline (EB)	32+08.00	54+34.00	2226	RT	3	12.00	1	5.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2.61		
	Frontage Road along (EB) Gandy Blvd.	31+69.00	37+87.00	618	RT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.34		
	Gandy Blvd. South Frontage Road	53+22.00	55+00.00	178	RT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.10		
	(SB) Grand Ave. North of Gandy Blvd.	Distance	Distance	123	LT	2	12.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.08		
	(NB) Grand Ave. North of Gandy Blvd.	Distance	Distance	123	LT	2	12.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.08		
	Turn Lanes, Entrances & Misc. Along (WB) Gandy Blvd.	Length (Total Sum)	Length (Total Sum)	155	LT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	50.00	0.18		
	Turn Lanes, Entrances & Misc. Along (WB) Gandy Blvd.	Length (Total Sum)	Length (Total Sum)	2755	70	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	14.00	0.89		
	Turn Lanes, Entrances & Misc. Along (EB) Gandy Blvd.	Length (Total Sum)	Length (Total Sum)	3040	RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	16.00	1.12		
BASIN 300	Gandy Blvd. Mainline (WB)	53+55.00	67+03.00	1348	LT	3	12.00	1	5.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.58	5.09	
	Gandy Blvd. Mainline (EB)	54+34.00	66+95.00	1261	RT	3	12.00	1	5.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.48		
	Gandy Blvd. North Frontage Road	61+20.00	67+08.00	588	LT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.32		
	Gandy Blvd. South Frontage Road	55+00.00	66+89.00	1147	RT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.63		
	Turn Lanes, Entrances & Misc. Along (WB) Gandy Blvd.	Length (Total Sum)	Length (Total Sum)	3239	LT/RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	13.00	0.97		
	Turn Lanes, Entrances & Misc. Along (EB) Gandy Blvd.	Length (Total Sum)	Length (Total Sum)	197	RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	25.00	0.11		



Subject: Existing Impervious Area Calculations

Project: Gandy Boulevard (SR 694) PD&E Study From West of US 19 To East of 4th Street

WPI: 256931.1

Page: 2 of 5

Made by: BHN

Date: 10/1/01

Checked by: SDF

Date: 12/13/01

BASIN	DESCRIPTION	STATION		LENGTH (ft)	OFFSET	TRAVEL LANES			SHOULDER			CURBS		BARRIER WALL		MEDIAN BARRIER WALL		SIDEWALK		TURN LANES ENTRANCES & MISC.		EXISTING IMPERVIOUS AREA (ac)	TOTAL EXISTING IMPERVIOUS AREA (ac)
		FROM	TO			QTY (#)	AVG WIDTH (ft)	Avg	QTY (#)	AVG WIDTH (ft)	Avg	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)		
BASIN 400	Gandy Blvd. Mainline (WB)	67+03.00	80+33.00	1330	LT	3	12.00	1	5.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.56	5.67
		80+33.00	81+96.00	163	LT	2	12.00	1	5.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.15	
	Gandy Blvd. Mainline (EB)	66+95.00	80+00.00	1305	RT	3	12.00	1	5.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.53	
		80+00.00	82+07.00	207	RT	2	12.00	1	5.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.19	
	(SB) I-275 Off Ramp onto (WB) Gandy Blvd.	80+33.00	81+96.00	163	LT	2	12.00	1	7.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.12	
	(EB) Gandy Blvd. onto (NB & SB) I-275	80+00.00	82+07.00	207	RT	2	12.00	1	12.00	0	0.00	0	0.00	1	1.54	0	0.00	0	0.00	0	0.00	0.18	
	(WB) Gandy Blvd. Merging Lane	68+00.00	80+33.00	1233	LT	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.28	
	Gandy Blvd. South Frontage Road	66+89.00	82+07.00	1518	RT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.84	
	Gandy Blvd. North Frontage Road	67+08.00	74+23.00	835	LT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.46	
	Turn Lanes, Entrances & Misc. Along (EB) Gandy Blvd.	Length (Total Sum)		1362	RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	12.00	0.38	
BASIN 500		82+00.00	86+20.00	420	LT	2	12.00	1	5.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.38	8.60
	Gandy Blvd. Mainline (WB)	86+20.00	98+67.00	1247	LT	2	12.00	0	0.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.97	
		98+67.00	100+45.00	178	LT	3	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.17	
	Gandy Blvd. Mainline (EB)	81+96.00	84+67.00	267	RT	2	12.00	1	5.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.23	
	(EB) Gandy Blvd. onto (NB & SB) I-275	82+07.00	84+67.00	266	RT	2	12.00	1	5.00	1	7.00	0	0.00	1	1.54	0	0.00	0	0.00	0	0.00	0.22	
	(SB) I-275 Off Ramp onto (WB) Gandy Blvd.	Distance		2991	LT	2	12.00	1	8.00	1	4.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2.47	
	(SB) I-275 On Ramp from (WB) Gandy Blvd.	Distance		1643	LT	1	12.00	1	7.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.72	
	(SB) I-275 North of Gandy Blvd.	128+93.00	133+51.00	1505	LT	3	12.00	2	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.93	
		128+93.00	129+86.00	285	RT	0	0.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.07	
		129+86.00	131+37.00	498	RT	3	12.00	2	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.64	
	(NB) I-275 North of Gandy Blvd.	131+37.00	133+16.00	587	RT	0	0.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.13	
		133+16.00	133+51.00	116	RT	3	12.00	2	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.15	
	Curbs - (SB) I-275 and On Ramp from (WB) Gandy Blvd.	Distance		1024	LT	0	0.00	0	0.00	0	0.00	1	3.50	0	0.00	0	0.00	0	0.00	0	0.00	0.08	
	(SB) I-275 Bridge over Gandy Blvd.	128+33.00	128+93.00	193	LT	4	12.00	1	6.00	1	10.00	0	0.00	2	1.54	0	0.00	0	0.00	0	0.00	0.30	
	Gandy Blvd. South Frontage Road	82+07.00	84+67.00	246	RT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.14	



Subject: Existing Impervious Area Calculations

Project: Gandy Boulevard (SR 694) PD&E Study From West of US 19 To East of 4th Street

WPI: 2569311

Page: 3 of 5

Made by: BHN

Date: 10/1/01

Checked by: SDF

Date: 12/13/01

BASIN	DESCRIPTION	STATION		LENGTH (ft)	OFFSET	TRAVEL LANES		SHOULDER		CURBS		BARRIER WALL		MEDIAN BARRIER WALL		SIDEWALK		TURN LANES ENTRANCES & MISC.		EXISTING IMPERVIOUS AREA (ac)	TOTAL EXISTING IMPERVIOUS AREA (ac)
		FROM	TO			QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)		
BASIN 600	Gandy Blvd. Mainline (WB)	100+45.00	127+48.00	2703	LT	2	12.00	1	5.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	2.42	
	Gandy Blvd. Mainline (EB)	84+67.00	86+18.00	151	RT	2	12.00	0	0.00	0	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0.12	
		86+18.00	116+00.00	2982	RT	2	12.00	1	5.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	2.67	
		116+00.00	123+84.00	784	RT	2	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.52	
		123+84.00	127+48.00	364	RT	2	12.00	2	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.28	
	Gandy Blvd. North Frontage Road	117+00.00	127+48.00	1048	LT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.58	
	Gandy Blvd. South Frontage Road	Distance		3342	RT	2	10.00	0	0.00	0	0.00	0	0.00	0	0.00	1	5.00	0	0.00	1.92	
	(NB) I-275 Off Ramp onto (EB) Gandy Blvd.	Distance		2913	RT	1	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.14	
	(NB) I-275 Off Ramp onto (WB) Gandy Blvd.	Distance		222	RT	1	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.06	
		Distance		422	RT	2	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.28	
	(SB) I-275 On Ramp from (EB) Gandy Blvd.	Distance		226	RT	2	12.00	1	5.00	1	4.00	0	0.00	0	0.00	0	0.00	0	0.00	0.17	
		Distance		1756	RT	1	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.69	
	(NB) I-275 On Ramp from (EB) Gandy Blvd.	Distance		535	RT	2	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.36	
		Distance		188	RT	1	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.05	
		Distance		309	RT	2	12.00	1	7.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0.26	
		Distance		368	RT	2	12.00	1	6.00	1	10.00	1	3.50	0	0.00	0	0.00	0	0.00	0.37	
	Turn Lanes, Entrances & Misc. Along (WB) Gandy Blvd.	Length (Total Sum)		447	LT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	12.00	0.12	
	Turn Lanes, Entrances & Misc. Along (EB) Gandy Blvd.	Length (Total Sum)		791	RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	12.00	0.22	
	(NB) On Ramp Bridge over I-275	Distance		385	RT	2	12.00	1	6.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0.36	
	(NB) I-275 On Ramp East of Bridge over I-275	Distance		875	RT	2	12.00	1	6.00	1	10.00	1	3.50	0	0.00	0	0.00	0	0.00	0.87	
	(NB) On Ramp Bridge over Gandy Blvd.	Distance		342	RT	2	12.00	1	6.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0.34	
	(NB) I-275 On Ramp North of Bridge over Gandy Blvd.	Distance		276	RT	2	12.00	1	6.00	1	10.00	2	3.50	0	0.00	0	0.00	0	0.00	0.30	
		Distance		159	RT	2	12.00	1	6.00	1	10.00	1	3.50	0	0.00	0	0.00	0	0.00	0.16	
		Distance		778	RT	2	12.00	1	6.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0.71	
		Distance		859	RT	3	12.00	2	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.95	
	(NB) I-275 South of Gandy Blvd.	Distance		741	RT	3	12.00	2	10.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	1.17	
	(NB) I-275 Bridge over Gandy Blvd.	Distance		385	RT	3	12.00	2	10.00	1	3.50	0	0.00	0	0.00	0	0.00	0	0.00	0.49	
	(NB) I-275 North of Gandy Blvd.	Distance		285	RT	3	12.00	2	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.30	
		Distance		587	RT	3	12.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.82	
		Distance		520	LT	3	12.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.55	
		Distance		234	LT	3	12.00	2	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.30	
	(SB) I-275 South of Gandy Blvd.	Distance		243	LT	3	12.00	2	10.00	0	0.00	1	3.50	0	0.00	0	0.00	0	0.00	0.33	
	(SB) I-275 Bridge over Gandy Blvd.	Distance		564	LT	4	12.00	2	10.00	0	0.00	1	3.50	0	0.00	0	0.00	0	0.00	0.93	
		Distance		193	LT	4	12.00	1	6.00	1	10.00	0	0.00	2	1.54	0	0.00	0	0.00	0.30	

20.91



Subject: Existing Impervious Area Calculations
Project: Gandy Boulevard (SR 694) PD&E Study From West of US 19 To East of 4th Street
WPI: 256931 1

Page: 4 of 5
Made by: BHN
Date: 10/1/01
Checked by: SDF
Date: 12/13/01

BASIN	DESCRIPTION	STATION		LENGTH (ft)	OFFSET	TRAVEL LANES			SHOULDER			CURBS			BARRIER WALL			SIDEWALK			TURN LANES ENTRANCES & MISC.			EXISTING IMPERVIOUS AREA (ac)	TOTAL EXISTING IMPERVIOUS AREA (ac)
		FROM	TO			QTY	AVG WIDTH (ft)	WIDTH (ft)	QTY	AVG WIDTH (ft)	WIDTH (ft)	QTY	AVG WIDTH (ft)	WIDTH (ft)	QTY	AVG WIDTH (ft)	WIDTH (ft)	QTY	AVG WIDTH (ft)	WIDTH (ft)	QTY	AVG WIDTH (ft)	WIDTH (ft)		
BASIN 700	Gandy Blvd. Mainline (WB)	127+45.00	142+71.00	1519	LT	2	12.00	1	3.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.29	4.89
	Gandy Blvd. Mainline (EB)	127+45.00	143+31.00	1586	RT	2	12.00	1	3.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.35	
	Frontage Road Along (WB) Gandy Blvd.	127+45.00	142+51.00	1461	LT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.80	
	Frontage Road Along (EB) Gandy Blvd.	127+52.00	142+88.00	1600	RT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.88	
	Turn Lanes, Entrances & Misc. Along (WB) Gandy Blvd.	Length (Total Sum)		944	LT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	16.00	0.35	
BASIN 800	Turn Lanes, Entrances & Misc. Along (EB) Gandy Blvd.	Length (Total Sum)		725	RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	13.00	0.22	6.78
	Gandy Blvd. Mainline (WB)	142+71.00	149+09.00	624	LT	2	12.00	1	5.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.56	
	Gandy Blvd. Mainline (EB)	149+09.00	166+48.00	1751	LT	2	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.17	
	Gandy Blvd. Mainline (EB)	143+31.00	149+23.00	595	RT	2	12.00	1	5.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.53	
	Frontage Road Along (WB) Gandy Blvd. & (SB) 9th Street	149+23.00	163+63.00	1435	RT	2	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.96	
BASIN 900	Frontage Road Along (WB) Gandy Blvd. & (SB) 9th Street	142+51.00	170+00.00	3039	LT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.67	3.92
	(SB) 9th Street	108+29.00	113+41.00	511	LT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.28	
	(SB) 9th Street	113+78.00	117+85.00	407	LT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.22	
	Turn Lanes, Entrances & Misc. Along (WB) Gandy Blvd.	114+38.00	126+16.00	779	LT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.43	
	Turn Lanes, Entrances & Misc. Along (SB) 9th Street	Length (Total Sum)		263	LT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	38.00	0.23	
BASIN 1000	Turn Lanes, Entrances & Misc. Along (SB) 9th Street	Length (Total Sum)		2275	LT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	14.00	0.73	3.90
	Gandy Blvd. Mainline (WB)	166+48.00	181+47.00	1541	LT	2	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.03	
	Gandy Blvd. Mainline (EB)	163+63.00	181+36.00	1739	RT	2	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.16	
	(NB) 9th Street	108+29.00	113+84.00	551	RT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.30	
	Turn Lanes, Entrances & Misc. Along (WB) Gandy Blvd.	114+27.00	118+29.00	405	RT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.22	
BASIN 1000	Turn Lanes, Entrances & Misc. Along (WB) Gandy Blvd.	118+81.00	126+15.00	742	RT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.41	3.90
	Turn Lanes, Entrances & Misc. Along (NB) 9th Street	Length (Total Sum)		680	LT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	13.00	0.20	
	Turn Lanes, Entrances & Misc. Along (NB) 9th Street	Length (Total Sum)		1858	RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	14.00	0.60	
	Gandy Blvd. Mainline (WB)	181+47.00	190+61.00	914	LT	2	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.61	
	Gandy Blvd. Mainline (WB)	190+61.00	191+35.00	74	LT	4	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.09	
	Gandy Blvd. Mainline (WB)	191+35.00	194+20.00	285	LT	3	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.27	
	Gandy Blvd. Mainline (EB)	181+36.00	186+00.00	414	RT	2	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.28	
	Gandy Blvd. Mainline (EB)	186+00.00	188+28.00	328	RT	4	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.40	
	Gandy Blvd. Mainline (EB)	189+28.00	190+84.00	156	RT	5	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.23	
	Gandy Blvd. Mainline (EB)	190+84.00	191+50.00	66	RT	4	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.08	
	Roosevelt Blvd. (SB)	247+47.00	249+04.00	157	RT	4	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.19	
	Roosevelt Blvd. (NB)	249+04.00	253+00.00	396	RT	2	12.00	1	9.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.39	
	Roosevelt Blvd. (NB)	247+47.00	252+71.00	752	LT/RT	3	12.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.79	
	Roosevelt Blvd. (NB)	252+71.00	267+00.00	223	LT/RT	2	12.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.17	
	(SB) Roosevelt Blvd. Between (EB & WB) Gandy Blvd.	Distance		216	LT/RT	2	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.14	
	(SB) Roosevelt Blvd. Connection to (SB) 4th Street	Distance		230	RT	1	15.00	1	6.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.11	
	Turn Lanes, Entrances & Misc. Along (WB & EB) Gandy Blvd.	Length (Total Sum)		10	LT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	50.00	0.01	
	Turn Lanes, Entrances & Misc. Along (SB & NB) Roosevelt Blvd.	Length (Total Sum)		112	N/A	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	50.00	0.13	



Subject: Existing Impervious Area Calculations
Project: Gandy Boulevard (SR 694) PD&E Study From West of US 19 To East of 4th Street
WPI: 256931.1

Page: 5 of 5
Made by: BHN
Date: 10/1/01
Checked by: SDF
Date: 12/13/01

BASIN	DESCRIPTION	STATION		LENGTH (ft)	OFFSET	TRAVEL LANES			SHOULDER			CURBS		BARRIER WALL		MEDIAN BARRIER WALL		SIDEWALK		TURN LANES ENTRANCES & MISC.		EXISTING IMPERVIOUS AREA (ac)	TOTAL EXISTING IMPERVIOUS AREA (ac)
		FROM	TO			QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)		
BASIN 1100	Gandy Blvd. Mainline (WB)	194+20.00	195+52.00	132	LT	4	12.00	2	6.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.18	7.78
		195+52.00	200+81.00	529	LT	6	12.00	1	6.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.95	
	Gandy Blvd. Mainline (EB)	289+23.00	295+85.00	662	LT	2	12.00	1	6.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.44	
		191+50.00	192+73.00	123	RT	4	12.00	1	6.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.15	
		192+73.00	193+42.00	69	RT	3	12.00	1	6.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.07	
		193+42.00	194+56.00	114	RT	3	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.09	
		194+56.00	200+42.00	586	RT	3	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.58	
		200+42.00	292+57.00	433	RT	3	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.36	
		292+57.00	295+85.00	328	RT	4	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.40	
		Distance		1201	LT	3	12.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	1.24	
		Distance		186	LT	3	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.15	
		Distance		100	RT	3	12.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.10	
	(NB) 4th Street - (3) 10' x 5' CBC North to of (EB) Gandy Blvd.	121	RT	4	12.00	0	0.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.16	
		187	RT	4	12.00	0	0.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.24	
		324	RT	2	12.00	0	0.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.25	
		142	RT	4	12.00	0	0.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.19	
		321	RT	5	12.00	0	0.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.51	
		186	LT	3	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.15	
	(NB) 4th Street - Between (EB) Gandy Blvd and (WB) Gandy Blvd.	218	LT	3	12.00	0	0.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.23	
	(NB) 4th Street - North of (WB) Gandy Blvd.	Distance		292	LT	1	15.00	1	6.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.14	
	(SB) Roosevelt Blvd. Connection to (SB) 4th Street	271+49.00	274+41.00	216	LT/RT	0	0.00	1	6.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.03	
	(SB) Roosevelt Blvd. Between (EB & WB) Gandy Blvd.	Distance		30	LT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.03	
	Turn Lanes, Entrances & Misc. Along (WB) Gandy Blvd.	Length (Total Sum)		55	LT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.03	
	Turn Lanes, Entrances & Misc. Along (EB) Gandy Blvd.	Length (Total Sum)		330	RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.38	
	Turn Lanes, Entrances & Misc. Blwn (EB & WB) Gandy Blvd. along 4th St.	34	RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.04	
	Turn Lanes, Entrances & Misc. Along (SB) 4th Street	Length (Total Sum)		524	LT/RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.60	
	Turn Lanes, Entrances & Misc. Along (NB) 4th Street	Length (Total Sum)		21	LT/RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.02	
	Turn Lanes, Entrances & Misc. Along (NB) 4th Street	Length (Total Sum)		22	RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.03	

Proposed Impervious Area Calculations



Subject: Proposed Impervious Area Calculations
Project: Gandy Boulevard (SR 694) PD&E Study From West of US 19 To East of 4th Street
WPI: 2569311

Page: 1 of 6
Made by: BHN
Date: 10/1/01
Checked by: SDF
Date: 12/13/01

BASIN	DESCRIPTION	STATION		LENGTH (ft)	OFFSET	TRAVEL LANES		SHOULDER		CURBS		BARRIER WALL		BIKE LANE		SIDEWALK		TURN LANES ENTRANCES & MISC.		PROPOSED IMPERVIOUS AREA (ac)	TOTAL PROPOSED IMPERVIOUS AREA (ac)
		FROM	TO			QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)		
BASIN 200	Gandy Blvd. Bridge over US 19 (WB)	18+85.00	21+04.00	205	LT	2	12.00	2	7.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.20	19.04
	Gandy Blvd. Bridge over US 19 (EB)	18+85.00	21+04.00	205	RT	2	12.00	2	7.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.19	
	Gandy Blvd. Approach (WB)	21+04.00	32+00.00	1073	LT	2	12.00	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.33	
	Gandy Blvd. Approach (EB)	21+04.00	29+00.00	784	RT	2	12.00	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.94	
	(WB) Ramp onto US 19	21+12.00	28+81.00	763	LT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.61	
	Connection from (WB) Ramp onto (NB) US 19	19+36.00	21+12.00	81	LT	1	19.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.04	
	Connection from (WB) Ramp onto (SB) US 19	19+36.00	21+12.00	156	LT	2	16.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.13	
	(EB) Ramp onto (EB) South Frontage Road from (NB) US 19	21+04.00	32+08.00	443	RT	1	16.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.20	
	Connection from (NB) US 19 onto (EB) Ramp	19+36.00	21+04.00	189	RT	1	21.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.11	
	Connection from (SB) US 19 onto (EB) Ramp	19+36.00	20+84.00	176	RT	1	20.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.10	
	(WB) Frontage to (EB) Frontage Connection	Distance		724	LT/RT	1	12.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.27	
	(NB) US 19 at Gandy Blvd.	493+37.00	498+47.00	510	RT	3	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.50	
	Gandy Blvd. Mainline (WB)	32+00.00	53+44.00	2144	LT	3	12.00	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3.15	
	Gandy Blvd. Mainline (EB)	29+00.00	54+16.00	2516	RT	3	12.00	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3.58	
	Gandy Blvd. North Frontage Road (One Way)	28+81.00	53+00.00	2419	LT	2	12.00	1	8.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2.39	
	Gandy Blvd. South Frontage Road (One Way)	32+08.00	54+34.00	2228	RT	2	12.00	1	8.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2.20	
	Side Road Along (EB) South Frontage Road	31+36.00	37+17.00	605	RT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.33	
	Turn Lanes Entrances & Misc. Along (WB) Gandy Blvd.	Length (Total Sum)		186	LT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.05	
	Turn Lanes Entrances & Misc. Along (EB) Gandy Blvd.	Length (Total Sum)		495	RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.14	
BASIN 300	Proposed Road Between Gandy Center and Sunset Palms	Distance		115	LT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.93	13.24
	Grand Ave. South of Gandy Blvd.	Distance		184	LT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.07	
	Gandy Blvd. Mainline (WB)	53+44.00	54+35.00	91	LT	3	12.00	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.13	
	Gandy Blvd. Mainline (EB)	55+36.00	57+45.00	209	LT	3	12.00	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.31	
	Gandy Blvd. Mainline (WB)	57+45.00	67+00.00	955	LT	3	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.21	
	Gandy Blvd. Mainline (EB)	54+16.00	54+35.00	24	RT	3	12.00	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.03	
	Gandy Blvd. Mainline (WB)	55+36.00	57+45.00	24	RT	3	12.00	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.03	
	Gandy Blvd. Mainline (EB)	57+45.00	65+59.00	814	RT	3	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.03	
	Gandy Blvd. Mainline (WB)	65+59.00	67+00.00	141	RT	3	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.13	
	Gandy Blvd. North Frontage Road (One Way)	53+00.00	54+00.00	100	LT	2	12.00	2	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.11	
	Gandy Blvd. South Frontage Road (One Way)	55+90.00	67+00.00	1110	LT	2	12.00	2	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.17	
	Side Road Along (EB) Gandy Blvd.	65+59.00	65+59.00	989	RT	2	12.00	2	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.02	
	Gandy Blvd. Bridge over Grand Avenue (WB)	65+59.00	67+00.00	141	RT	1	12.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.17	
	Gandy Blvd. Bridge over Grand Avenue (EB)	54+35.00	55+35.00	100	LT	3	12.00	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.14	
	Grand Avenue North of Gandy Blvd.	54+35.00	55+35.00	100	RT	3	12.00	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.14	
	Side Road Along (WB) Gandy Blvd.	Distance		874	LT	6	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.89	
	Side Road Along (EB) Gandy Blvd.	Distance		954	LT	6	12.00	2	16.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2.28	
	Turn Lanes Entrances & Misc. Along (WB) Gandy Blvd.	Distance		1123	LT	2	12.00	1	8.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.44	
	Turn Lanes Entrances & Misc. Along (EB) Gandy Blvd.	Length (Total Sum)		270	LT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.11	
	Turn Lanes Entrances & Misc. Along (EB) Gandy Blvd.	Length (Total Sum)		505	RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.31	



Subject: Proposed Impervious Area Calculations

Project: Gandy Boulevard (SR 694) PD&E Study From West of US 19 To East of 4th Street

WPI: 256931.1

Page: 2 of 6

Made by: BHN

Date: 10/1/01

Checked by: SDF

Date: 12/13/01

BASIN	DESCRIPTION	STATION		LENGTH (ft)	OFFSET	TRAVEL LANES		SHOULDER		CURBS		BARRIER WALL		MEDIAN BARRIER WALL		BIKE LANE		SIDEWALK		TURN LANES ENTRANCES & EXITS		PROPOSED IMPERVIOUS AREA (ac)	TOTAL PROPOSED IMPERVIOUS AREA (ac)
		FROM	TO			QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)		
BASIN 400	Gandy Blvd. Mainline (WB)	67+00.00	73+09.00	609	LT	3	12.00	1	5.00	1	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.77	9.41
		73+09.00	81+21.00	812	LT	4	12.00	1	5.00	1	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.25	
		81+21.00	82+00.00	79	LT	3	12.00	1	5.00	1	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.10	
	Gandy Blvd. Mainline (EB)	67+00.00	72+22.00	522	RT	3	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.49	
		72+22.00	82+00.00	978	RT	3	12.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.23	
	(SB) I-275 Off Ramp onto (WB) Gandy Blvd.	81+21.00	82+00.00	70	LT	1	12.00	1	10.00	1	12.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.06	
	Gandy Blvd. South Frontage Road (One Way)	67+00.00	82+00.00	1500	RT	2	12.00	2	10.00	0	0.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	1.58	
	Gandy Blvd. North Frontage Road (One Way)	67+00.00	89+82.00	282	LT	2	12.00	2	10.00	0	0.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.20	
		69+82.00	75+00.00	538	LT	1	12.00	1	10.00	1	14.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.07	
	Gandy Blvd. North Frontage Road (One Way) from (SB) I-275	75+00.00	79+83.00	93	LT	1	12.00	1	8.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.20	
		79+83.00	82+00.00	374	LT	1	12.00	2	10.00	0	0.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.07	
	North Frontage Road (One Way) from (WB) Gandy Blvd.	75+00.00	80+75.00	233	LT	1	12.00	2	10.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0.19	
	Bridge onto (WB) Gandy Blvd. North Frontage Road	80+75.00	82+00.00	573	LT	1	15.00	2	10.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0.47	
	Side Road Along (WB) Gandy Blvd.	87+00.00	74+54.00	587	LT	2	12.00	1	8.00	0	0.00	1	2.00	0	0.00	0	0.00	1	4.00	1	5.00	0.11	
	Side Road Along (EB) Gandy Blvd.	102			LT	2	12.00	1	8.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.58	
	Turn Lanes Entrances & Misc. Along (EB) Gandy Blvd.	67+00.00	82+00.00	1500	RT	2	12.00	1	8.00	0	0.00	1	2.00	0	0.00	0	0.00	1	4.00	1	5.00	0.07	
		82+00.00	86+20.00	149	RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.48	
	Gandy Blvd. Mainline (WB)	82+00.00	86+20.00	420	LT	3	12.00	1	5.00	1	12.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.17	
	Gandy Blvd. Mainline (EB)	82+00.00	86+20.00	420	RT	3	12.00	1	5.00	1	12.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.53	
BASIN 500	Gandy Blvd. South Frontage Road (One Way)	82+00.00	84+65.00	265	RT	2	12.00	2	10.00	0	0.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.28	10.38
		993			LT	2	12.00	1	8.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.28	
	(SB) I-275 Off Ramp	825			LT	1	12.00	1	5.00	1	4.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.82	
		197			LT	3	12.00	1	8.00	1	4.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.34	
		683			LT	2	12.00	1	8.00	1	4.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.22	
		61			LT	2	12.00	1	8.00	1	4.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.55	
		110			LT	1	12.00	1	6.00	1	3.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.06	
		117			LT	1	12.00	1	8.00	1	12.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.06	
	(SB) I-275 Off Ramp onto (WB) Gandy Blvd.	231			LT	1	12.00	2	12.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0.09	
		224			LT	1	12.00	1	12.00	0	0.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.21	
		222			LT	1	12.00	2	12.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0.19	
	Bridge onto (WB) Gandy Blvd. North Frontage Road	82+00.00	84+80.00	293	LT	1	15.00	2	10.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0.20	
		84+80.00	93+00.00	820	LT	1	15.00	2	10.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0.26	
	(WB) Gandy Blvd. Ramp to (WB) North Frontage Road	93+00.00	94+75.00	175	LT	1	15.00	2	10.00	0	0.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.73	
		94+75.00	98+60.00	185	LT	1	15.00	1	10.00	1	3.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.15	
	(SB) I-275 On Ramp from (WB) Gandy Blvd.	1880			LT	1	12.00	1	7.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.12	
	(SB) I-275 North of Gandy Blvd.	1505			LT	3	12.00	2	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.82	
		128+93.00	133+51.00	285	RT	0	0.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.93	
		128+93.00	129+86.00	486	RT	3	12.00	2	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.07	
	(NB) I-275 North of Gandy Blvd.	131+37.00	133+16.00	587	RT	0	0.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.64	
		133+16.00	133+51.00	116	RT	3	12.00	2	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.13	
		862			LT	1	15.00	2	6.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.15	
	(NB) I-275 Connection to (SB) I-275 Off Ramp	189			LT	1	15.00	2	6.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0.53	
	Curbs - (SB) I-275 and On Ramp from (WB) Gandy Blvd.	128+33.00	128+93.00	1024	LT	0	0.00	0	0.00	0	0.00	1	3.50	0	0.00	0	0.00	0	0.00	0	0.00	0.13	
	(SB) I-275 Bridge over Gandy Blvd.	82+00.00	83+76.00	176	RT	2	12.00	1	8.00	0	0.00	1	1.54	0	0.00	0	0.00	0	0.00	0	0.00	0.06	
	Side Road Along (EB) Gandy Blvd.	83+76.00	84+65.00	89	RT	2	12.00	1	8.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.30	
					RT	2	12.00	1	8.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.17	

009 NISV

27.30



Subject: Proposed Impervious Area Calculations

Project: Gandy Boulevard (SR 894) PD&E Study From West of US 19 To East of 4th Street

WPI: 256931 1

Page: 4 of 6
Made by: BHN
Date: 10/1/01
Checked by: SDF
Date: 12/13/01

BASIN	DESCRIPTION	STATION		LENGTH (ft)	OFFSET	TRAVEL LANES		SHOULDER		CURBS		BARRIER WALL		MEDIAN BARRIER WALL		BIKE LANE		SIDEWALK		TURN LANES ENTRANCES & MISC.		TOTAL PROPOSED IMPERVIOUS AREA (sq)
		FROM	TO			QTY	AVG WIDTH (ft)	QTY	AVG WIDTH (ft)	QTY	AVG WIDTH (ft)	QTY	AVG WIDTH (ft)	QTY	AVG WIDTH (ft)	QTY	AVG WIDTH (ft)	QTY	AVG WIDTH (ft)	QTY	AVG WIDTH (ft)	
BASIN 700	Gandy Blvd. Mainline (WB)	127+48.00	132+17.00	489	LT	3	12.00	1	5.00	1	12.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.59
		133+17.00	143+00.00	983	LT	3	12.00	1	5.00	1	12.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	1.24
	Gandy Blvd. Mainline (EB)	127+48.00	132+17.00	469	RT	3	12.00	1	5.00	1	12.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.59
		133+17.00	139+47.00	630	RT	3	12.00	1	5.00	1	12.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.80
		139+47.00	143+00.00	353	RT	4	12.00	2	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.47
	(WB) Gandy Blvd. Bridge over 16th Street	132+17.00	133+17.00	100	LT	3	12.00	2	12.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0.15
	(EB) Gandy Blvd. Bridge over 16th Street	132+17.00	133+17.00	100	RT	3	12.00	2	12.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0.15
	Gandy Blvd. North Frontage Road	127+48.00	143+00.00	1552	LT	2	12.00	1	5.00	0	0.00	1	2.00	0	0.00	1	4.00	1	5.00	0	0.00	1.53
	Gandy Blvd. South Frontage Road	127+48.00	143+00.00	1595	RT	2	12.00	1	5.00	0	0.00	1	2.00	0	0.00	1	4.00	1	5.00	0	0.00	1.57
	Turn Lanes on Gandy Blvd. South Frontage Road	Distance		312	RT	1	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.14
	16th Street Under Gandy Blvd. Bridge	Distance		252	RT	4	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	5.00	0	0.00	0.34
	Turn Lane on 16th Street	Distance		157	LT	1	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.04
	Turn Lanes Entrances & Misc. Along (WB) Gandy Blvd.	Length (Total Sum)		242	LT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	50.00	0.28
BASIN 600	Gandy Blvd. Mainline (WB)	143+00.00	146+86.00	386	LT	3	12.00	1	5.00	1	12.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.49
		146+86.00	153+25.00	839	LT	3	12.00	2	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.67
	Gandy Blvd. Mainline (EB)	153+25.00	154+54.00	129	LT	2	12.00	2	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.10
		154+54.00	164+19.00	965	LT	2	12.00	1	5.00	1	12.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.95
		143+00.00	149+40.00	640	RT	4	12.00	2	5.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.85
	Gandy Blvd. Mainline (EB)	149+40.00	153+52.00	412	RT	3	12.00	1	5.00	1	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.42
		153+52.00	160+00.00	648	RT	3	12.00	1	5.00	1	12.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.82
		160+00.00	163+53.00	353	RT	2	12.00	1	5.00	1	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.35
	(WB) Gandy Blvd. Bridge over 9th Street	164+19.00	165+29.00	110	LT	2	15.00	2	15.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0.16
	(EB) Gandy Blvd. Bridge over 9th Street	163+53.00	164+63.00	110	RT	2	15.00	2	15.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0.16
	Frontage Road Along (WB) Gandy Blvd. & (SB) 9th Street	143+00.00	153+67.00	1125	LT	2	12.00	1	8.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1.11
		153+67.00	162+53.00	903	LT	1	12.00	1	8.00	0	0.00	1	2.00	0	0.00	0	0.00	1	5.00	0	0.00	0.64
		Distance		1014	LT	2	12.00	1	8.00	0	0.00	1	2.00	0	0.00	0	0.00	1	5.00	0	0.00	1.00
	(SB) 9th Street	108+28.00	113+41.00	511	LT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.28
		113+41.00	117+85.00	407	LT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.22
	Ramp from 9th Street to (WB) Gandy Blvd.	114+38.00	126+16.00	779	LT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.43
		153+25.00	160+87.00	775	LT	1	15.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.27
	Ramp from 9th Street to (WB) Frontage Road	158+33.00	160+38.00	405	LT	2	12.00	1	8.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.30
		160+38.00	166+29.00	591	LT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.33
	(EB) Gandy Blvd. off Ramp towards 9th Street	149+40.00	157+68.00	828	RT	1	15.00	1	8.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.44
		157+68.00	161+52.00	384	RT	6	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.63
		161+52.00	162+92.00	140	RT	5	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.19
	(EB) Frontage Road Connection to (WB) Frontage Road	162+92.00	163+73.00	81	RT	4	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.09
	(EB) Frontage Road Connection to (SB) 9th Street	Distance		397	RT	1	15.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.14
	Turn Lanes Entrances & Misc.	Distance		112	RT	1	15.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.04
		Length (Total Sum)		174	LT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	50.00	0.20



Subject: Proposed Impervious Area Calculations

Project: Gandy Boulevard (SR 694) PD&E Study From West of US 19 To East of 4th Street

WPI: 256931 1

Page: 5 of 6
Made by: BHN
Date: 10/1/01
Checked by: SDF
Date: 12/13/01

BASIN	DESCRIPTION	STATION		LENGTH (ft)	OFFSET	TRAVEL LANES		SHOULDER		CURBS		BARRIER WALL		MEDIAN BARRIER WALL		BIKE LANE		SIDEWALK		TURN LANES ENTRANCES & MISC.		TOTAL PROPOSED IMPERVIOUS AREA (ac)
		FROM	TO			QTY	AVG WIDTH (ft)	QTY	AVG WIDTH (ft)	QTY	AVG WIDTH (ft)	QTY	AVG WIDTH (ft)	QTY	AVG WIDTH (ft)	QTY	AVG WIDTH (ft)	QTY	AVG WIDTH (ft)	QTY	AVG WIDTH (ft)	
BASIN 900	(WB) Gandy Blvd. Bridge over 9th Street	165+28.00	166+39.00	110	LT	2	15.00	2	15.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.16
	(EB) Gandy Blvd. Bridge over 9th Street	164+63.00	165+73.00	110	RT	2	15.00	2	15.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.16
	Gandy Blvd. Mainline (WB)	164+19.00	181+36.00	1717	LT	2	12.00	1	5.00	1	12.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	1.69
	Gandy Blvd. Mainline (EB)	165+73.00	181+36.00	1963	RT	2	12.00	1	5.00	1	12.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	1.54
	(WB) Frontage Road	168+28.00	168+30.00	201	LT	4	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.24
		168+30.00	171+57.00	327	LT	5	12.00	0	0.00	0	0.00	1	2.00	0	0.00	1	4.00	1	5.00	0	0.00	0.53
		171+57.00	181+36.00	1017	LT	2	12.00	1	8.00	0	0.00	1	2.00	0	0.00	1	4.00	1	5.00	0	0.00	1.00
	(EB) Frontage Road	164+67.00	164+67.00	80	RT	4	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.09
		163+73.00	181+36.00	1669	RT	2	12.00	1	8.00	0	0.00	1	2.00	0	0.00	1	4.00	1	5.00	0	0.00	1.55
	(NB) 9th Street	108+29.00	113+84.00	551	RT	2	12.00	0	0.00	0	0.00	1	2.00	0	0.00	1	4.00	1	5.00	0	0.00	0.44
		114+27.00	118+29.00	405	RT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.22
	(WB) Frontage Road Connection to (NB) 9th Street	118+81.00	126+15.00	742	RT	2	12.00	0	0.00	0	0.00	1	2.00	0	0.00	1	4.00	1	5.00	0	0.00	0.60
	Turn Lanes, Entrances & Misc.	Length (Total Sum)		96	LT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	50.00	0.06
BASIN 1000	Gandy Blvd. Mainline (WB)	181+36.00	188+07.00	671	LT	2	12.00	1	5.00	1	12.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.66
	Gandy Blvd. Mainline (EB)	181+36.00	188+07.00	671	RT	2	12.00	1	5.00	1	12.00	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	0.66
	(WB) Gandy Blvd. Bridge over Roosevelt Blvd. & 4th Street	188+07.00	191+45.00	338	LT	2	12.00	2	12.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0.40
	(EB) Gandy Blvd. Bridge over Roosevelt Blvd. & 4th Street	188+07.00	191+45.00	338	RT	2	12.00	2	12.00	0	0.00	0	0.00	2	2.00	0	0.00	0	0.00	0	0.00	0.40
		181+36.00	186+58.00	522	LT	2	12.00	1	8.00	0	0.00	1	2.00	0	0.00	1	4.00	1	5.00	0	0.00	0.52
	(WB) Frontage Road	186+58.00	189+31.00	273	LT	2	12.00	2	8.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.28
		189+31.00	190+40.00	109	LT	2	12.00	1	8.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.08
		190+40.00	193+60.00	320	LT	2	12.00	1	8.00	0	0.00	1	2.00	0	0.00	1	4.00	1	5.00	0	0.00	0.32
	(EB) Frontage Road	193+60.00	194+19.00	59	LT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.03
		181+36.00	191+50.00	1014	RT	2	12.00	1	8.00	0	0.00	1	2.00	0	0.00	1	4.00	1	5.00	0	0.00	1.00
	Roosevelt Blvd. (SB)	247+47.00	251+00.00	353	RT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	5.00	0	0.00	0.28
		251+00.00	252+75.00	160	RT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.09
	Roosevelt Blvd. (NB)	247+47.00	249+30.00	183	LT/RT	2	12.00	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.14
		249+30.00	254+00.00	470	LT/RT	2	12.00	0	0.00	0	0.00	1	2.00	0	0.00	1	4.00	1	5.00	0	0.00	0.38
BASIN 1000	(SB) Roosevelt Blvd. Connection to (WB) Frontage Road	Distance		104	LT	1	15.00	0	0.00	0	0.00	1	2.00	0	0.00	1	4.00	1	5.00	0	0.00	0.06
	(SB) Roosevelt Blvd. Between (EB & WB) Gandy Blvd.	Distance		235	LT/RT	2	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.13
	(SB) Roosevelt Blvd. Connection to (SB) 4th Street	Distance		187	RT	1	12.00	0	0.00	0	0.00	1	2.00	0	0.00	1	4.00	1	5.00	0	0.00	0.10
	(SB) 4th Street	Distance		68	LT	4	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.07
	Turn Lanes, Entrances & Misc. Along (SB) Roosevelt Blvd.	Length (Total Sum)		176	LT	5	12.00	0	0.00	0	0.00	2	2.00	0	0.00	1	4.00	1	5.00	0	0.00	0.29
				307	LT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	50.00	0.35



Subject: Proposed Impervious Area Calculations
Project: Gandy Boulevard (SR 694) PD&E Study From West of US 19 To East of 4th Street
WPI: 256931.1

Page: 6 of 6
Made by: BHN
Date: 10/1/01
Checked by: SDF
Date: 12/13/01

BASIN	DESCRIPTION	STATION		LENGTH (ft)	OFFSET	TRAVEL LANES		SHOULDER		CURBS		BARRIER WALL		MEDIAN BARRIER WALL		BIKE LANE		SIDEWALK		TURN LANES ENTRANCES & MISC.		PROPOSED IMPERVIOUS AREA (ac)	TOTAL PROPOSED IMPERVIOUS AREA (ac)
		FROM	TO			QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)	QTY (#)	AVG WIDTH (ft)		
BASIN 1100	(WB) Gandy Blvd. Bridge over Roosevelt Blvd. & 4th Street	191+45.00	194+82.00	337	LT	2	12.00	2	12.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.40	9.95
	(EB) Gandy Blvd. Bridge over Roosevelt Blvd. & 4th Street	191+45.00	194+82.00	337	RT	2	12.00	2	12.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.40	
	Gandy Blvd. Mainline (WB)	194+82.00	197+77.00	295	LT	2	12.00	1	12.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.29	
		197+77.00	201+84.00	407	LT	2	12.00	1	5.00	1	9.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.38	
		201+84.00	292+57.00	250	LT	2	12.00	1	5.00	1	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.28	
		292+57.00	295+85.00	328	LT	2	12.00	1	5.00	1	12.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.32	
	Gandy Blvd. Mainline (EB)	194+82.00	292+57.00	952	RT	2	12.00	1	5.00	1	12.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.84	
		292+57.00	294+80.00	233	RT	2	12.00	1	5.00	1	12.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.23	
		294+80.00	295+85.00	95	RT	2	12.00	1	5.00	1	12.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.09	
		295+85.00	298+23.00	596	LT	2	12.00	1	8.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.58	
	(WB) Frontage Road	194+84.00	200+80.00	662	LT	2	12.00	1	8.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.65	
	(WB) Gandy Blvd. Ramp to (WB) Frontage Road	200+80.00	201+84.00	456	LT	1	12.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.13	
	(EB) Frontage Road	191+50.00	193+59.00	209	RT	2	12.00	1	8.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.19	
		193+59.00	202+14.00	720	RT	2	12.00	1	8.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.64	
		202+14.00	292+57.00	263	RT	2	12.00	1	8.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.28	
		292+57.00	294+00.00	143	RT	2	12.00	1	8.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.14	
	(SB) 4th Street - (3) 10' x 5' CBC North to of (EB & WB) Gandy Blvd.	294+00.00	295+85.00	185	RT	3	12.00	0	0.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.20	
		295+85.00	298+23.00	882	LT	3	12.00	0	0.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.91	
		298+23.00	299+00.00	131	LT	3	12.00	0	0.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.15	
		299+00.00	301+00.00	188	LT	3	12.00	0	0.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.19	
	(NB) 4th Street - (3) 10' x 5' CBC North to of (EB) Gandy Blvd.	301+00.00	302+00.00	228	LT	3	12.00	0	0.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.19	
		302+00.00	303+00.00	100	RT	3	12.00	0	0.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.10	
		303+00.00	304+00.00	121	RT	4	12.00	0	0.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.16	
		304+00.00	305+00.00	187	RT	4	12.00	0	0.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.24	
	(NB) 4th Street - North of (WB) Gandy Blvd.	305+00.00	306+00.00	324	RT	2	12.00	0	0.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.25	
		306+00.00	307+00.00	142	RT	4	12.00	0	0.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.19	
		307+00.00	308+00.00	321	RT	5	12.00	0	0.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.47	
		308+00.00	309+00.00	301	RT	3	12.00	0	0.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.25	
	(SB) Roosevelt Blvd. Connection to (SB) 4th Street	309+00.00	310+00.00	218	LT	3	12.00	0	0.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.25	
		310+00.00	311+00.00	110	RT	1	12.00	0	0.00	0	0.00	0	2.00	0	0.00	0	0.00	0	0.00	0	0.00	0.25	
		311+00.00	312+00.00	203	RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.06	
		312+00.00	313+00.00	18	RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.23	
	Turn Lanes Entrances & Misc. Along (EB) Gandy Blvd.	313+00.00	314+00.00	18	RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.02	
	Turn Lanes Entrances & Misc. Along (WB) Gandy Blvd.	314+00.00	315+00.00	142	LT/RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.16	
	Turn Lanes Entrances & Misc. Along (SB) 4th Street	315+00.00	316+00.00	21	LT/RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.02	
	Turn Lanes Entrances & Misc. Along (NB) 4th Street	316+00.00	317+00.00	22	RT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.03	

Existing and Proposed Weighted Soil Curve Number (CN) Calculations



Subject: Existing and Proposed Weighted Soil Curve Number (CN) Calculations

Project: Gandy Boulevard (SR 694) PD&E Study From West of US 19 To East of 4th Street

WPI: 256931 1

Page: 1 of 1

Made by: BHN

Date: 12/9/01

Checked by: SDF

Date: 12/13/01

EXISTING WEIGHTED SOIL CURVE NUMBER				
BASIN NUMBER	BASIN AREA (ac)	Pervious (D or B/D)	Impervious (Pavement)	Weighted CN
		CN 80	CN 98	
200	25.38	13.30	12.08	89
300	18.63	13.54	5.09	85
400	15.56	9.89	5.67	87
500	38.42	29.82	8.60	84
600	87.14	66.23	20.91	84
700	16.82	11.93	4.89	85
800	28.10	21.32	6.78	84
900	19.42	15.50	3.92	84
1000	13.47	9.57	3.90	85
1100	18.34	10.56	7.78	88

Total Area 281.28

PROPOSED WEIGHTED SOIL CURVE NUMBER				
BASIN NUMBER	BASIN AREA (ac)	Pervious (D or B/D)	Impervious (Pavement)	Weighted CN
		CN 80	CN 98	
200	25.38	6.34	19.04	94
300	18.63	5.39	13.24	93
400	15.56	6.15	9.41	91
500	38.42	28.04	10.38	85
600	87.14	59.84	27.30	86
700	16.82	8.93	7.89	88
800	28.10	16.82	11.28	87
900	19.42	10.95	8.47	88
1000	13.02	6.76	6.26	89
1100	18.79	8.84	9.95	90

Total Area 281.28

Required Pond Volume Calculations



Subject: Required Pond Volume Calculations
 Project: Gandy Boulevard (SR 694) PD&E Study From West of US 19 To East of 4th Street
 WPI: 256931 1

Page: 1 of 1
 Made by: BHN
 Date: 12/9/01
 Checked by: SDF
 Date: 12/13/01

(1) BASIN NUMBER	(2) PROPOSED PROJECT AREA (ac)	(3) PROPOSED IMPERVIOUS AREA (ac)	(4) CN _{PRE}	(5) CN _{POST}	(6) S _{PRE} (in)	(7) S _{POST} (in)	(8) Q _{PRE} (in)	(9) Q _{POST} (in)	(10) V _{T1} REQUIRED (ac-ft)	(11) V _{T2} REQUIRED (ac-ft)	(12) V _A REQUIRED (ac-ft)	(13) V _{TOT} REQUIRED (ac-ft)
200	25.38	19.04	89	94	1.29	0.69	10.58	11.20	* 1.59	---	1.32	2.91
300	18.63	13.24	85	93	1.78	0.78	10.10	11.12	* 1.10	---	1.57	2.67
400	15.56	9.41	87	91	1.55	1.00	10.32	10.87	* 0.78	---	0.72	1.51
500	38.42	10.38	84	85	1.90	1.78	9.99	10.10	* 0.87	---	0.35	1.22
600	87.14	27.30	84	86	1.86	1.68	10.02	10.20	* 2.27	---	1.26	3.54
700	16.82	7.89	85	88	1.73	1.31	10.14	10.56	---	* 0.99	0.59	1.57
800	28.10	11.28	84	87	1.86	1.46	10.03	10.41	---	* 1.41	0.88	2.29
900	19.42	8.47	84	88	1.96	1.38	9.93	10.49	---	* 1.06	0.89	1.95
1000	13.02	6.26	85	89	1.74	1.28	10.14	10.59	---	* 0.78	0.49	1.27
1100	18.79	9.95	88	90	1.41	1.17	10.46	10.70	---	* 1.24	0.38	1.63

- (1) Basin Number
- (2) Proposed Project Area (ac)
- (3) Proposed Impervious Area (ac)
- (4) Weighted Pre Curve Number (See Existing Weighted Soil Curve Number Calculations)
- (5) Weighted Post Curve Number (See Proposed Weighted Soil Curve Number Calculations)
- (6) Pre Soil Storage, $S_{PRE} = (1000 / CN_{PRE}) - 10$
- (7) Post Soil Storage, $S_{POST} = (1000 / CN_{POST}) - 10$
- (8) Pre Runoff Depth, $Q_{PRE} = (P - 0.2S_{PRE})^2 / (P + 0.8S_{PRE})$, where P = 100yr-24hr rainfall depth = 12.00 inches
- (9) Post Runoff Depth, $Q_{POST} = (P - 0.2S_{POST})^2 / (P + 0.8S_{POST})$, where P = 100yr-24hr rainfall depth = 12.00 inches
- (10) Treatment Volume 1, $V_{T1} = 1" \times$ Total Impervious Area
- (11) Treatment Volume 2, $V_{T2} = 1.5" \times$ Total Impervious Area (Outfalls into Outstanding Florida Waters)
- (12) Attenuation Volume, $V_A = (Q_{POST} - Q_{PRE}) \times$ Basin Area
- (13) Total Volume Required, $(V_{T1} \text{ or } V_{T2}) + V_A = V_{TOT}$

* Treatment Volume Used for Design

Notes: Totals for Columns 2-9 reflect averages for the entire project;
 Totals for Columns 10-13 reflect the total volume required for the entire project

Provided Pond Volume Calculations



Subject: Provided Pond Volume Calculations
Project: Gandy Boulevard (SR 694) PD&E Study From West of US 19 To East of 4th Street
WPI: 256931 1

(1) POND SITE ALTERNATIVES	(2) TREATMENT TYPE	(3) POND AREA (ac)	(4) ESTIMATED SHWT EL (ft)	(5) DHW EL (ft)	(6) TOP OF BERM EL (ft)	(7) AVERAGE GROUND EL (ft)	(8) AREA AT FENCE (ac)	(9) AREA AT TDS (ac)	(10) AREA AT DHW (ac)	(11) AREA AT SHWT (ac)	(12) WEIR CREST EL (ft)	(13) AREA AT WEIR CREST (ac)	(14) VT PROVIDED (ac-ft)	(15) VA PROVIDED (ac-ft)	(16) V ₁₀₀ PROVIDED (ac-ft)
200-A	Wet	4.76	11.73	12.50	13.50	13.50	4.68	4.68	3.88	3.77	12.15	3.83	1.60	1.35	2.95
200-B	Wet	4.25	10.63	11.50	12.50	12.50	4.17	4.17	3.43	3.30	11.11	3.37	1.60	1.33	2.93
200-C	Wet	3.91	9.04	10.00	11.00	10.75	3.83	3.81	3.10	2.97	9.57	3.04	1.59	1.32	2.91
300-A	Wet	3.50	8.61	9.61	10.61	10.75	3.43	3.41	2.74	2.62	9.03	2.67	1.11	1.57	2.68
300-B	Wet	2.84	7.42	8.82	9.82	10.00	2.58	2.56	1.98	1.84	8.01	1.90	1.10	1.57	2.67
300-C-1	Wet	0.85	6.43	8.00	9.00	9.00	0.82	0.82	0.51	0.42	7.29	0.47	0.38	0.35	0.73
300-C-2	Wet	1.88	6.41	7.95	8.95	9.00	1.81	1.80	1.33	1.19	7.00	1.24	0.72	1.22	1.94
400-A	Wet	2.00	8.06	9.16	10.16	10.50	1.95	1.92	1.42	1.33	8.64	1.38	0.78	0.73	1.51
400-B	Wet	2.68	7.74	8.50	9.50	9.50	2.62	2.62	2.03	1.95	8.14	2.00	0.79	0.73	1.51
400-C-1	Wet	0.77	7.05	8.50	9.50	9.50	0.74	0.74	0.44	0.37	8.00	0.42	0.38	0.22	0.59
400-C-2	Wet	1.20	7.84	9.10	10.10	10.50	1.16	1.13	0.76	0.68	8.42	0.72	0.41	0.50	0.91
500-A	Wet	1.28	6.14	7.72	8.72	8.80	1.22	1.21	0.83	0.72	7.29	0.80	0.87	0.35	1.22
500-B	Wet	1.31	6.04	7.54	8.54	8.70	1.27	1.26	0.86	0.76	7.13	0.83	0.87	0.35	1.22
500-C	Wet	1.37	5.88	7.31	8.31	8.50	1.33	1.31	0.91	0.81	6.92	0.88	0.88	0.35	1.23
600-A	Wet	2.90	6.44	8.10	9.10	9.10	2.84	2.84	2.23	2.04	7.52	2.16	2.27	1.27	3.54
600-B	Wet	3.25	7.05	8.50	9.50	9.50	3.18	3.18	2.53	2.36	7.99	2.47	2.27	1.28	3.55
600-C	Wet	2.49	5.95	8.00	9.00	8.50	2.43	2.39	1.83	1.62	7.30	1.76	2.28	1.28	3.54
700-A	Wet	3.36	4.49	5.11	6.11	6.30	3.29	3.27	2.61	2.54	4.88	2.59	1.00	0.80	1.80
700-B	Wet	2.84	5.65	6.40	7.40	7.40	2.78	2.78	2.17	2.09	6.12	2.14	0.99	0.80	1.80
700-C-1	Wet	2.20	5.54	6.40	7.40	7.40	2.14	2.14	1.62	1.54	6.10	1.59	0.88	0.48	1.36
700-C-2	Wet	0.58	4.74	5.50	6.50	6.50	0.55	0.55	0.30	0.27	5.14	0.29	0.11	0.11	0.22
800-A	Wet	3.16	5.95	6.92	7.92	8.00	3.09	3.08	2.45	2.33	6.55	2.40	1.42	0.90	2.32
800-B	Wet	1.73	2.54	4.61	5.61	5.20	1.68	1.65	1.19	1.03	3.85	1.13	1.41	0.88	2.30
800-C	Wet	4.34	5.66	6.33	7.33	7.40	4.28	4.25	3.50	3.40	6.07	3.46	1.41	0.90	2.31
900-A	Wet	2.01	1.60	3.00	4.00	4.00	1.96	1.96	1.46	1.33	2.38	1.40	1.06	0.89	1.95
900-B	Wet	2.72	3.43	4.40	5.40	5.40	2.68	2.68	2.07	1.96	3.86	2.02	1.06	0.90	1.96
900-C	Wet	2.63	4.98	6.00	7.00	7.00	2.57	2.57	1.99	1.88	5.54	1.94	1.07	0.90	1.97
1000-A	Wet	1.45	1.59	2.95	3.95	4.00	1.40	1.40	0.98	0.88	2.44	0.95	0.78	0.49	1.27
1000-B	Wet	1.74	2.32	3.40	4.40	4.40	1.69	1.69	1.23	1.14	2.99	1.19	0.78	0.50	1.28
1000-C	Wet	3.37	4.73	5.22	6.22	6.30	3.30	3.29	2.63	2.57	5.03	2.61	0.78	0.50	1.28
1100-A	Wet	2.04	*1.64	2.89	3.89	5.75	1.99	1.84	1.35	1.25	2.61	1.33	1.25	0.38	1.63
1100-B	Wet	1.36	*1.64	3.68	4.68	5.50	1.32	1.26	0.87	0.73	3.24	0.84	1.25	0.38	1.63
1100-C	Wet	1.60	*1.64	3.32	4.32	5.70	1.55	1.45	1.03	0.90	2.95	1.00	1.25	0.38	1.62



Subject: Provided Pond Volume Calculations
Project: Gandy Boulevard (SR 694) PD&E Study From West of US 19 To East of 4th Street
WPI: 256931 1

Page: 2 of 2
Made by: BHN
Date: 1/28/02
Checked by: SDF
Date: 1/28/02

- (1) Pond Site Alternative
- (2) Treatment Type: Determined by the soil type and the depth of the water table obtained from the SCS / USDA Soils Survey for Pinellas County
- (3) Total Pond Site Area (Right-of-Way Area)
- (4) Estimated SHWT Elevation: Referenced from the SCS/ USDA Soils Survey for Pinellas County at 10" below existing ground. Evidence suggests that a similar permitted stormwater management facility, west of 4th Street between the westbound and eastbound lanes on Gandy Boulevard (SR 694), was determined to be 4' lower than the SCS's SHWT estimate. For purposes of this report, the SHWT elevations were estimated to be a maximum of 1' to 2' below the SCS's estimated depth to the SHWT. The SHWT elevations will be adjusted, as appropriate, in the design phase when more detailed survey and geotechnical information is available.
- (5) Design Highwater Elevation (DHW): Lowest edge of pavement draining to pond - 1.0 foot of freeboard - estimated friction loss in pipe between lowest edge of pavement and pond.
- (6) Top Of Berm Elevation (TOB): Elevation of the top of berm of the pond as determined using the SWFWMD 1.0 ft contour maps and any existing Roadway Plans within the Project Limits
- (7) Average Ground Elevation: Elevation is based on the SWFWMD 1.0 ft contour maps and any existing Roadway Plans within the Project Limits
- (8) Area at the Fence: Area of the fence line, determined by subtracting the 2.0 ft distance between the fence line and the right-of-way line
- (9) Area at the TOB: Area of the top of berm of the pond
- (10) Area at DHW: Determined by assuming 1-ft distance between the berm and DHW elevation
- (11) Area at the SHWT elevation: The area at the SHWT elevation
- (12) Weir Crest Elevation: The elevation of the control structure which is necessary to obtain the required treatment and retention volume in the pond
- (13) Area at Weir Crest Elevation: The area at the elevation noted in column (12)
- (14) V_T : The treatment + retention volume provided between the water table and the weir crest elevation
- (15) V_A : The attenuation volume provided between the control structure elevations and the DHW elevation
- (16) Total Volume Provided ($V_T + V_A$): The total volume provided is determined by adding columns 14 and 15 (V_T and V_A).

NOTE: * SHWT from Roadway Plan Set for W.P.I. No. 7117088

Right-of-Way Requirements for Pond Alternatives



Subject: Right-of-Way Requirements for Pond Alternatives
 Project: Gandy Boulevard (SR 694) PD&E Study From West of US 19 To East of 4th Street
 WPI: 2569311

Page: 1 of 1
 Made by: BHN
 Date: 1/28/02
 Checked by: SDF
 Date: 1/28/02

POND NUMBER	PARCEL NUMBER	DRAINAGE EASEMENT		REQUIRED RW AREA (ac)			LOCATION DESCRIPTION
		LENGTH (ft)	WIDTH (ft)	DRAINAGE EASEMENT	POND	TOTAL	
200-A		153	30	0.11	4.76	4.87	Vacant lot east of Sunset Palms, north side of Gandy Blvd.
200-B		35	30	0.02	4.25	4.27	Vacant lot east of Pond 200-A and west of Gateway Center, north side of Gandy Blvd.
200-C		40	30	0.03	3.27	3.30	NE corner of Robert's Mobile Home RV-Resort along EB Gandy Blvd.
300-A		0	0	0.00	3.35	3.35	Vacant lot between realigned Grand Avenue and Collector Road, north side of Gandy Blvd.
300-B		0	0	0.00	2.64	2.64	West of realigned Grand Avenue includes old Grand Avenue, north side of Gandy Blvd.
300-C-1		0	0	0.00	0.23	0.23	Between South Frontage Road and Collector Road , south side of Gandy Blvd.
300-C-2		103	30	0.07	1.86	1.93	Taco Metals, Inc. south side of Gandy Blvd.
400-A		102	30	0.07	2.00	2.07	Back corner of vacant lot east of Americast, north of Gandy Blvd.
400-B		0	0	0.00	2.68	2.68	U-Store Self Storage facility, south side of Gandy Blvd.
400-C-1		0	0	0.00	0.77	0.77	Between North Frontage Road and east of 28th St., north of Gandy Blvd.
400-C-2		210	30	0.14	1.20	1.34	Back corner of vacant lot east of Americast, north of Gandy Blvd. (Smaller portion of Pond 400-A)
500-A		0	0	0.00	0.00	0.00	Triangular infilled area between westbound Gandy Blvd. and southbound I-275 off ramp, north side of Gandy Blvd.
500-B		0	0	0.00	0.00	0.00	Circular infilled area between westbound Gandy Blvd. and southbound I-275 off ramp, north side of Gandy Blvd.
500-C		0	0	0.00	1.37	1.37	Vacant lot just north of southbound I-275 off ramp and Pond 500-A, north side of Gandy Blvd.
600-A		0	0	0.00	0.00	0.00	Infield area between northbound I-275 and northbound I-275 on ramp, north of Gandy Blvd.
600-B		0	0	0.00	0.00	0.00	Infield area between northbound I-275 and northbound I-275 on ramp, south of Gandy Blvd.
600-C		0	0	0.00	0.00	0.00	Infield area between southbound I-275 and northbound I-275 on ramp, south of Gandy Blvd.
700-A		0	0	0.00	3.17	3.17	Vacant lot southeast of Budget Self Storage Facility and west of North Gate Center, south side of Gandy Blvd.
700-B		0	0	0.00	2.47	2.47	Vacant lot east of Florida Power Corp. Northeast Substation Facility, north of Gandy Blvd.
700-C-1		0	0	0.00	1.93	1.93	Vacant lot east of Florida Power Corp. Northeast Substation Facility, north of Gandy Blvd.
700-C-2		0	0	0.00	0.42	0.42	Vacant lot southwest of Westbay Corp. Center Facility, north side of Gandy Blvd.
800-A		0	0	0.00	3.16	3.16	Compulink Facility, north of Gandy Blvd.
800-B		0	0	0.00	1.73	1.73	Bank of America, corner of eastbound Gandy Blvd. and southbound 9th Street
800-C		0	0	0.00	4.34	4.34	Budget Self Storage Facility, south of Gandy Blvd.
900-A		0	0	0.00	2.01	2.01	Vacant lot northwest of Pine Rush Villas Condos, south side of Gandy Blvd.
900-B		19	30	0.01	2.72	2.73	Easement between Rush Villas Condos and Koger Center, south of Gandy Blvd.
900-C		0	0	0.00	1.68	1.68	(Rampont Properties, Professional Insurance Systems of Florida Inc, As the World Tours Travel Agency), corner of westbound Gandy Blvd and northbound 9th Street
1000-A		0	0	0.00	1.45	1.45	Vacant lot west of Bankers Insurance Group, south side of Gandy Blvd.
1000-B		0	0	0.00	0.00	0.00	Open area along eastbound Gandy Blvd.
1000-C		0	0	0.00	3.37	3.37	Vacant lot east of Calotex Facility and west of Roosevelt Blvd., north side of Gandy Blvd.
1100-A		0	0	0.00	0.00	0.00	Expand Existing Pond between eastbound and westbound Gandy Blvd., and west of 4th Street
1100-B		0	0	0.00	1.36	1.36	Vacant lot west of Gateway Mobile Park Facility, north side of Gandy Blvd.
1100-C		0	0	0.00	1.45	1.45	Mobil Station Facility on corner of eastbound Gandy Blvd. and northbound 4th Street