FLORIDA DEPARTMENT OF TRANSPORTATION

SR 869 (SAWGRASS EXPRESSWAY) WIDENING
PROJECT DEVELOPMENT & ENVIRONMENT (PD&E) STUDY

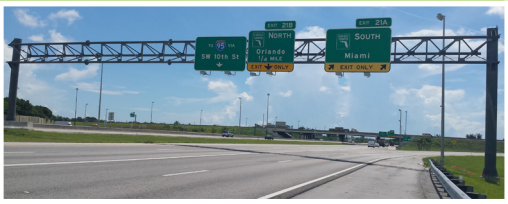
From West of US 441 (SR 7) to Powerline Road (SR 845)

FPID No.: 437153-1-22-01 • ETDM No.: 14280 • Broward County

LOCATION HYDRAULICS MEMORANDUM

DRAFT

FEBRUARY 2024



LOCATION HYDRAULICS MEMORANDUM

Florida Department of Transportation

Florida's Turnpike Enterprise

SR 869/Sawgrass Expressway
Project Development and Environment (PD&E) Study
Broward County, Florida

Financial Project ID Number: 437153-1-22-01

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DRAFT

JANUARY 2024

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1.0 EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT), Florida's Turnpike Enterprise (FTE), is performing a Project Development and Environment (PD&E) Study for State Road 869 (SR 869)/Sawgrass Expressway from west of US 441/SR 7 to Powerline Road (SR 845), a distance of approximately 4 miles (see Figure 1.1). The objective of this PD&E Study is to evaluate corridor modifications to improve operations and interchange access. The proposed improvements will address existing and future traffic needs, improve travel time reliability, enhance safety, and provide long-term mobility options along the corridor. The study is evaluating additional lanes, new collector distributor (CD) roadway systems and interchange improvements.

The study also includes 2.7 miles of the Florida's Turnpike (SR 91) from Wiles Road to the Broward/Palm Beach County Line. The study area is located in Broward County and traverses the cities of Parkland, Coral Springs, Coconut Creek, and Deerfield Beach, as well as an area of unincorporated Broward County.

The project site is located under the jurisdiction of South Florida Water Management District (SFWMD) Hillsboro Canal Basin and primarily discharges to local drainage district canals along the Sawgrass Expressway and Florida's Turnpike. The local drainage districts are, Pinetree Drainage District, Cocomar Drainage District and Broward County Water Control District #2.

The current stormwater management facilities were designed and permitted for an 8-lane roadway section. During the design and construction of the widening to 6-lane section, the facilities were regraded to ensure the provision of the original permitted storage. The proposed roadway improvements will significantly impact the roadside swales and therefore interchange ponds will be utilized for stormwater management. Roadside swales will be used as much as possible to convey the runoff into the proposed water management facilities.

Based on FEMA FIRM Map SR 869 is primarily outside of 100 year flood zone; however, some ramps at the interchanges, interchange ponds and the vicinity of SR 869 are surrounded by FEMA Special Flood Hazard Areas Zones AE and AH with determined flood elevations. A preliminary analysis was done to ensure that the

impact to the floodplain can be mitigated within the project corridor. There are no regulated floodway(s) within the project limits.

2.0 PURPOSE

The purpose of this memorandum is to address base floodplain encroachments resulting from the roadway improvements evaluated in the Project Development and Environment Study. In accordance with Executive Order 11988 "Floodplain Management", USDOT Order 5650.2, "Floodplain Management Protection", and Federal-Aid Policy Guide 23 CFR 650A, floodplains must be protected. The intent of these regulations is to avoid or minimize highway encroachments within the 100-year (base) floodplains, and to avoid supporting land use development, which is incompatible with floodplain values.

3.0 PROJECT DESCRIPTION

This project proposes improvements to the portion of Sawgrass Expressway from US 441 to Powerline Road, approximately four miles including three interchanges.

The entire Sawgrass Expressway is a tolled, 21-mile limited access facility located in northern Broward County. Most of the facility is located on the western fringe of the Broward County urban area. The Sawgrass Expressway is part of the Florida's Strategic Intermodal System (SIS), and the National Highway System (NHS). In addition, Sawgrass Expressway is designated as an evacuation route providing connectivity to other evacuation routes such as I-75, Florida's Turnpike and I-95. The existing limited access right of way width varies within the study limits, generally 300 feet. The right of way is typical throughout the corridor except at the interchanges, where it varies to accommodate entrance and exit ramps. See **Figure 3.1** for project location map.

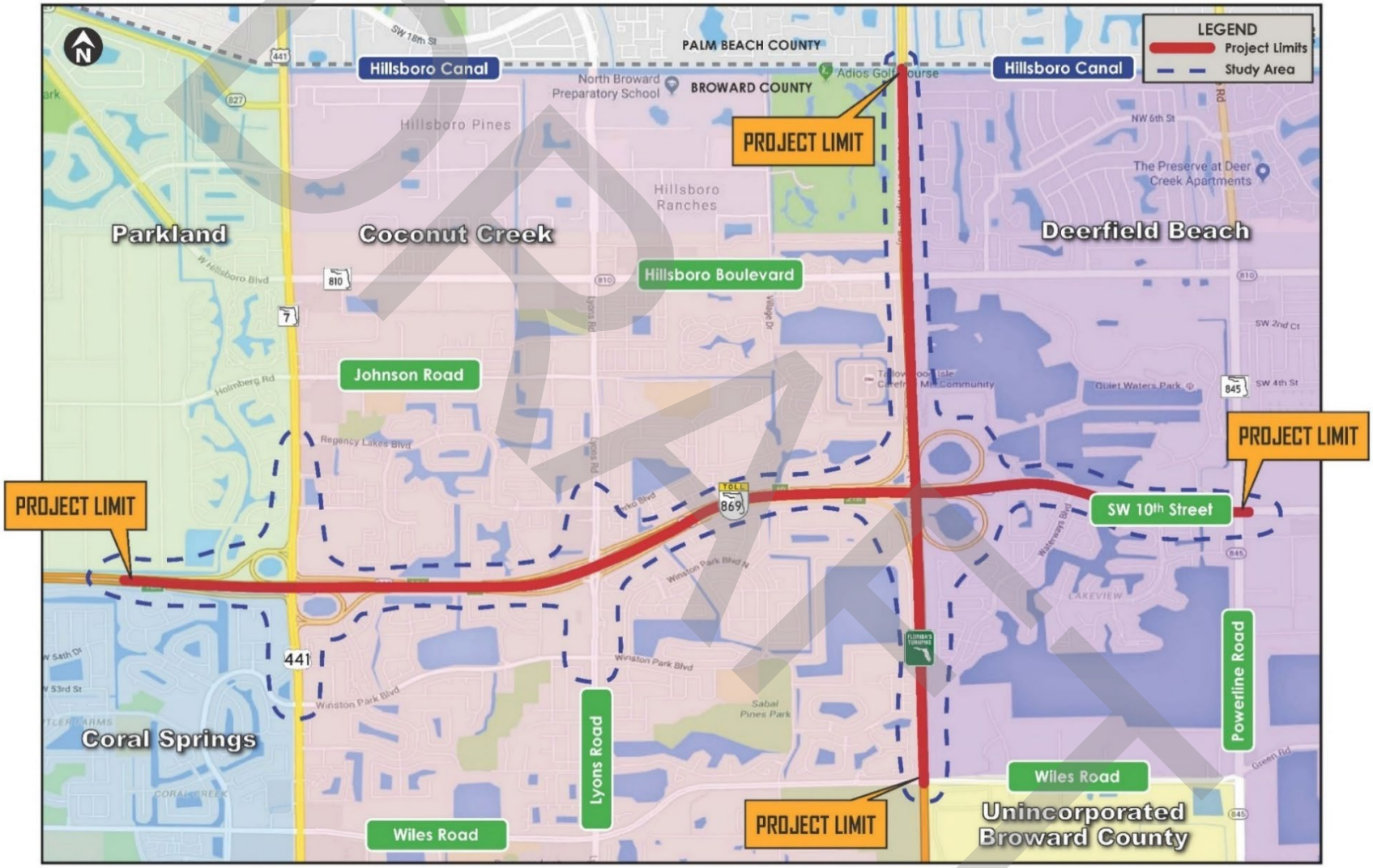


Figure 3.1 - Project Location Map

4.0 EXISTING CONDITION

4.1 EXISTING DRAINAGE CONDITION

Information was obtained from field review, planning documents, construction drawings, aerial photographs, and permit applications to identify the existing stormwater management systems serving the study corridor, which is 4.68 miles long and covers an area of 485 acres.

Sawgrass Expressway is a divided limited access highway with design speed of 65 miles per hour. The original 21-mile project for a four-lane divided expressway was separated into six sections for design purposes. The original stormwater management system for the Sawgrass Expressway, permitted by SFWMD on February 14, 1985, was approved for an ultimate eight-lane typical section. The water treatment was provided within the median and the roadside swales. Most of the former borrow pits and the interchange infield areas were not designed to provide water quality treatment. Subsequent projects during the 2000 decade widen the Sawgrass Expressway from four to six lanes. The additional travel lanes were added on the median, but the water management facilities remained the same with minor alterations based on the 8-lane typical section originally permitted. Improvements to the interchange ramps, the addition of sound barrier walls and landscape have been reducing the original swales gradually.

EXISTING BASINS

Basin 1: This basin begins east of Riverside Drive and ends at US 441 including the West side of the US441 interchange. The existing drainage system consist of catch basins, gutter drains, cross drain and storm sewer that convey the stormwater runoff into roadside swales and ponds. The roadside swales and the interchange ponds discharges into the Pinetree Water Control District (PTWCD) canals. The minimum roadway grade elevation is 16.50 feet NAVD, roadside ditch bottom elevation is 11.00 feet NAVD and PTWCD Control Elevation is 10.05 feet NAVD. There is also an FDOT owned parcel available the NW quadrant of the interchange beyond Sawgrass right-of-way.

Basin 2: This basin begins at US 441 and ends at Lyons Road including the east side of US441 interchange and discharges to the local canal under the jurisdiction of the Cocomar Water Control District (CWCD). Ditch blocks are regularly located

along the ditches dividing them into subsystems. The local canals are interconnected with two 72" cross drains, both located west and east of Lyons Road. The minimum roadway grade elevation is 16.50 feet NAVD, roadside ditch bottom elevation is 11.00 feet NAVD and CWCD Control Elevation is 9.45 feet NAVD.

***Basin 3*:** Existing drainage basin from the Lyons Road to the west of Florida's Turnpike Interchange discharges to the local canal under the jurisdiction of CWCD. The local canals are interconnected through a 72" cross drain located west of the Florida's Turnpike interchange. The local canals ultimately discharge into the Hillsboro Canal. The minimum roadway grade elevation is 17.50 ft. NAVD, the roadside ditch bottom elevation is 11.00 FT. NAVD and CWCD Control Elevation is 9.45 ft.

Basin 4: This basin begins east of Florida's Turnpike at Sta. 1145+00.00 and ends at Sta. 1168+39.00, just west of Waterways Boulevard along the Sawgrass Expressway. Along the Florida's Turnpike, the basin begins at Wiles Road at Sta. 5570+0.00 and ends at Sta. 5716+70, middle of Hillsboro Canal. It includes the east and westbound roadway to the Sawgrass Expressway and north and southbound roadway of the Florida's Turnpike. The existing drainage system consists of catch basins, gutter drains, cross drains and storm sewer that convey the runoff into roadside swales and ponds. Treatment for water quality is provided along the roadside swales using ditch blocks and raised ditch bottom inlets. Ditch blocks are regularly located along the ditches dividing them into subsystems. The existing ponds and swales located within the Turnpike's right-of-way are all operated and maintained by Florida's Turnpike Enterprise. The runoff that accumulates in the ditches infiltrates into the ground and the excess is discharge by outfall structures, primary earthen weirs, into the receiving ponds at the Sawgrass Expressway Interchange. It then flows through a 48" culvert to the lake located at the south-east quadrant of the interchange, it continues with a residential community through a 20-foot drainage easement to a lake that discharge into the C-3 Canal and Hillsboro Canal. The minimum roadway grade elevation is 17.50 ft. NAVD. The roadside ditch bottom elevation is 11.00 FT. NAVD. CWCD Control Elevation is 9.45 ft. NAVD and Broward County Water Control District (BCWCD)#2 Control Elevation is 9.45 ft. NAVD.

Basin 5: This existing drainage basin begins at east of the Florida's Turnpike at Sta. 1168+39.00 and ends at Sta. 1193+17.00 just west of Independence Drive. It includes the east and westbound to the SW 10th Street. It also include half of the

road and the roadside swale of the westbound of SW 10th Street between Sta. 1193+17.00 and Sta. 1209+25.00. The existing drainage system consist of catch basins, cross drain and storm sewer that convey the stormwater runoff into roadside treatment swales along the west and eastbound of SW 10th Street into the Florida's Turnpike drainage system at the South East Quadrant of the interchange through a raised ditch bottom inlet that is connected to the wet pond. The minimum roadway grade elevation is 12.00 ft. NAVD and roadside ditch bottom elevation is 11.00 FT. NAVD. No water treatments as per permit but DBI's in the median and roadside swales are higher that the bottom. CWCD Control Elevation is 9.45 ft. NAVD and BCWCD#2 Control Elevation is 9.50 ft. NAVD.

Basin 6: This basin begins west of Independence Drive at Sta. 1193+17.00 and ends at Sta. 1209+25.00 at the Powerline Road Intersection. It includes the eastbound roadway of the SW 10th Street. The existing drainage systems consist of catch basins, cross drain and storm sewer that conveys the stormwater runoff into the roadside swales along the westbound of SW 10th Street. The roadside swale along the south side of the road is connected to the local canal/lake through a 30" pipe which is connected to the 2-60" cross drain. This cross drain is west of Powerline Road and is part of the C-3 Canal. This system ultimately discharges into the Hillsboro Canal. The minimum roadway grade elevation is 14.00 ft. NAVD. The roadside ditch bottom elevation is 11.0 FT. NAVD. No water treatment was permitted for these swales but DBI's in the median and roadside swales are higher that the bottom. The CWCD Control Elevation is 9.45 ft. NAVD and the BCWCD#2 Control Elevation is 9.50 ft. NAVD. Existing drainage features are summarized in **Table 4.1.**

Table 4.1 - Existing Outfalls

Sawgrass Expressway: Permitted Water Management Systems											
Existing Basin	Station		Length		Acres	Outfalls			Cross Drains	SFWMD Basin	Jurisdiction
	From	To	(ft.)	(mile)		(Each)	Weir	Bleeder			
1	962+30.00	1060+00.00	9770	1.85	129.73	6	0	0	3	Hillsboro Canal	PTWCD, CWCD
2	1060+00.00	1110+00.00	5000	0.95	49.35	4	0	0	2		CWCD
3	1110+00.00	1145+00.00	3500	0.66	34.70	0	0	0	1		CWCD
4	1145+00.00	1168+39.00	2339	0.44	183.90	3	0	0	5		CWCD, BCWCD#2
5	1168+39.00	1193+17.00	2478	0.47	26.66	1	0	0	0		BCWCD#2
6	1193+17.00	1209+25.00	1608	0.30	6.22	1	0	0	0		BCWCD#2

4.2 EXISTING CROSS DRAINS

There are several pipes crossing Sawgrass Expressway but only 7 culverts provide conveyance beneath the corridor for off-site runoff. No erosion or structural damages have been reported for the cross drains. **Table 4.2** summarizes existing cross drains summary.

Table 4.2 - Existing Cross Drains

Sawgrass Expressway: Existing Cross Drains

CROSSDRAIN	MAINLINE STATION	PIPE COUNT	PIPE SIZE (IN)	PIPE LENGTH (FT)	PIPE TYPE	REMARKS
CD-1A	963+00 (SR 869)	1	60	316	UNKNOWN	Local Canal
CD-1	989+00 (SR 869)	1	60	307	RCP	Local Canal
CD-2	1028+25 (SR 869)	2	72	530	RCP	Pine Tree Canal
CD-3	1070+00 (SR 869)	1	72	324	RCP	Cocomar Canal
CD-4	1105+58 (SR 869)	1	72	405	RCP	Local Canal
CD-5	1127+82 (SR 869)	1	72	477	RCP	Local Canal
CD-6	1158+30 ((SR 869))	1	48	396	RCP	Under SR 869 connecting wet ponds Pond 3B-4 and Pond 3B-5
CD-7	5652+71 (SR 821)	1	48	185	RCP	Under SR 821
CD-8	5639+13 (SR 821)	1	48	405	RCP	Under SR 821 connecting wet ponds Pond 3A-2 and Pond 3B-4
CD-9	5631+00 (SR 821)	1	48	365	RCP	Under SR 821 connecting wet ponds Pond 3B-1 and Pond 3B-5
CD-10	1203+07 (SR 869)	2	60	294	RCP	C-3 Canal

4.3 OFF SITE FLOW CONTRIBUTION

The Sawgrass Expressway is mostly flanked by canals, berms, and interchange infield and sound barrier walls. As such, the off-site contributions to the roadway drainage systems are negligible.

4.4 SOILS AND GEOTECHNICAL CHARACTERISTICS

The evaluation of the NRCS Web Soil Survey within the study site reports that the existing soils are Margate fine sands, occasionally ponded, 0 to 1 percent slopes or Hallandale fine sands, 0 to 2 percent slope. The roadway foot print was de-mucked for the initial construction work and replaced with the soils excavated in the adjacent borrow canals. Hydrologic Soils Group is determined as D. Refer **Appendix A - Soil Data and Geotechnical Information**. The geotechnical evaluation prepared by GCME, Inc reports Seasonal High Ground Water Table Elevation (SHGWT) varies 8.5 to 11.0 ft. NAVD.

Within the project limits Average the Wet Season Water Table Elevation is determined from Broward County Average Wet season water table map. Based

on the map from the beginning of the project to US 441 is SHGWT is 10.0 ft. NAVD and from US 441 to the project end is 9.50 ft. NAVD, which is consistent with the previous permit information.

5.0 PROPOSED CONDITION

5.1 PROPOSED DRAINAGE CONDITION

The current PD&E Study includes the last two sections (V and part of VI) of the original improvement of the corridor with approximately four miles. The Study will perform preliminary drainage analysis to determine the locations and sizes of the required water management facilities for the alternative that has the most stormwater and environmental permitting needs. The use of roadside treatment swales, former borrow pit areas and infield areas in the four interchanges (US441, Lyons Rd., Florida's Turnpike and Powerline Rd.) will be the first option to consider. Off-site ponds requiring right-of-way acquisition would be the last resort.

5.2 PROPOSED BASINS

The project has been primarily divided into five basins to analyze the proposed condition.

Basin 1: Basin 1 begins from the beginning of the project to US 441, which includes the West side of the US441 interchange. Roadside swales, dry and wet detention ponds at the interchange are available for stormwater management. FDOT parcel at the NW quadrant of the interchange beyond Sawgrass right-of-way is available but not included in the calculations. Basin 1 discharges to Pinetree Water Control District Canals.

Basin 2: This basin begins at US441 and ends at Sta. 1110+00.00, just east of Lyons Road. It includes the east side of the US441 interchange, the ramps and bridges over Lyons Road, Lyons Road interchange as well as the Sawgrass Expressway east and westbound lanes. For stormwater management both dry treatment swales and wet detention ponds are available within this basin. Basin 2 discharges to Cocomar Water Control District Canals.

Basin 3A: This basin begins east of Lyons Road at Sta. 1110+00.00 and end at Sta. 1153+00.00 at the Florida's Turnpike. It includes the eastbound Sawgrass Expressway, eastbound on-ramp from the Florida's Turnpike to the Sawgrass Expressway and a portion of the southbound FTE. For stormwater management both dry treatment swales and wet detention ponds are available within this basin. Basin 3A discharges to Cocomar Water Control District Canals

Basin 3B: This basin begins at east of Lyons Road at Sta. 1145+00.00 and ends just west of Waterways Boulevard at Sta. 1168+39.00. It includes the Sawgrass Expressway east and westbound lanes and the Florida's Turnpike north and southbound lanes.

Interchange wet detention ponds are available for treatment and attenuation of this basin, before it discharges to the existing outfall at the southeast corner of the interchange. An FTE parcel at the northeast corner of the interchange is available for stormwater management, which will be converted to a wet detention pond. Basin 3B discharges to BCWCD#2

Basin 3B-1: The basin begins north of Sawgrass Expressway Interchange (Sta. 5652+50) to Broward/Palm Beach County Line (Sta. 5716+70) along the Florida's Turnpike. The basin flows to the interchange wet pond through dry swale. The swale also provides partial treatment and attenuation.

Basin 3B-2: The basin begins from Wiles Road (Sta. 5575+50) and ends south of the Sawgrass Expressway interchange (Sta. 5622+00) along Florida's Turnpike. The basin flows to the interchange wet pond through swales where partially treatment and attenuation is provided.

Basin 4: This basin begins west of Independence Drive at Sta. 1193+17.00 and ends at Sta. 1209+50.00 at the Powerline Road Intersection. In the proposed condition, existing swales are filled, therefore runoff from the basin area will be directed to the interchange ponds for treatment and attenuation. Since in existing conditions runoff from the area does not flow to the interchange pond, no credit is taken for existing treatment and attenuation for the basin. Basin 4 discharges to BCWCD#2

Refer to **Appendix B Proposed Drainage Basin Maps** for proposed basin limits.

6.0 BASE FLOODPLAIN

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Broward County, Florida, community panel number 12011C0165H, 12011C0166H, 12011C0167H and 12011C0158H, dated August 18, 2014, indicates that the project area is mostly located outside of 100-year floodplain; however, some ramps, the interchange ponds and the vicinity of SR 869 are surrounded by FEMA Special Flood Hazard Areas Zones AE and AH with determined flood elevations (see **Appendix C – FEMA Maps and Floodplain Compensation Calculations**). From the U.S. 441 to the Turnpike/Sawgrass Expressway Interchange the FEMA flood elevations range from EL. 10 ft. NAVD to EL. 14 ft. NAVD on the south side and from EL. 12 ft. NAVD to EL. 18 ft. NAVD on the north side. Excavation and fill volume need to be accounted for at those areas between seasonal high water and 100-year flood elevation. Some of the FTE Parcel are being converted to wet detention ponds which will compensate for the loss of storage of 100-year flood plain. There are no regulated floodway(s) within the project limits.

At the local level, the project area has a defined floodplain established by the SFWMD. No adverse impacts are anticipated to the floodplain, as required by the SFWMD permitting process. The SFWMD requires replacement of floodplain storage lost by encroachments. A summary of Floodplain Compensation Calculations are presented in **Table 6.1**. In addition, the SFWMD and FDOT design criteria for conveyance systems (e.g. culverts) allows no significant increase in flood stages. Refer to **Table 6.1** for the Summary of Floodplain Compensation Calculations and **Appendix C** for detailed calculations.

Table 6.1 - Summary of Floodplain Compensation Calculation

LOCAL WATER MANAGEMENT DISTRICT	PROJECT BASIN	FLOODPLAIN ENCROACHMENT (AC-FT)	Provided Storage In	FLOODPLAIN COMPENSATION (AC-FT)
Pinetree Water Management District	BASIN 1	0.98	POND 1-1	1.26
Cocomar Water Management District	BASIN 2 & 3A	8.50	POND 2-1	5.17
Broward County Water Management District # 2	BASIN 3B, 3B-1, 3B-2 & 4	38.76	FLOOD MITIGATION 3B-1	18.70
			FLOOD MITIGATION 3B-2	23.26
	PROJECT TOTAL =	**48.24**		**48.39**

7.0 WATER QUALITY AND QUANTITY

Throughout the project dry retention/detention facilities and wet detention ponds are available within the roadway right-of-way but this condition varies for different basins. Besides, there are few FTE owned parcels will also be used for stormwater management. The project will have no adverse impact to the area's water quality. Stormwater treatment of the additional impervious areas will be provided as required by the SFWMD Environmental Resource Permit (ERP). The same permit will also ensure that discharge from post-development condition is equal or less than pre-development condition.

8.0 RISK ASSESSMENT

There is no change in flood "Risk" or floodplain impacts associated with this project. The drainage features will be designed in accordance with the FDOT Drainage Manual, Topic No. 625-040-002.

The following floodplain statement is a slightly modified version of Statement Number five "PROJECTS ON EXISTING ALIGNMENT INVOLVING REPLACEMENT OF DRAINAGE STRUCTURES IN HEAVILY URBANIZED FLOODPLAINS" in the FDOT PD&E Manual, tailored for this project:

"Replacement drainage structures for this project are limited to hydraulically equivalent structures which are not expected to increase the backwater surface elevations. The limitations to the hydraulic equivalency being proposed are basically due to restrictions imposed by the geometrics of design, existing development, cost feasibility, or practicability. An alternative encroachment location is not considered since it does not meet the project's purpose and need or is economically unfeasible. Since flooding conditions in the project area are inherent in the topography or are a result of other outside contributing sources, and there is no practical alternative to reduce flooding problems in any significant amount, existing flooding will continue, but will not increase as the result of the construction of this project.

Furthermore, the project will not affect existing flood heights or floodplain limits. There will be no significant change in the potential for interruption or termination of emergency service or emergency evacuation routes as the result of construction of this project. Therefore, it has been determined that this encroachment is not significant.

It has been determined, through consultation with local, state, and federal water resources and floodplain management agencies that there is no regulatory floodway involvement on the project and that the project will not support base floodplain development that is incompatible with existing floodplain management programs."

APPENDIX A

Soil Data & Geotechnical Information

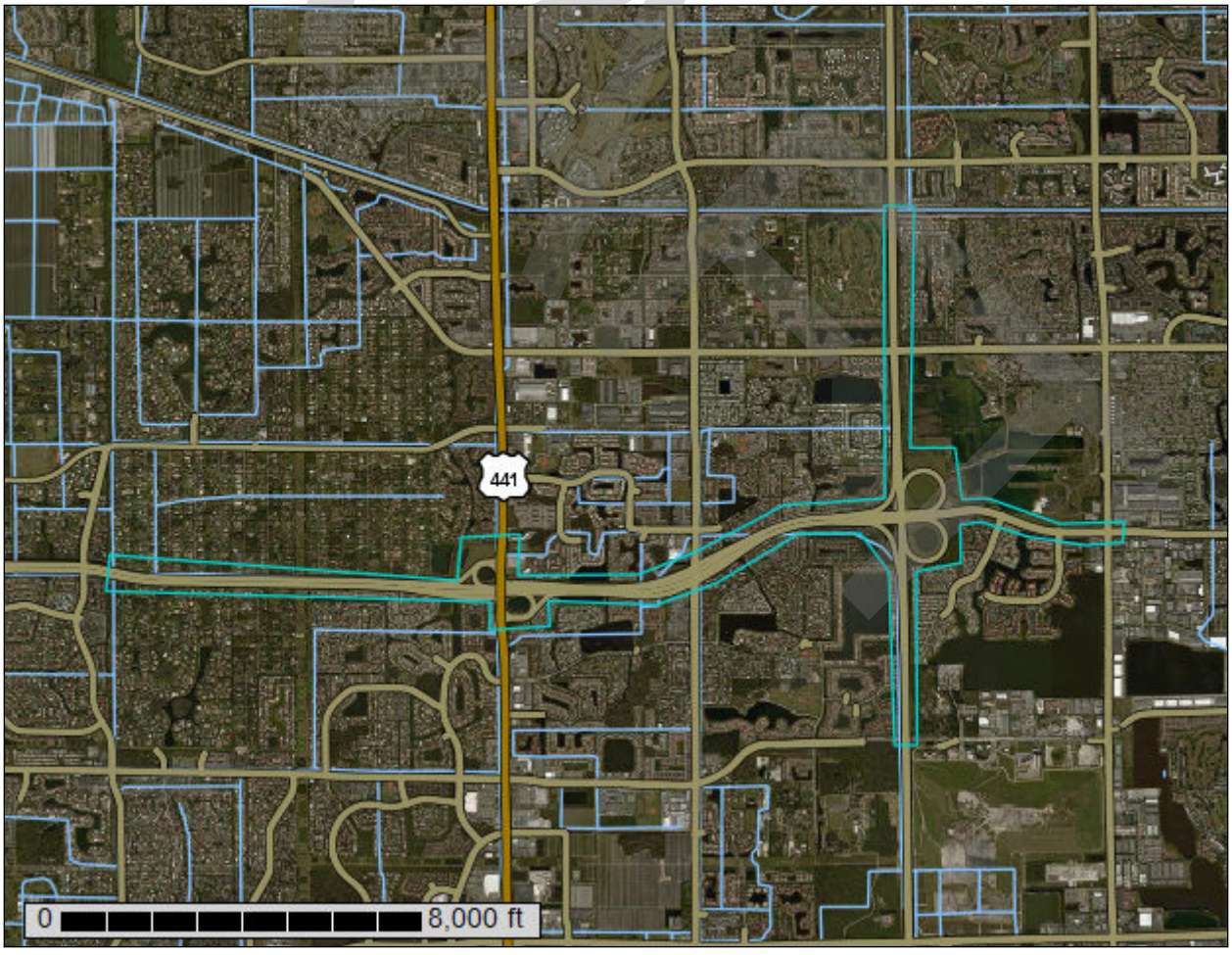
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Broward County, Florida, East Part; and Palm Beach County Area, Florida



February 18, 2019

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

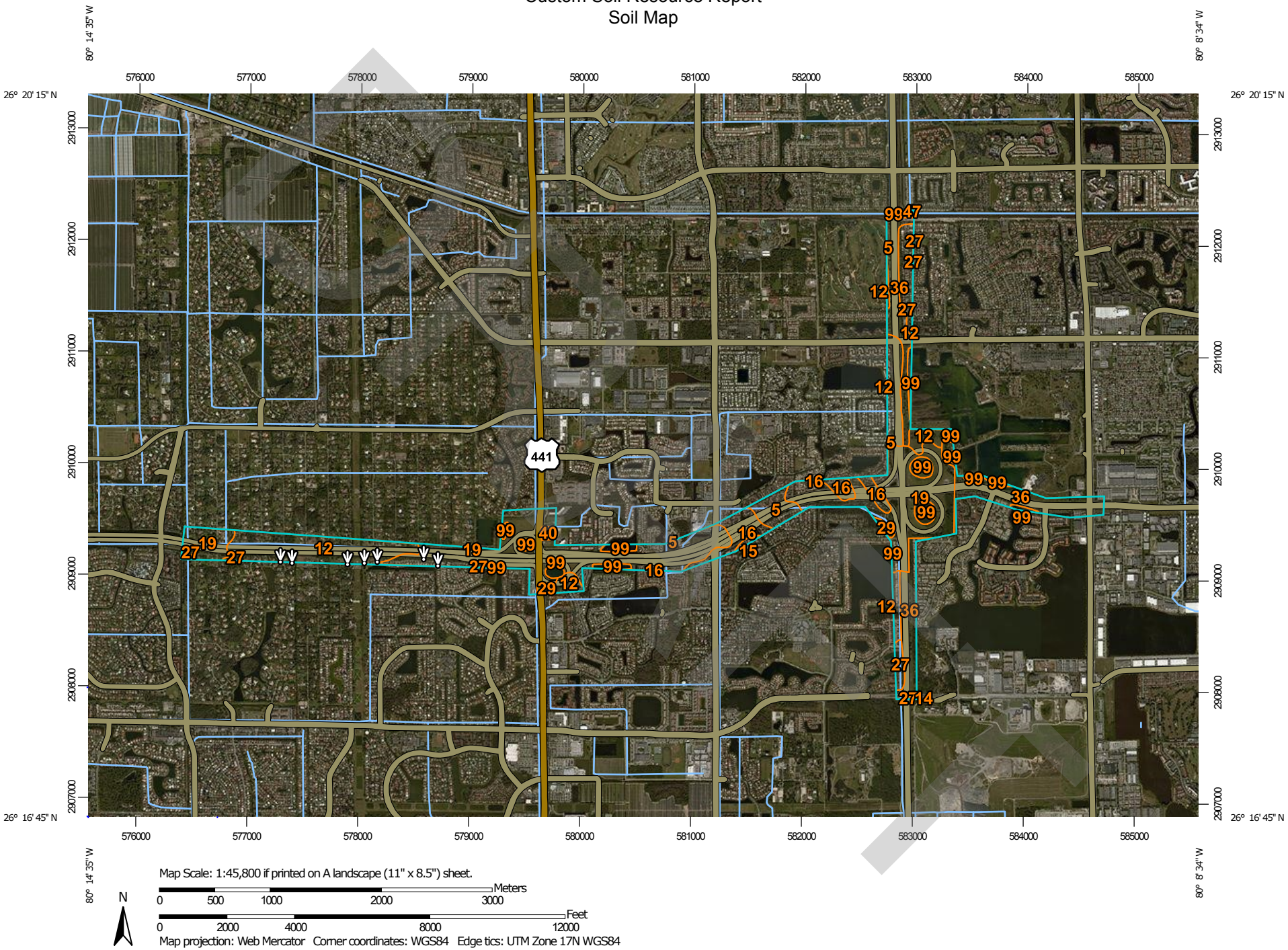
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Broward County, Florida, East Part
Survey Area Data: Version 14, Sep 17, 2018

Soil Survey Area: Palm Beach County Area, Florida
Survey Area Data: Version 14, Sep 17, 2018

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 17, 2014—Feb 11, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND	MAP INFORMATION
	imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
5	Boca fine sand, 0 to 2 percent slopes	24.6	2.9%
12	Hallandale fine sand, 0 to 2 percent slopes	180.1	21.1%
14	Matlacha gravelly fine sand, limestone substratum	0.3	0.0%
15	Immokalee fine sand, 0 to 2 percent slopes	2.3	0.3%
16	Immokalee, limestone substratum-Urban land complex	46.9	5.5%
19	Margate fine sand, occasionally ponded, 0 to 1 percent slopes	371.4	43.5%
27	Plantation muck	15.5	1.8%
29	Pompano fine sand, 0 to 2 percent slopes	7.2	0.8%
36	Udorthents	153.5	18.0%
40	Urban land, 0 to 2 percent slopes	3.2	0.4%
99	Water	46.6	5.5%
Subtotals for Soil Survey Area		**851.6**	**99.7%**
Totals for Area of Interest		**854.2**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
47	Udorthents, 2 to 35 percent slopes	1.9	0.2%
99	Water	0.7	0.1%
Subtotals for Soil Survey Area		**2.6**	**0.3%**
Totals for Area of Interest		**854.2**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the

characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered

practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Broward County, Florida, East Part

5—Boca fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2svz9
Elevation: 0 to 60 feet
Mean annual precipitation: 42 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Boca and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Boca

Setting

Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear, convex
Across-slope shape: Concave, linear
Parent material: Sandy and loamy marine deposits over limestone

Typical profile

A - 0 to 3 inches: fine sand
E - 3 to 14 inches: fine sand
E/B - 14 to 25 inches: fine sand
Btg - 25 to 30 inches: fine sandy loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 8 to 40 inches to lithic bedrock
Natural drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum in profile: 4 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 4.0
Available water storage in profile: Very low (about 2.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: South Florida Flatwoods (R155XY003FL)

Forage suitability group: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Other vegetative classification: South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

Minor Components

Hallandale
Percent of map unit: 7 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

Wabasso
Percent of map unit: 6 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Ft. drum
Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

12—Hallandale fine sand, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 2tzx4
Elevation: 0 to 70 feet
Mean annual precipitation: 60 to 70 inches
Mean annual air temperature: 72 to 79 degrees F
Frost-free period: 360 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition
Hallandale and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hallandale

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy marine deposits over limestone

Typical profile

A - 0 to 2 inches: fine sand
Eg - 2 to 7 inches: fine sand
Bw - 7 to 12 inches: fine sand
2R - 12 to 22 inches: bedrock

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 2 to 20 inches to lithic bedrock
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 5.95 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 4.0
Available water storage in profile: Very low (about 0.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

Minor Components

Dania

Percent of map unit: 5 percent
Landform: Marshes on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Other vegetative classification: Freshwater Marshes and Ponds (R156AY010FL)
Hydric soil rating: Yes

Plantation

Percent of map unit: 5 percent
Landform: Depressions on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave

Hydric soil rating: Yes

14—Matlacha gravelly fine sand, limestone substratum

Map Unit Setting

National map unit symbol: 1hn8t
Mean annual precipitation: 60 to 68 inches
Mean annual air temperature: 72 to 79 degrees F
Frost-free period: 358 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Matlacha, limestone substratum, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Matlacha, Limestone Substratum

Setting

Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy mine spoil or earthy fill

Typical profile

C - 0 to 23 inches: gravelly fine sand
2Ab - 23 to 27 inches: fine sand
2Eb - 27 to 48 inches: fine sand
3R - 48 to 52 inches: unweathered bedrock

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Natural drainage class: Somewhat poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 24 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 4.0
Available water storage in profile: Very low (about 2.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B

Forage suitability group: Forage suitability group not assigned (G156AC999FL)
Hydric soil rating: No

Minor Components

Hallandale
Percent of map unit: 5 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Margate
Percent of map unit: 5 percent
Landform: Drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

15—Immokalee fine sand, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 2s3lk
Elevation: 0 to 130 feet
Mean annual precipitation: 44 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition
Immokalee and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Immokalee

Setting
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile
A - 0 to 6 inches: fine sand
E - 6 to 35 inches: fine sand
Bh - 35 to 54 inches: fine sand
BC - 54 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 4.0
Available water storage in profile: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Minor Components

Basinger

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Pomello

Percent of map unit: 2 percent
Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Side slope, interfluve, riser
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: Sand Pine Scrub (R155XY001FL)
Other vegetative classification: Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Wabasso

Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Margate

Percent of map unit: 1 percent

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Placid

Percent of map unit: 1 percent
Landform: Drainageways on marine terraces, depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

16—Immokalee, limestone substratum-Urban land complex

Map Unit Setting

National map unit symbol: 1hn8w
Elevation: 10 to 100 feet
Mean annual precipitation: 60 to 68 inches
Mean annual air temperature: 72 to 79 degrees F
Frost-free period: 358 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Immokalee, limestone substratum, and similar soils: 50 percent
Urban land: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Immokalee, Limestone Substratum

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 5 inches: fine sand
E - 5 to 48 inches: fine sand
Bh - 48 to 58 inches: fine sand
2R - 58 to 62 inches: weathered bedrock

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 40 to 72 inches to paralithic bedrock
Natural drainage class: Poorly drained
Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 4.0
Available water storage in profile: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Forage suitability group: Forage suitability group not assigned (G156AC999FL)
Hydric soil rating: No

Description of Urban Land

Setting

Landform: Marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Linear
Across-slope shape: Linear

Minor Components

Immokalee

Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Basinger

Percent of map unit: 3 percent
Landform: Drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Margate

Percent of map unit: 2 percent
Landform: Drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Pompano

Percent of map unit: 2 percent
Landform: Drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave

Hydric soil rating: Yes

19—Margate fine sand, occasionally ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2sm5l
Elevation: 0 to 30 feet
Mean annual precipitation: 60 to 70 inches
Mean annual air temperature: 72 to 81 degrees F
Frost-free period: 360 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Margate and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Margate

Setting

Landform: Flats on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Sandy marine deposits over limestone

Typical profile

A - 0 to 8 inches: fine sand
E - 8 to 16 inches: fine sand
Bw - 16 to 28 inches: fine sand
C - 28 to 32 inches: very gravelly fine sand
2R - 32 to 42 inches: bedrock

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum in profile: 4 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 4.0
Available water storage in profile: Very low (about 2.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Forage suitability group: Sandy soils on stream terraces, flood plains, or in depressions (G156AC145FL)
Hydric soil rating: Yes

Minor Components

Basinger

Percent of map unit: 5 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Concave
Other vegetative classification: Slough (R155XY011FL)
Hydric soil rating: Yes

Matlacha

Percent of map unit: 5 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Hydric soil rating: No

Plantation

Percent of map unit: 5 percent
Landform: Marshes on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

27—Plantation muck

Map Unit Setting

National map unit symbol: 1hn97
Elevation: 0 to 30 feet
Mean annual precipitation: 60 to 68 inches
Mean annual air temperature: 72 to 79 degrees F
Frost-free period: 358 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Plantation, drained, and similar soils: 70 percent
Plantation, undrained, and similar soils: 20 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Plantation, Drained

Setting

Landform: Marshes on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Herbaceous organic material over sandy marine deposits over limestone

Typical profile

Oa - 0 to 10 inches: muck
A - 10 to 28 inches: fine sand
Cg - 28 to 35 inches: fine sandy loam
2R - 35 to 39 inches: unweathered bedrock

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 4.0
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Forage suitability group: Organic soils in depressions and on flood plains (G156AC645FL)
Hydric soil rating: Yes

Description of Plantation, Undrained

Setting

Landform: Marshes on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Herbaceous organic material over sandy marine deposits over limestone

Typical profile

Oa - 0 to 10 inches: muck
A - 10 to 28 inches: fine sand
Btg - 28 to 35 inches: fine sandy loam
2R - 35 to 39 inches: unweathered bedrock

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 4.0
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Forage suitability group: Organic soils in depressions and on flood plains (G156AC645FL)
Hydric soil rating: Yes

Minor Components

Hallandale

Percent of map unit: 3 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Dania

Percent of map unit: 3 percent
Landform: Marshes on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Margate

Percent of map unit: 2 percent
Landform: Drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Lauderhill

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

29—Pompano fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2tzw3
Elevation: 0 to 100 feet
Mean annual precipitation: 44 to 65 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Pompano and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pompano

Setting

Landform: Flats on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Parent material: Sandy marine deposits

Typical profile

A - 0 to 4 inches: fine sand
C - 4 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 3 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 2 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 4.0
Available water storage in profile: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D

Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: Slough (R155XY011FL)
Hydric soil rating: Yes

Minor Components

Anclote
Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Valkaria
Percent of map unit: 4 percent
Landform: Drainageways on flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Other vegetative classification: Slough (R155XY011FL)
Hydric soil rating: Yes

Malabar
Percent of map unit: 4 percent
Landform: — error in exists on —
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: Slough (R155XY011FL)
Other vegetative classification: Slough (R155XY011FL)
Hydric soil rating: Yes

Immokalee
Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Myakka
Percent of map unit: 3 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Other vegetative classification: South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Riviera
Percent of map unit: 2 percent
Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf

Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: Slough (R155XY011FL)
Other vegetative classification: Slough (R155XY011FL)
Hydric soil rating: Yes

36—Udorthents

Map Unit Setting

National map unit symbol: 1hn9j
Mean annual precipitation: 60 to 68 inches
Mean annual air temperature: 72 to 79 degrees F
Frost-free period: 358 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Landform: Marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Altered marine deposits

Typical profile

C - 0 to 57 inches: cobbly sand

Properties and qualities

Slope: 2 to 40 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 4.0
Available water storage in profile: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Forage suitability group: Forage suitability group not assigned (G156AC999FL)

Hydric soil rating: No

40—Urban land, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2x9fc
Elevation: 0 to 200 feet
Mean annual precipitation: 40 to 68 inches
Mean annual air temperature: 68 to 79 degrees F
Frost-free period: 345 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform: Hills on marine terraces, ridges on marine terraces, knolls on marine terraces, rises on marine terraces, flatwoods on marine terraces
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Interfluve, side slope, riser, rise, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear
Parent material: No parent material

Typical profile

M - 0 to 6 inches: cemented material
^C - 6 to 36 inches: paragravelly sand
2Ab - 36 to 46 inches: paragravelly fine sand
2Cb - 46 to 80 inches: paragravelly fine sand

Minor Components

Matlacha

Percent of map unit: 3 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Hydric soil rating: No

St. augustine

Percent of map unit: 3 percent
Landform: Marine terraces
Landform position (three-dimensional): Tread, rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Paola

Percent of map unit: 1 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Side slope, interfluve, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear
Other vegetative classification: Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Pomello

Percent of map unit: 1 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Side slope, interfluve, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear
Other vegetative classification: Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Adamsville

Percent of map unit: 1 percent
Landform: Rises on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Tread, rise
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Upland Hardwood Hammock (R155XY008FL)
Hydric soil rating: No

Boca

Percent of map unit: 1 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Convex, linear
Across-slope shape: Linear, concave
Other vegetative classification: South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

Eaugallie

Percent of map unit: 1 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Hallandale

Percent of map unit: 1 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

Immokalee

Percent of map unit: 1 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Myakka

Percent of map unit: 1 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Other vegetative classification: South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Apopka

Percent of map unit: 1 percent
Landform: Hills on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Longleaf Pine-Turkey Oak Hills (R155XY002FL)
Hydric soil rating: No

99—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Palm Beach County Area, Florida

47—Udorthents, 2 to 35 percent slopes

Map Unit Setting

National map unit symbol: 1j7dz
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 358 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Landform: Marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Altered marine deposits

Typical profile

A - 0 to 7 inches: gravelly sand
C1 - 7 to 57 inches: gravelly sand
C2 - 57 to 80 inches: gravelly sand

Properties and qualities

Slope: 2 to 65 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 4.0
Available water storage in profile: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Forage suitability group: Forage suitability group not assigned (G156AC999FL)
Hydric soil rating: No

Minor Components

Riviera

Percent of map unit: 5 percent

Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

99—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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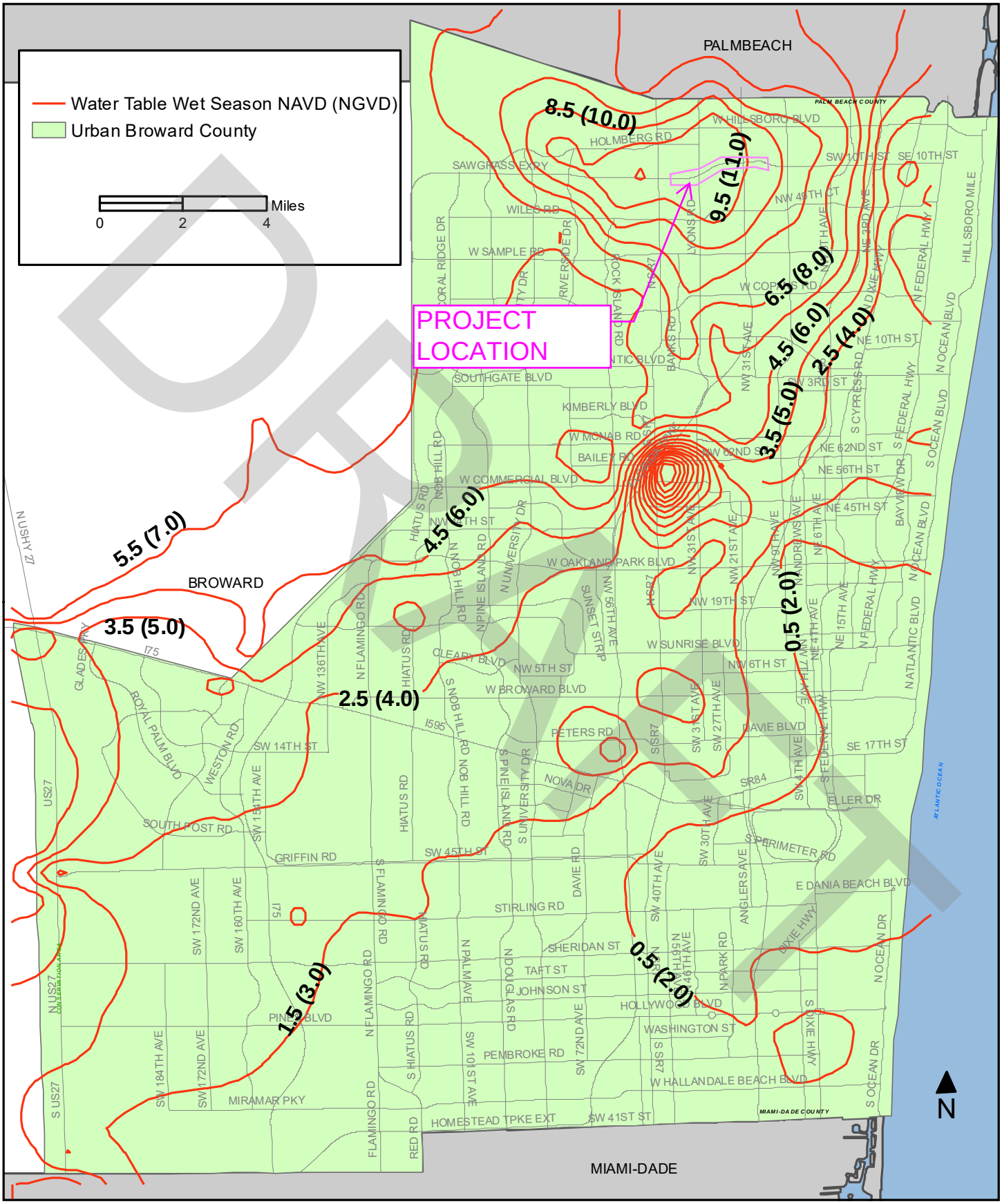
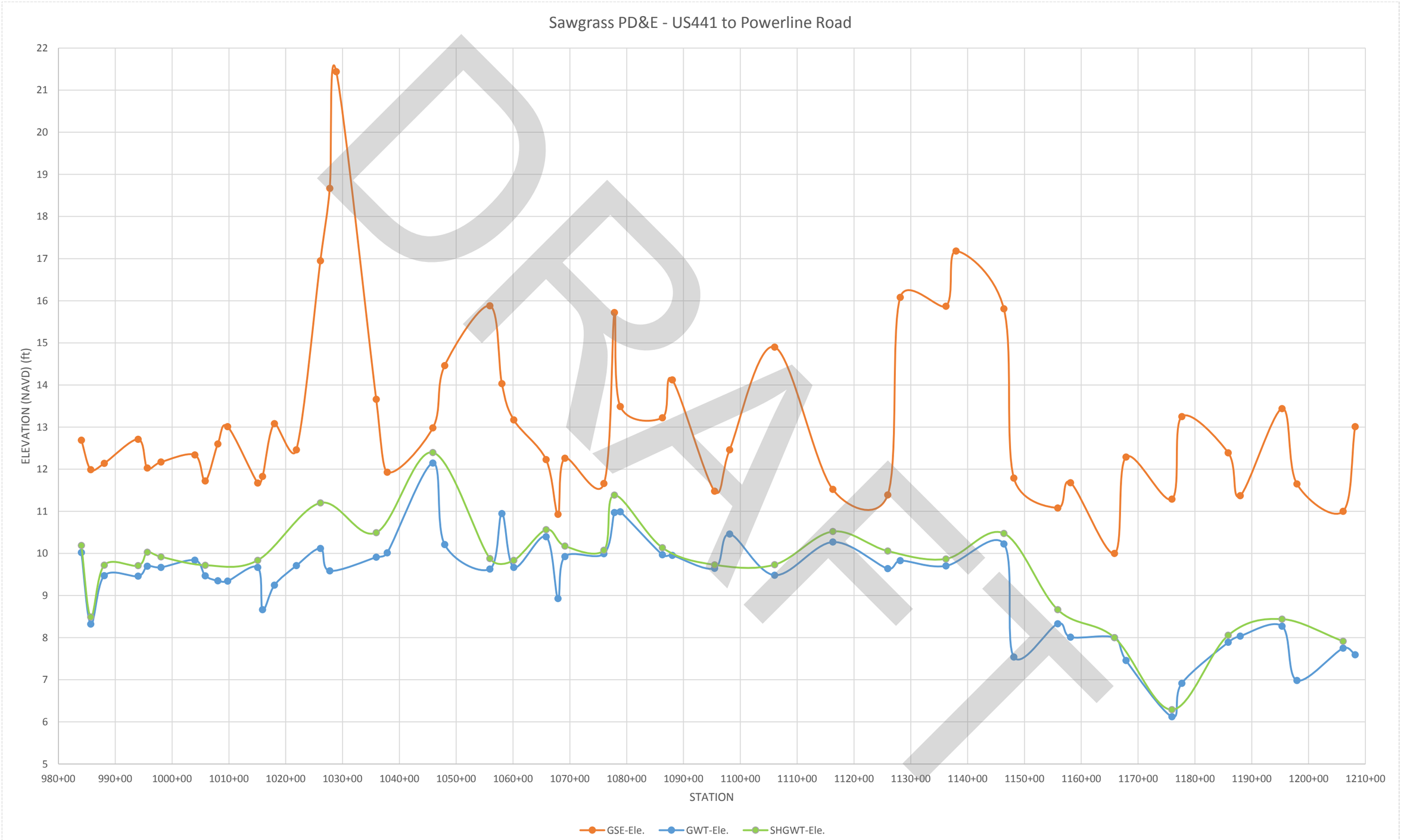
WATER TABLE MAP - AVERAGE WET SEASON



Division Name: Planning and Environmental Regulation
Department Name: Environmental Protection and Growth Management

This map is for conceptual purposes only and should not be used for legal boundary determinations.
Elevation converted from NGDV to NAVD using the FEMA approved conversion factor for Broward County of (-) 1.5



GCME Project No.: 2000-01-16001

FTE Sawgrass PD&E-US441 to Powerline

Boring #	Drilled Date	GWT Depth (ft)	GWT Ele. (ft)	Station	Elevation	Offset	Depth
R-101A	8/18/2017	2.67	10.02	984+03	12.69	7.6	10
R-101B	8/18/2017	3.25	9.46	994+01	12.71	7.05	10
R-101	8/15/2017	2.50	9.84	1003+99	12.34	7.76	10
R-102	8/15/2017	3.67	9.34	1009+77	13.01	10.66	10
R-103	8/15/2017	3.17	8.66	1015+92	11.83	6.91	10
R-104	8/15/2017	2.75	9.71	1021+87	12.46	4.7	10
R-105	8/15/2017	7.08	14.36	1028+89	21.44	11	10
R-106	8/16/2017	GNE	GNE	1053+35	21.89	13.16	10
R-107	8/16/2017	3.50	9.67	1060+14	13.17	9.43	10
R-108	8/16/2017	2.33	9.93	1069+12	12.26	7.8	10
R-109	8/16/2017	4.75	10.97	1077+83	15.72	11.87	10
R-110	8/16/2017	8.58	18.18	1104+84	26.76	-21.88	10
R-201A	8/18/2017	3.67	8.32	985+68	11.99	118.14	10
R-201B	8/18/2017	2.33	9.70	995+63	12.03	111.53	10
R-201	8/16/2017	2.25	9.47	1005+84	11.72	121.44	10
R-202	8/16/2017	2.00	9.67	1015+06	11.67	120.6	10
R-203	8/16/2017	6.83	10.12	1026+09	16.95	109.72	10
R-204	8/16/2017	3.75	9.91	1035+92	13.66	166.56	10
R-205	8/17/2017	0.83	12.15	1045+88	12.98	196.58	10
R-206	8/17/2017	6.25	9.63	1055+92	15.88	124.35	10
R-207	8/17/2017	1.83	10.40	1065+81	12.23	123.78	10
R-208	8/17/2017	1.67	9.99	1076+00	11.66	182.77	10
R-209	8/17/2017	3.25	9.97	1086+27	13.22	181.27	10
R-210	8/17/2017	1.83	9.65	1095+47	11.48	223.13	10
R-211	8/17/2017	5.42	9.48	1106+04	14.9	176.21	10
R-212	8/17/2017	1.25	10.27	1116+27	11.52	137.24	10
R-213	8/16/2017	1.75	9.64	1125+93	11.39	150.76	10
R-214	8/16/2017	6.17	9.70	1136+18	15.87	57.39	10

FTE Sawgrass PD&E-US441 to Powerline

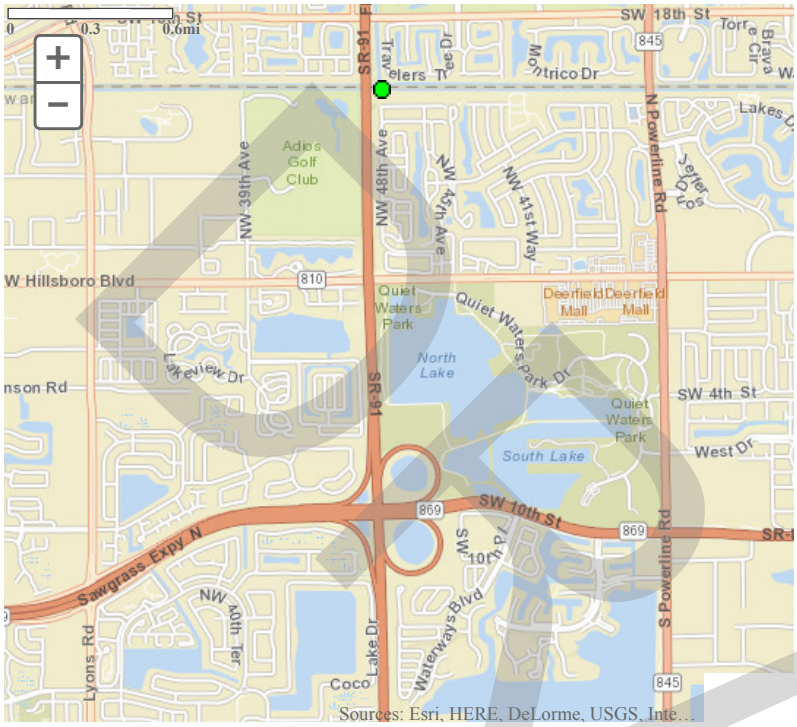
Boring #	Drilled Date	GWT Depth (ft)	GWT Ele. (ft)	Station	Elevation	Offset	Depth
R-215	8/16/2017	5.58	10.23	1146+37	15.81	63.12	10
R-216	8/16/2017	2.75	8.33	1155+86	11.08	163.94	10
R-217	8/16/2017	2.00	8.00	54+85	10	69.46	10
R-218	8/17/2017	5.17	6.12	64+95	11.29	57.36	10
R-219	8/17/2017	4.50	7.89	74+86	12.39	21.96	10
R-220	8/17/2017	5.17	8.27	84+34	13.44	38.07	10
R-221	8/17/2017	3.25	7.75	95+07	11	40.79	10
R-301A	8/18/2017	2.67	9.47	988+07	12.14	-112.82	10
R-301B	8/18/2017	2.50	9.67	998+05	12.17	-113.45	10
R-301	8/15/2017	3.25	9.35	1008+04	12.6	-110.83	10
R-302	8/15/2017	3.83	9.25	1018+02	13.08	-123.85	10
R-303	8/15/2017	9.08	9.59	1027+75	18.67	-112.53	10
R-304	8/15/2017	1.92	10.01	1037+85	11.93	-176.19	10
R-305	8/15/2017	4.25	10.21	1047+97	14.46	-158.74	10
R-306	8/15/2017	3.08	10.95	1058+03	14.03	-148.18	10
R-307	8/14/2017	2.00	8.93	1067+90	10.93	-131.59	10
R-308	8/14/2017	2.50	10.99	1078+87	13.49	-147.56	10
R-309	8/14/2017	4.17	9.95	1088+03	14.12	-156.79	10
R-310	8/14/2017	2.00	10.46	1098+12	12.46	-245.15	10
R-313	8/14/2017	6.25	9.83	1128+14	16.08	-108.79	10
R-314	8/14/2017	1.42	15.76	1137+97	17.18	-106	10
R-315	8/14/2017	4.25	7.54	1148+13	11.79	-166.08	10
R-316	8/14/2017	3.67	8.01	1158+12	11.68	-149.1	10
R-317	8/14/2017	4.83	7.46	56+89	12.29	-145	10
R-318	8/14/2017	6.33	6.92	66+69	13.25	-126.75	10
R-319	8/14/2017	3.33	8.04	76+96	11.37	-126.67	10
R-320	8/14/2017	4.67	6.98	86+95	11.65	-119.92	10
R-321	8/14/2017	5.42	7.59	97+19	13.01	-166.83	10

G-2852
G-2156
G-2739
Project Area
G-1213
G-1315

USGS science for a changing world

Groundwater Watch

Site Number: 261938080101001 - G -2852



DESCRIPTION:
Latitude 26°19'39.6", Longitude 80°10'09.3" NAD83
Broward County, Florida, Hydrologic Unit 03090202
Well depth: 140 feet
Hole depth: 221 feet
Land surface altitude: 15.82feet above NGVD29.
Well completed in "Biscayne aquifer" (N400BISCYN) national aquifer.
Well completed in "Biscayne Limestone Aquifer" (112BSCNN) local aquifer

AVAILABLE DATA:

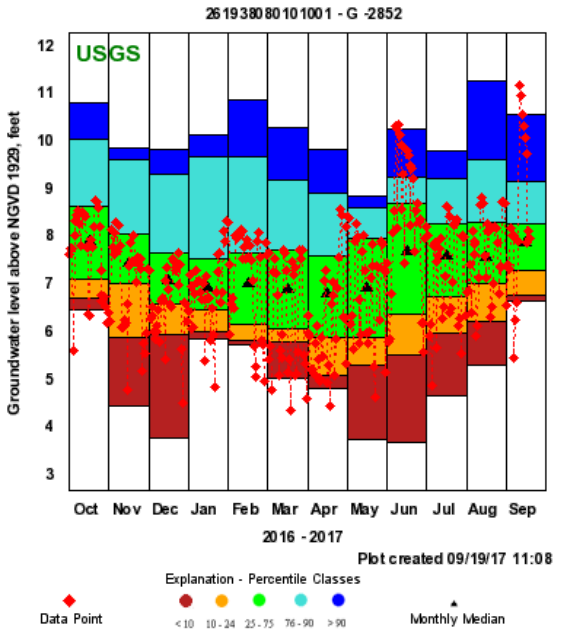
Data Type	Begin Date	End Date	Count
Current / Historical Observations	2007-10-01	2017-09-16	
Daily Data			
Groundwater level above NGVD 1929, feet	1995-11-09	2017-09-15	7680
Field groundwater-level measurements	1988-10-25	2017-08-07	199
Field/Lab water-quality samples			
Water-Year Summary	2006	2016	11

Additional Data Sources	Begin Date	End Date	Count
Groundwater Watch **offsite**	1988	2017	199

OPERATION:
Record for this site is maintained by the USGS Florida Water Science Center - Ft. Lauderdale
Email questions about this site to Florida Water-Data Inquiries

Groundwater Watch Help Page

Site Statistics



Most recent data value: 7.94 on 9/18/2017
Period of Record Monthly Statistics for 261938080101001
Groundwater level above NGVD 1929, feet
All Approved Continuous & Periodic Data Used In Analysis
Note: Highlighted values in the table indicate closest statistic to the most recent data value.

Month	Lowest Median	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Highest Median	Number of Years
Jan	5.84	6.00	6.47	6.90	7.54	9.66	10.12	26
Feb	5.72	5.83	6.15	7.01	7.65	9.66	10.84	26
Mar	5.03	5.80	6.07	6.89	7.70	9.19	10.27	26
Apr	4.82	5.09	5.89	6.80	7.59	8.90	9.81	27
May	3.74	5.29	5.87	6.93	7.95	8.61	8.83	29
Jun	3.67	5.50	6.38	7.69	8.70	9.24	10.25	26
Jul	4.66	5.98	6.73	7.60	8.27	9.20	9.79	25
Aug	5.29	6.20	7.00	7.57	8.28	9.61	11.26	25
Sep	6.64	6.76	7.29	7.85	8.26	9.16	10.54	26
Oct	6.47	6.69	7.11	7.90	8.63	10.04	10.78	28
Nov	4.43	5.88	7.00	7.43	8.04	9.59	9.84	27
Dec	3.77	5.94	6.58	7.06	7.66	9.29	9.82	25

As of 9/15/2017 18:33-2

Statistics Options

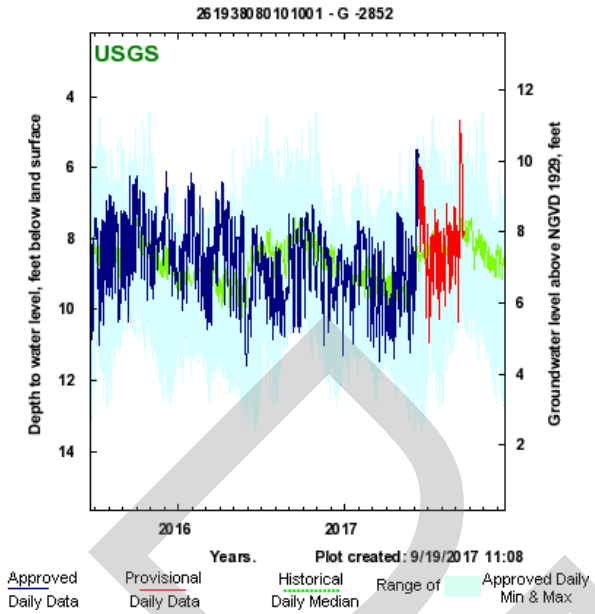
View month/year statistics

Daily Groundwater Data

Most recent Provisional daily data value: 7.94 on 09/18/17

Summary for Period of Continuous Record
Groundwater level above NGVD 1929, feet
Approved Daily Maximum Values Data Used in Analysis

Begin Date	End Date	Days	% Complete



11/09/95	06/11/17					7,584		96
Lowest Level	**5th %ile**	**10th %ile**	**25th %ile**	**50th %ile**	**75th %ile**	**90th %ile**	**95th %ile**	**Highest Level**
2.40	4.73	5.25	6.17	7.05	7.89	8.66	9.08	11.37

Daily Data Options

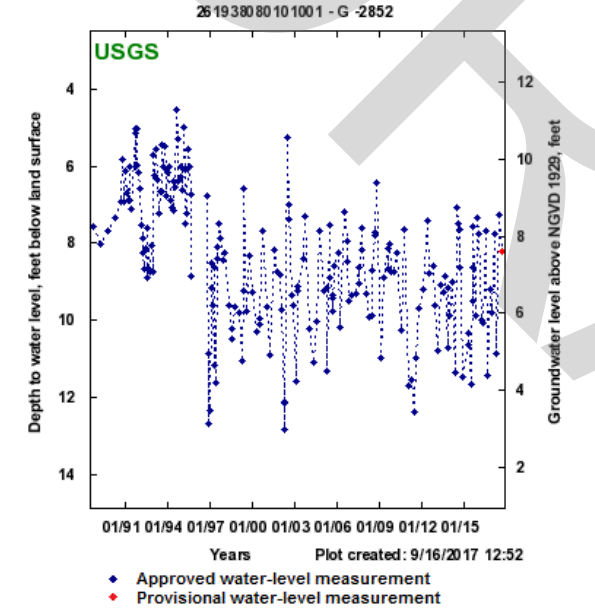
View latest data on NWISWeb

View data in calendar format

Download data in text format

View daily medians

Periodic Groundwater Data



Summary for Period of Record Periodic Water Levels

Elevation above NGVD 1929, feet

Approved Periodic Water Level Values

Begin Date	End Date	Number of Values
10/25/88	08/07/17	199

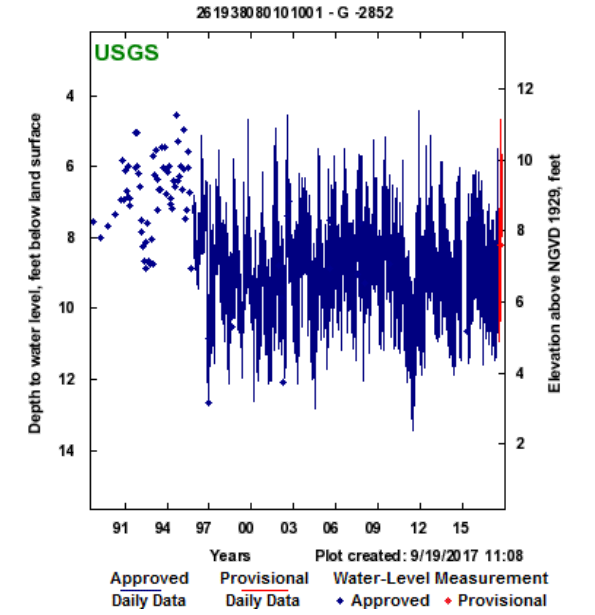
Lowest WL	Date of Lowest WL	Highest WL	Date of Highest WL
3.01	04/30/02	11.26	08/26/94

Groundwater Levels Options

View latest data on NWISWeb

Download groundwater levels in text format

Period of Record - All Data Types



Summary for Period of Record - All Data Types

Elevation above NGVD 1929, feet

Begin Date	End Date	Number of Values
10/25/88	09/18/17	8,605

Lowest WL	Date of Lowest WL	Highest WL	Date of Highest WL
2.4	06/19/11	11.37	10/29/11

Period of Record Options

View latest data on NWISWeb for all data types

View month/year statistics

Download groundwater levels in text format of all data types

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URL: https://groundwaterwatch.usgs.gov/AWLSites.asp
Page Contact Information: Contact the USGS Office of Groundwater
Last update: Friday, February 03, 2017 at 14:27

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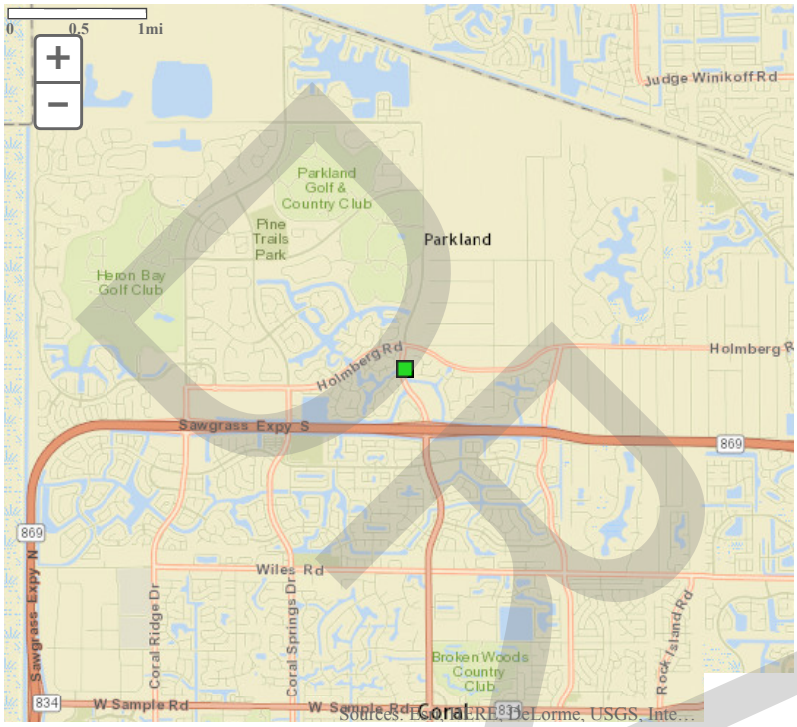
Groundwater Watch

Site Number: 261831080151301 - G -2739



Groundwater Watch Help Page

DESCRIPTION:
Latitude 26°18'29.7", Longitude 80°15'10.8" NAD83
Broward County, Florida, Hydrologic Unit 03090202
Well depth: 21 feet
Land surface altitude: 12.30feet above NGVD29.
Well completed in "Biscayne aquifer" (N400BISCYN) national aquifer.
Well completed in "Biscayne Limestone Aquifer" (112BSCNN) local aquifer

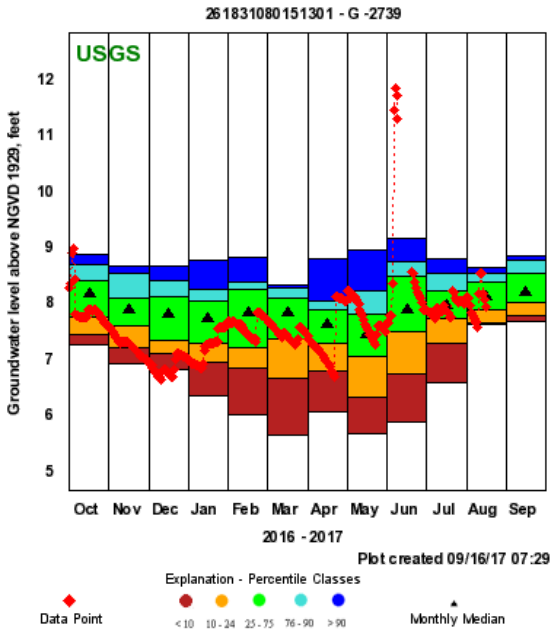
AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Current / Historical Observations	2007-10-01	2017-08-15	
Daily Data			
Groundwater level above NGVD 1929, feet	1991-12-07	2017-08-14	9033
Field groundwater-level measurements	1993-11-23	2017-08-15	128
Water-Year Summary	2006	2016	11

Additional Data Sources	Begin Date	End Date	Count
Groundwater Watch **offsite**	1993	2017	128

OPERATION:
Record for this site is maintained by the USGS Florida Water Science Center - Ft. Lauderdale
Email questions about this site to Florida Water-Data Inquiries

Site Statistics



Most recent data value: 7.93 on 8/15/2017
Period of Record Monthly Statistics for 261831080151301
Groundwater level above NGVD 1929, feet
All Approved Continuous & Periodic Data Used In Analysis
Note: Highlighted values in the table indicate closest statistic to the most recent data value.

Month	Lowest Median	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Highest Median	Number of Years
Jan	6.34	6.94	7.28	7.72	8.04	8.24	8.76	26
Feb	6.02	6.84	7.20	7.84	8.24	8.38	8.82	25
Mar	5.66	6.66	7.37	7.83	8.08	8.26	8.33	26
Apr	6.06	6.80	7.28	7.62	7.88	8.04	8.80	26
May	5.68	6.32	7.05	7.43	7.80	8.22	8.96	26
Jun	5.87	6.75	7.48	7.89	8.49	8.75	9.15	26
Jul	6.59	7.29	7.73	7.95	8.23	8.54	8.79	25
Aug	7.61	7.66	7.89	8.12	8.37	8.52	8.64	25
Sep	7.68	7.78	8.00	8.19	8.53	8.76	8.85	25
Oct	7.26	7.45	7.75	8.18	8.40	8.70	8.87	25
Nov	6.93	7.20	7.60	7.89	8.10	8.53	8.67	25
Dec	6.82	7.09	7.33	7.80	8.11	8.39	8.67	26

As of 9/15/2017 18:32-2

Statistics Options

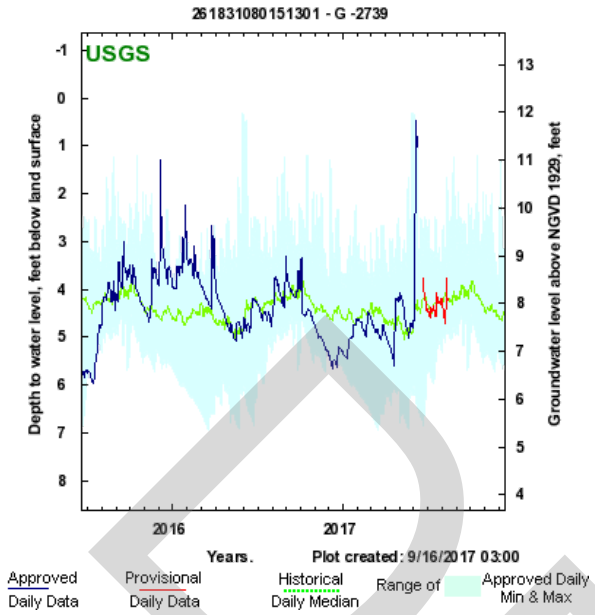
View month/year statistics

Daily Groundwater Data

Most recent Provisional daily data value: 8.06 on 08/14/17

Summary for Period of Continuous Record
Groundwater level above NGVD 1929, feet
Approved Daily Maximum Values Data Used in Analysis

Begin Date	End Date	Days	% Complete



12/07/91	06/09/17					8,978		96
Lowest Level	**5th %ile**	**10th %ile**	**25th %ile**	**50th %ile**	**75th %ile**	**90th %ile**	**95th %ile**	**Highest Level**
5.34	6.73	6.99	7.45	7.89	8.27	8.67	8.92	12.00

Daily Data Options

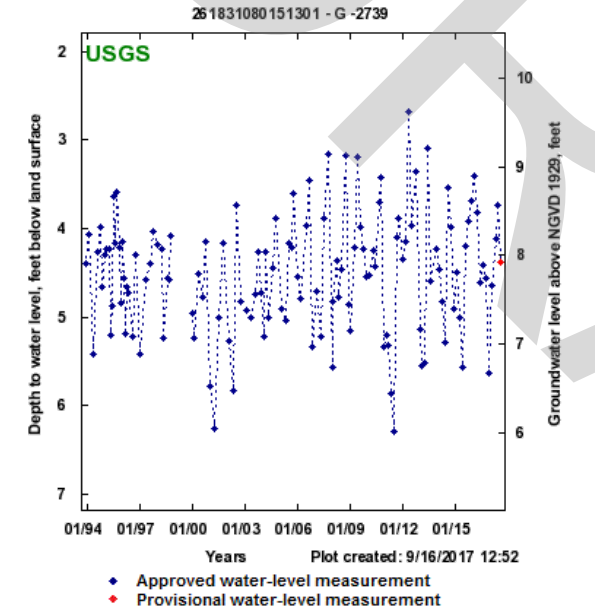
View latest data on NWISWeb

View data in calendar format

Download data in text format

View daily medians

Periodic Groundwater Data



Summary for Period of Record Periodic Water Levels

Elevation above NGVD 1929, feet

Approved Periodic Water Level Values

Begin Date	End Date	Number of Values
11/23/93	08/15/17	128

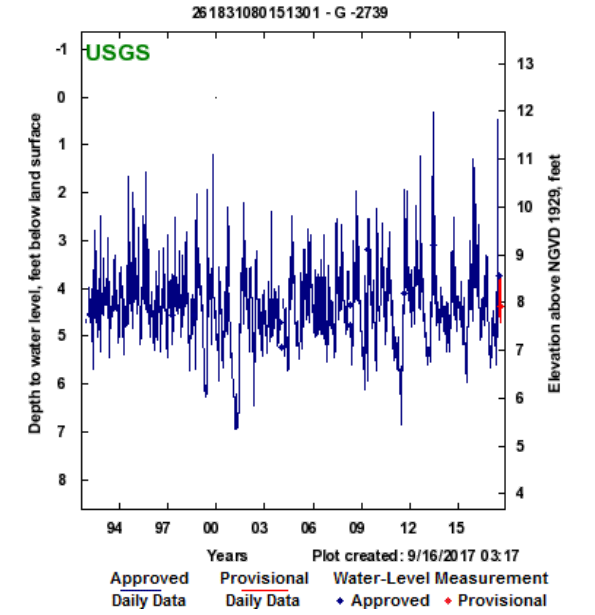
Lowest WL	Date of Lowest WL	Highest WL	Date of Highest WL
6.02	06/28/11	9.61	05/23/12

Groundwater Levels Options

View latest data on NWISWeb

Download groundwater levels in text format

Period of Record - All Data Types



Summary for Period of Record - All Data Types

Elevation above NGVD 1929, feet

Begin Date	End Date	Number of Values
12/07/91	08/15/17	9,162

Lowest WL	Date of Lowest WL	Highest WL	Date of Highest WL
5.34	03/18/01	12	05/29/13

Period of Record Options

View latest data on NWISWeb for all data types

View month/year statistics

Download groundwater levels in text format of all data types

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Page Contact Information: Contact the USGS Office of Groundwater
Last update: Friday, February 03, 2017 at 14:27

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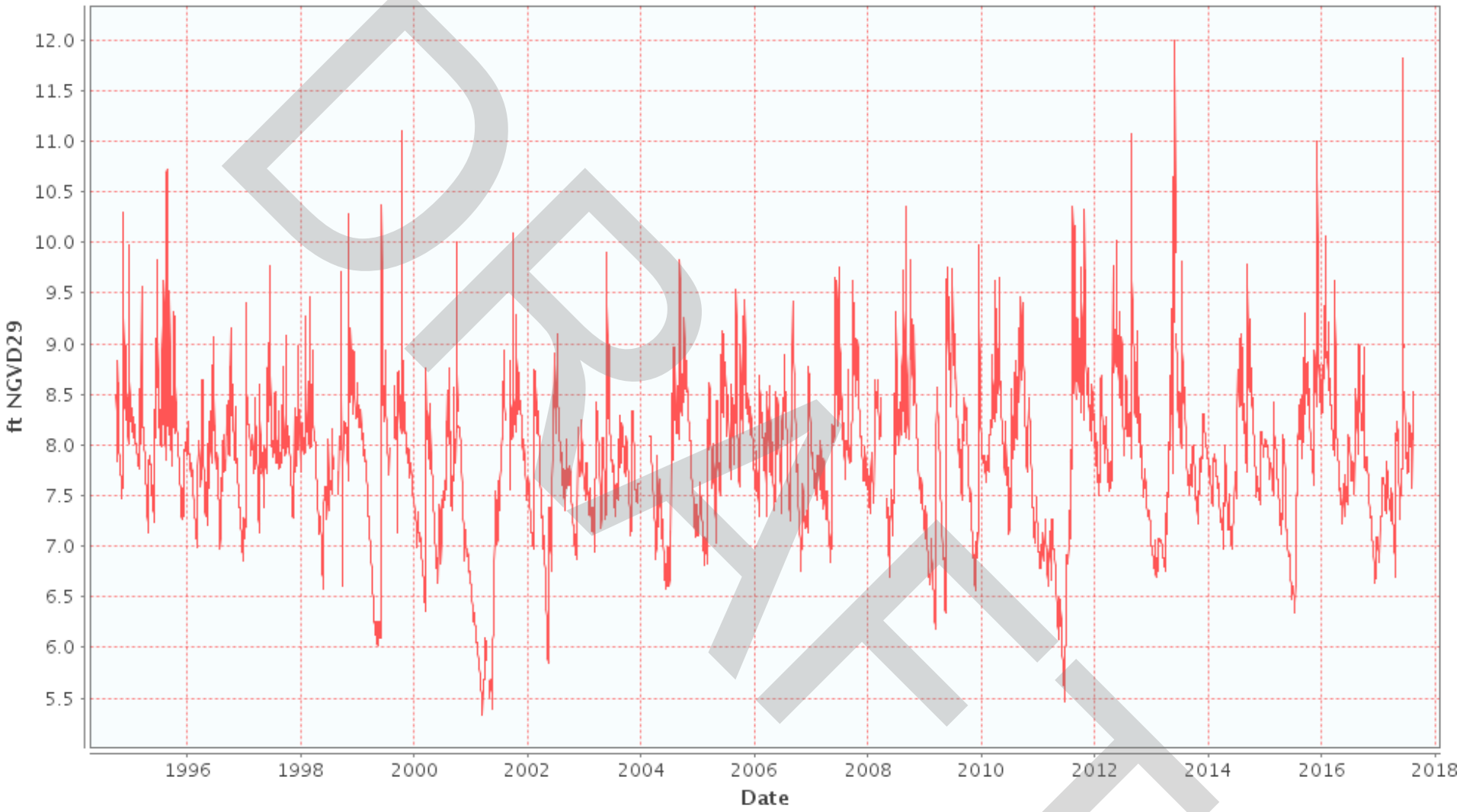
DBHYDRO Chart

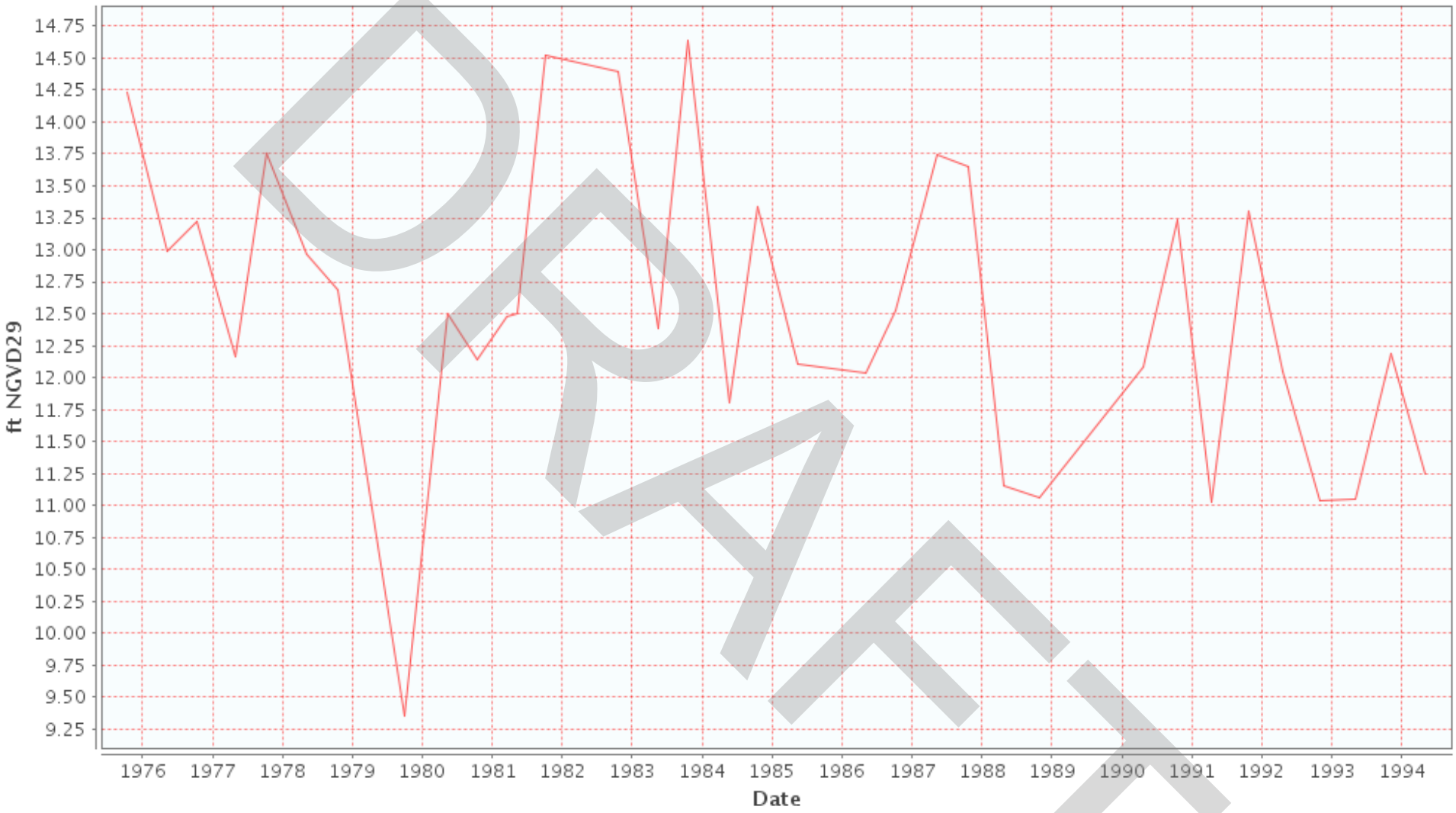
01-OCT-1994 to 14-AUG-2017



DBKey	Station	Agency	Data Type	Unit	Statistic	Frequency	Strata	Gate/Pump#
LP672	G-2739	USGS	WELL	ft NGVD29	MAX	DA	21	N/A

DBHYDRO Chart

15-OCT-1975 to 03-MAY-1994



DBKey	Station	Agency	Data Type	Unit	Statistic	Frequency	Strata	Gate/Pump#
02224	G-2156	USGS	WELL	ft NGVD29	RAND	RI	99.5	N/A

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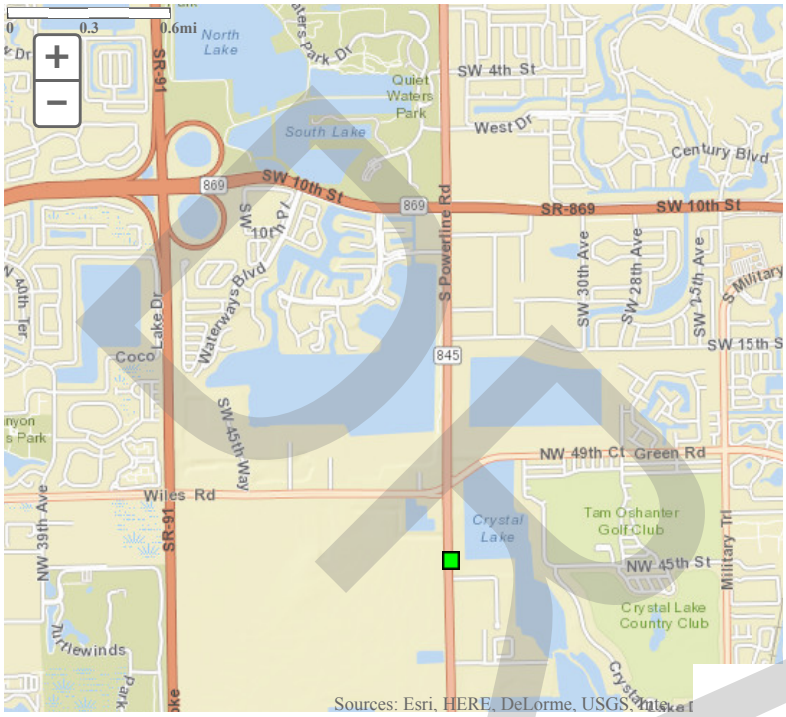
Groundwater Watch

Site Number: 261708080090801 - G -1315



DESCRIPTION:
Latitude 26°17'07.2", Longitude 80°09'08.0" NAD83
Broward County, Florida, Hydrologic Unit 03090202
Well depth: 14 feet
Land surface altitude: 15.4feet above NGVD29.
Well completed in "Biscayne aquifer" (N400BISCYN) national aquifer.
Well completed in "Biscayne Limestone Aquifer" (112BSCNN) local aquifer

AVAILABLE DATA:

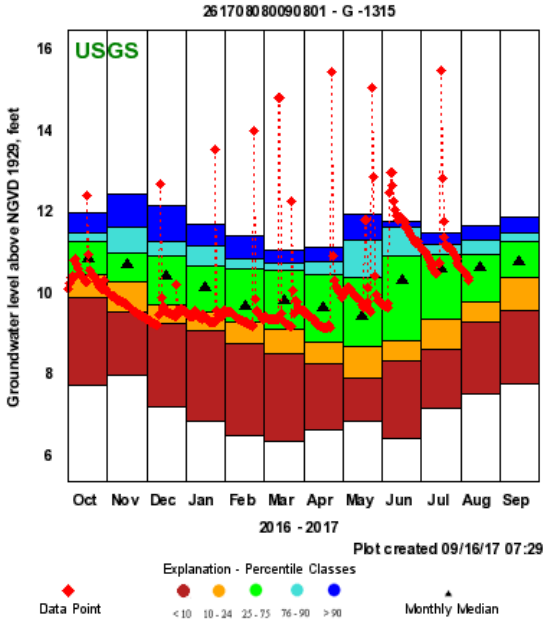
Data Type	Begin Date	End Date	Count
Current / Historical Observations	2007-10-01	2017-08-07	
Daily Data			
Groundwater level above NGVD 1929, feet	1973-10-01	2017-08-06	15364
Field groundwater-level measurements	1978-10-14	2017-08-07	149
Field/Lab water-quality samples			
Water-Year Summary	2006	2016	11

Additional Data Sources	Begin Date	End Date	Count
Groundwater Watch **offsite**	1978	2017	149

OPERATION:
Record for this site is maintained by the USGS Florida Water Science Center - Ft. Lauderdale
Email questions about this site toFlorida Water-Data Inquiries

Groundwater Watch Help Page

Site Statistics



Most recent data value: 10.32 on 8/7/2017
Period of Record Monthly Statistics for 261708080090801
Groundwater level above NGVD 1929, feet
All Approved Continuous & Periodic Data Used In Analysis
Note: Highlighted values in the table indicate closest statistic to the most recent data value.

Month	Lowest Median	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Highest Median	Number of Years
Jan	6.84	9.08	9.52	10.12	10.65	11.15	11.69	44
Feb	6.48	8.77	9.29	9.67	10.60	10.83	11.40	43
Mar	6.36	8.49	9.11	9.80	10.57	10.75	11.04	42
Apr	6.62	8.26	8.78	9.63	10.45	10.78	11.12	43
May	6.85	7.92	8.68	9.41	10.37	11.30	11.92	43
Jun	6.41	8.32	8.84	10.32	10.92	11.60	11.76	41
Jul	7.18	8.62	9.37	10.59	10.93	11.18	11.46	43
Aug	7.52	9.30	9.77	10.61	10.95	11.30	11.65	43
Sep	7.76	9.55	10.37	10.77	11.25	11.49	11.86	42
Oct	7.72	9.90	10.45	10.85	11.28	11.47	11.98	43
Nov	7.96	9.53	10.27	10.69	10.97	11.63	12.44	44
Dec	7.19	9.25	9.70	10.40	10.90	11.28	12.13	44

As of 9/15/2017 18:30-2

Statistics Options

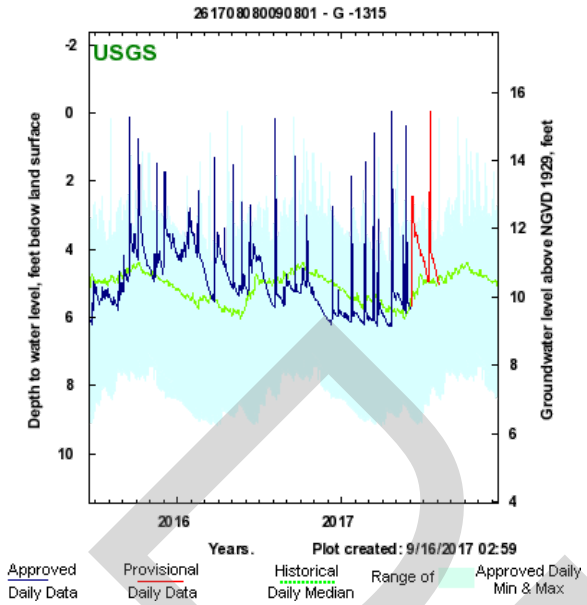
View month/year statistics

Daily Groundwater Data

Most recent Provisional daily data value: 10.39 on 08/06/17

Summary for Period of Continuous Record
Groundwater level above NGVD 1929, feet
Approved Daily Maximum Values Data Used in Analysis

Begin Date	End Date	Days	% Complete
10/01/73	06/04/17	15,301	95



Lowest Level	5th %ile	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	95th %ile	Highest Level
6.26	8.20	8.77	9.53	10.30	10.83	11.35	11.68	15.42

Daily Data Options

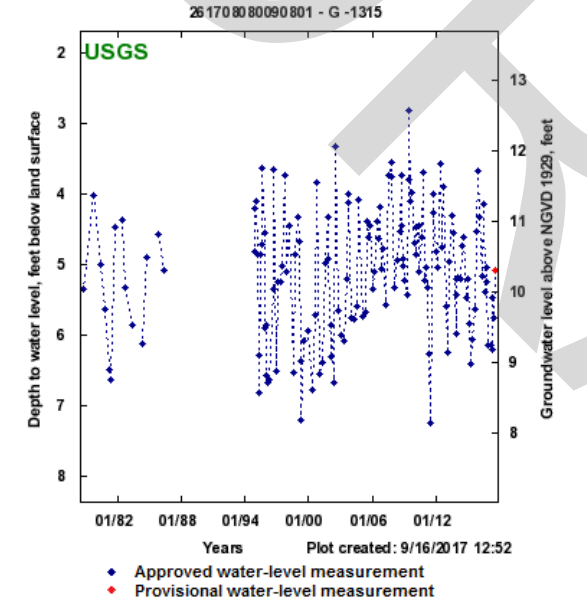
View latest data on NWISWeb

View data in calendar format

Download data in text format

View daily medians

Periodic Groundwater Data



Summary for Period of Record Periodic Water Levels
Elevation above NGVD 1929, feet
Approved Periodic Water Level Values

Begin Date	End Date	Number of Values
10/14/78	08/07/17	149

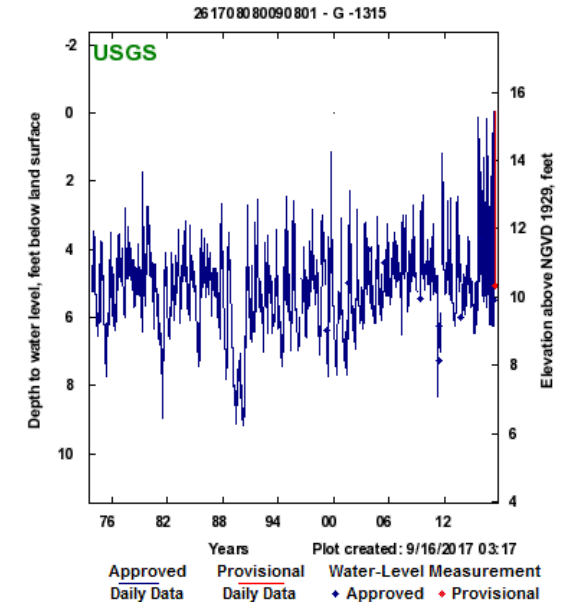
Lowest WL	Date of Lowest WL	Highest WL	Date of Highest WL
8.14	06/28/11	12.59	06/30/09

Groundwater Levels Options

View latest data on NWISWeb

Download groundwater levels in text format

Period of Record - All Data Types



Summary for Period of Record - All Data Types
Elevation above NGVD 1929, feet

Begin Date	End Date	Number of Values
10/01/73	08/07/17	15,514

Lowest WL	Date of Lowest WL	Highest WL	Date of Highest WL
6.26	03/30/90	15.46	07/16/17

Period of Record Options

View latest data on NWISWeb for all data types

View month/year statistics

Download groundwater levels in text format of all data types

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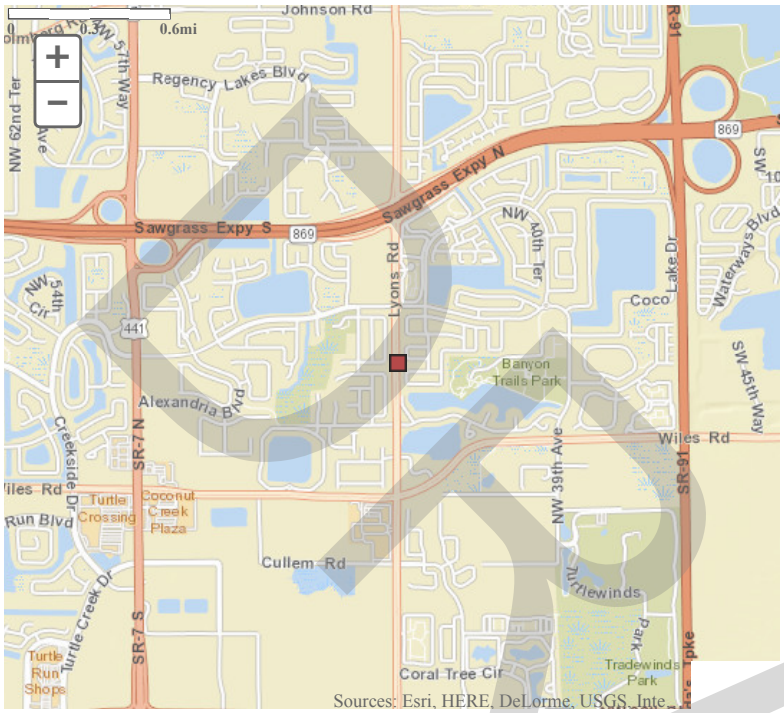
Groundwater Watch

Site Number: 261734080111301 - G -1213



DESCRIPTION:
Latitude 26°17'34.6", Longitude 80°11'10.5" NAD83
Broward County, Florida, Hydrologic Unit 03090202
Well depth: 15 feet
Land surface altitude: 18.3feet above NGVD29.
Well completed in "Biscayne aquifer" (N400BISCYN) national aquifer.
Well completed in "Biscayne Limestone Aquifer" (112BSCNN) local aquifer

AVAILABLE DATA:

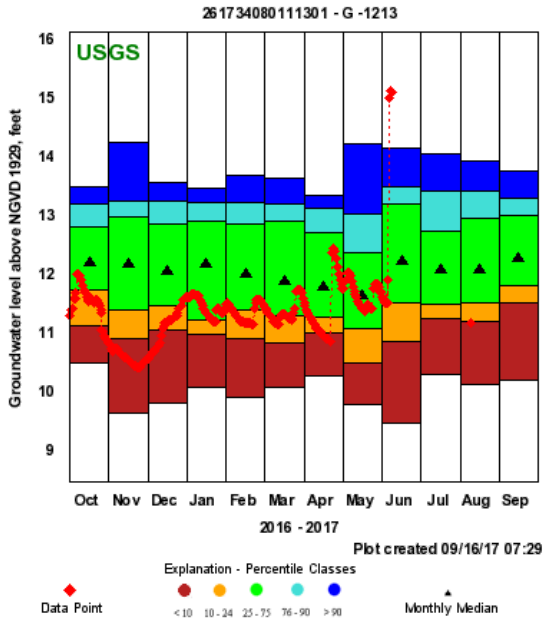
Data Type	Begin Date	End Date	Count
Current / Historical Observations	2007-10-01	2017-06-09	
Daily Data			
Groundwater level above NGVD 1929, feet	1963-01-05	2017-06-08	16192
Field groundwater-level measurements	1963-01-04	2017-08-09	303
Field/Lab water-quality samples			
Water-Year Summary	2006	2016	11

Additional Data Sources	Begin Date	End Date	Count
Groundwater Watch **offsite**	1963	2017	303

OPERATION:
Record for this site is maintained by the USGS Florida Water Science Center - Ft. Lauderdale
Email questions about this site toFlorida Water-Data Inquiries

Groundwater Watch Help Page

Site Statistics



Most recent data value: 11.19 on 8/9/2017
Period of Record Monthly Statistics for 261734080111301
Groundwater level above NGVD 1929, feet
All Approved Continuous & Periodic Data Used In Analysis
Note: Highlighted values in the table indicate closest statistic to the most recent data value.

Month	Lowest Median	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Highest Median	Number of Years
Jan	10.07	10.98	11.22	12.17	12.92	13.22	13.48	55
Feb	9.92	10.92	11.40	12.01	12.85	13.22	13.69	55
Mar	10.09	10.83	11.31	11.88	12.91	13.20	13.64	55
Apr	10.28	11.01	11.27	11.79	12.72	13.12	13.35	55
May	9.78	10.49	11.08	11.65	12.37	13.02	14.23	55
Jun	9.47	10.85	11.53	12.22	13.20	13.49	14.15	55
Jul	10.29	11.24	11.50	12.09	12.74	13.42	14.05	54
Aug	10.14	11.20	11.52	12.07	12.95	13.43	13.93	54
Sep	10.21	11.52	11.81	12.27	13.00	13.30	13.77	54
Oct	10.49	11.13	11.74	12.20	12.82	13.21	13.49	54
Nov	9.64	10.92	11.39	12.19	12.99	13.25	14.24	54
Dec	9.80	11.06	11.46	12.05	12.86	13.24	13.57	53

As of 9/15/2017 18:31-2

Statistics Options

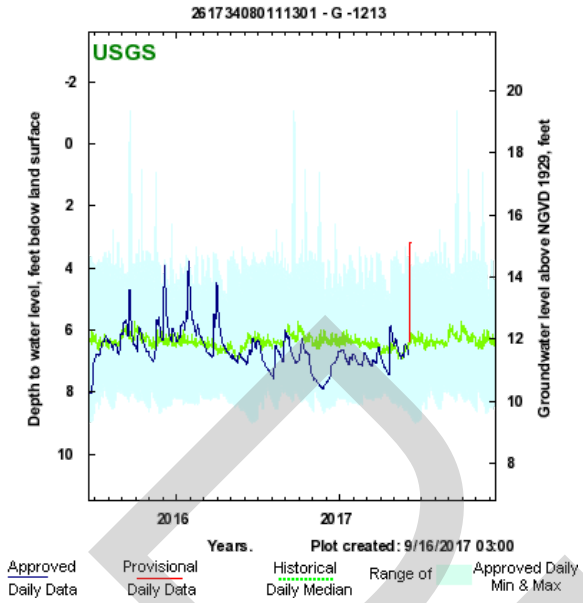
View month/year statistics

Daily Groundwater Data

Most recent Provisional daily data value: 15.11 on 06/08/17

Summary for Period of Continuous Record
Groundwater level above NGVD 1929, feet
Approved Daily Maximum Values Data Used in Analysis

Begin Date	End Date	Days	% Complete
01/05/63	06/04/17	16,188	81



Lowest Level	5th %ile	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	95th %ile	Highest Level
9.32	10.43	10.90	11.30	11.87	12.59	13.20	13.64	19.38

Daily Data Options

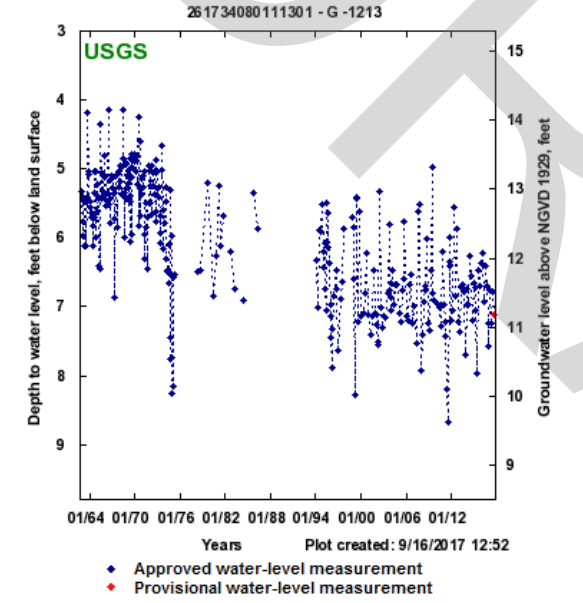
View latest data on NWISWeb

View data in calendar format

Download data in text format

View daily medians

Periodic Groundwater Data



Summary for Period of Record Periodic Water Levels
Elevation above NGVD 1929, feet
Approved Periodic Water Level Values

Begin Date	End Date	Number of Values
01/04/63	08/09/17	303

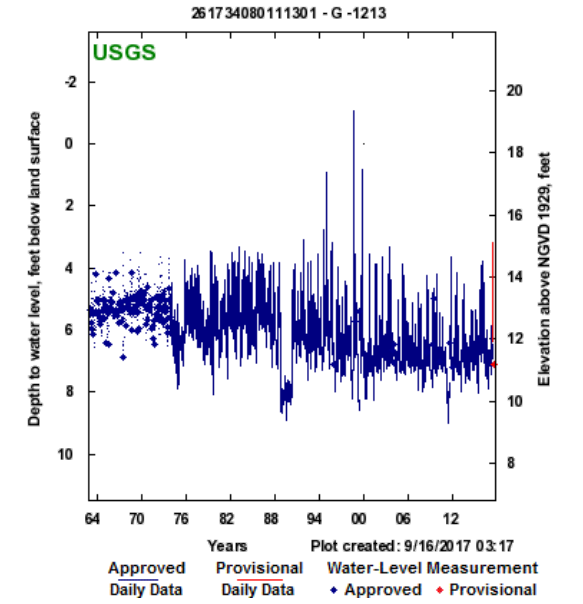
Lowest WL	Date of Lowest WL	Highest WL	Date of Highest WL
9.64	06/29/11	14.16	06/27/68

Groundwater Levels Options

View latest data on NWISWeb

Download groundwater levels in text format

Period of Record - All Data Types



Summary for Period of Record - All Data Types
Elevation above NGVD 1929, feet

Begin Date	End Date	Number of Values
01/04/63	08/09/17	16,496

Lowest WL	Date of Lowest WL	Highest WL	Date of Highest WL
9.32	06/19/11	19.38	09/19/98

Period of Record Options

View latest data on NWISWeb for all data types

View month/year statistics

Download groundwater levels in text format of all data types

Return to Groundwater Watch | Return to County Page | Return to State Page

*References to non-Department of the Interior (DOI) products do not constitute an endorsement by the DOI.

TABLE - 1

BOREHOLE PERMEABILITY TEST RESULTS

Project: Sawgrass Expressway, from US-441 to Powerline Rd.

SFWMD METHOD

BHP No.	Date	Approx. Station	Approx. Offset	Bore Hole Dia. (in)	Depth of Hole (ft)	GWT Depth (ft)	Flow Rate Q [gal/min]	K [cfs/ft^2]	K [ft/day]
BHP-1	02/12/18			8.00	10.0	2.83	0.3000	1.29E-05	1.11
BHP-2	02/14/18			8.00	10.0	3.42	0.3000	1.10E-05	0.95
BHP-3	02/14/18			8.00	10.0	2.75	1.0000	4.40E-05	3.80
BHP-4	02/12/18			8.00	10.0	3.50	0.5000	1.81E-05	1.56
BHP-5	02/14/18			8.00	10.0	4.17	0.5000	1.58E-05	1.36
BHP-6	02/09/18			8.00	10.0	4.67	0.3000	8.73E-06	0.75
BHP-7	02/09/18			8.00	10.0	3.67	0.5000	1.74E-05	1.50
BHP-8	02/12/18			8.00	10.0	3.75	1.3800	4.72E-05	4.08
BHP-9	02/12/18			8.00	10.0	7.00	1.0000	2.28E-05	1.97

TABLE - D1

Project: 2000-01-16001 (FTE Sawgrass PD&E-US441 to Powerline-BC_Corradino)

DOUBLE RING INFILTRATION TEST RESULTS SUMMARY

TEST NUMBER	BASELINE	APPROX. STATION	APPROX. OFFSET	GWT (ft)	Infiltration Rate Summary [inch/hour]	Infiltration Rate Summary [ft/day]
DRIT-1				GNE	2.2	4.3
DRIT-2				GNE	2.4	4.9
DRIT-3				GNE	1.1	2.2
DRIT-4				GNE	1.3	2.7
DRIT-5				2.5	1.9	3.8
DRIT-6				3.5	1.3	2.7
DRIT-7				2.5	4.3	8.6
DRIT-8				GNE	3.2	6.5
DRIT-9				GNE	2.7	5.4
DRIT-10						
DRIT-11				1.0	1.1	2.2
DRIT-12				3.0	1.1	2.2
DRIT-13				1.0	1.1	2.2
DRIT-14				GNE	1.3	2.7
DRIT-15				5.0	9.7	19.4
DRIT-16				3.5	6.5	12.9
DRIT-17				GNE	8.6	17.3
DRIT-18				GNE	4.3	8.6
DRIT-19				GNE	10.0	20.0
DRIT-20				GNE	8.1	16.2

DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-1**
DATE:	1/31/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	6
GROUND TEMPERATURE (°F):	71

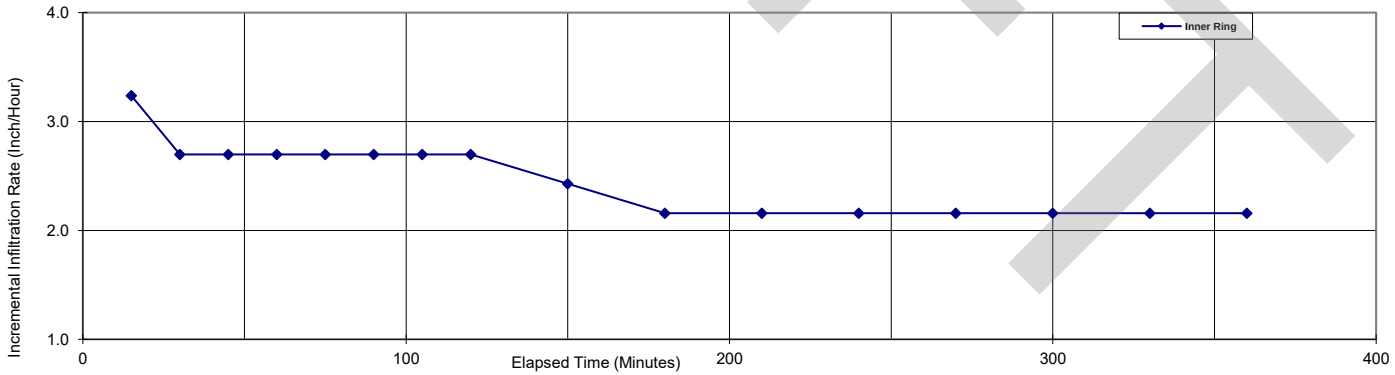
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°18'3.64"N 80°13'20.48"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	N/A				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	1500	3750		3.24	2.70	Partly Cloudy
2	15	30	1250	3750		2.70	2.70	Partly Cloudy
3	15	45	1250	3750		2.70	2.70	Partly Cloudy
4	15	60	1250	3500		2.70	2.52	Partly Cloudy
5	15	75	1250	3500		2.70	2.52	Partly Cloudy
6	15	90	1250	3500		2.70	2.52	Partly Cloudy
7	15	105	1250	3000		2.70	2.16	Partly Cloudy
8	15	120	1250	3000		2.70	2.16	Partly Cloudy
9	30	150	2250	6000		2.43	2.16	Partly Cloudy
10	30	180	2000	6000		2.16	2.16	Partly Cloudy
11	30	210	2000	6000		2.16	2.16	Partly Cloudy
12	30	240	2000	6000		2.16	2.16	Partly Cloudy
13	30	270	2000	6000		2.16	2.16	Partly Cloudy
14	30	300	2000	6000		2.16	2.16	Partly Cloudy
15	30	330	2000	6000		2.16	2.16	Partly Cloudy
16	30	360	2000	6000		2.16	2.16	Partly Cloudy

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-2**
DATE:	2/1/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	6
GROUND TEMPERATURE (°F):	70

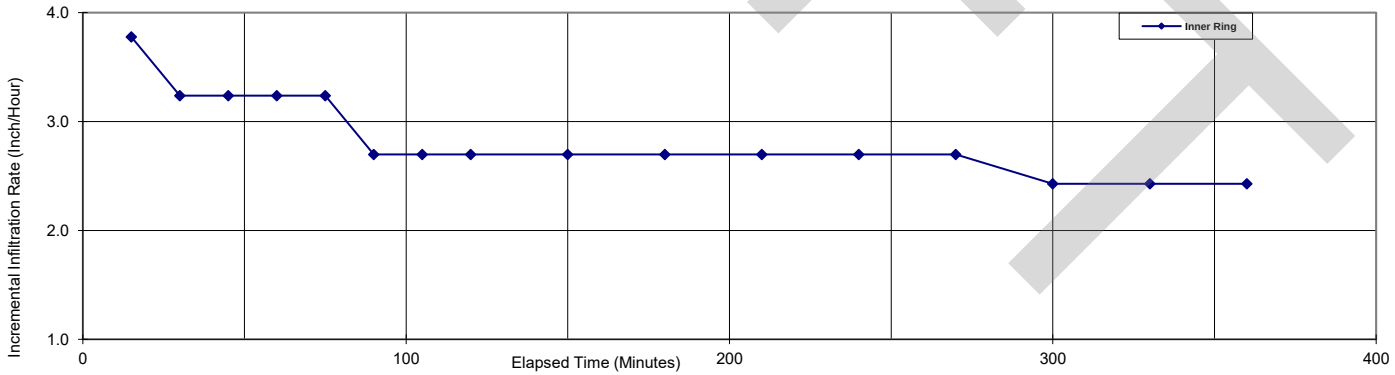
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°18'1.27"N 80°13'20.84"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	N/A			
PENETRATION OF RINGS INTO GROUND (Inches):	INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):	INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):	INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):	INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	1750	4500		3.78	3.24	Sunny
2	15	30	1500	4500		3.24	3.24	Sunny
3	15	45	1500	4500		3.24	3.24	Sunny
4	15	60	1500	4500		3.24	3.24	Sunny
5	15	75	1500	4250		3.24	3.06	Sunny
6	15	90	1250	4250		2.70	3.06	Sunny
7	15	105	1250	4250		2.70	3.06	Sunny
8	15	120	1250	4250		2.70	3.06	Sunny
9	30	150	2500	8000		2.70	2.88	Sunny
10	30	180	2500	8000		2.70	2.88	Sunny
11	30	210	2500	8000		2.70	2.88	Sunny
12	30	240	2500	8000		2.70	2.88	Sunny
13	30	270	2500	8000		2.70	2.88	Sunny
14	30	300	2250	8000		2.43	2.88	Sunny
15	30	330	2250	8000		2.43	2.88	Sunny
16	30	360	2250	8000		2.43	2.88	Sunny

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-3**
DATE:	1/29/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	6
GROUND TEMPERATURE (°F):	72

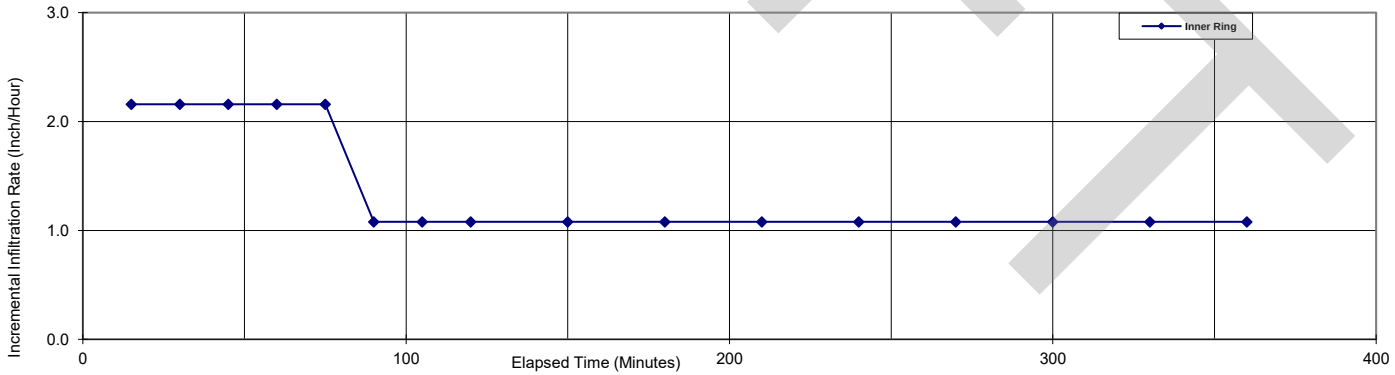
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°18'3.40"N 80°12'58.40"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	N/A			
PENETRATION OF RINGS INTO GROUND (Inches):	INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):	INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):	INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):	INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	1000	2000		2.16	1.44	Sunny
2	15	30	1000	2000		2.16	1.44	Sunny
3	15	45	1000	2000	71	2.16	1.44	Sunny
4	15	60	1000	2000		2.16	1.44	Sunny
5	15	75	1000	2000		2.16	1.44	Sunny
6	15	90	500	1000		1.08	0.72	Sunny
7	15	105	500	1000		1.08	0.72	Sunny
8	15	120	500	1000		1.08	0.72	Sunny
9	30	150	1000	2000		1.08	0.72	Sunny
10	30	180	1000	2000		1.08	0.72	Sunny
11	30	210	1000	2000		1.08	0.72	Sunny
12	30	240	1000	2000		1.08	0.72	Sunny
13	30	270	1000	2000		1.08	0.72	Sunny
14	30	300	1000	2000		1.08	0.72	Sunny
15	30	330	1000	2000		1.08	0.72	Sunny
16	30	360	1000	2000		1.08	0.72	Sunny

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-4**
DATE:	2/2/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	6
GROUND TEMPERATURE (°F):	72

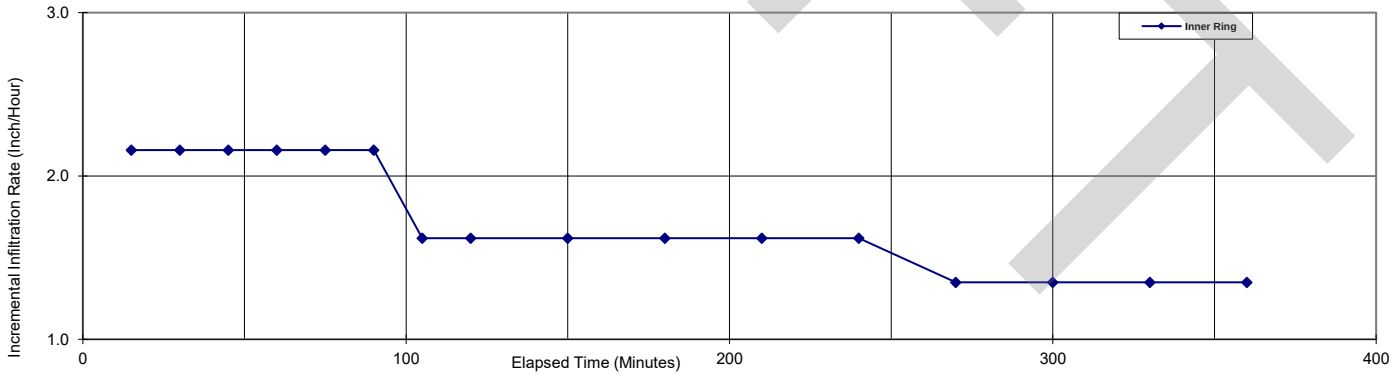
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°18'0.97"N 80°12'58.83"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	N/A			
PENETRATION OF RINGS INTO GROUND (Inches):	INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):	INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):	INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):	INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	1000	3500		2.16	2.52	Overcast
2	15	30	1000	3250		2.16	2.34	Overcast
3	15	45	1000	3250		2.16	2.34	Overcast
4	15	60	1000	3000		2.16	2.16	Overcast
5	15	75	1000	3000		2.16	2.16	Overcast
6	15	90	1000	2500		2.16	1.80	Overcast
7	15	105	750	2500		1.62	1.80	Overcast
8	15	120	750	2500		1.62	1.80	Overcast
9	30	150	1500	4750		1.62	1.71	Overcast
10	30	180	1500	4750		1.62	1.71	Overcast
11	30	210	1500	4500		1.62	1.62	Sunny
12	30	240	1500	4500		1.62	1.62	Sunny
13	30	270	1250	4500		1.35	1.62	Sunny
14	30	300	1250	4500		1.35	1.62	Sunny
15	30	330	1250	4500		1.35	1.62	Sunny
16	30	360	1250	4500		1.35	1.62	Sunny

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-5**
DATE:	1/29/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	6
GROUND TEMPERATURE (°F):	71

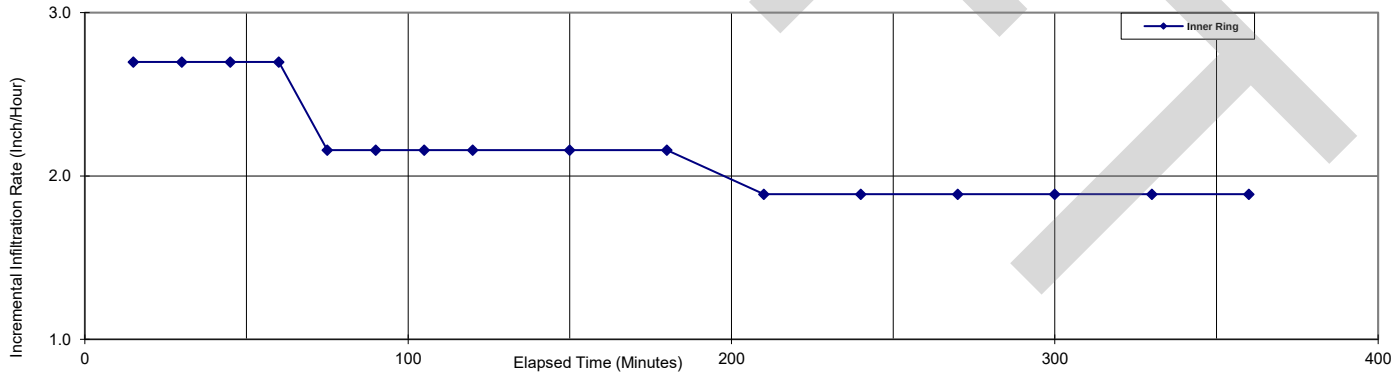
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°18'2.33"N 80°12'25.31"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	2.5			
PENETRATION OF RINGS INTO GROUND (Inches):	INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):	INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):	INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):	INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	1250	3500		2.70	2.52	Overcast
2	15	30	1250	3250		2.70	2.34	Overcast
3	15	45	1250	3250		2.70	2.34	Overcast
4	15	60	1250	3000		2.70	2.16	Overcast
5	15	75	1000	3000		2.16	2.16	Overcast
6	15	90	1000	3000		2.16	2.16	Overcast
7	15	105	1000	3000		2.16	2.16	Overcast
8	15	120	1000	3000		2.16	2.16	Overcast
9	30	150	2000	5500		2.16	1.98	Overcast
10	30	180	2000	5500		2.16	1.98	Overcast
11	30	210	1750	5500		1.89	1.98	Overcast
12	30	240	1750	5500		1.89	1.98	Overcast
13	30	270	1750	5500		1.89	1.98	Overcast
14	30	300	1750	5500		1.89	1.98	Overcast
15	30	330	1750	5500		1.89	1.98	Overcast
16	30	360	1750	5500		1.89	1.98	Overcast

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-6**
DATE:	2/7/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	5
GROUND TEMPERATURE (°F):	73

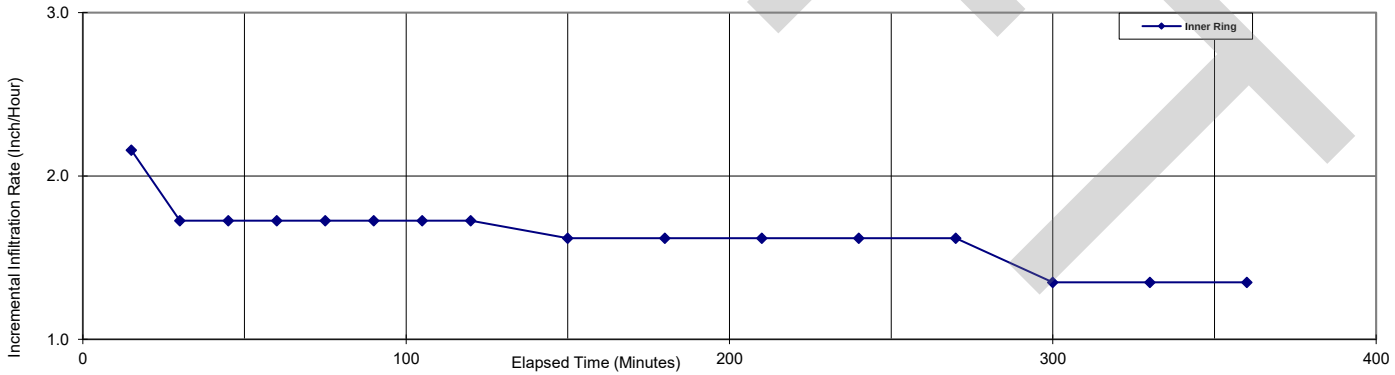
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°17'58.69"N 80°12'20.98"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	3.5				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	1000	2750		2.16	1.98	Sunny
2	15	30	800	2750		1.73	1.98	Sunny
3	15	45	800	2750		1.73	1.98	Sunny
4	15	60	800	2750		1.73	1.98	Sunny
5	15	75	800	2750		1.73	1.98	Sunny
6	15	90	800	2500		1.73	1.80	Sunny
7	15	105	800	2500		1.73	1.80	Sunny
8	15	120	800	2500		1.73	1.80	Sunny
9	30	150	1500	4500		1.62	1.62	Sunny
10	30	180	1500	4500		1.62	1.62	Sunny
11	30	210	1500	4500		1.62	1.62	Sunny
12	30	240	1500	4250		1.62	1.53	Sunny
13	30	270	1500	4250		1.62	1.53	Sunny
14	30	300	1250	4250		1.35	1.53	Sunny
15	30	330	1250	4250		1.35	1.53	Sunny
16	30	360	1250	4250		1.35	1.53	Sunny

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-7**
DATE:	1/25/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	6
GROUND TEMPERATURE (°F):	70

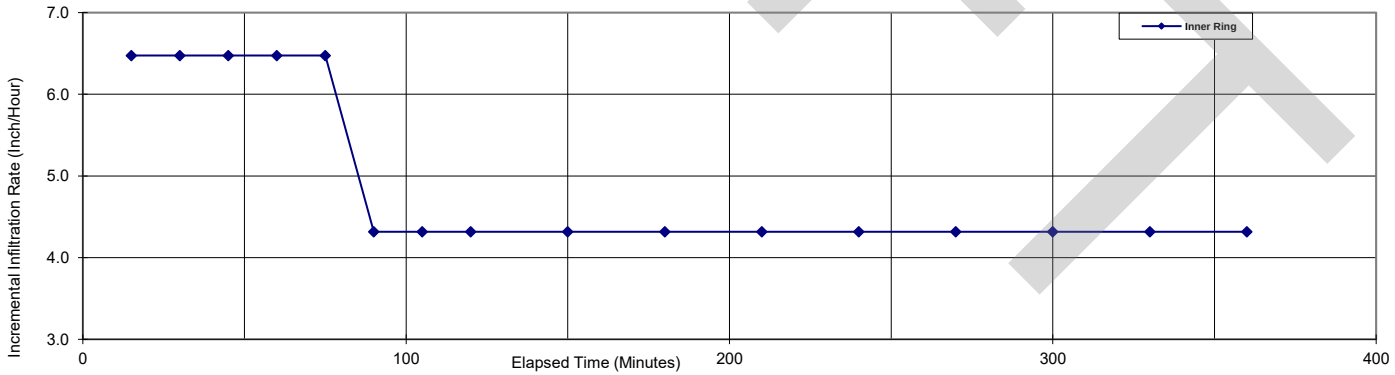
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°18'3.20"N 80°12'17.30"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	2.5				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	3000	5000	72	6.47	3.60	Sunny
2	15	30	3000	5000		6.47	3.60	Sunny
3	15	45	3000	5000		6.47	3.60	Sunny
4	15	60	3000	5000		6.47	3.60	Sunny
5	15	75	3000	5000		6.47	3.60	Sunny
6	15	90	2000	4000		4.32	2.88	Sunny
7	15	105	2000	4000		4.32	2.88	Sunny
8	15	120	2000	4000		4.32	2.88	Sunny
9	30	150	4000	8000		4.32	2.88	Sunny
10	30	180	4000	8000		4.32	2.88	Sunny
11	30	210	4000	8000		4.32	2.88	Sunny
12	30	240	4000	8000		4.32	2.88	Sunny
13	30	270	4000	8000		4.32	2.88	Sunny
14	30	300	4000	8000		4.32	2.88	Sunny
15	30	330	4000	8000		4.32	2.88	Sunny
16	30	360	4000	8000		4.32	2.88	Sunny

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-8**
DATE:	1/25/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	6
GROUND TEMPERATURE (°F):	70

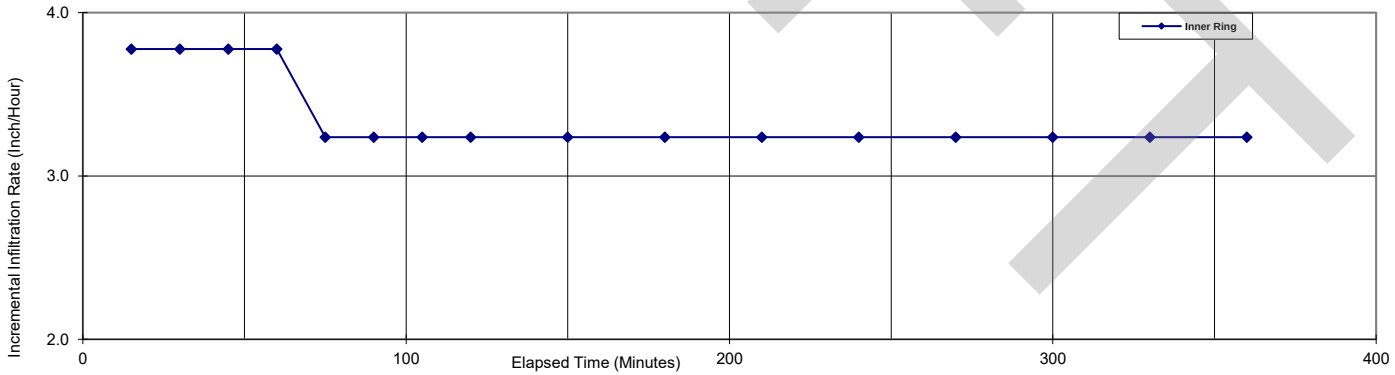
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°18'8.63"N 80°12'9.97"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	N/A			
PENETRATION OF RINGS INTO GROUND (Inches):	INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):	INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):	INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):	INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0			72			
1	15	15	1750	6000		3.78	4.32	Overcast
2	15	30	1750	6000		3.78	4.32	Overcast
3	15	45	1750	5500		3.78	3.96	Overcast
4	15	60	1750	5500		3.78	3.96	Overcast
5	15	75	1500	5500		3.24	3.96	Overcast
6	15	90	1500	5500		3.24	3.96	Overcast
7	15	105	1500	5500		3.24	3.96	Overcast
8	15	120	1500	5500		3.24	3.96	Overcast
9	30	150	3000	10500		3.24	3.78	Overcast
10	30	180	3000	10500		3.24	3.78	Overcast
11	30	210	3000	10000		3.24	3.60	Overcast
12	30	240	3000	10000		3.24	3.60	Overcast
13	30	270	3000	10000		3.24	3.60	Overcast
14	30	300	3000	10000		3.24	3.60	Overcast
15	30	330	3000	10000		3.24	3.60	Overcast
16	30	360	3000	10000		3.24	3.60	Overcast

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-9**
DATE:	2/8/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	5
GROUND TEMPERATURE (°F):	74

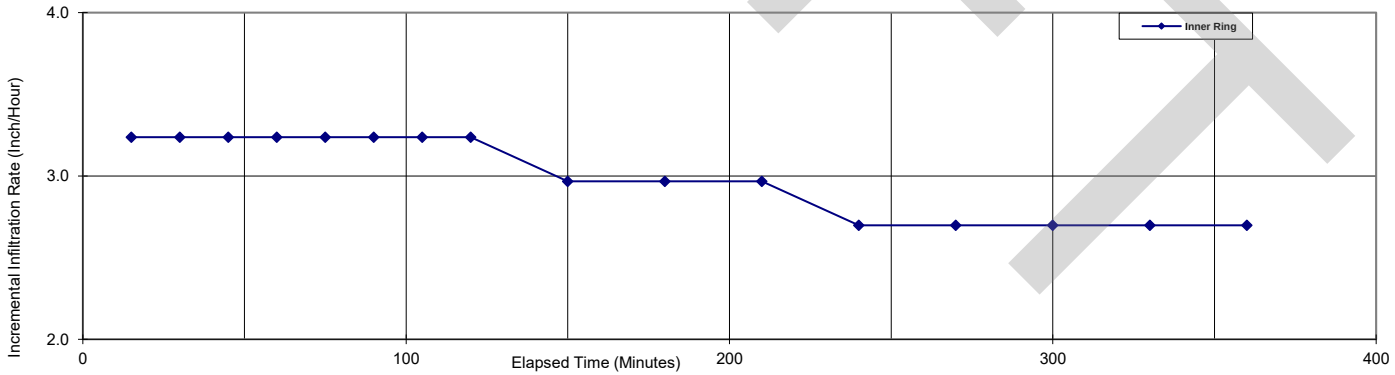
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°17'58.34N 80°12'9.69"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	N/A			
PENETRATION OF RINGS INTO GROUND (Inches):	INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):	INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):	INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):	INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						Sunny
1	15	15	1500	4500		3.24	3.24	Sunny
2	15	30	1500	4500		3.24	3.24	Sunny
3	15	45	1500	4500		3.24	3.24	Sunny
4	15	60	1500	4500		3.24	3.24	Sunny
5	15	75	1500	4500		3.24	3.24	Sunny
6	15	90	1500	4250		3.24	3.06	Sunny
7	15	105	1500	4250		3.24	3.06	Sunny
8	15	120	1500	4250		3.24	3.06	Sunny
9	30	150	2750	8000		2.97	2.88	Sunny
10	30	180	2750	8000		2.97	2.88	Sunny
11	30	210	2750	8000		2.97	2.88	Sunny
12	30	240	2500	8000		2.70	2.88	Sunny
13	30	270	2500	8000		2.70	2.88	Sunny
14	30	300	2500	8000		2.70	2.88	Sunny
15	30	330	2500	8000		2.70	2.88	Sunny
16	30	360	2500	8000		2.70	2.88	Sunny

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-11**
DATE:	1/24/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	6
GROUND TEMPERATURE (°F):	70

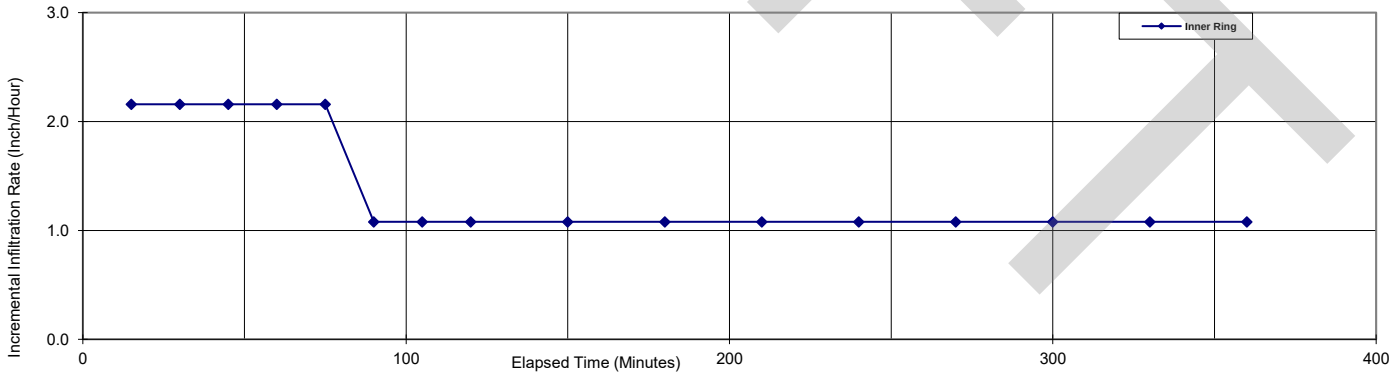
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°18'2.10"N 80°11'57.90"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	1.0				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	1000	2000	76	2.16	1.44	Sunny
2	15	30	1000	2000		2.16	1.44	Sunny
3	15	45	1000	2000		2.16	1.44	Sunny
4	15	60	1000	2000		2.16	1.44	Sunny
5	15	75	1000	2000		2.16	1.44	Sunny
6	15	90	500	1000		1.08	0.72	Sunny
7	15	105	500	1000		1.08	0.72	Sunny
8	15	120	500	1000		1.08	0.72	Sunny
9	30	150	1000	2000		1.08	0.72	Sunny
10	30	180	1000	2000		1.08	0.72	Sunny
11	30	210	1000	2000		1.08	0.72	Sunny
12	30	240	1000	2000	80	1.08	0.72	Sunny
13	30	270	1000	2000		1.08	0.72	Sunny
14	30	300	1000	2000		1.08	0.72	Sunny
15	30	330	1000	2000		1.08	0.72	Sunny
16	30	360	1000	2000		1.08	0.72	Sunny

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-12**
DATE:	2/9/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	5
GROUND TEMPERATURE (°F):	74

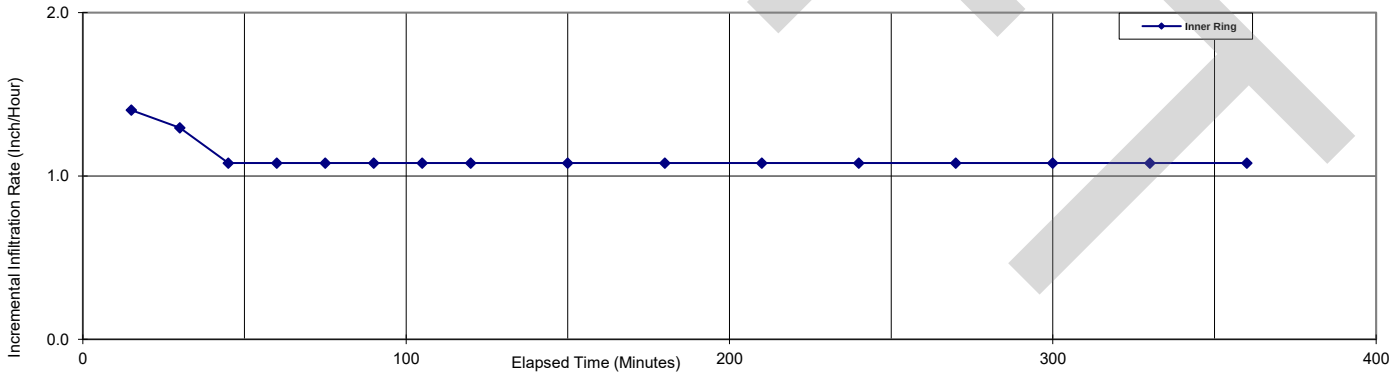
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°17'57.08"N 80°11'57.31"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	3.0				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	650	2000	76	1.40	1.44	Sunny
2	15	30	600	2000		1.29	1.44	Sunny
3	15	45	500	2000		1.08	1.44	Sunny
4	15	60	500	2000		1.08	1.44	Sunny
5	15	75	500	1750		1.08	1.26	Sunny
6	15	90	500	1750		1.08	1.26	Sunny
7	15	105	500	1750		1.08	1.26	Sunny
8	15	120	500	1750		1.08	1.26	Sunny
9	30	150	1000	3250		1.08	1.17	Sunny
10	30	180	1000	3250		1.08	1.17	Sunny
11	30	210	1000	3250		1.08	1.17	Sunny
12	30	240	1000	3250	80	1.08	1.17	Sunny
13	30	270	1000	3250		1.08	1.17	Sunny
14	30	300	1000	3250		1.08	1.17	Sunny
15	30	330	1000	3250		1.08	1.17	Sunny
16	30	360	1000	3250		1.08	1.17	Sunny

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-13**
DATE:	1/24/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	6
GROUND TEMPERATURE (°F):	71

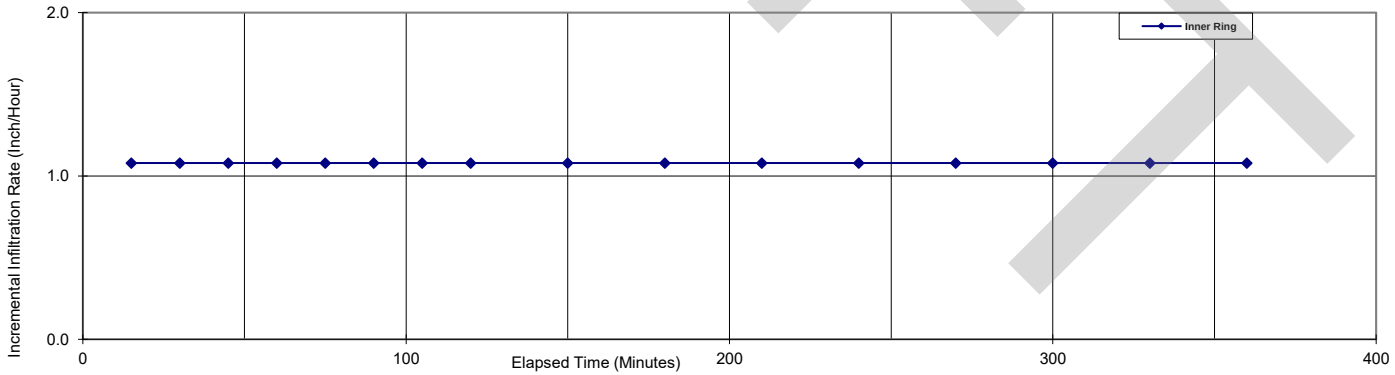
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°18'3.06"N 80°11'21.91"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	1.0				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0			72			
1	15	15	500	1750		1.08	1.26	Overcast
2	15	30	500	1750		1.08	1.26	Overcast
3	15	45	500	1750		1.08	1.26	Overcast
4	15	60	500	1750		1.08	1.26	Overcast
5	15	75	500	1500		1.08	1.08	Overcast
6	15	90	500	1500		1.08	1.08	Overcast
7	15	105	500	1500		1.08	1.08	Overcast
8	15	120	500	1500		1.08	1.08	Overcast
9	30	150	1000	3000		1.08	1.08	Overcast
10	30	180	1000	3000		1.08	1.08	Overcast
11	30	210	1000	3000		1.08	1.08	Overcast
12	30	240	1000	3000		1.08	1.08	Overcast
13	30	270	1000	3000		1.08	1.08	Overcast
14	30	300	1000	3000		1.08	1.08	Overcast
15	30	330	1000	3000		1.08	1.08	Overcast
16	30	360	1000	3000		1.08	1.08	Overcast

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-14**
DATE:	2/12/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	6
GROUND TEMPERATURE (°F):	76

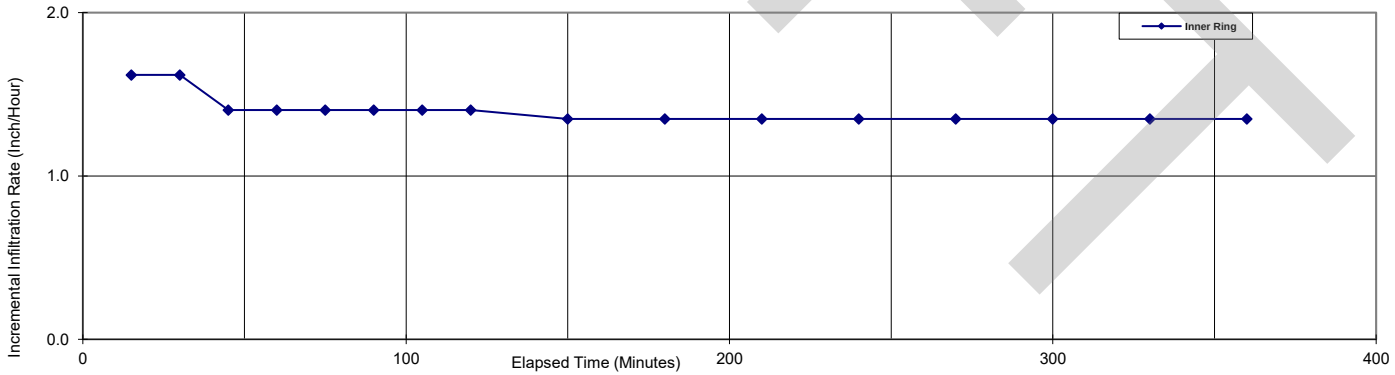
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°18'0.01"N 80°11'19.30"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	N/A			
PENETRATION OF RINGS INTO GROUND (Inches):	INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):	INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):	INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):	INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	750	2750		1.62	1.98	Sunny
2	15	30	750	2750		1.62	1.98	Sunny
3	15	45	650	2750		1.40	1.98	Sunny
4	15	60	650	2750		1.40	1.98	Sunny
5	15	75	650	2500		1.40	1.80	Sunny
6	15	90	650	2500		1.40	1.80	Sunny
7	15	105	650	2400		1.40	1.73	Sunny
8	15	120	650	2400		1.40	1.73	Sunny
9	30	150	1250	4500		1.35	1.62	Sunny
10	30	180	1250	4500		1.35	1.62	Sunny
11	30	210	1250	4500		1.35	1.62	Sunny
12	30	240	1250	4500		1.35	1.62	Sunny
13	30	270	1250	4500		1.35	1.62	Sunny
14	30	300	1250	4500		1.35	1.62	Sunny
15	30	330	1250	4500		1.35	1.62	Sunny
16	30	360	1250	4500		1.35	1.62	Sunny

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-15**
DATE:	2/13/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	6
GROUND TEMPERATURE (°F):	76

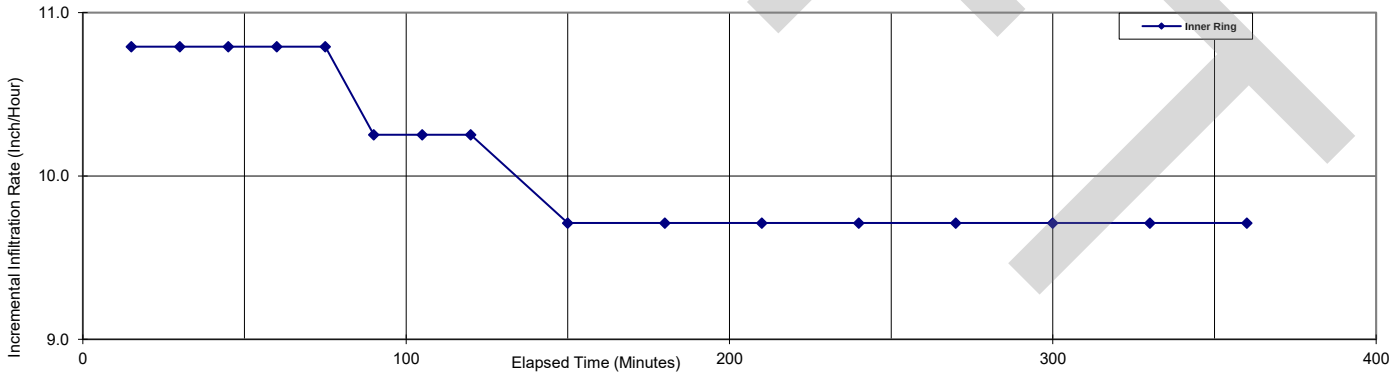
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°18'0.49"N 80°11'12.96"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	5.0				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	5000	14750		10.79	10.61	Sunny
2	15	30	5000	14500		10.79	10.43	Sunny
3	15	45	5000	14500		10.79	10.43	Sunny
4	15	60	5000	14500		10.79	10.43	Sunny
5	15	75	5000	14500		10.79	10.43	Sunny
6	15	90	4750	14000		10.25	10.07	Sunny
7	15	105	4750	14000		10.25	10.07	Sunny
8	15	120	4750	14000		10.25	10.07	Sunny
9	30	150	9000	27750		9.71	9.98	Sunny
10	30	180	9000	27750		9.71	9.98	Sunny
11	30	210	9000	27750		9.71	9.98	Sunny
12	30	240	9000	27500		9.71	9.89	Sunny
13	30	270	9000	27500		9.71	9.89	Sunny
14	30	300	9000	27500		9.71	9.89	Sunny
15	30	330	9000	27500		9.71	9.89	Sunny
16	30	360	9000	27500		9.71	9.89	Sunny

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-16**
DATE:	1/23/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	6
GROUND TEMPERATURE (°F):	72

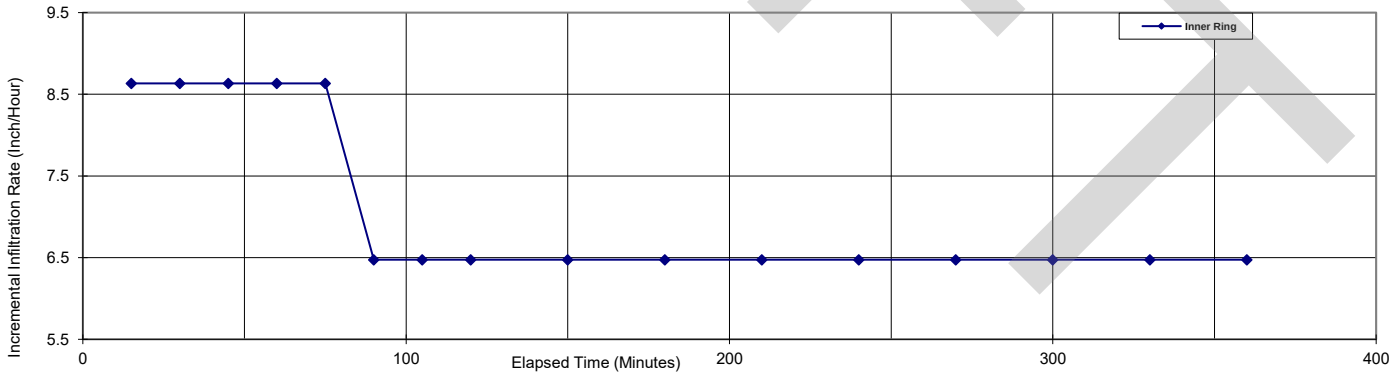
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°18'8.40"N 80°11'9.70"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	3.5				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	4000	12000		8.63	8.63	Sunny
2	15	30	4000	12000		8.63	8.63	Sunny
3	15	45	4000	12000		8.63	8.63	Sunny
4	15	60	4000	12000		8.63	8.63	Sunny
5	15	75	4000	12000		8.63	8.63	Sunny
6	15	90	3000	10000		6.47	7.19	Sunny
7	15	105	3000	10000		6.47	7.19	Sunny
8	15	120	3000	10000		6.47	7.19	Sunny
9	30	150	6000	20000		6.47	7.19	Sunny
10	30	180	6000	20000		6.47	7.19	Sunny
11	30	210	6000	20000		6.47	7.19	Sunny
12	30	240	6000	20000		6.47	7.19	Sunny
13	30	270	6000	20000		6.47	7.19	Sunny
14	30	300	6000	20000		6.47	7.19	Sunny
15	30	330	6000	20000		6.47	7.19	Sunny
16	30	360	6000	20000		6.47	7.19	Sunny

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-17**
DATE:	2/14/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	6
GROUND TEMPERATURE (°F):	75

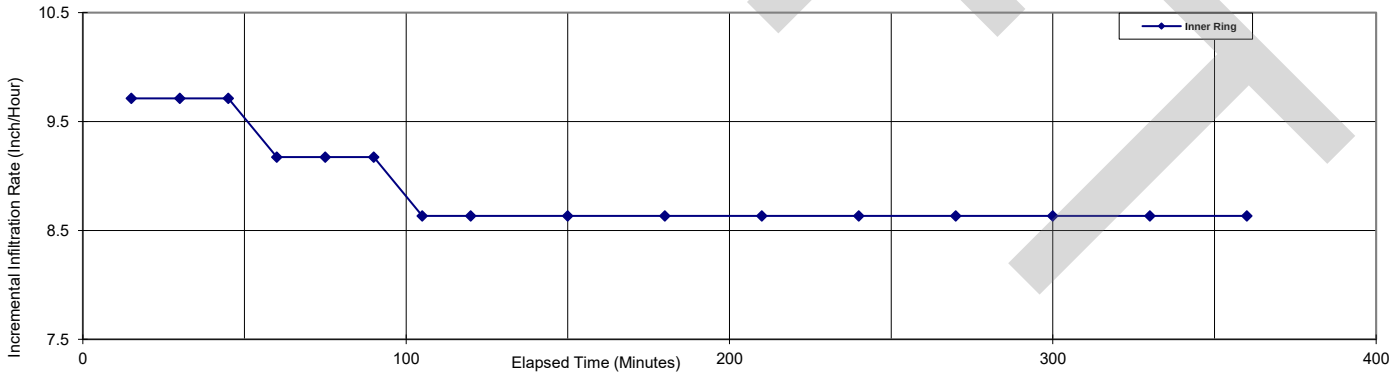
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°18'5.7"N 80°11'4.83"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	N/A				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	4500	13750		9.71	9.89	Sunny
2	15	30	4500	13750		9.71	9.89	Sunny
3	15	45	4500	13750		9.71	9.89	Sunny
4	15	60	4250	13750		9.17	9.89	Sunny
5	15	75	4250	13750		9.17	9.89	Sunny
6	15	90	4250	13500		9.17	9.71	Sunny
7	15	105	4000	13500		8.63	9.71	Sunny
8	15	120	4000	13500		8.63	9.71	Sunny
9	30	150	8000	26000		8.63	9.35	Sunny
10	30	180	8000	26000		8.63	9.35	Sunny
11	30	210	8000	26000		8.63	9.35	Sunny
12	30	240	8000	25500		8.63	9.17	Sunny
13	30	270	8000	25500		8.63	9.17	Sunny
14	30	300	8000	25500		8.63	9.17	Sunny
15	30	330	8000	25500		8.63	9.17	Sunny
16	30	360	8000	25500		8.63	9.17	Sunny

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-18**
DATE:	1/22/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	6
GROUND TEMPERATURE (°F):	70

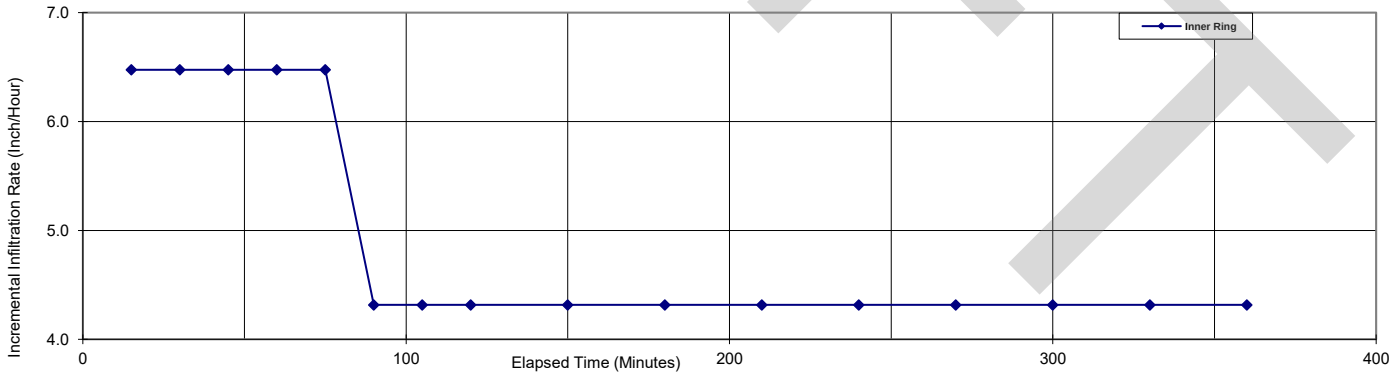
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°18'14.12"N 80° 9'4.65"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	N/A				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						Sunny
1	15	15	3000	6000		6.47	4.32	Sunny
2	15	30	3000	6000		6.47	4.32	Sunny
3	15	45	3000	6000		6.47	4.32	Sunny
4	15	60	3000	6000	75	6.47	4.32	Sunny
5	15	75	3000	6000		6.47	4.32	Sunny
6	15	90	2000	5000		4.32	3.60	Sunny
7	15	105	2000	5000		4.32	3.60	Sunny
8	15	120	2000	5000		4.32	3.60	Sunny
9	30	150	4000	10000		4.32	3.60	Sunny
10	30	180	4000	10000		4.32	3.60	Sunny
11	30	210	4000	10000	78	4.32	3.60	Sunny
12	30	240	4000	10000		4.32	3.60	Sunny
13	30	270	4000	10000		4.32	3.60	Sunny
14	30	300	4000	10000		4.32	3.60	Sunny
15	30	330	4000	10000		4.32	3.60	Sunny
16	30	360	4000	10000		4.32	3.60	Sunny

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-19**
DATE:	1/23/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	6
GROUND TEMPERATURE (°F):	71

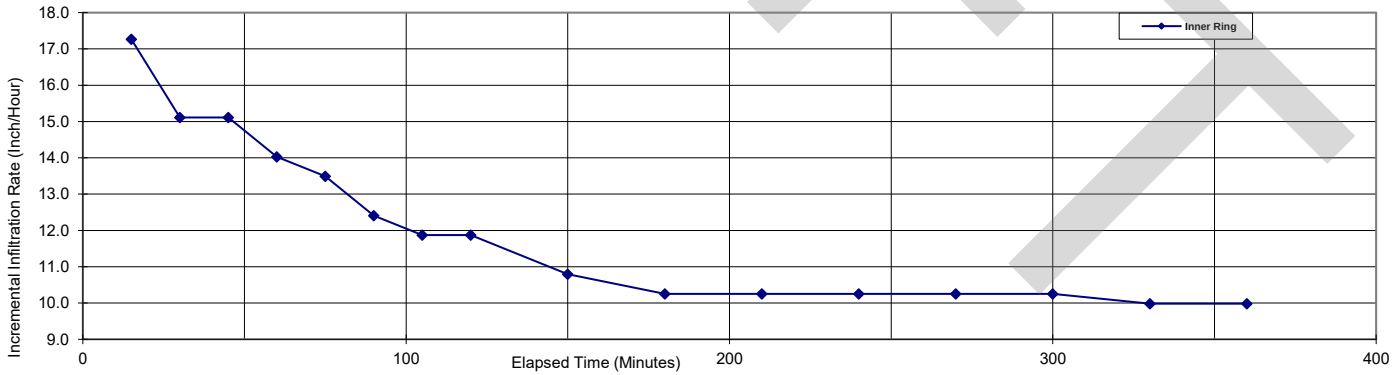
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°18'16.36"N 80°11'52.04"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	N/A				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	8000	26000		17.27	18.71	Sunny
2	15	30	7000	26000		15.11	18.71	Sunny
3	15	45	7000	24500		15.11	17.63	Sunny
4	15	60	6500	24000		14.03	17.27	Sunny
5	15	75	6250	23000		13.49	16.55	Sunny
6	15	90	5750	22500		12.41	16.19	Sunny
7	15	105	5500	22500		11.87	16.19	Sunny
8	15	120	5500	21500		11.87	15.47	Sunny
9	30	150	10000	39000		10.79	14.03	Sunny
10	30	180	9500	38000		10.25	13.67	Sunny
11	30	210	9500	38000		10.25	13.67	Sunny
12	30	240	9500	37000		10.25	13.31	Sunny
13	30	270	9500	37000		10.25	13.31	Sunny
14	30	300	9500	37000		10.25	13.31	Sunny
15	30	330	9250	37000		9.98	13.31	Sunny
16	30	360	9250	37000		9.98	13.31	Sunny

DOUBLE RING INFILTRATION TEST RESULTS



DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	**DRIT-20**
DATE:	1/22/2018
FPID No.:	437153-1-22-01
LIQUID USED:	Water
pH:	6
GROUND TEMPERATURE (°F):	70

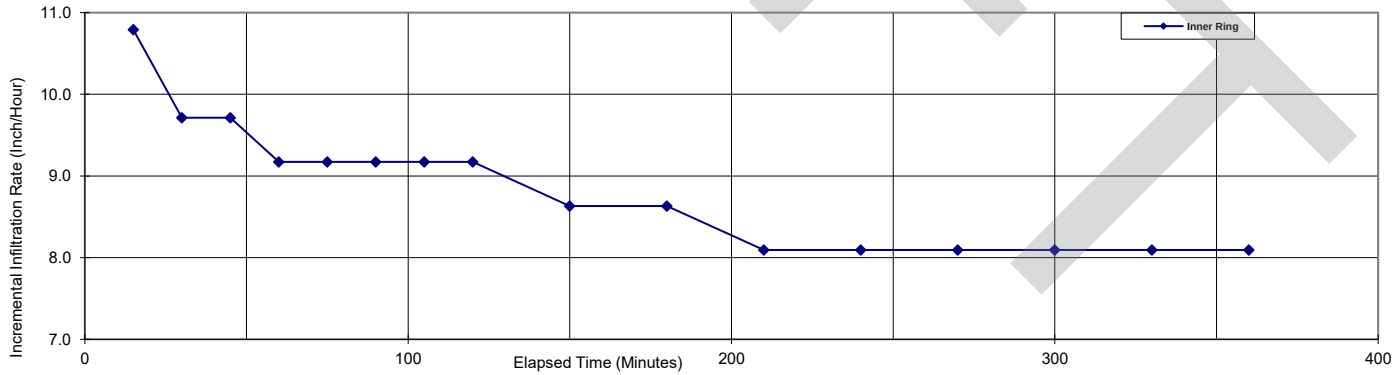
PROJECT NAME:	Sawgrass Expy
TEST LOCATION:	26°18'13.43"N 80°8'48.26"W
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.

DEPTH TO WATER TABLE (Feet):	N/A				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

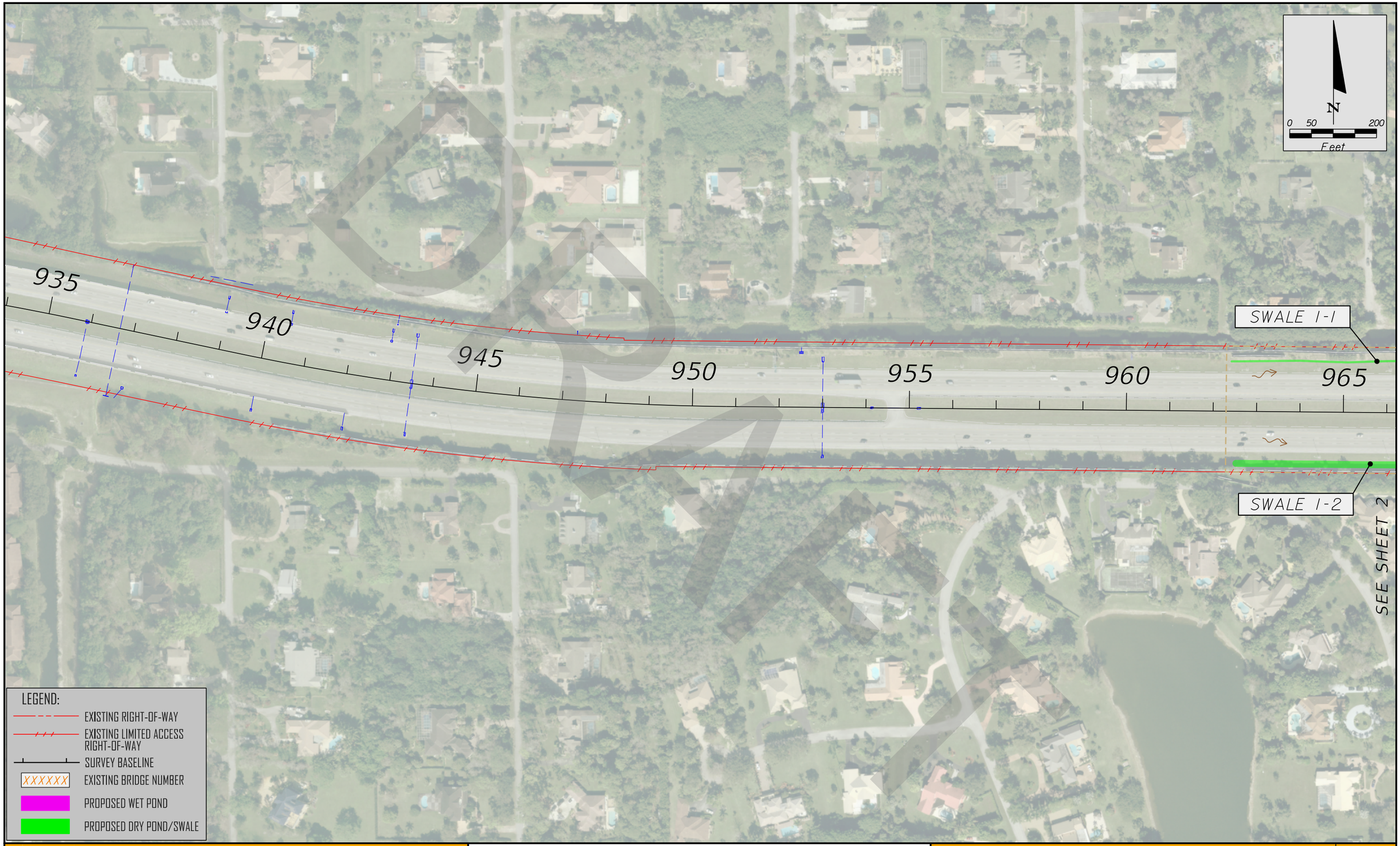
INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	5000	17000		10.79	12.23	Sunny
2	15	30	4500	17000		9.71	12.23	Sunny
3	15	45	4500	16500		9.71	11.87	Sunny
4	15	60	4250	16000		9.17	11.51	Sunny
5	15	75	4250	15750		9.17	11.33	Sunny
6	15	90	4250	15250		9.17	10.97	Sunny
7	15	105	4250	15250		9.17	10.97	Sunny
8	15	120	4250	15000		9.17	10.79	Sunny
9	30	150	8000	29000		8.63	10.43	Sunny
10	30	180	8000	28000		8.63	10.07	Sunny
11	30	210	7500	28000		8.09	10.07	Sunny
12	30	240	7500	27500		8.09	9.89	Sunny
13	30	270	7500	27500		8.09	9.89	Sunny
14	30	300	7500	27000		8.09	9.71	Sunny
15	30	330	7500	27000		8.09	9.71	Sunny
16	30	360	7500	27000		8.09	9.71	Sunny

DOUBLE RING INFILTRATION TEST RESULTS



APPENDIX B

Proposed Drainage Basin Maps



FLORIDA'S TURNPIKE

FDOT

FLORIDA'S TURNPIKE ENTERPRISE
MILE POST 263 - TURKEY LAKE SERVICE PLAZA, BUILDING 5315
OCOEE, FL 34761

OCTOBER 2023

TOLL 869

SAWGRASS EXPRESSWAY (SR 869) WIDENING PD&E STUDY

From South of US 441/SR 7 (MP 18.0) to Powerline Road (MP 22.0)
FPID No.: 437153-1-22-01
ETDM No: 14280

SAWGRASS EXPRESSWAY (SR 869) DRAINAGE MAP

SHEET NO.
1

PINETREE WATER CONTROL DISTRICT

N

0 50 200

Feet

OUTFALL-64

SWALE 1-1
0.57 AC @ EL 11.00

CROSS-DRAIN
No. 1

PINETREE WATER
WATER CONTROL
DISTRICT CANAL

OUTFALL-65

970 975 980 985 990 995

TOLL 869

60" RCP

SEE SHEET 1

SEE SHEET 3

SWALE 1-2
1.71 AC @ EL 11.00

LOCAL CANAL

LEGEND:

- EXISTING RIGHT-OF-WAY
- EXISTING LIMITED ACCESS RIGHT-OF-WAY
- SURVEY BASELINE
- XXXXXX EXISTING BRIDGE NUMBER
- PROPOSED WET POND
- PROPOSED DRY POND/SWALE

FLORIDA'S TURNPIKE

FDOT

FLORIDA'S TURNPIKE ENTERPRISE
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OCOEE, FL 34761

OCTOBER 2023

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ETDM No: 14280

SAWGRASS EXPRESSWAY (SR 869) DRAINAGE MAP

SHEET NO. 2

PINETREE WATER CONTROL DISTRICT

FDOT PARCEL (NOT USED)

N

0 50 200

Feet

BASIN 1

BEGIN STUDY LIMITS
STATION 984+00

OUTFALL-66

PINETREE WATER
WATER CONTROL
DISTRICT CANAL

SWALE 1-3
0.39 AC @ EL 11.0

1000 1005 1010 1015 1020 1025

TOLL 869

SEE SHEET 2

SWALE 1-2

(2) 72" RCP

OUTFALL-67

OUTFALL-68

CROSS-DRAIN
No. 2

SWALE 1-4

LOCAL CANAL

SEE SHEET 4

LEGEND:

- EXISTING RIGHT-OF-WAY
- EXISTING LIMITED ACCESS RIGHT-OF-WAY
- SURVEY BASELINE
- XXXXXX EXISTING BRIDGE NUMBER
- PROPOSED WET POND
- PROPOSED DRY POND/SWALE

FLORIDA'S TURNPIKE

FDOT

FLORIDA'S TURNPIKE ENTERPRISE
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OCTOBER 2023

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SAWGRASS EXPRESSWAY (SR 869) DRAINAGE MAP

SHEET NO. 3

PINETREE WATER CONTROL DISTRICT

COCOMAR WATER CONTROL DISTRICT

WET POND 1-1
7.73 AC @ SHW EL 10.0

BASIN 1

441

DRY POND 1-1
1.19 AC @ EL 11.0

30

BASIN 2

OUTFALL-69

WET POND 1-2
3.61 AC @ SHW EL 10.0

SWALE 2-2
0.65 AC @ EL 11.0

N

0 50 200

Feet

25

1030 1035 1040 1045 1050 1055 1060

TOLL 869

TOLL 869

SEE SHEET 3

SWALE 1-4
0.43 AC @ EL 11.0

20

OUTFALL-78

WET POND 2-1
6.30 AC @ SHW EL 9.5

DRY POND 2-2
0.99 AC @ EL 11.0

SWALE 2-3
0.20 AC @ EL 11.0

SEE SHEET 5

SWALE 1-1

15

OUTFALL-77

DRY POND 2-1
0.21 AC @ EL 11.0

LEGEND:

- EXISTING RIGHT-OF-WAY
- EXISTING LIMITED ACCESS RIGHT-OF-WAY
- SURVEY BASELINE
- XXXXXX EXISTING BRIDGE NUMBER
- PROPOSED WET POND
- PROPOSED DRY POND/SWALE

FLORIDA'S TURNPIKE

FDOT

FLORIDA'S TURNPIKE ENTERPRISE
MILE POST 263 - TURKEY LAKE SERVICE PLAZA, BUILDING 5315
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SAWGRASS EXPRESSWAY (SR 869) WIDENING PD&E STUDY

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FPID No.: 437153-1-22-01
ETDM No: 14280

SAWGRASS EXPRESSWAY (SR 869) DRAINAGE MAP

SHEET NO. 4

N

0 50 200

Feet

LOCAL CANAL

COCOMAR WATER CONTROL DISTRICT

BASIN 2

SWALE 2-5
0.09 AC @EL 11.0

OUTFALL-79

OUTFALL-80

CROSS-DRAIN
No. 3

SWALE 2-4
0.41 AC @ EL 11.0

SWALE 2-6
0.32 AC @EL 11.0

DRY POND 2-3
0.21 AC @ EL 11.0

1065 1070 1075 1080 1085 1090

TOLL 869

72in RCP

SEE SHEET 4

SEE SHEET 6

COCOMAR DRAINAGE DISTRICT CANAL

LEGEND:

- EXISTING RIGHT-OF-WAY
- EXISTING LIMITED ACCESS RIGHT-OF-WAY
- SURVEY BASELINE
- XXXXXX EXISTING BRIDGE NUMBER
- PROPOSED WET POND
- PROPOSED DRY POND/SWALE

FLORIDA'S TURNPIKE

FDOT

FLORIDA'S TURNPIKE ENTERPRISE
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SAWGRASS EXPRESSWAY (SR 869) WIDENING PD&E STUDY

From South of US 441/SR 7 (MP 18.0) to Powerline Road (MP 22.0)
FPID No.: 437153-1-22-01
ETDM No: 14280

SAWGRASS EXPRESSWAY (SR 869) DRAINAGE MAP

SHEET NO. 5

COCOMAR WATER CONTROL DISTRICT

N

0 50 200

Feet

LYONS ROAD

BASIN 2

BASIN 3B

DRY POND 2-4
0.17 AC @ EL 11.0

CROSS-DRAIN
No. 4

DRY POND 2-5
0.13 AC @ EL 11.0

DRY POND 2-3

SEE SHEET 5

SEE SHEET 7

1090 1095 1100 1105 1110 1115 1120

72" RCP

TOLL 869

LEGEND:

- EXISTING RIGHT-OF-WAY
- EXISTING LIMITED ACCESS RIGHT-OF-WAY
- SURVEY BASELINE
- XXXXXX EXISTING BRIDGE NUMBER
- PROPOSED WET POND
- PROPOSED DRY POND/SWALE

FLORIDA'S TURNPIKE

FDOT

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OCOEE, FL 34761

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SAWGRASS EXPRESSWAY (SR 869) WIDENING PD&E STUDY

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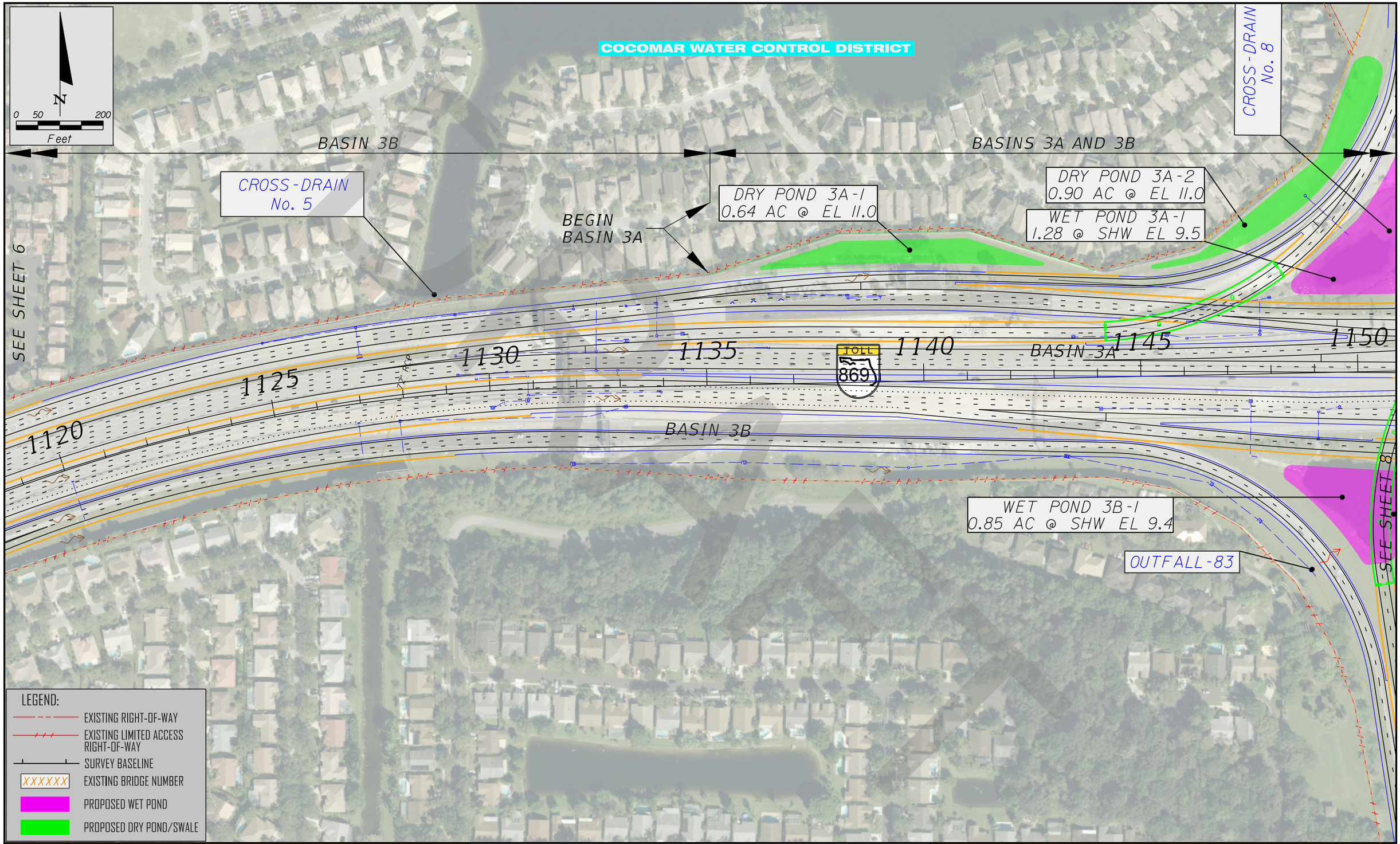
FPID No.: 437153-1-22-01
ETDM No: 14280

SAWGRASS EXPRESSWAY (SR 869) DRAINAGE MAP

SHEET NO. 6



FLORIDA'S TURNPIKE

FDOT

FLORIDA'S TURNPIKE ENTERPRISE
MILE POST 263 - TURKEY LAKE SERVICE PLAZA, BUILDING 5315
OCOEE, FL 34761

OCTOBER 2023

TOLL 869

SAWGRASS EXPRESSWAY (SR 869) WIDENING PD&E STUDY

From South of US 441/SR 7 (MP 18.0) to Powerline Road (MP 22.0)
FPID No.: 437153-1-22-01
ETDM No: 14280

SAWGRASS EXPRESSWAY (SR 869) DRAINAGE MAP

SHEET NO. 7

SEE SHEET 12

BROWARD COUNTY WATER CONTROL DISTRICT #2

QUIET WATERS PARK

WET POND 3B-3
12.90 AC @ SHW EL 8.4

BASIN 3A AND BASIN 3B

BASIN 3B

BASIN 4

CROSS-DRAIN No. 8

CROSS-DRAIN No. 6

OUTFALL-81

WET POND 3B-1

WET POND 3A-1

48" RCP

SW 10TH STREET

TOLL 869

BASIN 3B

DRY POND 3B-1
0.61 AC @ EL 9.4

DRY POND 3B-3
0.99 AC @ EL 9.4

OUTFALL-85

WET POND 3B-4
2.09AC @ SHW EL 8.4

OUTFALL-82

FLOOD MITIGATION 3B-2
7.34 AC @ EL 9.4

INDEPENDENCE BAY

DRY POND 3B-2
0.49 AC @ EL 9.4

WATERWAYS BOULEVARD

FLORIDA'S TURNPIKE

48" RCP

WET POND 3B-5
7.59 AC @ EL 8.4

CROSS-DRAIN No. 9

48" RCP

SEE SHEET 7

SEE SHEET 9

SEE SHEET 11

LEGEND:

- EXISTING RIGHT-OF-WAY
- EXISTING LIMITED ACCESS RIGHT-OF-WAY
- SURVEY BASELINE
- XXXXXX EXISTING BRIDGE NUMBER
- PROPOSED WET POND
- PROPOSED DRY POND/SWALE
- PROPOSED FLOODPLAIN SITES

N

0 50 200

Feet

BROWARD COUNTY WATER CONTROL DISTRICT #2

QUIET WATERS PARK

BASIN 4

DIRECT DISCHARGE

POWERLINE ROAD

SW 10TH STREET

1185 75 1190 80 1195 85 1200 90 1205 95 1210 100

145 140 135

BASIN 4

C-3 CANAL

END STUDY LIMITS
STATION 1209+50

TOLL 869

21, 60" CMP

OUTFALL-86

CROSS-DRAIN
No. 10

INDEPENDENCE DRIVE

INDEPENDENCE BAY

SEE SHEET 8

845

N

0 50 200
Feet

LEGEND:

- EXISTING RIGHT-OF-WAY
- EXISTING LIMITED ACCESS RIGHT-OF-WAY
- SURVEY BASELINE
- XXXXXX EXISTING BRIDGE NUMBER
- PROPOSED WET POND
- PROPOSED DRY POND/SWALE

FLORIDA'S TURNPIKE

FDOT

FLORIDA'S TURNPIKE ENTERPRISE
MILE POST 263 - TURKEY LAKE SERVICE PLAZA, BUILDING 5315
OCOEE, FL 34761

OCTOBER 2023

TOLL 869

SAWGRASS EXPRESSWAY (SR 869) WIDENING PD&E STUDY

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FPID No.: 437153-1-22-01
ETDM No: 14280

SW 10TH STREET (SR 869) DRAINAGE MAP

SHEET NO. 9

COCOMAR WATER CONTROL DISTRICT

N

0 50 200

Feet

WILES ROAD

BEGIN STUDY LIMITS
STATION 5575+50

SEE SHEET 11

5570 5575 5580 5585 5590 5595 5

FLORIDA'S TURNPIKE

864112

SWALE 3B-2
3.16 AC @ EL 9.40

BASIN 3B-2

LEGEND:

- EXISTING RIGHT-OF-WAY
- EXISTING LIMITED ACCESS RIGHT-OF-WAY
- SURVEY BASELINE
- XXXXXX EXISTING BRIDGE NUMBER
- PROPOSED WET POND
- PROPOSED DRY POND/SWALE

BROWARD COUNTY WATER CONTROL DISTRICT #2

FLORIDA'S TURNPIKE

FDOT

FLORIDA'S TURNPIKE ENTERPRISE
MILE POST 263 - TURKEY LAKE SERVICE PLAZA, BUILDING 5315
OCOEE, FL 34761

OCTOBER 2023

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SAWGRASS EXPRESSWAY (SR 869) WIDENING PD&E STUDY

From South of US 441/SR 7 (MP 18.0) to Powerline Road (MP 22.0)
FPID No.: 437153-1-22-01
ETDM No: 14280

FLORIDA'S TURNPIKE (SR 91) DRAINAGE MAP

SHEET NO. 10

COCOMAR WATER CONTROL DISTRICT

N

0 50 200

Feet

BASIN 3B-2

BASIN 3B

TURNPIKE CANAL

5600 5605 5610 5615 5620 5625 56

BASIN 3B

FLORIDA'S TURNPIKE

TURNPIKE CANAL

GROSS DRAIN No. 99

SEE SHEET 10

SEE SHEET 12

WET POND 3B-4

WET POND 3B-5

FLOOD MITIGATION 3B-2

DRY POND 3B-2

WET POND 3B-5
7.59 AC @ EL 8.4

LEGEND:

- EXISTING RIGHT-OF-WAY
- EXISTING LIMITED ACCESS RIGHT-OF-WAY
- SURVEY BASELINE
- XXXXXX EXISTING BRIDGE NUMBER
- PROPOSED WET POND
- PROPOSED DRY POND/SWALE
- PROPOSED FLOODPLAIN SITES

FLORIDA'S TURNPIKE

FDOT

FLORIDA'S TURNPIKE ENTERPRISE
MILE POST 263 - TURKEY LAKE SERVICE PLAZA, BUILDING 5315
OCOEE, FL 34761

OCTOBER 2023

TOLL 869

SAWGRASS EXPRESSWAY (SR 869) WIDENING PD&E STUDY

From South of US 441/SR 7 (MP 18.0) to Powerline Road (MP 22.0)
FPID No.: 437153-1-22-01
ETDM No: 14280

FLORIDA'S TURNPIKE (SR 91) DRAINAGE MAP

SHEET NO. 11

COCOMAR WATER CONTROL DISTRICT

N
0 50 200
Feet

DRY POND 3A-2
WET POND 3A-1
WET POND 3B-1
OUTFALL-83
CROSS-CULVERT No. 8
BASIN 3A AND BASIN 3B
POND 3A-2
0.86 AC @ SHW EL 9.5
1175
1150
5630
5635
5640
5645
5650
5655
860506
CROSS-CULVERT No. 6
1125
1160
WET POND 3B-4
CROSS-CULVERT No. 9
SEE SHEET 11
WET POND 3B-5
DRY POND 3B-1
BASIN 3B
WET POND 3B-3
WET POND 3B-2
5.02 AC @ EL 8.4
DRY POND 3B-1
RIGHT-OF-WAY ENCROACHMENT
FLOOD MITIGATION 3B-1
7.10 AC @ EL 9.4
SEE SHEET 13

LEGEND:
- EXISTING RIGHT-OF-WAY
- EXISTING LIMITED ACCESS RIGHT-OF-WAY
- SURVEY BASELINE
- XXXXXX EXISTING BRIDGE NUMBER
- PROPOSED WET POND
- PROPOSED DRY POND/SWALE
- PROPOSED FLOODPLAIN SITES

FLORIDA'S TURNPIKE
FDOT
FLORIDA'S TURNPIKE ENTERPRISE
MILE POST 263 - TURKEY LAKE SERVICE PLAZA, BUILDING 5315
OCOEE, FL 34761
OCTOBER 2023

TOLL 869

SAWGRASS EXPRESSWAY (SR 869) WIDENING PD&E STUDY

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FPID No.: 437153-1-22-01
ETDM No: 14280

FLORIDA'S TURNPIKE (SR 91) DRAINAGE MAP

SHEET NO. 12

COCOMAR WATER CONTROL DISTRICT

N

0 50 200

Feet

SEE SHEET 12

SEE SHEET 14

130

810

135

140

5660 5665 5670 5675 5680 5685 5690

BASIN 3B-1

FLORIDA'S TURNPIKE

860586

SWALE 3B-1
1.53 AC @ EL 9.4

QUIET WATERS PARK

BASIN 3B

GATLINSBORO BOULEVARD

LEGEND:

- EXISTING RIGHT-OF-WAY
- EXISTING LIMITED ACCESS RIGHT-OF-WAY
- SURVEY BASELINE
- XXXXXX EXISTING BRIDGE NUMBER
- PROPOSED WET POND
- PROPOSED DRY POND/SWALE

FLORIDA'S TURNPIKE

FDOT

FLORIDA'S TURNPIKE ENTERPRISE
MILE POST 263 - TURKEY LAKE SERVICE PLAZA, BUILDING 5315
OCOEE, FL 34761

OCTOBER 2023

TOLL 869

SAWGRASS EXPRESSWAY (SR 869) WIDENING PD&E STUDY

From South of US 441/SR 7 (MP 18.0) to Powerline Road (MP 22.0)
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FLORIDA'S TURNPIKE (SR 91) DRAINAGE MAP

SHEET NO. 13

COCOMAR WATER CONTROL DISTRICT

END STUDY LIMITS
STATION 5716+70

HILLSBORO CANAL

N
0 50 200
Feet

5695 5700 5705 5710 5715 1345

FLORIDA'S TURNPIKE

SEE SHEET 12

BASIN 3B

LEGEND:
- EXISTING RIGHT-OF-WAY
- EXISTING LIMITED ACCESS RIGHT-OF-WAY
- SURVEY BASELINE
- XXXXXX EXISTING BRIDGE NUMBER
- PROPOSED WET POND
- PROPOSED DRY POND/SWALE

FLORIDA'S TURNPIKE

FDOT

FLORIDA'S TURNPIKE ENTERPRISE
MILE POST 263 - TURKEY LAKE SERVICE PLAZA, BUILDING 5315
OCOEE, FL 34761

OCTOBER 2023

TOLL 869

SAWGRASS EXPRESSWAY (SR 869) WIDENING PD&E STUDY

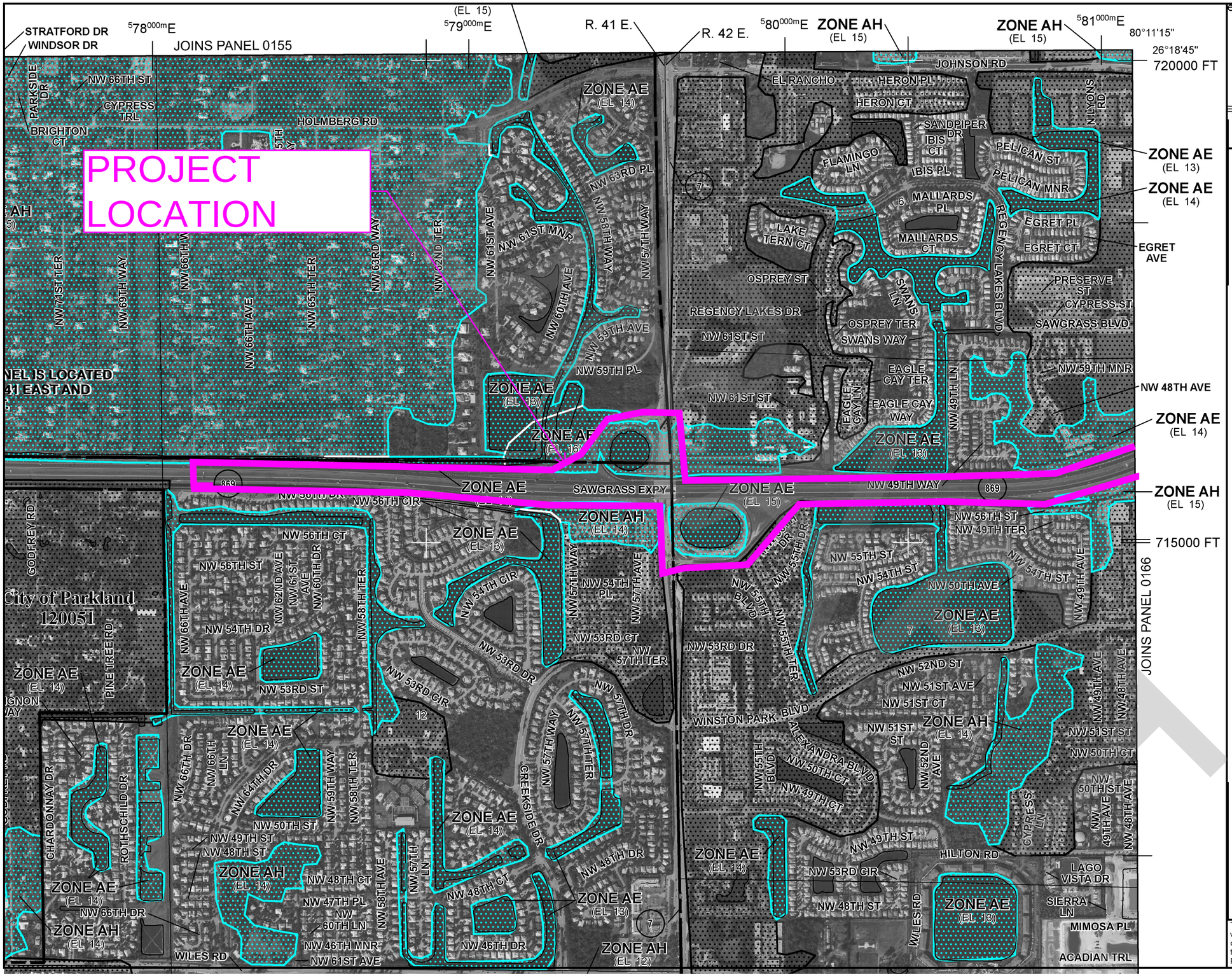
From South of US 441/SR 7 (MP 18.0) to Powerline Road (MP 22.0)
FPID No.: 437153-1-22-01
ETDM No: 14280

FLORIDA'S TURNPIKE (SR 91)
DRAINAGE MAP

SHEET NO.
14

APPENDIX C

FEMA Maps & Flood Plain Compensation Calculations



NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0165H

FIRM

FLOOD INSURANCE RATE MAP

BROWARD COUNTY, FLORIDA

AND INCORPORATED AREAS

PANEL 165 OF 751

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
COCONUT CREEK, CITY OF	120031	0165	H
CORAL SPRINGS, CITY OF	120033	0165	H
MARGATE, CITY OF	120047	0165	H
PARKLAND, CITY OF	120051	0165	H
SEMINOLE TRIBE OF FLORIDA	120685	0165	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
12011C0165H

EFFECTIVE DATE
AUGUST 18, 2014

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded tenth-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in preparation of this map was Transverse Mercator State Plane Florida East FIPS 0901. The **horizontal datum** was NAD83 HARN, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242** or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by Broward County. The original orthophotographic base imagery was provided in color with a one-foot pixel resolution at a scale of 1" = 300' from photography flown in 2008.

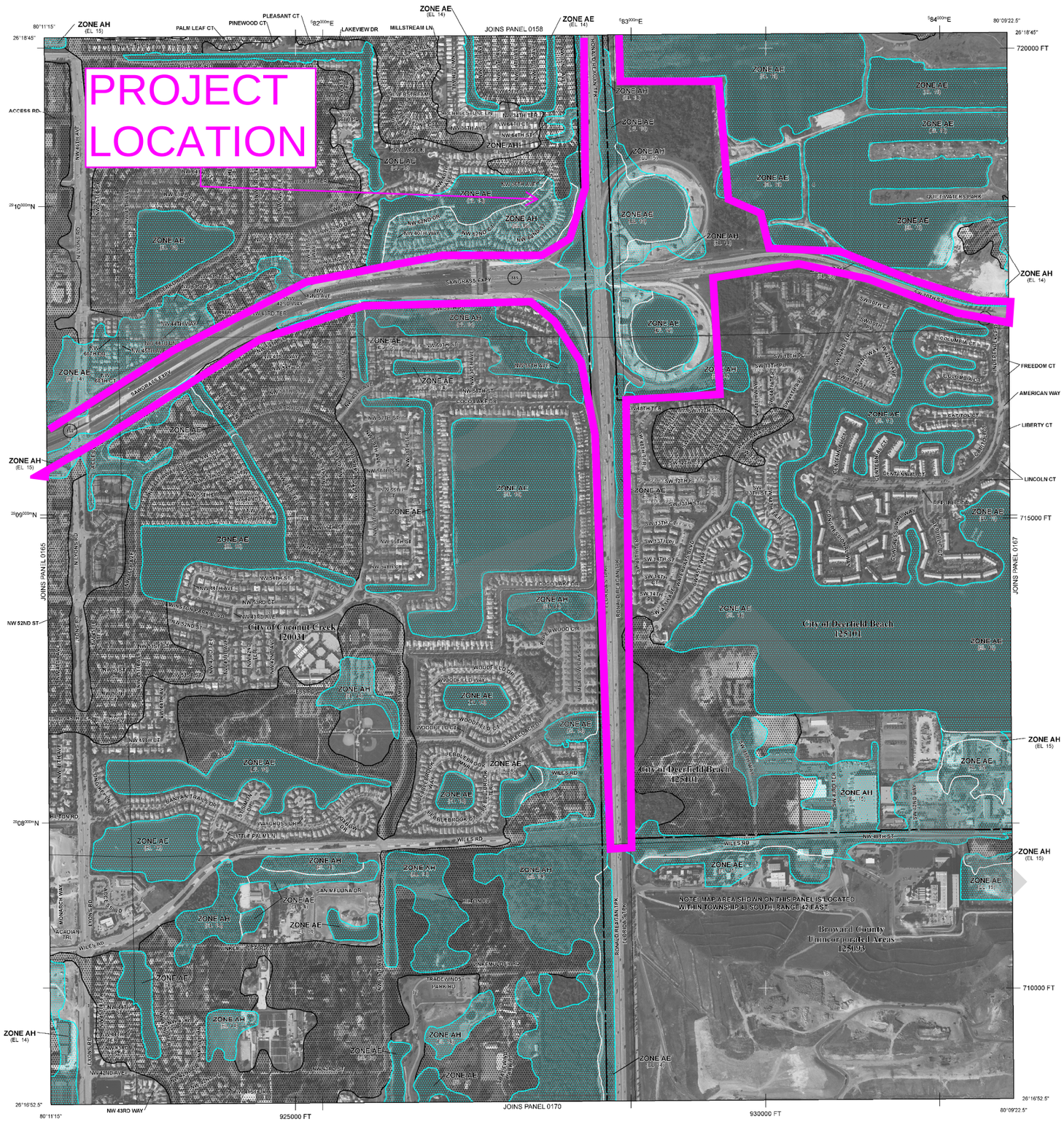
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange** at 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA Map Service Center website at http://msc.fema.gov. Available products may include previously issues Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

The **"profile base lines"** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the profile base line, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
513 — Base Flood Elevation line and value; elevation in feet*
(EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*
* Referenced to the North American Vertical Datum of 1988
A — A — Cross section line
23 — 23 — Transect line
97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
4275000mE — 1000-meter Universal Transverse Mercator grid ticks, zone 17
6000000 FT — 5000-foot grid values: Florida State Plane coordinate system, East Zone (FIPSZONE = 0901), Transverse Mercator projection
DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories List on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
August 18, 2014

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 250 500 750 1,000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0166H

FIRM

FLOOD INSURANCE RATE MAP

BROWARD COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 166 OF 751

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BROWARD COUNTY	125093	0166	H
COCONUT CREEK, CITY OF	120031	0166	H
DEERFIELD BEACH, CITY OF	125101	0166	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 12011C0166H

EFFECTIVE DATE AUGUST 18, 2014

Federal Emergency Management Agency

ance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

0 250 500 750 1,000 FEET

80°09'22.5"

26°18'45"

$^{5}85^{000m}$E

JOINS PANEL 0159

PROJECT LOCATION

$^{29}10^{000m}$N

ZONE AH (EL 13)
QUIET WATERS PARK DR
ZONE AE (EL 11)
ZONE AE (EL 11)
ZONE AH (EL 13)
ZONE AH (EL 13)
ZONE AH (EL 13)
ZONE AE (EL 11)
ZONE AH (EL 14)
ZONE AE (EL 14)
ZONE AH (EL 14)
SW 35TH AVE
SW 34TH TER
SW 3RD CT
SW 33RD TER
SW 3RD CT
SW 32ND TER
SW 32ND AVE
SW 31ST AVE
SW 30TH TER
SW 30TH AVE
VENTNOR CT
ISLEWOOD CT
LYNDHURST ST
CENTURY BLVD
845
TILFORD CT
NORTH DR
TILFORD PL
ZONE AE (EL 12)
ZONE AH (EL 13)
WEST DR
NEWPORT CT
PRESCOTT PL
ZONE AE (EL 13)
NEWPORT CRESCENT
OAKRIDGE DR
OAKRIDGE CIR
MARKHAM CRESCENT
ZONE AH (EL 13)
MARKHAM CT
ZONE AH (EL 14)
ZONE AE (EL 14)
NEWPORT CT
OAKRIDGE CIR
OAKRIDGE CT
869
SW 10TH ST
ZONE AH (EL 13)
NEWPORT DR
SW 10TH ST
ZONE AE (EL 14)
SW 11TH ST
ZONE AH (EL 14)
ZONE AH (EL 14)
ZONE AE (EL 13)
ZONE AH (EL 14)
SW 10TH DR
WATERFORD DR N
SW 11TH PL
SW 26TH TER
SW 12TH ST
WATERFORD DR S
SW 12TH CT
FREEDOM CT
FREEDOM CT
LIBERTY CT
AMERICAN WAY
ZONE AH (EL 13)
SW 34TH AVE
SW 13TH CT
SW 26TH AVE
SW 27TH AVE

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0167H

FIRM

FLOOD INSURANCE RATE MAP

BROWARD COUNTY, FLORIDA

AND INCORPORATED AREAS

PANEL 167 OF 751

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BROWARD COUNTY	125093	0167	H
DEERFIELD BEACH, CITY OF	125101	0167	H

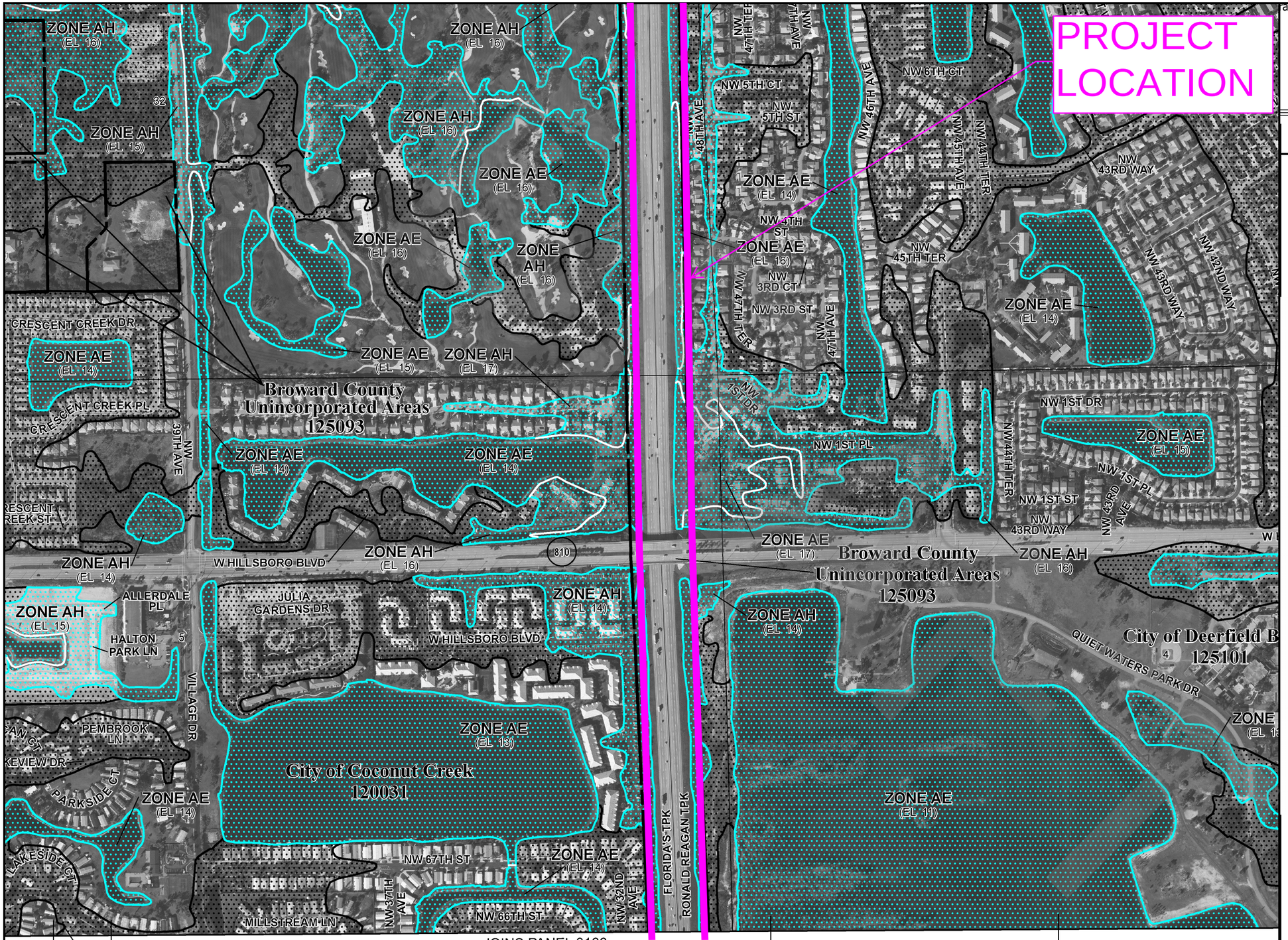
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 12011C0167H

EFFECTIVE DATE AUGUST 18, 2014

Federal Emergency Management Agency

rance Program at 1-800-638-6620.



MAP SCALE 1" = 500'

0 250 500 750 1,000 FEET

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0158H

FIRM

FLOOD INSURANCE RATE MAP

BROWARD COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 158 OF 751

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BROWARD COUNTY	125093	0158	H
COCONUT CREEK, CITY OF	120031	0158	H
DEERFIELD BEACH, CITY OF	125101	0158	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 12011C0158H

EFFECTIVE DATE AUGUST 18, 2014

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

NOTES TO USERS

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Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in preparation of this map was Transverse Mercator State Plane Florida East FIPS 0901. The **horizontal datum** was NAD83 HARN, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

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NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242** or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by Broward County. The original orthophotographic base imagery was provided in color with a one-foot pixel resolution at a scale of 1" = 300' from photography flown in 2008.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

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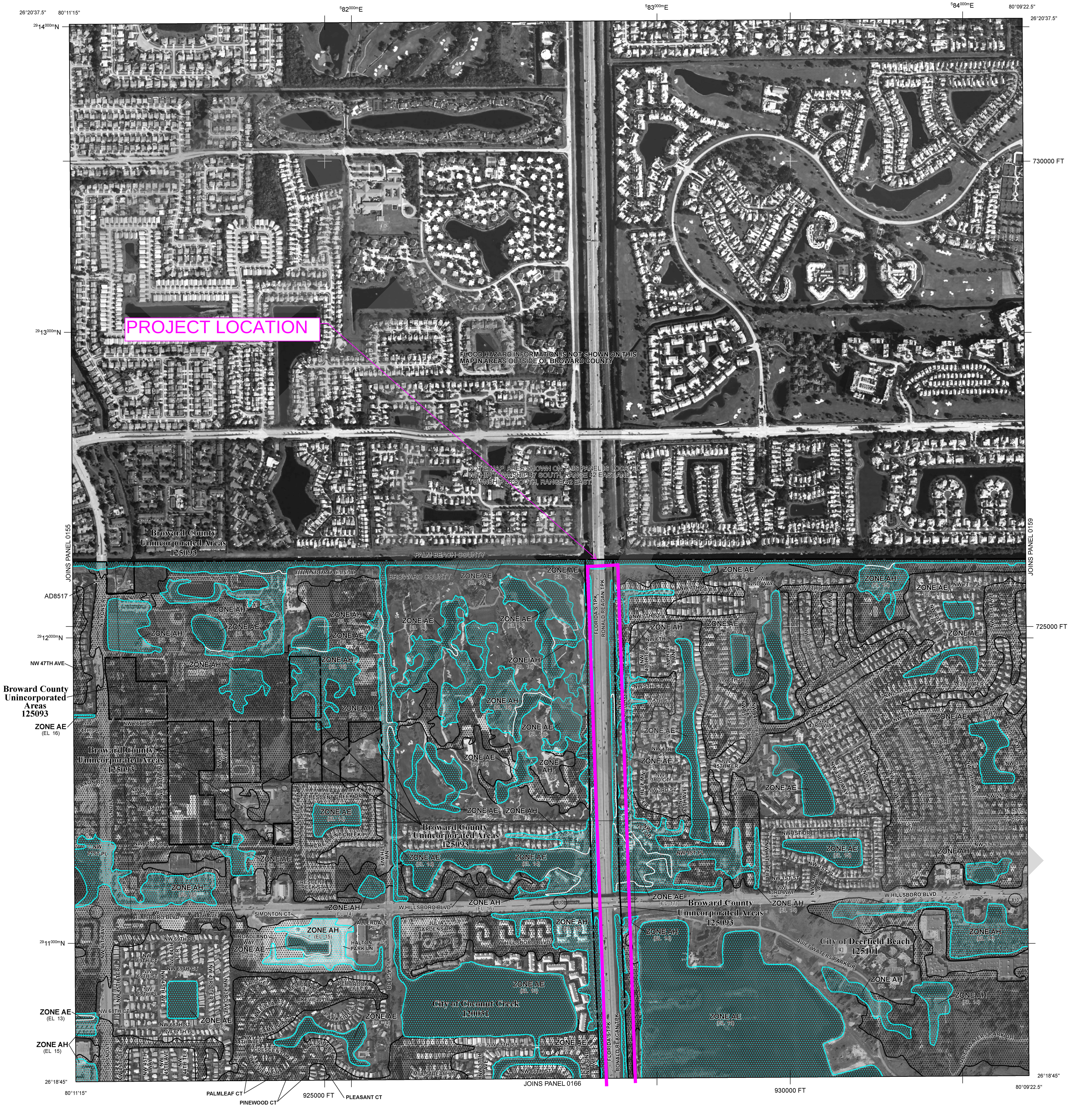

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
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COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities

~~ 513 ~~~	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

(A)———(A)	Cross section line
(23)- - - -(23)	Transect line
97°07'30", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
$^{42}75^{000m}$E	1000-meter Universal Transverse Mercator grid ticks, zone 17
6000000 FT	5000-foot grid values: Florida State Plane coordinate system, East Zone (FIPSZONE = 0901), Transverse Mercator projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
● M1.5	River Mile

MAP REPOSITORIES
Refer to Map Repositories List on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
August 18, 2014

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 250 500 750 1,000 FEET
150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0158H

FIRM

FLOOD INSURANCE RATE MAP

BROWARD COUNTY, FLORIDA

AND INCORPORATED AREAS

PANEL 158 OF 751

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BROWARD COUNTY	125093	0158	H
COCONUT CREEK, CITY OF	120031	0158	H
DEERFIELD BEACH, CITY OF	125101	0158	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

**MAP NUMBER
12011C0158H**

**EFFECTIVE DATE
AUGUST 18, 2014**

Federal Emergency Management Agency

Summary of Floodplain Compensation Calculations

LOCAL WATER MANAGEMENT DISTRICT	PROJECT BASIN	FLOODPLAIN ENCROACHMENT (AC-FT)	Provided Storage In	FLOODPLAIN COMPENSATION (AC-FT)
Pinetree Water Management District	BASIN 1	0.98	POND 1-1	1.26
Cocomar Water Management District	BASIN 2 & 3A	8.50	POND 2-1	5.17
Broward County Water Management District # 2	BASIN 3B, 3B-1, 3B-2 & 4	38.76	FLOOD MITIGATION 3B-1	18.70
			FLOOD MITIGATION 3B-2	23.26
	PROJECT TOTAL =	**48.24**		**48.39**

FLOODPLAIN COMPENSATION CALCULATIONS

BASIN 1

SHW EL = 10 (NAVD)

BOTTOM EL = 11 (NAVD)

FEMA 100YR El = 14

STORAGE IN DRY POND 1-1

Average Pond Area @bottom El (ac)	Average Pond Area @ El 12(ac)	Depth between Avg. Ground El 12 & Bottom El 11 (ft)	Storage provided in pond (ac-ft)
1.17	1.34	1.0	1.26

BASIN 2 & 3A

SHW EL = 9.5 (NAVD)

TREATMENT AND ATTENUATION EL = 11.0 (NAVD)

FEMA 100YR El = 15

STORAGE IN WET POND 2-1

Average c/s area between El 11 & 15 (sf)	Periphery of POND 2-1 (ft)	Storage provided in POND 2-1	Storage provided in pond (ac-ft)
116.0	1943.00	225388.0	5.17

Note: Treatment and attenuation will be provided between SHW El 9.5 and El 11.0. Therefore the storage is excluded as floodplain compensation

BASIN 3B & 4

SHW EL = 8.4 (NAVD)

AVG. EXIST. GR EL = 12.00

FEMA 100YR El = 14

STORAGE IN FLOOD MITIGATION 3B-1 (DRY)

Average Pond Area @ Bottom El 9.4 (ac)	Average Pond Area @ El 12.0 (ac)	Depth between Avg. Ground El 12 & Bottom El 9.4 (ft)	Storage provided in pond (ac-ft)
7.06	7.33	2.6	18.70

SHW EL = 8.4 (NAVD)
AVG. EXIST. GR EL = 12.50
FEMA 100YR El = 14
STORAGE IN FLOOD MITIGATION 3B-2 (DRY)

Average Pond Area @ Bottom El 9.4 (ac)	Average Pond Area @ El 12.5 (ac)	Depth between Avg. Ground El 12 & Bottom El 9.4 (ft)	Storage provided in pond (ac-ft)
7.34	7.67	3.1	23.26

FLOODPLAIN ENCROACHMENT CALCULATIONS

BASIN 1

SHW EL = 10 (NAVD)

Station	OFFSET/RT (FEMA 100YR El = 14)				OFFSET/LT				REQUIRED FLOODPLAIN COMPENSATION (AC-FT)	PROVIDED FLOODPLAIN COMPENSATION (AC-FT)
	Area of Fill within Flood Plain (sf)	Average (sf)	Length (ft)	Volume of Fill within FloodPlain (ac-ft)	Area of Fill within Flood Plain (sf)	Average	Length	Volume of Fill within FloodPlain (ac-ft)		
1033+00	91.1	42.5	1000	0.98	0	0	0	0.00	0.98	
1037+00	5.9				0					
1039+00	30.5				0					
									0.98 ac-ft	1.26

BASIN 2 & 3A

SHW EL = 8.4 (NAVD)

Station	OFFSET/RT (FEMA 100YR El = 14)				OFFSET/LT (FEMA 100YR El = 16)				REQUIRED FLOODPLAIN COMPENSATION (AC-FT)	PROVIDED FLOODPLAIN COMPENSATION (AC-FT)
	Area of Fill within Flood Plain (sf)	Average (sf)	Length (ft)	Volume of Fill within FloodPlain (ac-ft)	Area of Fill within Flood Plain (sf)	Average	Length	Volume of Fill within FloodPlain (ac-ft)		
1044+00	0	0	0	0	283.2	266.6	1000	6.12	6.12	
1046+00	0				250.0					
	OFFSET/RT (FEMA 100YR El = 15)				OFFSET/LT (FEMA 100YR El = 15)					
1152+00	20.40	20.4	200	0.09	78.9	78.9	200	0.36	0.46	
	OFFSET/RT (FEMA 100YR El = 14)				OFFSET/LT (FEMA 100YR El = 15)					
1088+00	52.65	63.3	300	0.44	67.3	108.2	600	1.49	1.93	
1090+00	66.05				149.2					
1091+00	71.30				1652.5					
									8.50 ac-ft	5.17

BASIN 3B, 3B-1, 3B-2 & 4

SHW EL = 8.4 (NAVD)

Station	OFFSET/RT (FEMA 100YR El = 14)				OFFSET/LT (FEMA 100YR El = 14)				REQUIRED FLOODPLAIN COMPENSATION (AC-FT)	PROVIDED FLOODPLAIN COMPENSATION (AC-FT)
	Area of Fill within Flood Plain (sf)	Average (sf)	Length (ft)	Volume of Fill within FloodPlain (ac-ft)	Area of Fill within Flood Plain (sf)	Average	Length	Volume of Fill within FloodPlain (ac-ft)		
5580+00	0	0	0	0	195.35	202.7	1200	5.58	5.58	
5590+00	0				210					
5610+00	381.3	403.3	1200	11.11	0	0.0	0	0.00	11.11	
5620+00	425.3				0					
5650+00	524.3	233.9	3200	17.18	13.7	46.3	3200	3.40	20.59	
5660+00	75.2				79.0					
5665+00	102.3				84.1					
5681+00	0.0	0.0	0	0.00	14.0	19.0	3400	1.48	1.48	
5715+00	0.0				24.0					
									38.76 ac-ft	18.70

APPENDIX D

As-built Plans

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

FINAL "AS-BUILT" PLANS

~~CONTRACT PLANS~~

FINANCIAL PROJECT ID 406153-1-52-01

BROWARD COUNTY (86472)

STATE ROAD NO. 869

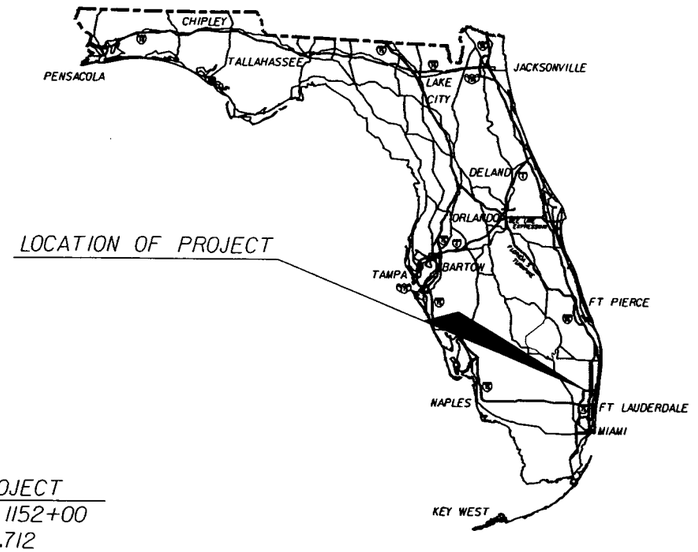
COMPONENTS OF CONTRACT PLANS SET

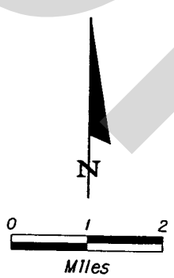
ROADWAY PLANS
SIGNING AND PAVEMENT MARKING PLANS
LIGHTING PLANS
STRUCTURE PLANS
SOUNDWALL PLANS
LANDSCAPE PLANS

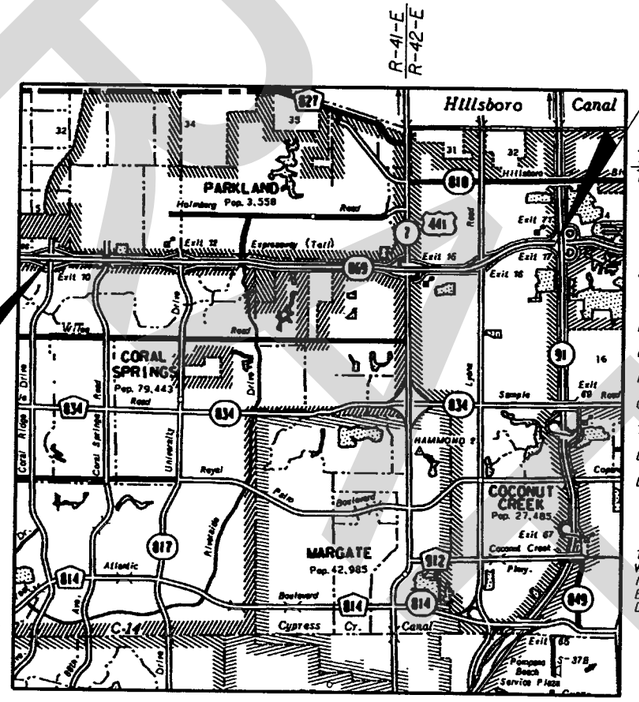
A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH COMPONENT

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2 - 15	DRAINAGE MAPS
16 - 18	TYPICAL SECTIONS
19 - 23	SUMMARY OF DRAINAGE STRUCTURES
24 - 27	CONSTRUCTION DETAILS
28 - 29	DRAINAGE DETAILS
30	GENERAL NOTES
31 - 66	ROADWAY PLANS
67 - 102	ROADWAY PROFILES
103 - 128	DRAINAGE STRUCTURES
129 - 295G	CROSS SECTIONS
296	ROADWAY SOILS SURVEY
297 - 298	SWPPP
PNC-1 - PNC-9	PROJECT NETWORK CONTROL SHEETS
MOT-01 - MOT-59	TRAFFIC CONTROL PLANS







GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION,
DESIGN STANDARDS DATED JANUARY 2004,
AND STANDARD SPECIFICATIONS FOR ROAD AND
BRIDGE CONSTRUCTION DATED 2004,
AS AMENDED BY CONTRACT DOCUMENTS.

APPLICABLE DESIGN STANDARDS MODIFICATIONS: 7-1-05
For Design Standards Modifications click on
"Design Standards" at the following web site:
http://www.dot.state.fl.us/rddesign/

REVISIONS:

ROADWAY SHEETS MOT-1, MOT-20, MOT-21, MOT-23, MOT-28, MOT-29, MOT-32, MOT-35, MOT-36, MOT-38, MOT-39, MOT-42, MOT-43, MOT-46, MOT-47, MOT-49, MOT-50, MOT-54, & MOT-55 (REVISED 08-02-05)

ROADWAY SHEETS 16, 25, 29, 30, 32, 33, 34, 37, 38, 39, 40, 41, 42, 43, 45, 46, 47, 49, 51, 52, 56, 85, 86, 106, MOT-1, MOT-2, MOT-5, MOT-13, MOT-33, MOT-34, MOT-37, MOT-40, MOT-41, MOT-44, MOT-45, MOT-48, MOT-51, MOT-52 & MOT-53 (REVISED 08-11-05)

ROADWAY SHEETS 11, 13, 23, 25, 30, 54, 59, 67-101, 123, 123A, 127, 129-295, 297, 298 MOT-1, MOT-5, MOT-11, MOT-13, MOT-15, MOT-16, MOT-17, MOT-18, MOT-34, MOT-37, MOT-41, MOT-45, MOT-48, MOT-52 (REVISED 08-31-05)

ROADWAY SHEETS 30, 41-44, 172-183, 278, 279, MOT 44, & MOT-45 (REVISED 12-06-05)

ROADWAY SHEETS 32-35, 133-144, 261, 262, 270-275 (REVISED 03-10-06)

ROADWAY SHEETS 36-39, 148-164 (REVISED 01-24-06)

ROADWAY SHEETS 45-49, 189-203, MOT-12, MOT-52 (REVISED 02-06-06)

ROADWAY SHEETS 1-7, 16-25, 32-66, 68-100, 104-107, 109-124, 127, 128, 130-287, 294-295G, MOT-15, MOT-34, MOT-37, MOT-41, MOT-45, MOT-48, MOT-52, MOT-58, MOT-59 (REVISED 08-09-07)

ROADWAY SHEETS 19-21, 23, 37, 38, 105-107 (REVISED 06-28-07)

LIGHTING SHEETS LI, L-2A thru L-9, L-12, L-17, L-19 thru L-22, L-31, L-34 thru L-36, L-40 thru L-42, L-49 thru L-53 (08-09-07)

SIGNING & PAVEMENT MARKING SHEETS S-1, S-4 thru S-7, S-12, S-20, S-26, S-29, S-30, S-31, S-33, S-37 thru S-42, S-44 thru S-46, S-52, S-53, S-55, S-57, S-58 & S-59 (08-18-06)

SOUNDWALL SHEETS 1.1, 8.00, 8.01, 8.02, 12.06, 12.07, 12.13, 18.08, 19.01, 1.7 (07-20-06)

NAME OF CONTRACTOR: APAC

NAME OF ALL CONSULTANTS INVOLVED: PARSONS TRANSPORTATION GROUP: WILLIAMS EARTH SCIENCES.: MANUEL G. VERA & ASSOCIATES

RESIDENT ENGINEER: FELIX VERGARA, P.E.

PROJECT ADMINISTRATOR: MAURICIO ARZE, P.E.

CONSTRUCTION PROJECT MANAGER: MARIO ROJAS, P.E.

TURNPIKE CHIEF EXECUTIVE OFFICER: JAMES ELY

DATE WORK STARTED: MARCH 7, 2005

DATE WORK FINAL ACCEPTANCE OR COMPLETED: MARCH 14, 2008

Donald Wright
PE #46223
5/14/2008
As-Built Revisions Only

THIS PROJECT WAS CONSTRUCTED IN SUBSTANCIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD. IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED BY BLACK INK REVISION AND BEAR THE SEAL, SIGNATURE AND DATE OF THE RESPONSIBLE ENGINEER.

THIS PROJECT WAS CONSTRUCTED IN SUBSTANCIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD. THESE PLANS REFLECT "AS-BUILTS" CONDITIONS AND NO CHANGES WERE MADE TO THE PLAN SHEETS.

RESIDENT ENGINEER _____ DATE _____

PLANS PREPARED BY:

PARSONS

1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FLORIDA 32207
CERTIFICATE OF AUTHORIZATION 1838
CONTRACT NO. E8F73
VENDOR NO. 62320

apac

LENGTH OF PROJECT

	LINEAR FEET	MILES
ROADWAY	35325.00	6.690
BRIDGES	1275.00	0.242
NET LENGTH OF PROJECT	36600.00	6.932
EXCEPTIONS	0.00	0.00
GROSS LENGTH OF PROJECT	36600.00	6.932

KEY SHEET REVISIONS

DATE	BY	DESCRIPTION
08-18-06	DFW	(6) ADDED SOUNDWALL AND LANDSCAPE PLAN COMPONENTS.

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

ROADWAY PLANS
ENGINEER OF RECORD: LONNIE D. OGDEN, P.E.

P.E. NO.: 53200

FDOT PROJECT MANAGER: WILLIAM SLOUP, P.E.

GEC PROJECT MANAGER: MIKE VAN DER HEYDEN, P.E.

FISCAL YEAR	SHEET NO.
05	01

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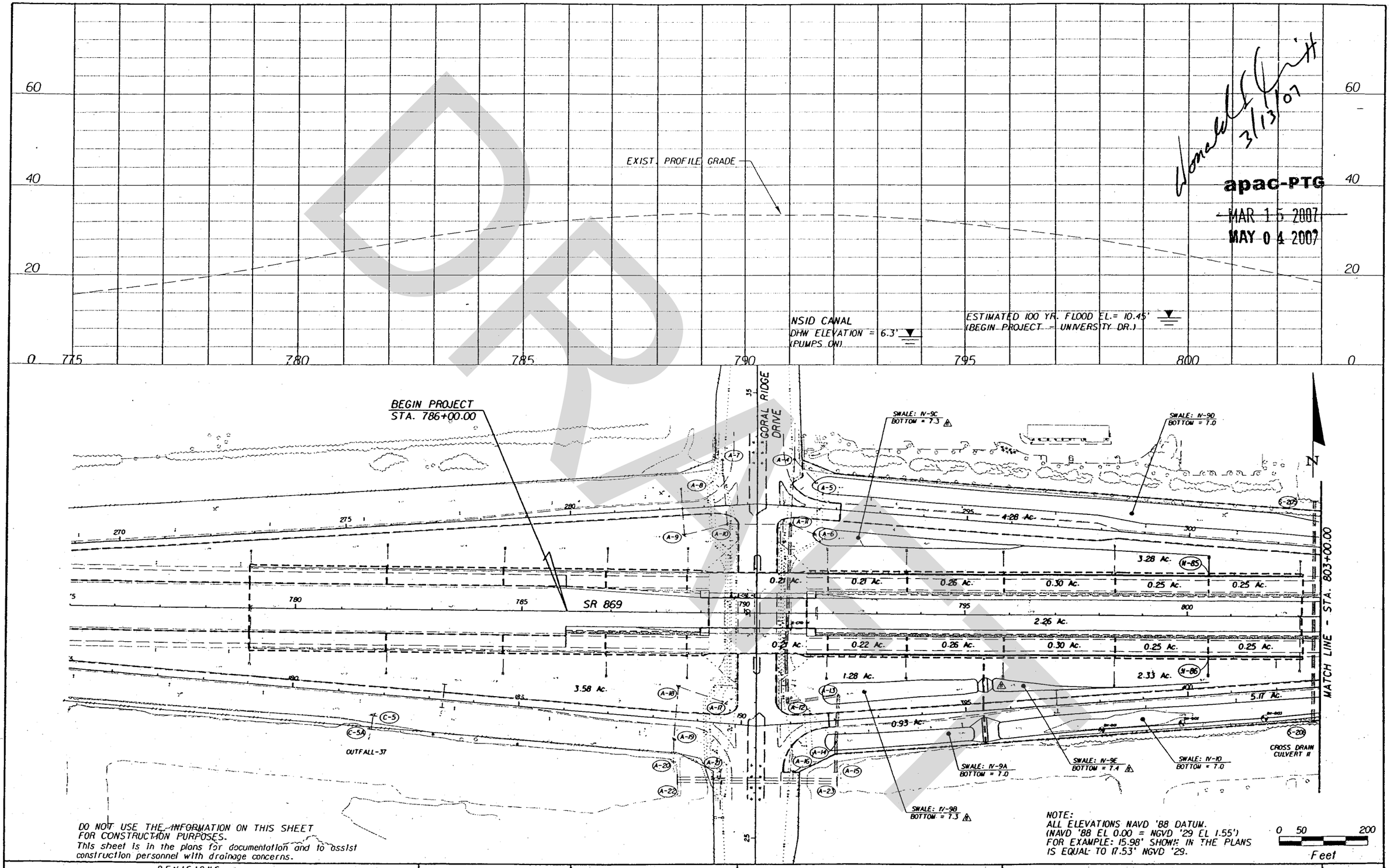


3/13/07

apac-PTG

MAR 15 2007

MAY 04 2007

DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES.
This sheet is in the plans for documentation and to assist construction personnel with drainage concerns.

NOTE:
ALL ELEVATIONS NAVD '88 DATUM.
(NAVD '88 EL 0.00 = NGVD '29 EL 1.55')
FOR EXAMPLE: 15.98' SHOWN IN THE PLANS IS EQUAL TO 17.53' NGVD '29.

REVISIONS		
DATE	BY	DESCRIPTION
08-18-06	DFW	⚠ REVISED SWALE BOTTOM ELEVATIONS, ADDED SWALE IV-9E.

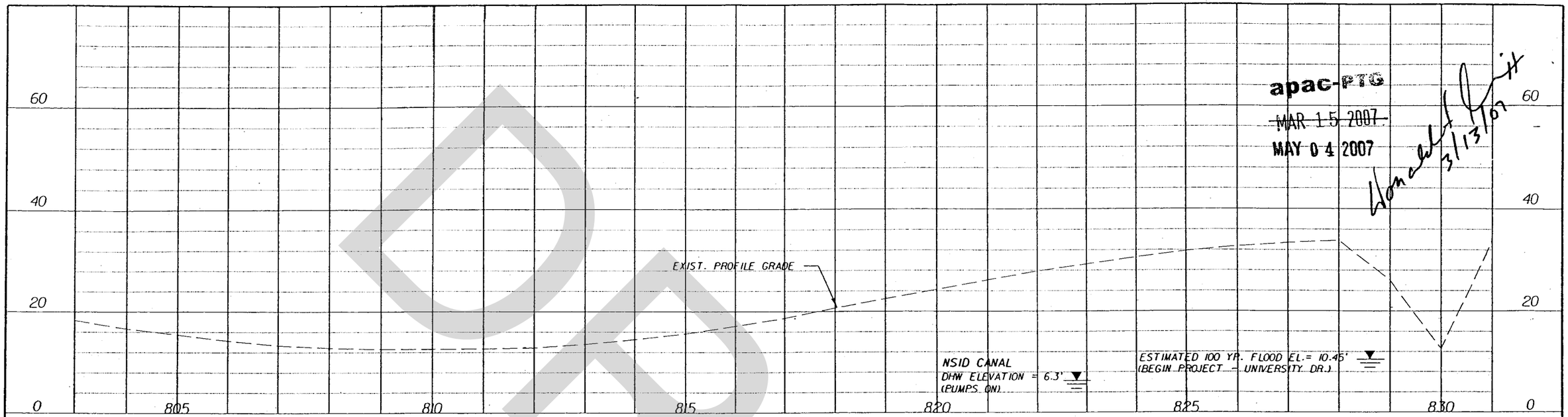
apac
PARSONS
EOR: THOMAS J. GYOROG
P.E. LICENSE NUMBER 46612
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32225
CERTIFICATE OF AUTHORIZATION #078

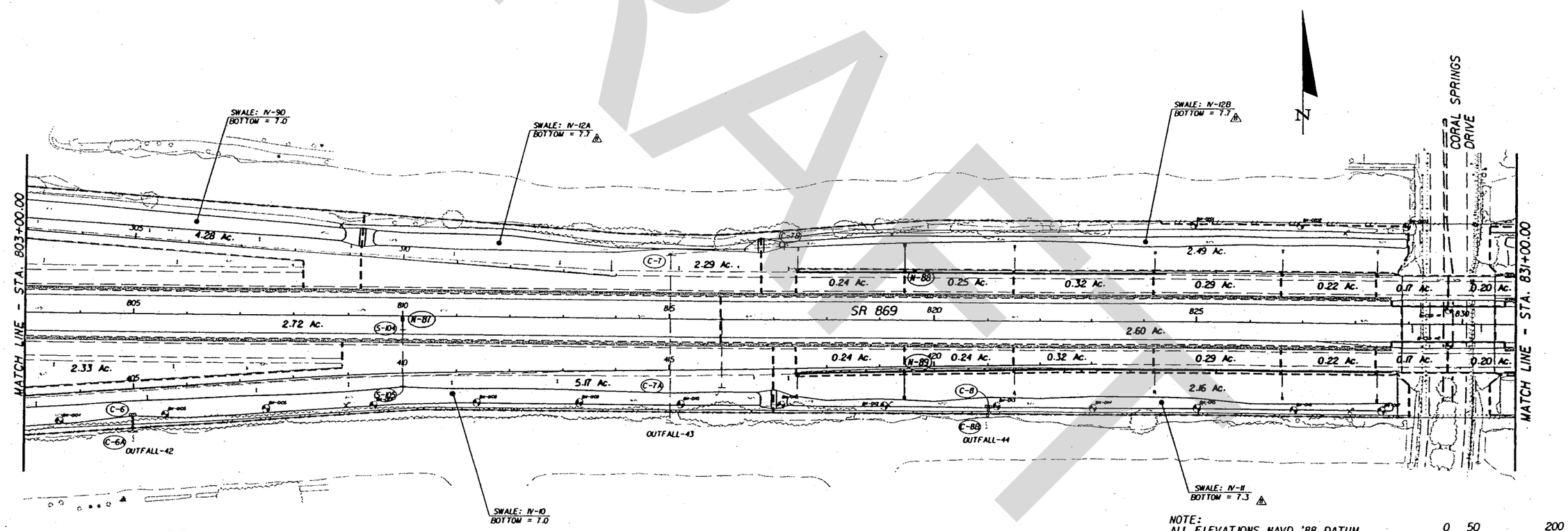
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

SAWGRASS EXPRESSWAY DRAINAGE MAP

SHEET NO. 2





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0 50 200
Feet

REVISIONS		
DATE	BY	DESCRIPTION
08-18-06	DFW	⚠ REVISED SWALE BOTTOM ELEVATIONS.

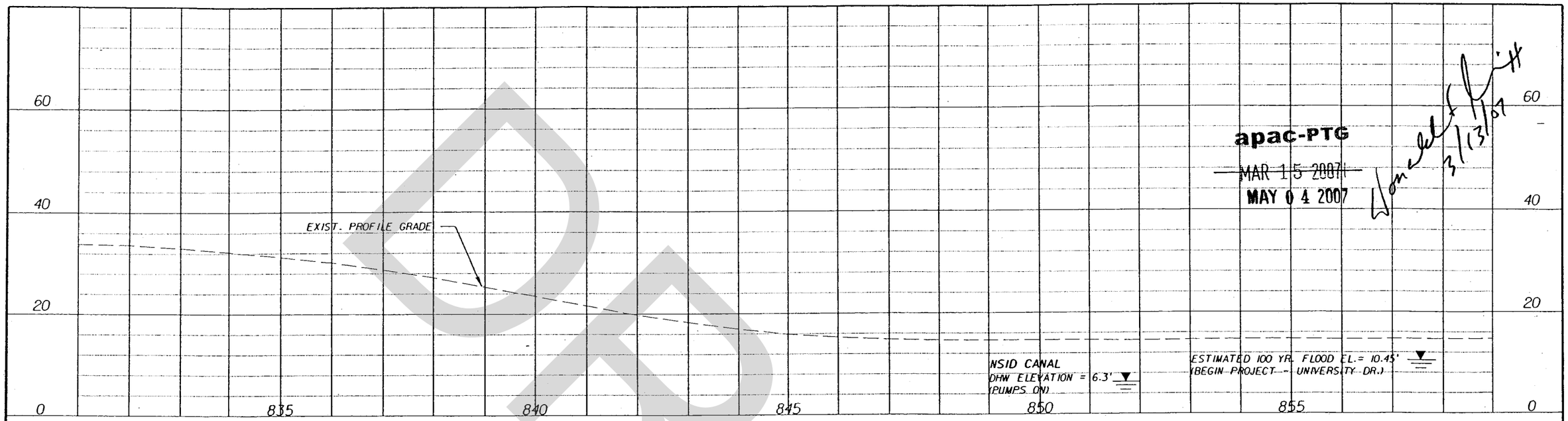
apac
PARSONS
EOR: THOMAS J. GYOROG
P.E. LICENSE NUMBER 46612
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32225

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

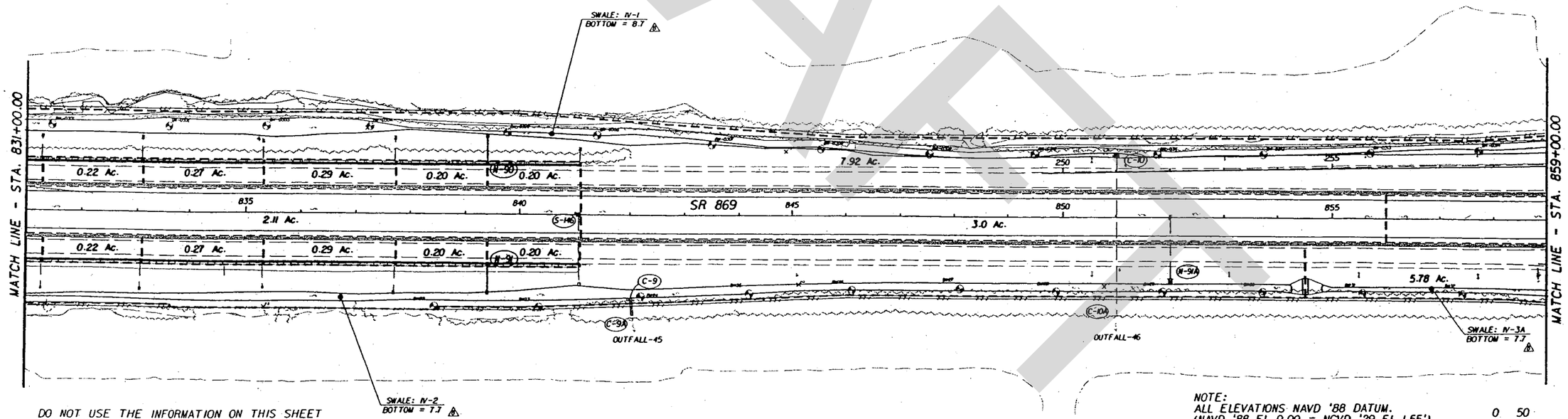
SAWGRASS EXPRESSWAY
DRAINAGE MAP

SHEET NO. 3



apac-PTG
MAR 15 2007
MAY 04 2007

3/13/07



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0 50 200
Feet

REVISIONS		
DATE	BY	DESCRIPTION
08-18-06	DFW	Δ REVISED SWALE BOTTOM ELEVATIONS.

apac

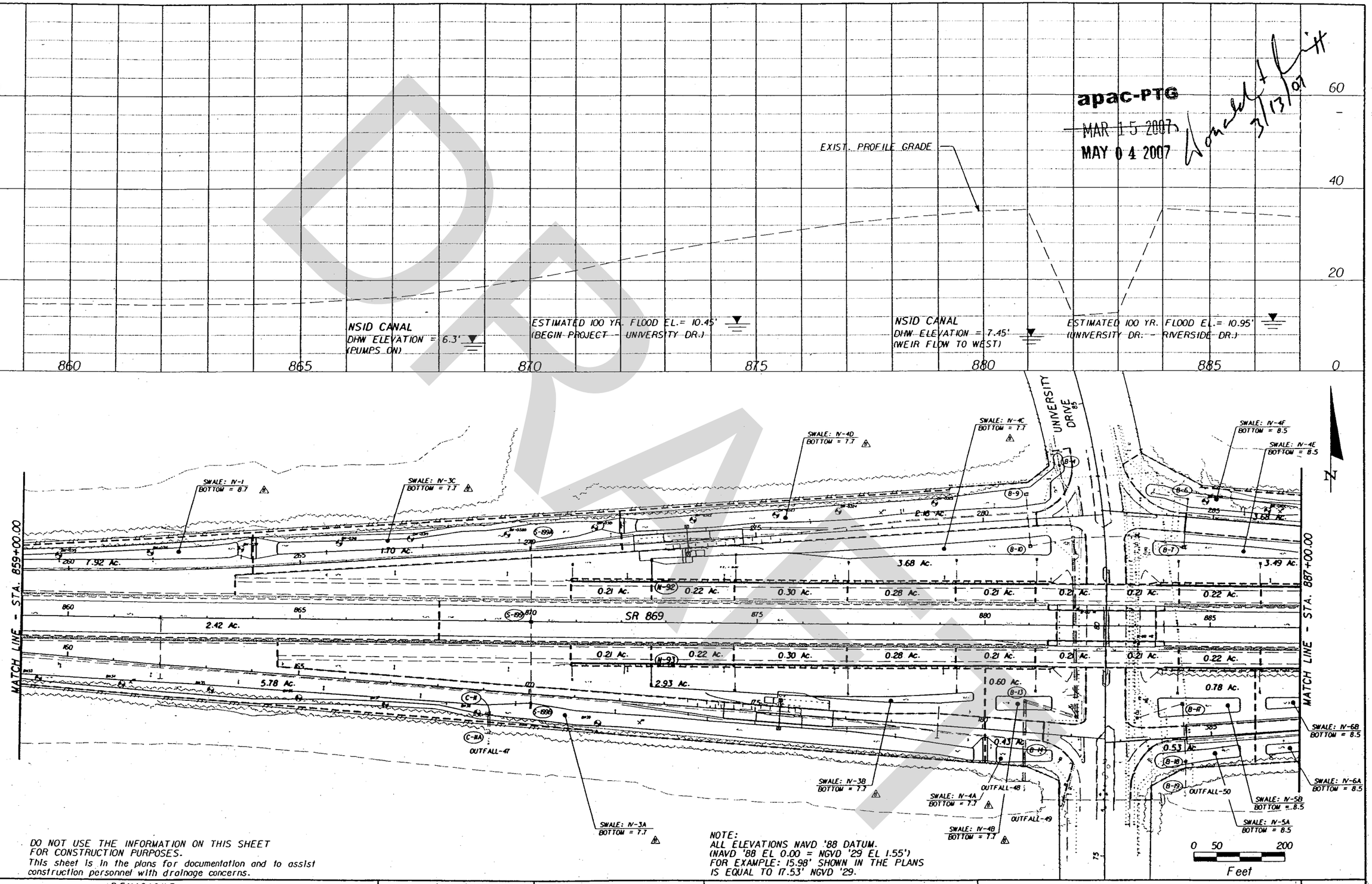
EOR: THOMAS J. GYOROG
P.E. LICENSE NUMBER 46612
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32225

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

SAWGRASS EXPRESSWAY DRAINAGE MAP

SHEET NO. 4



DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES.
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NOTE:
ALL ELEVATIONS NAVD '88 DATUM.
(NAVD '88 EL 0.00 = NGVD '29 EL 1.55')
FOR EXAMPLE: 15.98' SHOWN IN THE PLANS IS EQUAL TO 17.53' NGVD '29.

REVISIONS		
DATE	BY	DESCRIPTION
08-18-06	DFW	⚠ REVISED SWALE BOTTOM ELEVATIONS

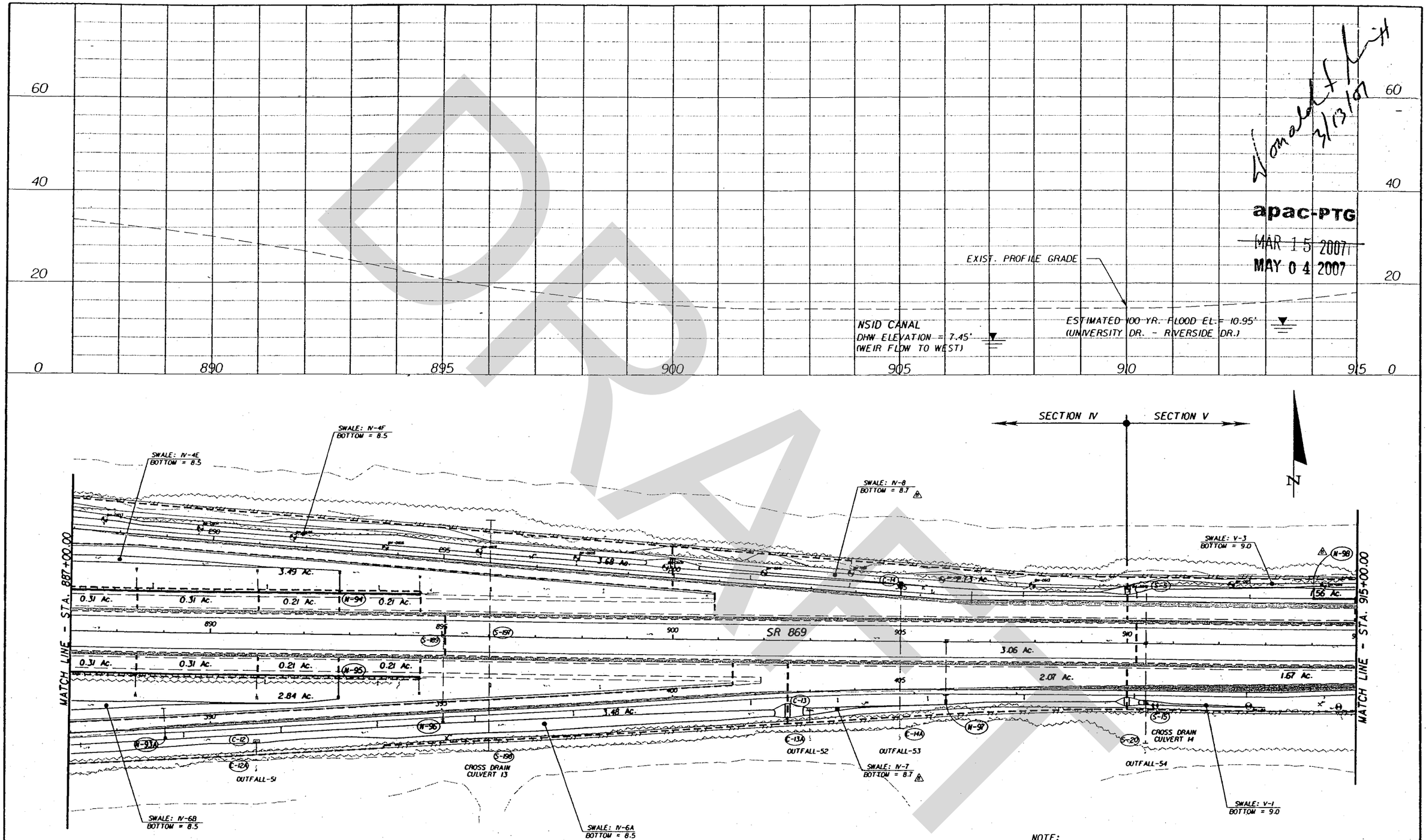
apac
PARSONS
EOR: THOMAS J. GYOROG
P.E. LICENSE NUMBER 46612
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32225

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

SAWGRASS EXPRESSWAY DRAINAGE MAP

SHEET NO. 5



Tomas J. Gyorog 3/13/07

apac-PTG

MAR 15 2007

MAY 04 2007

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FOR EXAMPLE: 15.98' SHOWN IN THE PLANS
IS EQUAL TO 17.53' NGVD '29.

0 50 200
Feet

REVISIONS		
DATE	BY	DESCRIPTION
08-18-06	DFW	⚠ REVISED SWALE BOTTOM ELEVATIONS, RELOCATE STRUCTURE N-98.

apac PARSONS

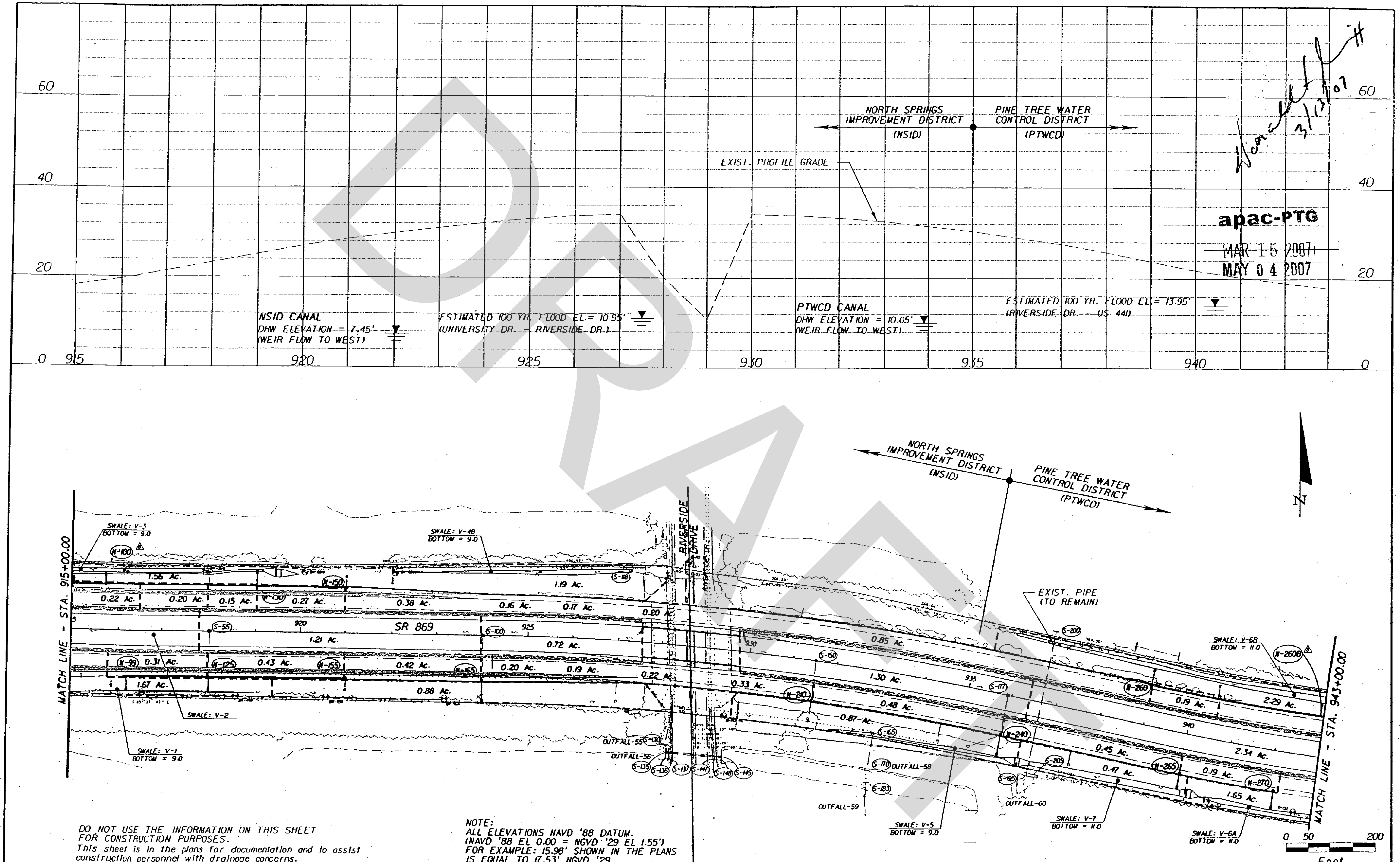
EOR: THOMAS J. GYOROG
P.E. LICENSE NUMBER 46612
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32225
CERTIFICATE OF AUTHORIZATION 1878

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

SAWGRASS EXPRESSWAY
DRAINAGE MAP

SHEET NO. 6



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NOTE:
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(NAVD '88 EL 0.00 = NGVD '29 EL 1.55')
FOR EXAMPLE: 15.98' SHOWN IN THE PLANS IS EQUAL TO 17.53' NGVD '29.

REVISIONS		
DATE	BY	DESCRIPTION
08-18-06	DFW	⚠ RELOCATE STRUCTURES N-98 AND N-100 (SEE SHEET 6, N-98 NEW LOCATION), ADDED STRUCTURE N-260B.

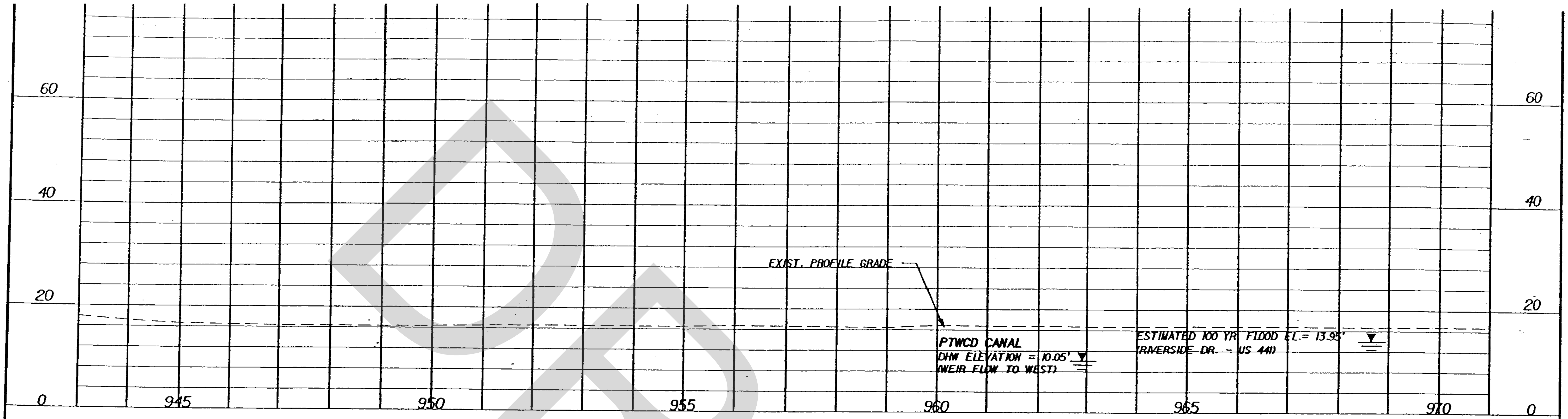
apac PARSONS

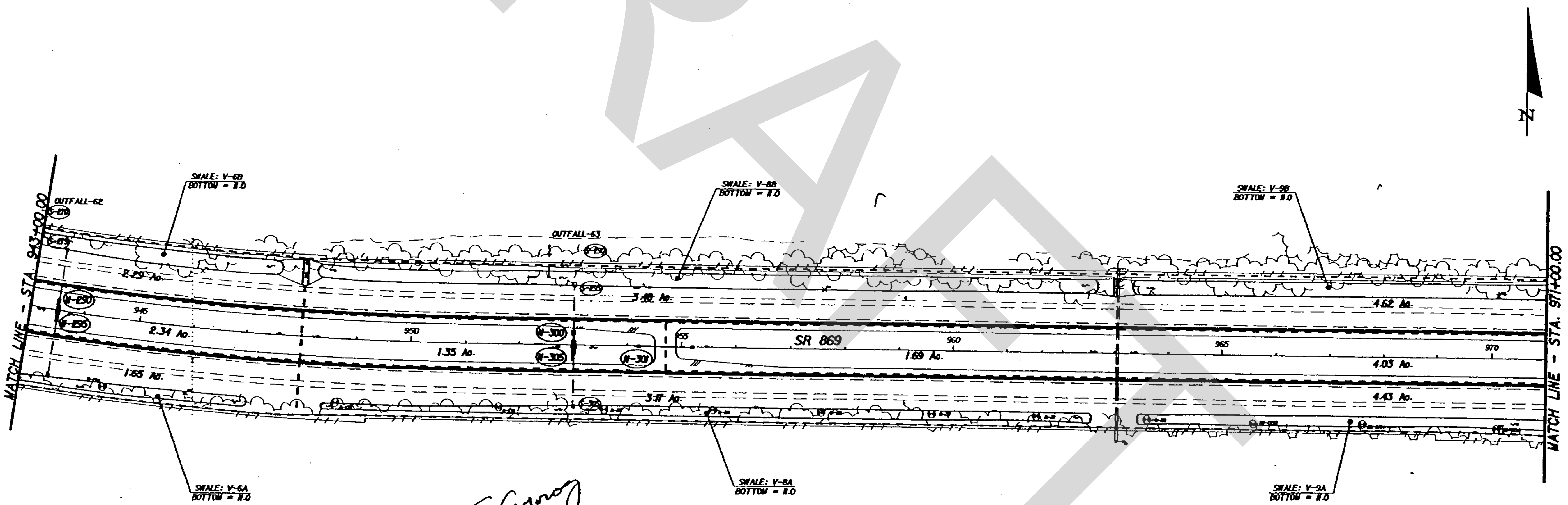
EOR: THOMAS J. GYOROG
P.E. LICENSE NUMBER 46612
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32225
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

SAWGRASS EXPRESSWAY DRAINAGE MAP

SHEET NO. 7





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T.J. Gyorog 8/31/05

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FOR EXAMPLE: 15.98' SHOWN IN THE PLANS IS EQUAL TO 17.53' NGVD '29.

0 50 200
Feet

REVISIONS		
DATE	BY	DESCRIPTION

APAC
PARSONS

EOR: THOMAS J. GYOROG
P.E. LICENSE NUMBER 46612
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32225
CERTIFICATE OF AUTHORIZATION 1838

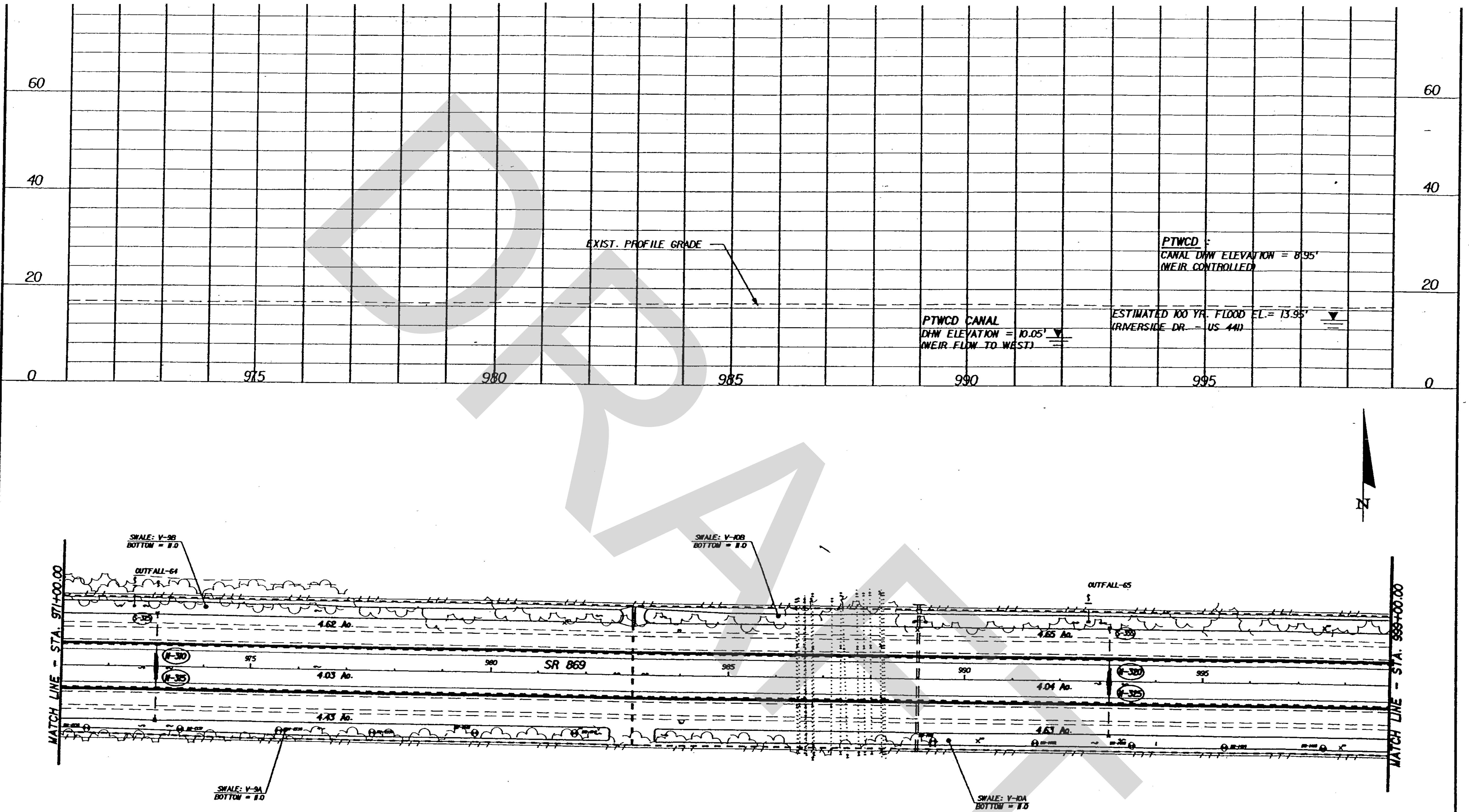
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

SAWGRASS EXPRESSWAY
DRAINAGE MAP

SHEET NO. 8

01-SEP-2005 13:56



T.J. Gyorog 8/31/05

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0 50 200
Feet

REVISIONS

DATE	BY	DESCRIPTION

apac PARSONS

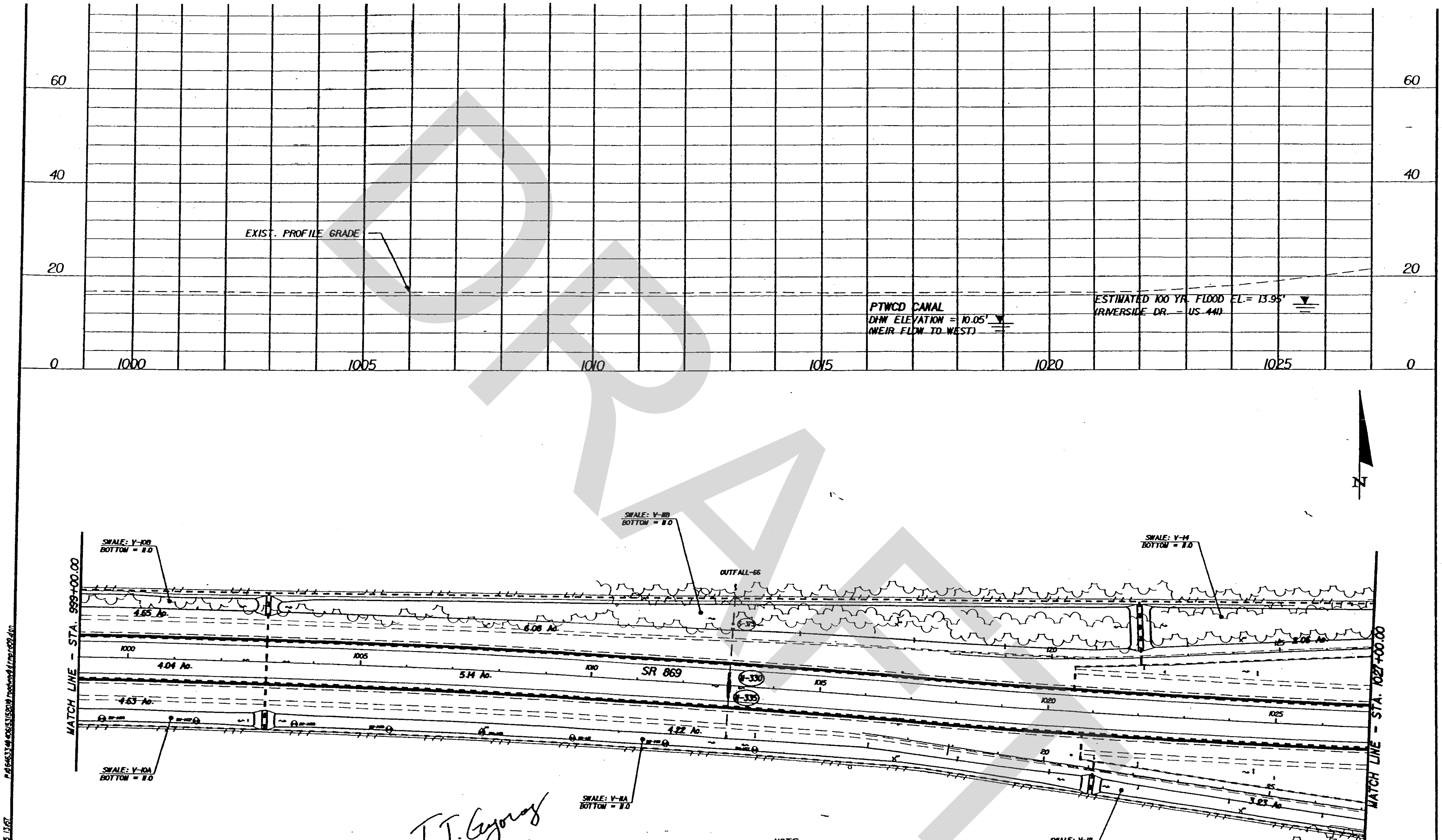
EOR: THOMAS J. GYOROG
P.E. LICENSE NUMBER 46612
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32225
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

SAWGRASS EXPRESSWAY
DRAINAGE MAP

SHEET NO. 9



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T.J. Gyorog 8/31/05

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ALL ELEVATIONS NAVD '88 DATUM.
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FOR EXAMPLE: 15.98' SHOWN IN THE PLANS IS EQUAL TO 17.53' NGVD '29.

REVISIONS

DATE	BY	DESCRIPTION

apac PARSONS

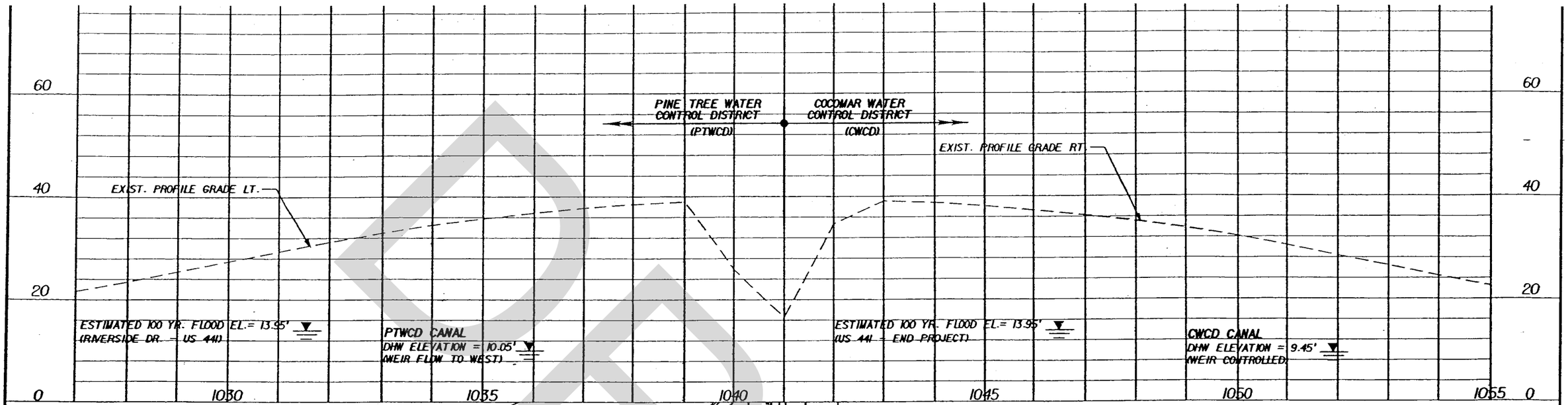
EOR: THOMAS J. GYOROG
P.E. LICENSE NUMBER 46612
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32225
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

SAWGRASS EXPRESSWAY
DRAINAGE MAP

SHEET NO. 10



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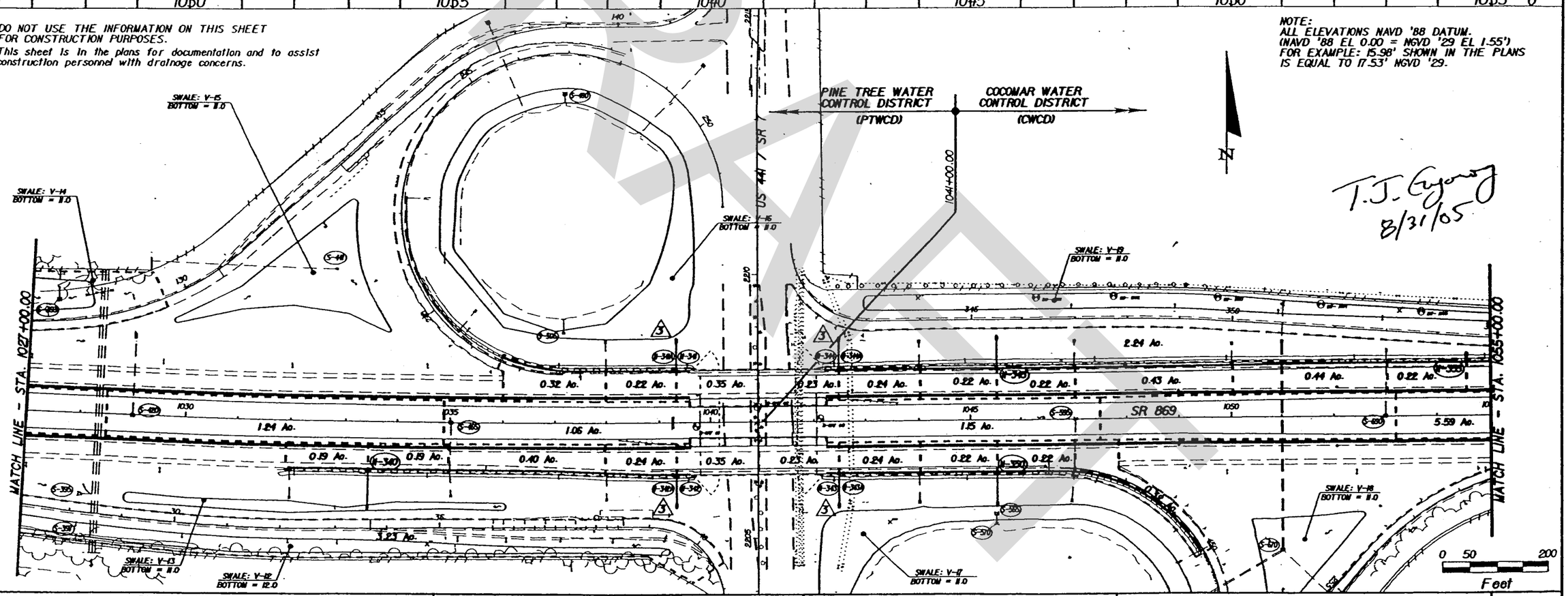


T.J. Gyorog
8/31/05

REVISIONS		
DATE	BY	DESCRIPTION
8-31-05	TJG	3 ADDED N-341, N-341A, N-342, N-342A, N-343, N-343A; N-344, & N-344A.

apac
PARSONS

EOR: THOMAS J. GYOROG
P.E. LICENSE NUMBER 46612
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32225
CERTIFICATE OF AUTHORIZATION 1838

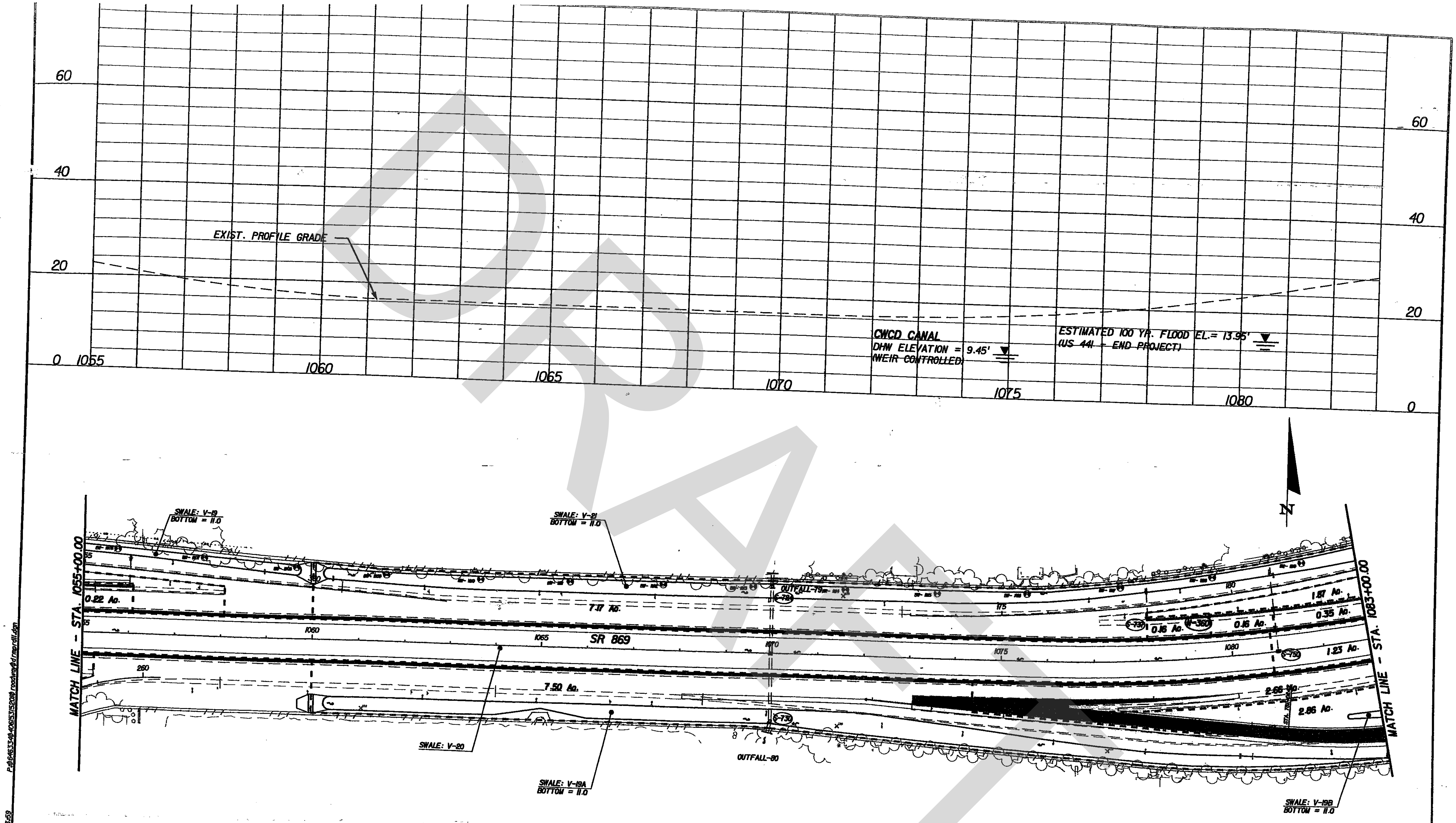
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

SAWGRASS EXPRESSWAY
DRAINAGE MAP

SHEET NO. 11

08-SEP-2005 14:44



DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES.
This sheet is in the plans for documentation and to assist construction personnel with drainage concerns.

T.J. Gyorog
8/31/05

NOTE:
ALL ELEVATIONS NAVD '88 DATUM.
(NAVD '88 EL 0.00 = NGVD '29 EL 1.55')
FOR EXAMPLE: 15.98' SHOWN IN THE PLANS IS EQUAL TO 17.53' NGVD '29.

0 50 200
Feet

01-SEP-2005 13:59

REVISIONS		
DATE	BY	DESCRIPTION
		RELEASED FOR CONSTRUCTION

apac
PARSONS

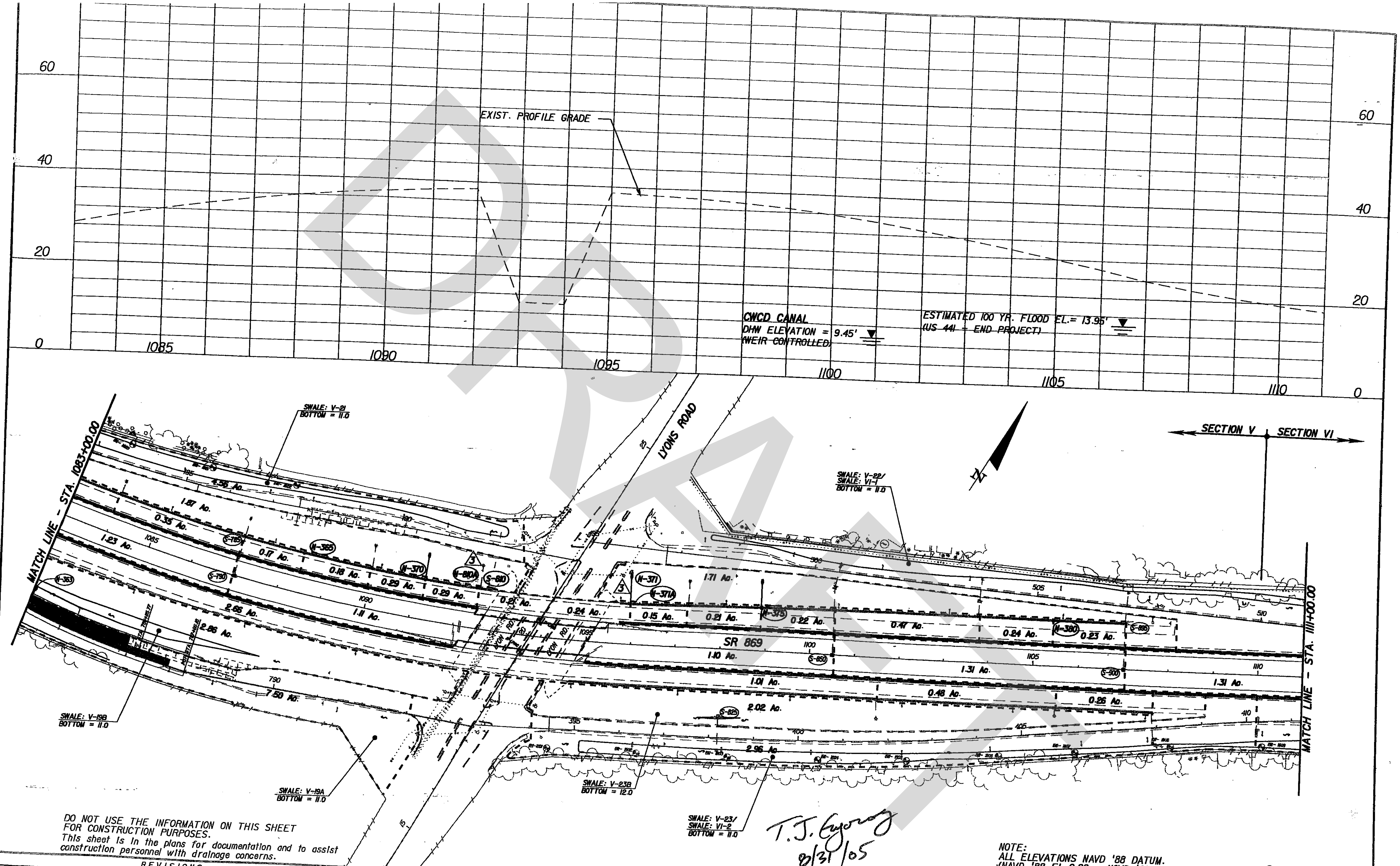
EOR: THOMAS J. GYOROG
P.E. LICENSE NUMBER 46612
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32225
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

SAWGRASS EXPRESSWAY
DRAINAGE MAP

SHEET NO.
12



REVISIONS		
DATE	BY	DESCRIPTION
8-31-05	TJG	3 ADDED N-810A & N-371, & N-371A

RELEASED FOR CONSTRUCTION

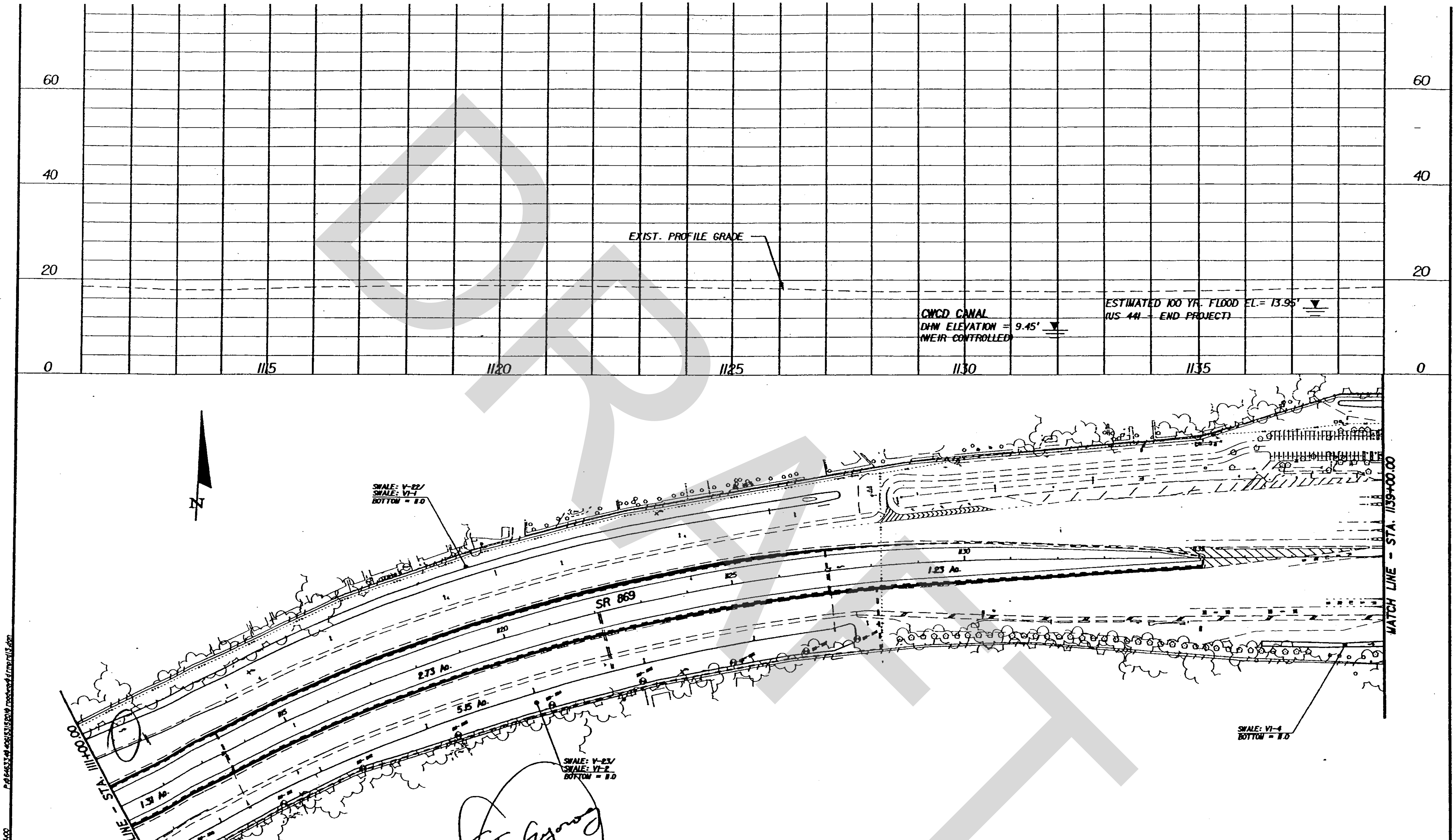
apac PARSONS

EOR: THOMAS J. GYOROG
P.E. LICENSE NUMBER 46612
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32225
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

SAWGRASS EXPRESSWAY
DRAINAGE MAP

SHEET NO. 13



T.J. Gyorog 8/31/05

NOTE:
ALL ELEVATIONS NAVD '88 DATUM.
(NAVD '88 EL 0.00 = NGVD '29 EL 1.55')
FOR EXAMPLE: 15.98' SHOWN IN THE PLANS
IS EQUAL TO 17.53' NGVD '29.

DO NOT USE THE INFORMATION ON THIS SHEET
FOR CONSTRUCTION PURPOSES.
This sheet is in the plans for documentation and to assist construction personnel with drainage concerns.

REVISIONS		
DATE	BY	DESCRIPTION

apac
PARSONS

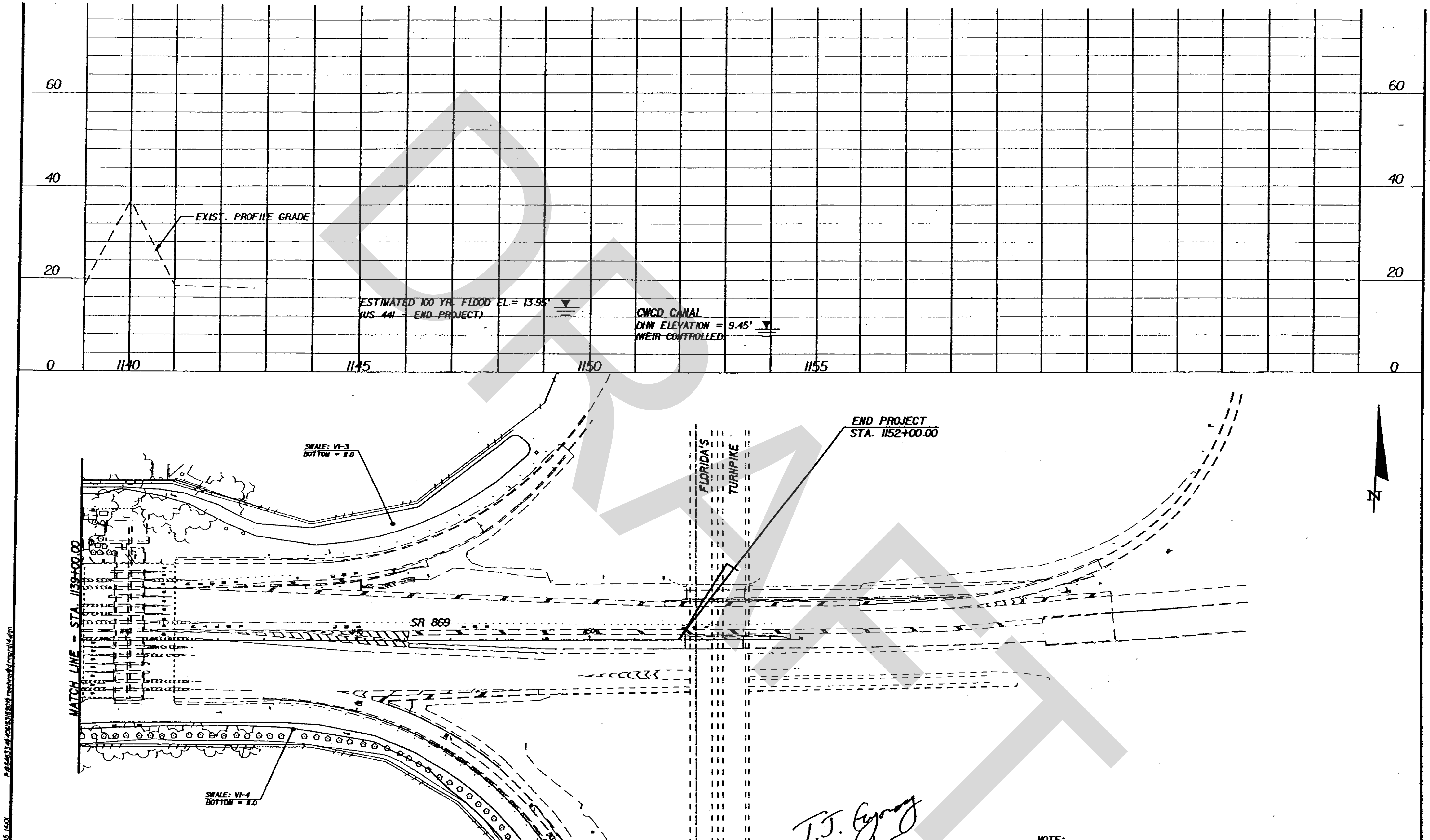
EOR: THOMAS J. GYOROG
P.E. LICENSE NUMBER 46612
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32225
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

SAWGRASS EXPRESSWAY
DRAINAGE MAP

SHEET NO.
14



DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES.
This sheet is in the plans for documentation and to assist construction personnel with drainage concerns.

T.J. Gyorog 8/31/05

NOTE:
ALL ELEVATIONS NAVD '88 DATUM.
(NAVD '88 EL 0.00 = NGVD '29 EL 1.55')
FOR EXAMPLE: 15.98' SHOWN IN THE PLANS IS EQUAL TO 17.53' NGVD '29.

01-SEP-2005 14:01

REVISIONS		
DATE	BY	DESCRIPTION

apac
PARSONS

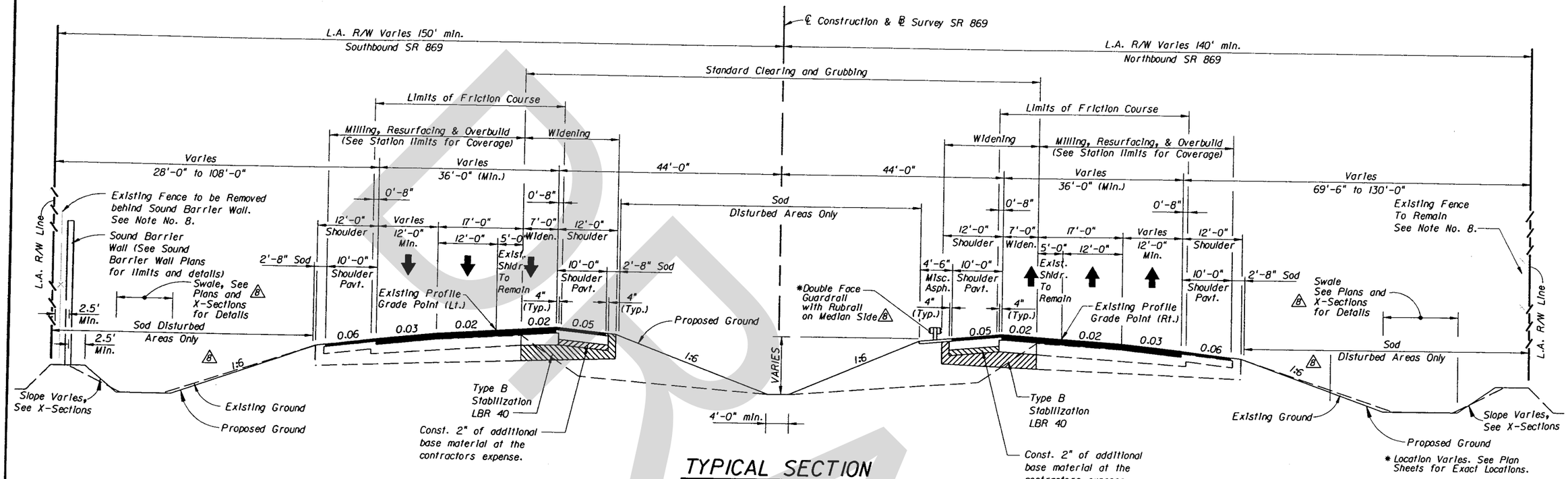
EOR: THOMAS J. GYOROG
P.E. LICENSE NUMBER 46612
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32225
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

SAWGRASS EXPRESSWAY DRAINAGE MAP

SHEET NO. 15



TYPICAL SECTION
SR 869 MAINLINE
(SAWGRASS EXPRESSWAY)

STA. 786+00.00 TO STA. 1152+00.00

DESIGN SPEED = 70 MPH

TYPICAL SECTION NOTES

1. NONE OF THE EXISTING LIMEROCK BASE THAT IS REMOVED MAY BE USED IN THE CONSTRUCTION OF THE NEW LIMEROCK BASE.
2. ALL OF THE EXISTING LIMEROCK BASE THAT IS REMOVED MAY BE INCORPORATED IN THE STABILIZED PORTION OF THE SUBGRADE.
3. ACTUAL WIDTH OF BASE WIDENING MAY VARY DUE TO ACTUAL EXISTING PAVEMENT WIDTH. CONTRACTOR MAY ELECT TO PLACE UNIFORM WIDTH BASE WIDENING STRIP AT NO ADDITIONAL COST (SEE TYPICAL WIDENING PAVEMENT DETAIL).
4. ALL MAINLINE FLEXIBLE PAVEMENT SHOULDERS SHALL UTILIZE GROUND-IN RUMBLE STRIPS AS PER INDEX NO. 518. THERE WILL BE NO GROUND-IN RUMBLE STRIPS ON BRIDGE SHOULDERS APPROACH SLABS. SEE INTERIM STANDARD INDEX NO. 518 SHEET 2 OF 2 AS PER TURNPIKE MEMORANDUM NO. 34-00, DATED DEC 5, 2000.
5. THE CONTRACTOR SHALL GRADE ALL DITCHES TO ELEVATIONS SHOWN IN THE SPECIAL DITCH PROFILES, CROSS SECTIONS, AND MEDIAN DITCH DEPTH TABLE. DITCH BOTTOM WIDTH SHALL VARY ACCORDINGLY.
6. CONTRACTOR SHALL BE REQUIRED TO SOD ALL AREAS DISTURBED DURING CONSTRUCTION.
7. STRUCTURAL COURSE ON THE SHOULDERS SHALL BE FLUSH WITH STRUCTURAL COURSE ON THE TRAVELWAY.
8. EXISTING FENCE SHALL BE REMOVED IN AREAS BEHIND SOUND BARRIER WALL. EXISTING FENCE SHALL REMAIN IN AREAS WITHOUT SOUND BARRIER WALL AND RESET TO MATCH ENDS OF SOUND BARRIER WALL. PRIVATE PROPERTY FENCES ADJACENT TO SOUND BARRIER WALL SHALL BE EXTENDED TO SOUND BARRIER WALL WITH 'LIKE KIND' FENCE. FENCE SHALL ALSO BE RELOCATED IN AREAS OF BERM RELOCATION AND NO SOUND WALL.

TRAFFIC DATA

CURRENT YEAR ESTIMATE = 2003 = 63,800
OPENING YEAR ESTIMATE = 2010 = 70,700
DESIGN YEAR ESTIMATE = 2030 = 89,500
K = 11.22% D = 51.93% T = 4.6%
DESIGN SPEED = 70mph

PAVEMENT DESIGN DATA

NEW TRAVEL LANES

12" TYPE B STABILIZATION LBR 40
OPTIONAL BASE GROUP 9
WITH 3½" TYPE SP STRUCTURAL COURSE, TRAFFIC LEVEL C (PG 76-22) AND ¾" FRICTION COURSE FC-5

NEW SHOULDERS

12" TYPE B STABILIZATION LBR 40
OPTIONAL BASE GROUP 9
WITH 1½" TYPE SP STRUCTURAL COURSE, TRAFFIC LEVEL B

NEW OUTSIDE WIDENING

18" ~~12"~~ LIMEROCK BASE
3½" ~~2½~~" TYPE SP STRUCTURAL COURSE, TRAFFIC LEVEL C (PG 76-22)
¾" FRICTION COURSE FC-5

EXISTING TRAVEL LANES

MILLING

MILL EXISTING ASPHALT CONCRETE PAVEMENT:
INSIDE LANE AND INSIDE SHLDR. (3/4" AVERAGE DEPTH)
OUTSIDE LANE (1½" AVERAGE DEPTH)

RESURFACING

1½" TYPE SP STRUCTURAL COURSE, TRAFFIC LEVEL C (PG 76-22) AND ¾" FRICTION COURSE FC-5

EXISTING SHOULDER PAVEMENT

MILLING

MILL EXISTING ASPHALT CONCRETE PAVEMENT (1" AVG. DEPTH)

RESURFACING

1" TYPE SP STRUCTURAL COURSE, TRAFFIC LEVEL B

Lon Ogden PE #46223 5/14/2008 As-Built Revisions Only

REVISIONS		
DATE	BY	DESCRIPTION
8-11-05	LDO	2 ADDED 2" OF ADDITIONAL BASE MATERIAL
8-18-06	DFW	6 ADJUST FRONT SLOPES FROM 1:4 TO 1:6. REVISED RUBRAIL NOTATION.

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

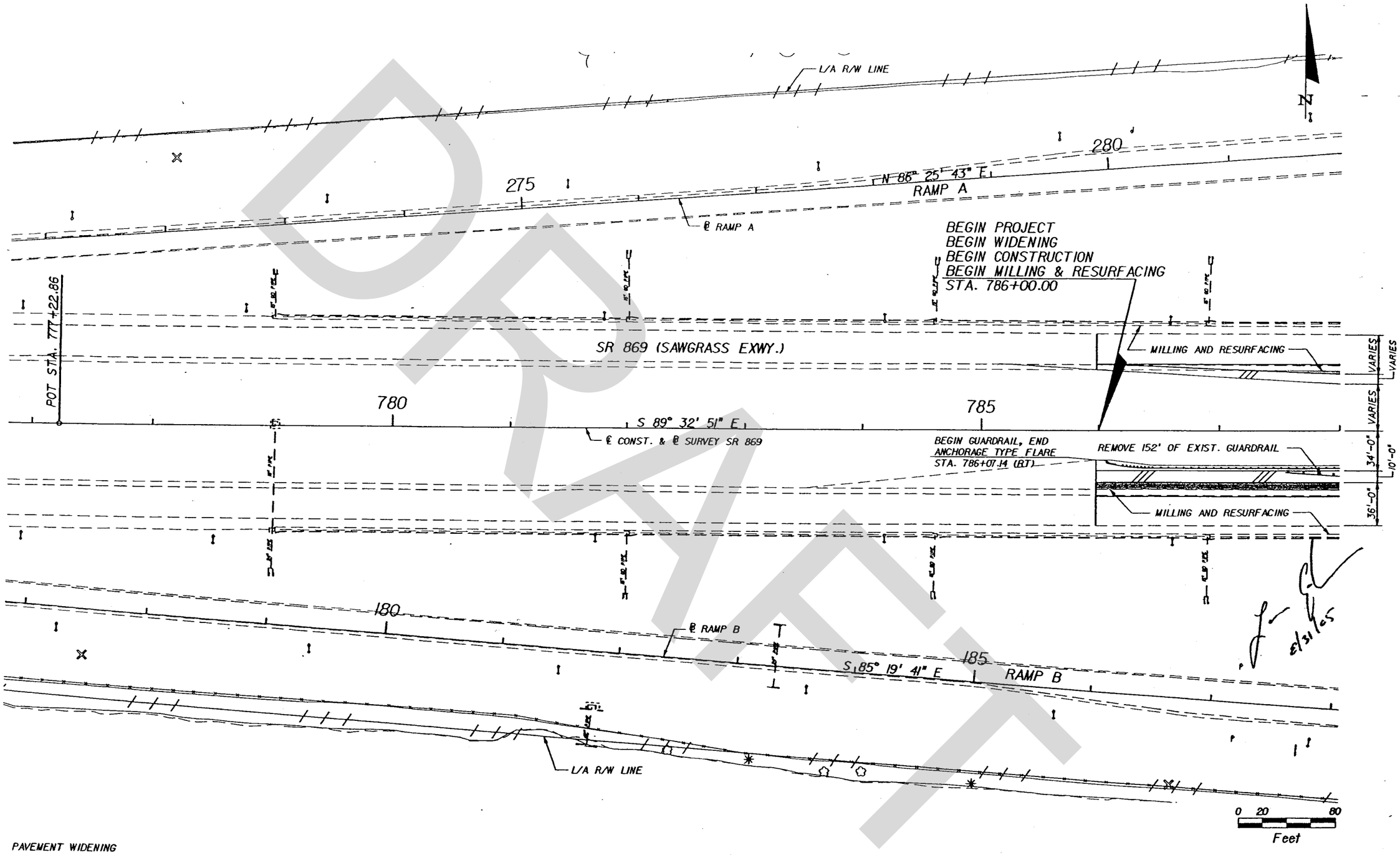
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

$USER$

SAWGRASS EXPRESSWAY
TYPICAL SECTIONS

$DATE$ $TIME$ $FILE$

SHEET NO. 16



REVISIONS		
DATE	BY	DESCRIPTION

apac PARSONS

EOR: LON D. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 31

℄ CORAL RIDGE DR.
STA. 32+46.94
END ℄ RAMP A
STA. 184+22.74
BEGIN ℄ RAMP C
STA. 290+22.35

RAISE EXIST. TYPE B WCS GRATE FROM EL. 6.28 TO EL. ~~8.00.~~ 7.98 CONST. BLEEDER

L/A R/W LINE

A-5

RAISE EXIST. TYPE B WCS GRATE FROM EL. 6.84 TO EL. 8.00. CONST. BLEEDER

NO CHANGE

SWALE IV-9D (BTM.EL.= 7.0) Δ8

N 86° 25' 43" E

RAMP A

℄ RAMP A

℄ RAMP C

S 85° 28' 03" E

295

MILLING AND RESURFACING

RAMP C

A-6

BEGIN BRIDGE
STA. 789+17.96 (LT)

END BRIDGE
STA. 791+38.96 (LT)

BEGIN MILLING & RESURFACING
RAMP C
STA. 292+09.87

SWALE IV-9C (BTM.EL.= 7.3) Δ8

CORAL RIDGE

BEGIN RESET EXIST. GUARDRAIL
BEGIN SHLDR. GUTTER MODIFY
STA. 791+39.92 (LT)

END RESET EXIST. GUARDRAIL
BEGIN CONST. GUARDRAIL
STA. 793+74.60 (LT)

MODIFY SHLDR. GUTTER

CONST. GUARDRAIL

REMOVE 150' OF EXIST. GUARDRAIL

SR 869 (SAWGRASS EXWY.)

END GUARDRAIL W/ ANCHORAGE TYPE FLARE
STA. 794+51.70 (LT)

MILLING AND RESURFACING

B-CRD #2

790

30

795

S 89° 32' 51" E

BEGIN GUARDRAIL
STA. 791+59.84 (LT)

END GUARDRAIL
STA. 788+99.04 (RT)

BEGIN GUARDRAIL
STA. 791+59.84 (RT)

BEGIN DOUBLE FACE GUARDRAIL W/
END ANCHORAGE TYPE II
STA. 793+51.66 (RT)

℄ CONST. & ℄ SURVEY SR 869

CONST. DOUBLE FACE GUARDRAIL

B-CRD #1

REMOVE 152' OF EXIST. GUARDRAIL

℄ & ℄ SR 869
STA. 790+28.46
℄ CORAL RIDGE DR.
STA. 30+00.00

MILLING AND RESURFACING

36'-0"
10'-0"
34'-0"
34'-0"
10'-0"
36'-0"

BEGIN RESET EXIST. GUARDRAIL
BEGIN SHLDR. GUTTER MODIFY
STA. 791+39.72 (RT)

MODIFY SHLDR. GUTTER

END RESET EXIST. GUARDRAIL
BEGIN CONST. GUARDRAIL
STA. 793+80.26 (LT)

CONST. GUARDRAIL

BEGIN BRIDGE
STA. 789+17.96 (RT)

END BRIDGE
STA. 791+38.96 (RT)

RAISE EXIST. TYPE A WCS GRATE FROM EL. 6.84 TO EL. 8.00. CONST. BLEEDER

NO CHANGE

SWALE IV-9B (BTM.EL.= 7.3) Δ8

SWALE IV-9E (BTM.EL.= 7.4) Δ8

℄ RAMP D

A-13

℄ RAMP B

RAMP B

S 85° 19' 41" E

190

395

RAMP D

N 86° 10' 24" E

MILLING AND RESURFACING

CONST. DITCH BLOCK Δ8

SWALE IV-10 (BTM.EL.= 7.0)

BW-0101

BEGIN MILLING & RESURFACING
RAMP D
STA. 391+86.92

SWALE IV-9A (BTM.EL.= 7.0) Δ8

℄ CORAL RIDGE DR.
STA. 27+48.14
END ℄ RAMP B
STA. 190+35.24
BEGIN ℄ RAMP D
STA. 390+23.05

CORAL RIDGE

BEGIN NOISE BARRIER WALL
STA. 797+09.54 (RT)

Δ8 NOISE BARRIER WALL 1

A-14

L/A R/W LINE

LOWER EXIST. TYPE A WCS GRATE FROM EL. 8.12 TO EL. ~~8.00.~~ 8.02 CONST. BLEEDER

0 20 80
Feet

PAVEMENT WIDENING

SHOULDER PAVEMENT

Donald T. Quiff
PE #46223
4/28/08
As-Built Revisions Only

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	Δ8 ADDED DITCH BLOCK NOTE.
01-19-06	RVS	Δ5 REVISED NOISE BARRIER WALLS 1 ALIGNMENT.
08-18-06	DFW	Δ8 REVISED STORMWATER TREATMENT SWALES.

apac
PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 32

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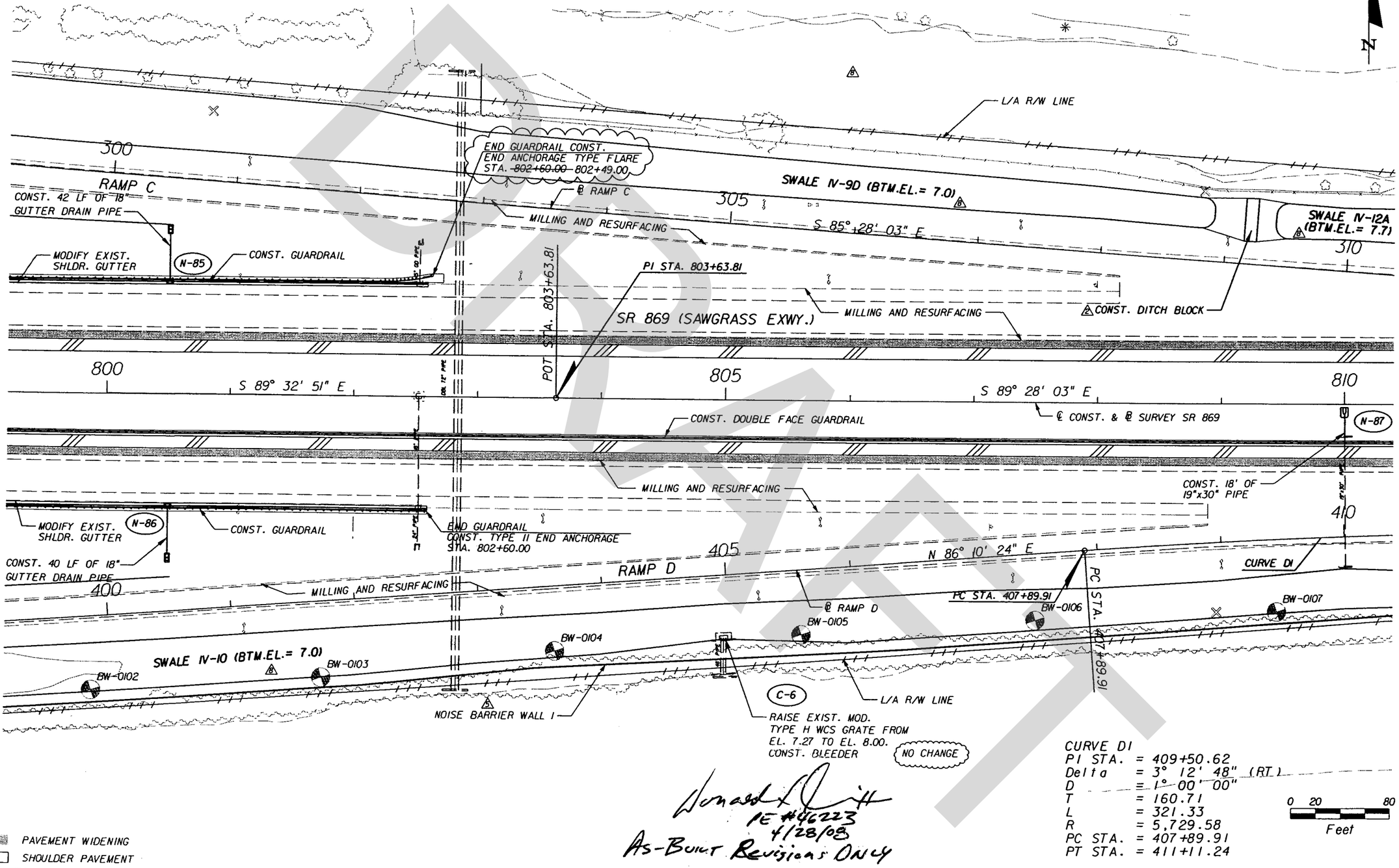

CURVE D1
PI STA. = 409+50.62
Delta = 3° 12' 48" (RT)
D = 1° 00' 00"
T = 160.71
L = 321.33
R = 5,729.58
PC STA. = 407+89.91
PT STA. = 411+11.24

Howard L. Ogden III
PE #46223
4/28/08
As-Built Revisions Only

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	⚠ ADDED DITCH BLOCK NOTE.
01-19-06	RVS	⚠ REVISED NOISE BARRIER WALL 1 ALIGNMENT.
08-18-06	DFW	⚠ REVISED STORMWATER TREATMENT SWALES, DELETE CANAL REVETMENT.

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 33

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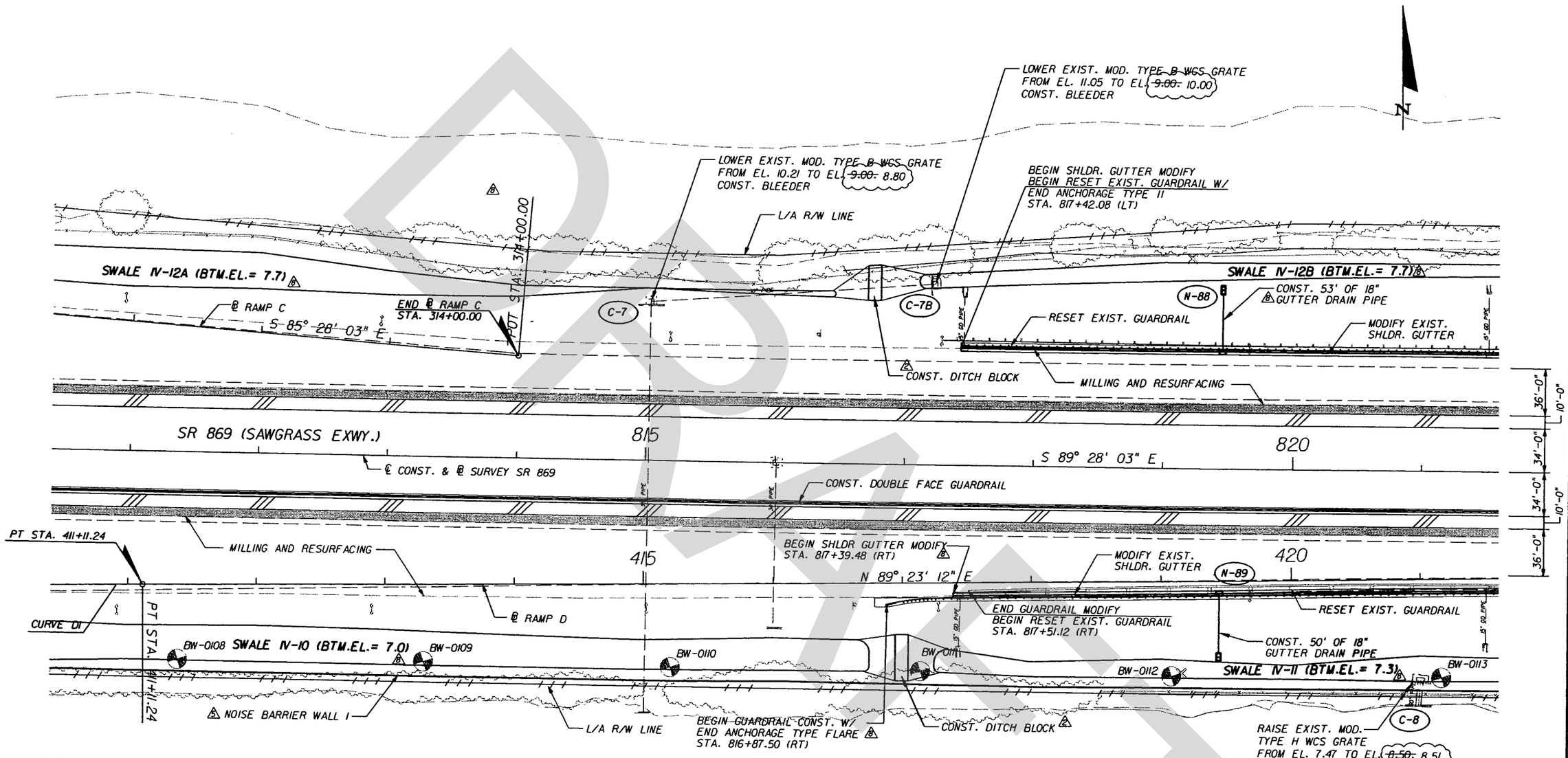


CURVE DI
PI STA. = 409+50.62
Delta = 3° 12' 48" (RT)
D = 1° 00' 00"
T = 160.71
L = 321.33
R = 5,729.58
PC STA. = 407+89.91
PT STA. = 411+11.24

PAVEMENT WIDENING

SHOULDER PAVEMENT

0 20 80
Feet

As-Built Information Only
PE #46223
4/28/08

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	2 ADDED DITCH BLOCK NOTE.
01-19-06	RVS	5 REVISED NOISE BARRIER WALLS 1 ALIGNMENT.
08-18-06	DFW	8 REVISED STORMWATER TREATMENT SWALES, DELETE CANAL REVETMENT, MODIFY BEGIN SHOULDER GUTTER (RT) & GUTTER DRAIN LENGTHS.

apac PARSONS

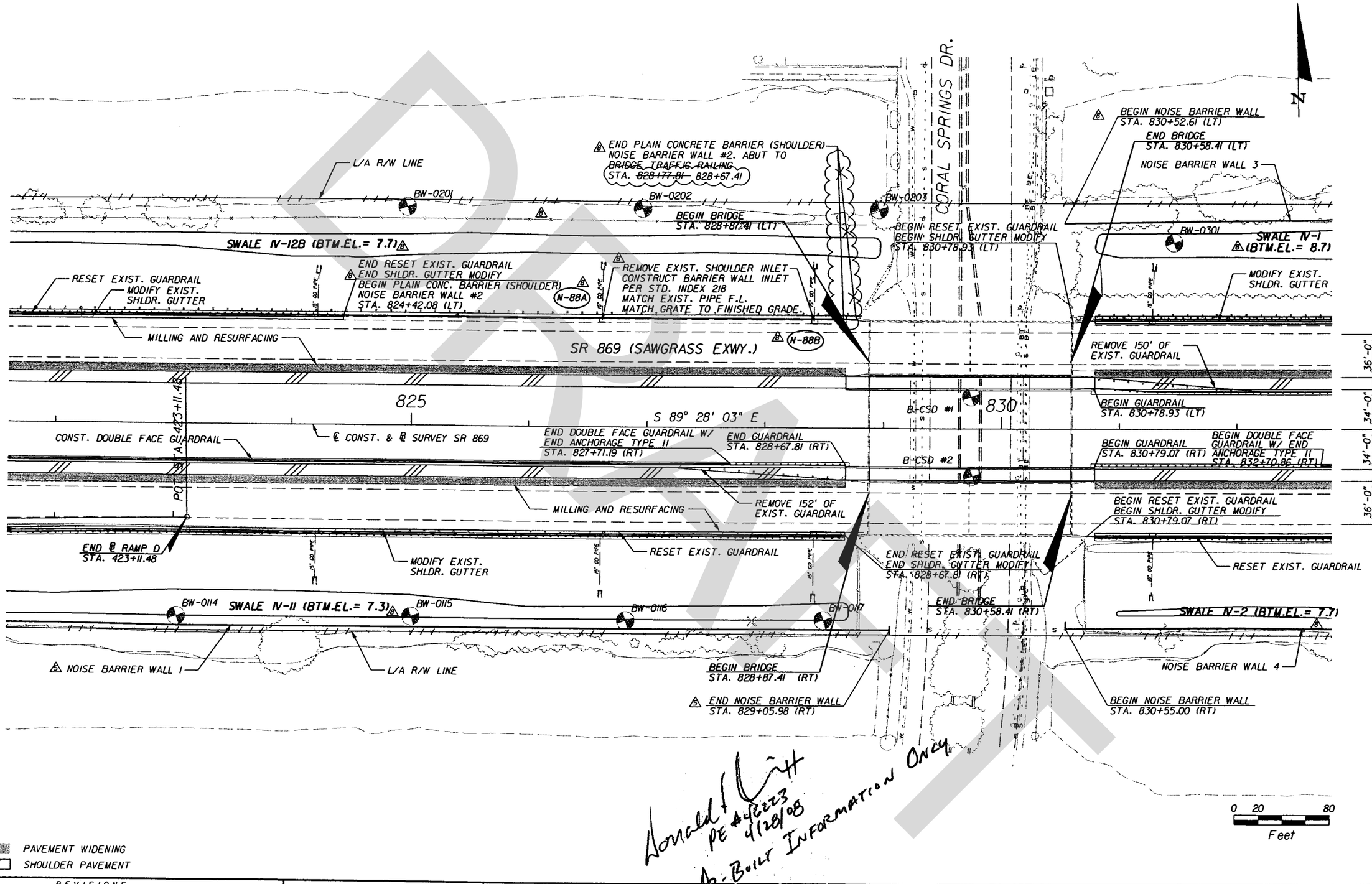
EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 34



Donald T. Witt
PE #46223
4/28/08
As-Built Information Only

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	② ADDED DITCH BLOCK NOTE.
01-19-06	RVS	③ REVISED NOISE BARRIER WALL 1 ALIGNMENT.
08-18-06	DFW	④ REVISED STORMWATER TREATMENT SWALES, DELETE CANAL REVETMENT, REVISE NOISE BARRIER WALLS 2 &3 ADD CONC. BARRIER WALL INLETS

apac
PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 35

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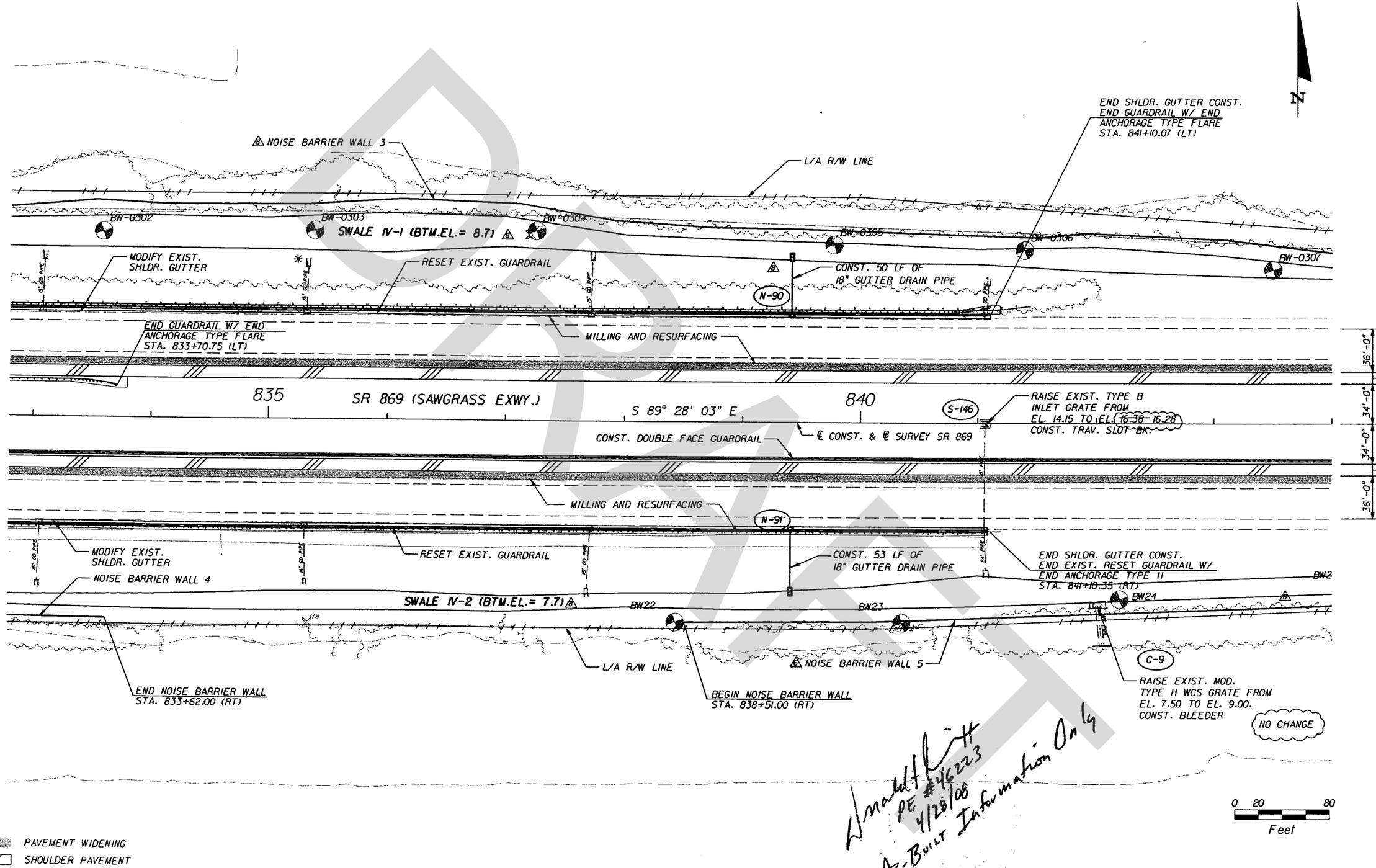

Donald Smith PE #46223 4/28/08 As-Built Information Only

PAVEMENT WIDENING

SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
01-24-06	RVS	6 REVISED LOCATION OF NOISE BARRIER NO.5
08-18-06	DFW	6 REVISED STORMWATER TREATMENT SWALES & NOISE BARRIER WALL 3. ADJUST PIPE LENGTH, DELETE CANAL REVETMENT.

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 36

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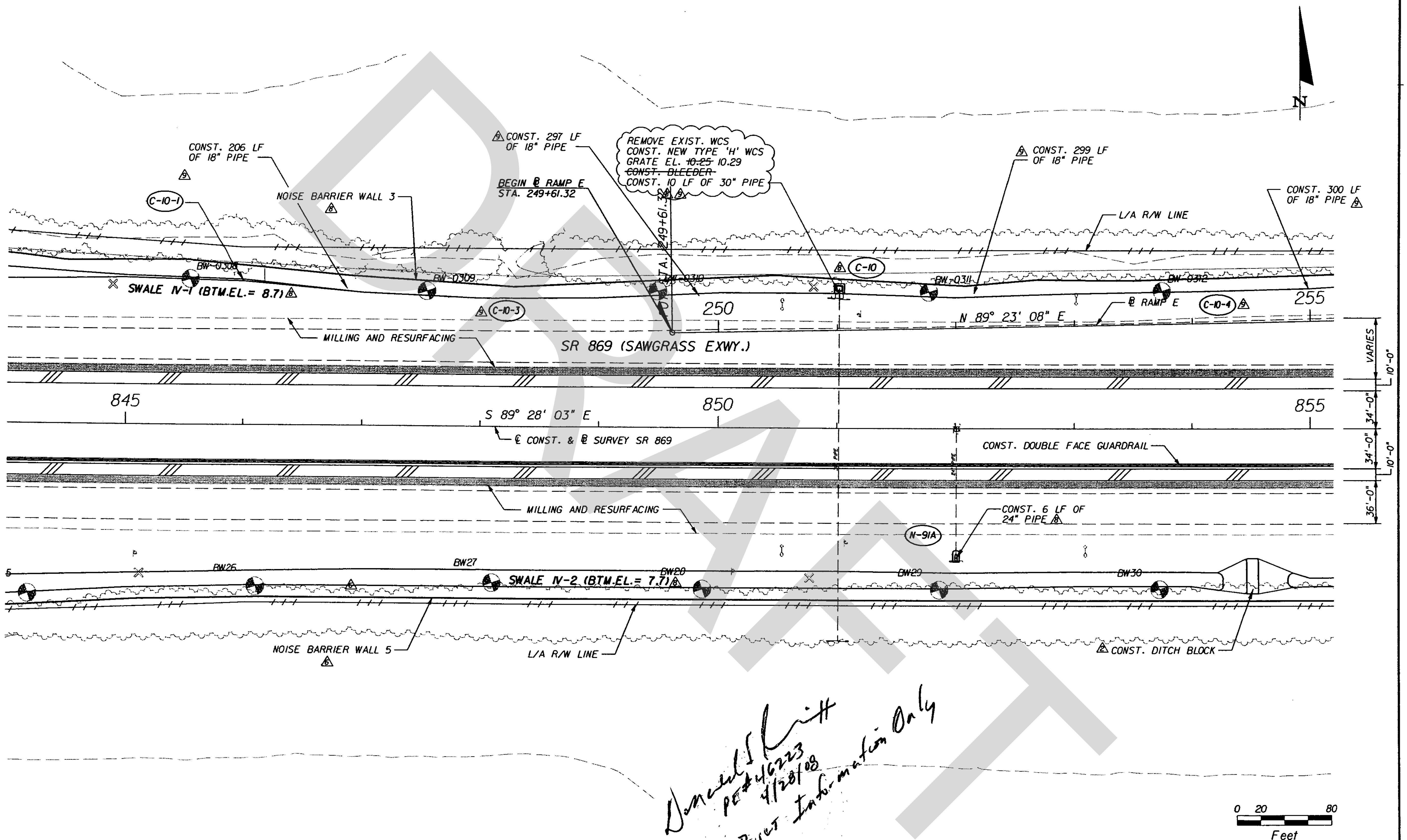

PAVEMENT WIDENING

SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	ADDED DITCH BLOCK NOTE.
01-24-06	RVS	REVISED LOCATION OF NOISE BARRIER NO. 5
08-18-06	DFW	REVISED STORMWATER TREATMENT SWALES, DELETE CANAL REVET. REVISE PIPE LENGTH & NOISE BARRIER WALL 3.
06-28-07	DFW	REVISED PIPES AND DRAINAGE STRUCTURES.

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 37

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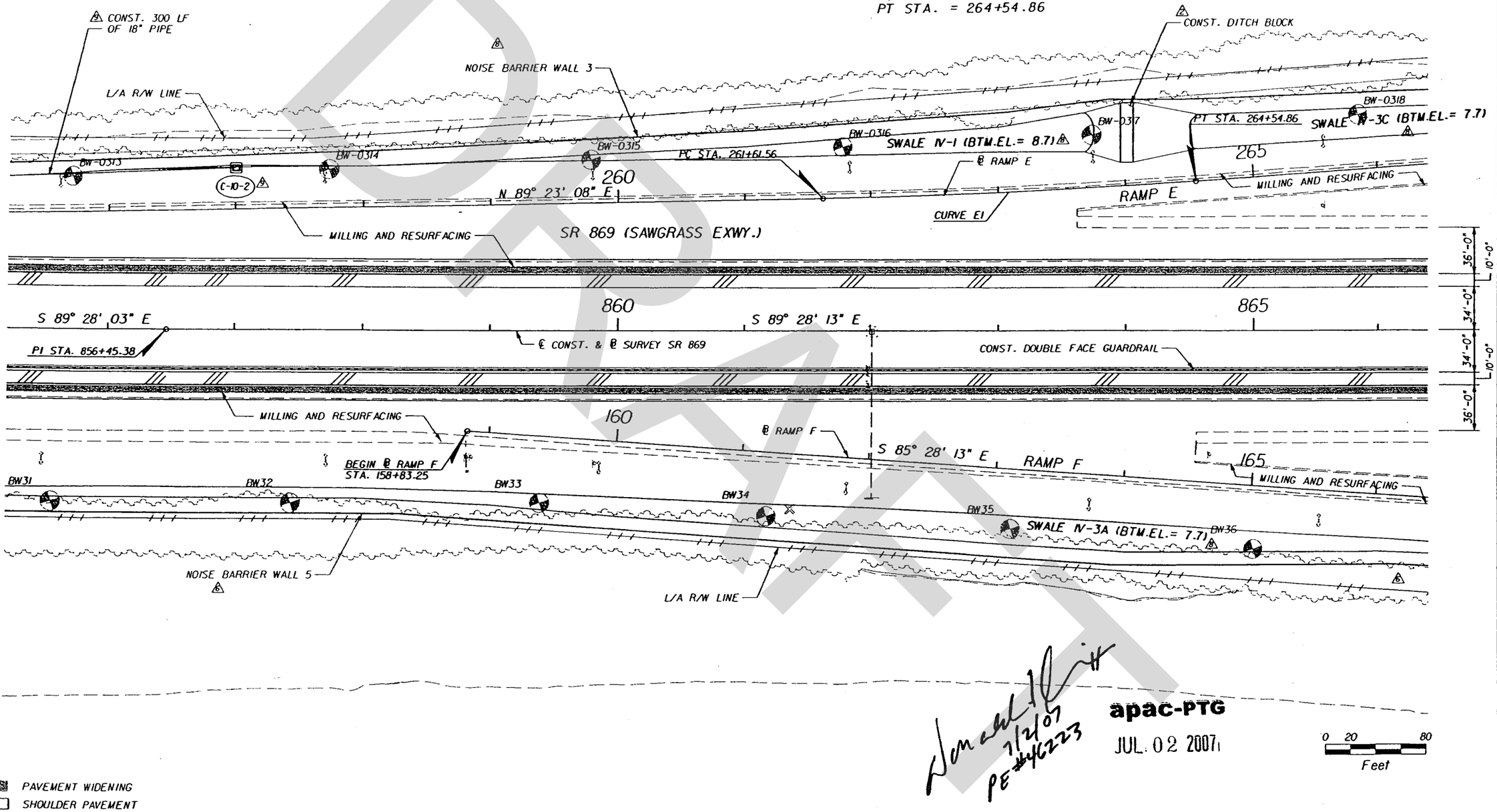
CURVE E1
PI STA. = 263+08.24
Delta = 2° 55' 59" (LT)
D = 1° 00' 00"
T = 146.68
L = 293.30
R = 5,729.58
PC STA. = 261+61.56
PT STA. = 264+54.86

N



apac-PTG
JUL 02 2007

0 20 80
Feet

PAVEMENT WIDENING
SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	⚠ ADDED DITCH BLOCK NOTE.
01-24-06	RVS	⚠ REVISED LOCATION NOISE BARRIER NO. 5
08-18-06	DFW	⚠ REVISED STORMWATER TREATMENT SWALES. DELETE CANAL REVETMENT. REVISE NOISE BARRIER WALL 3.
06-28-07	DFW	⚠ REVISED PIPES AND DRAINAGE STRUCTURES.

apac
PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

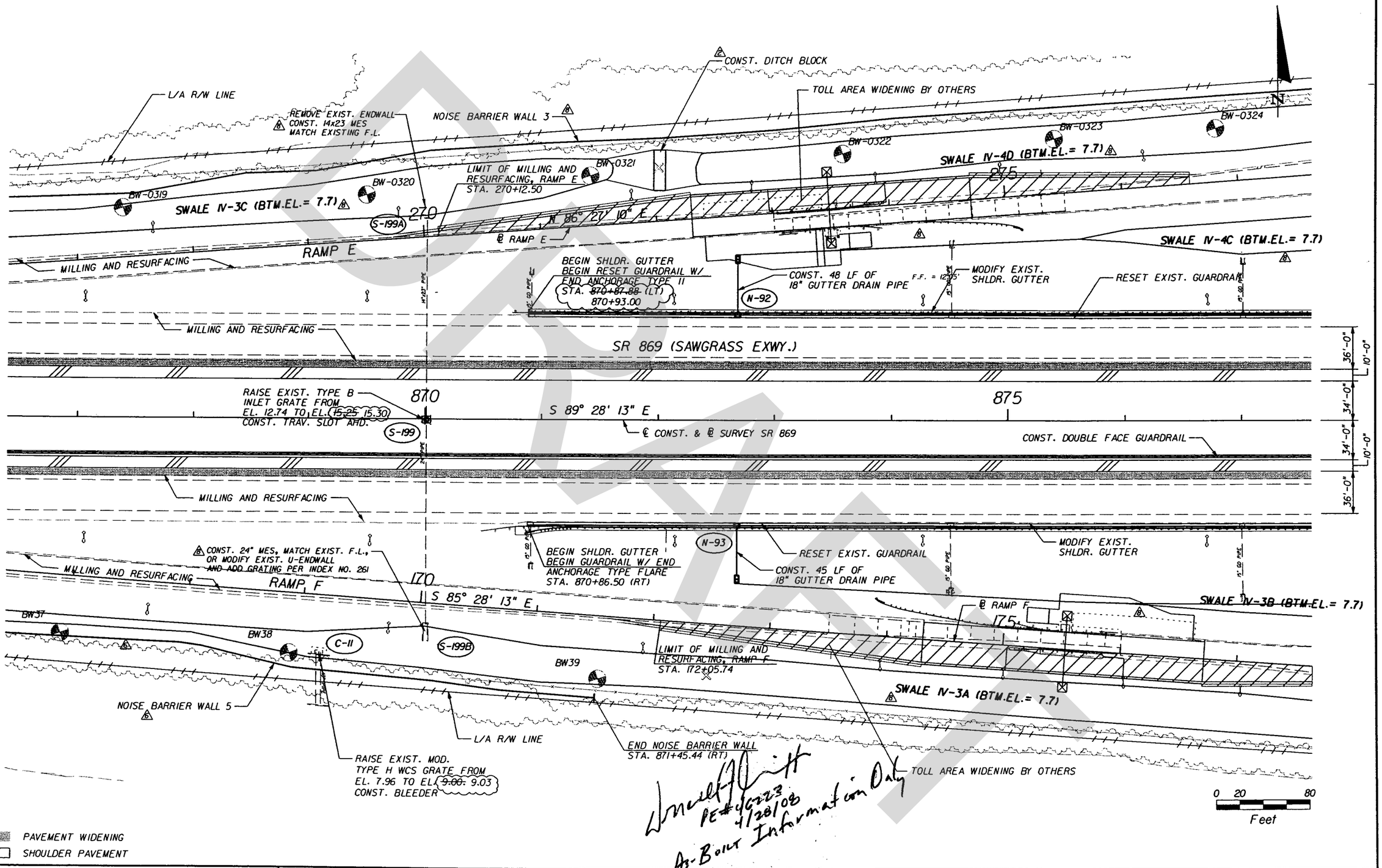
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

USER: p0024664

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 38

7/2/2007 2:56:30 PM p:\646334\406153\201\roadway\plnrd07.dgn



W. Neil Smith
PE# 46223
4/28/08
As-Built Information Only

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	A ADDED DITCH BLOCK NOTE.
01-24-06	RVS	B REVISED LOCATION OF NOISE BARRIER NO. 5
08-18-06	DFW	B REVISED STORMWATER TREATMENT SWALES. DELETE CANAL REVETMENT. ADD S-199A, S-199B & FUTURE TOLL WIDENING. REVISE NOISE BARRIER WALL 3

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 39

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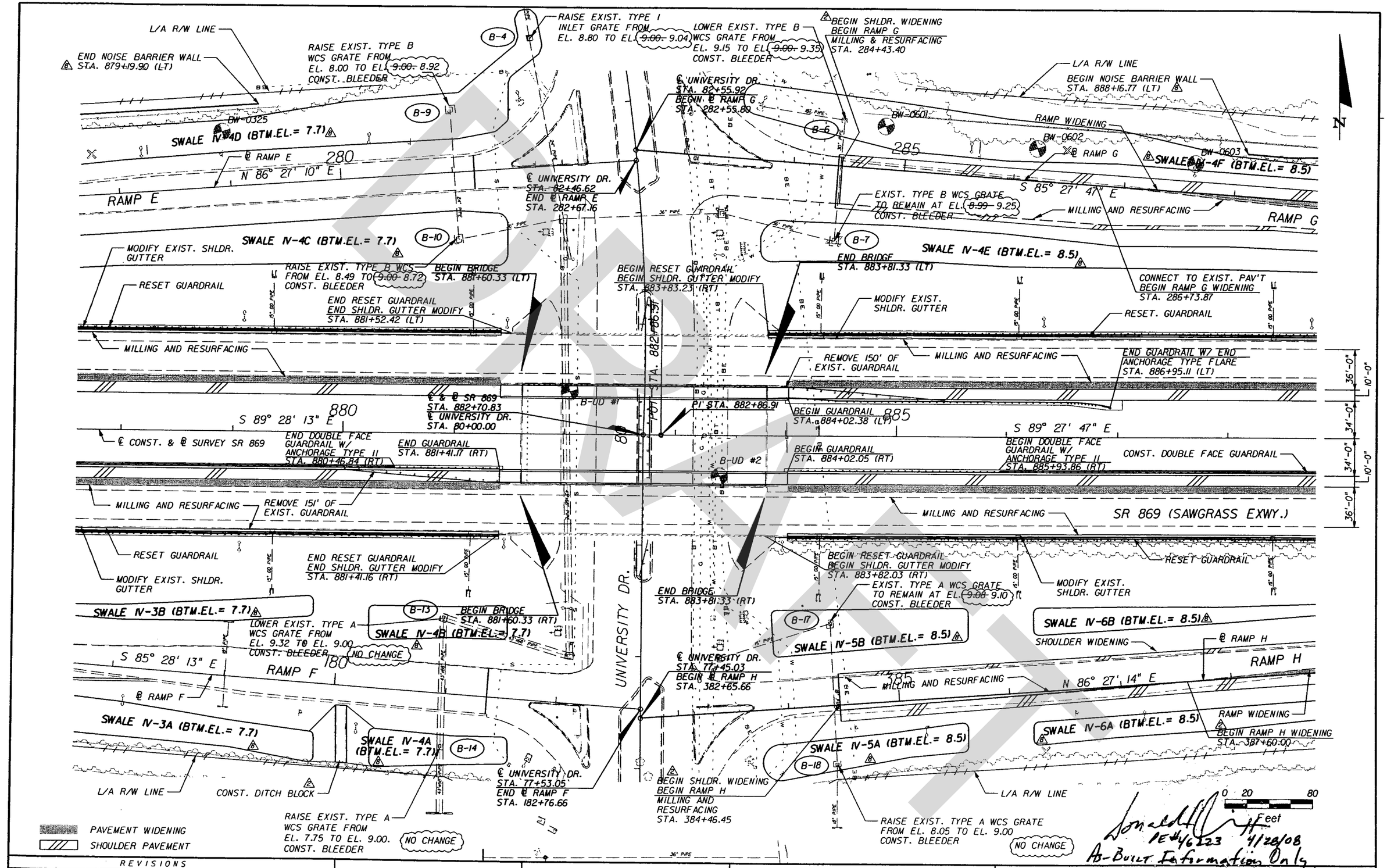

Jon Ogden 4/28/08
P.E. #46223
As-Built Information Only

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	⚠2 ADDED DITCH BLOCK NOTE.
08-11-05	LDO	⚠2 REVISED RAMP WIDENING NOTES & EXTENDED SHLDR. WIDENING
08-18-06	DFW	⚠6 REVISED STORMWATER TREATMENT SWALES, DELETE CANAL REVETMENT. REVISE NOISE BARRIER WALLS 3 AND 6.

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 40

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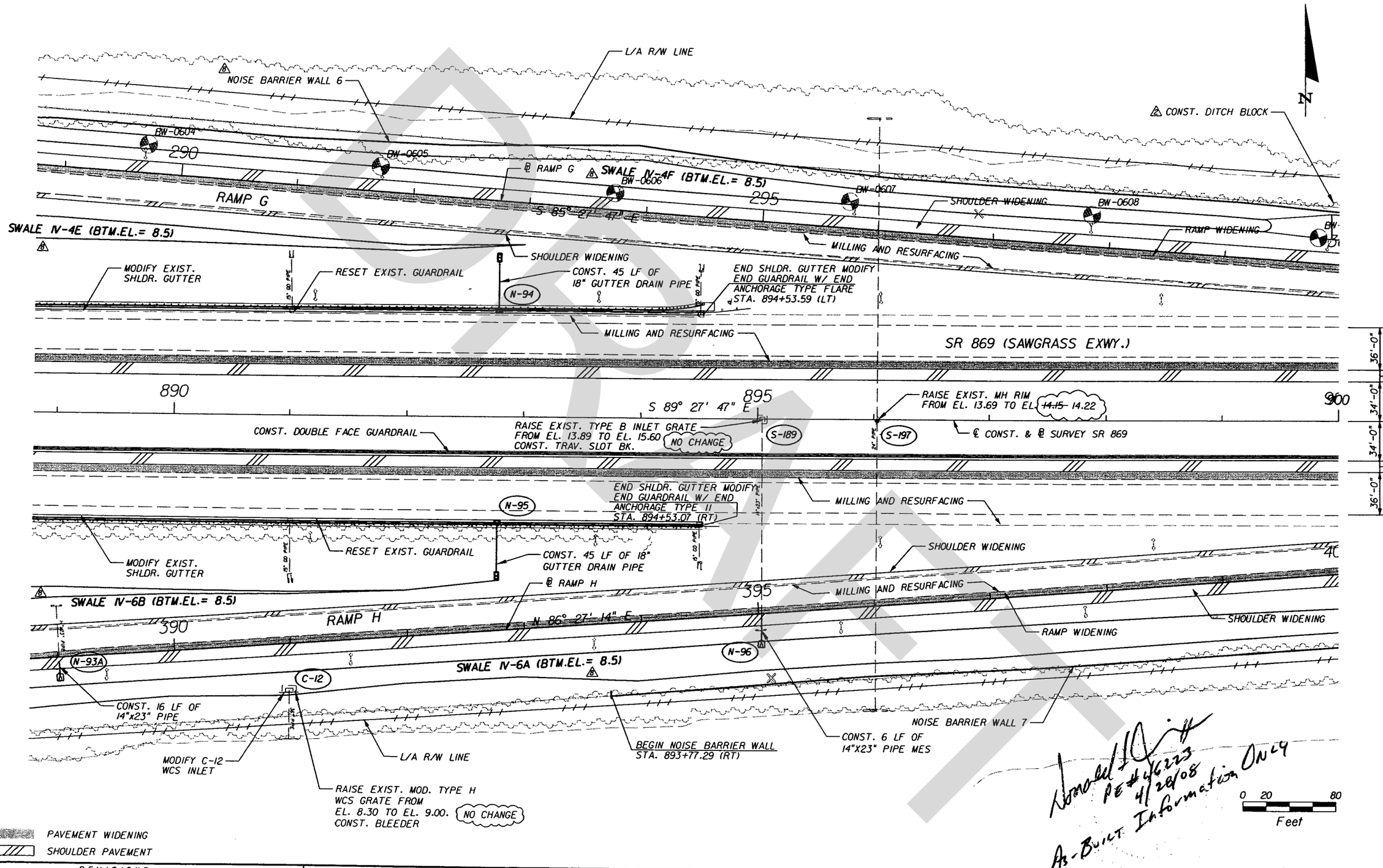

Donald Ogden PE #46223 4/28/08
As-Built Information ONLY

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	② ADDED DITCH BLOCK NOTE.
12-06-05	RVS	④ REVISED NOISE BARRIER WALL 7 ALIGNMENT.
08-18-06	DFW	⑧ REVISED STORMWATER TREATMENT SWALES AND NOISE BARRIER WALL 6. DELETE CANAL REVETMENT.

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 41

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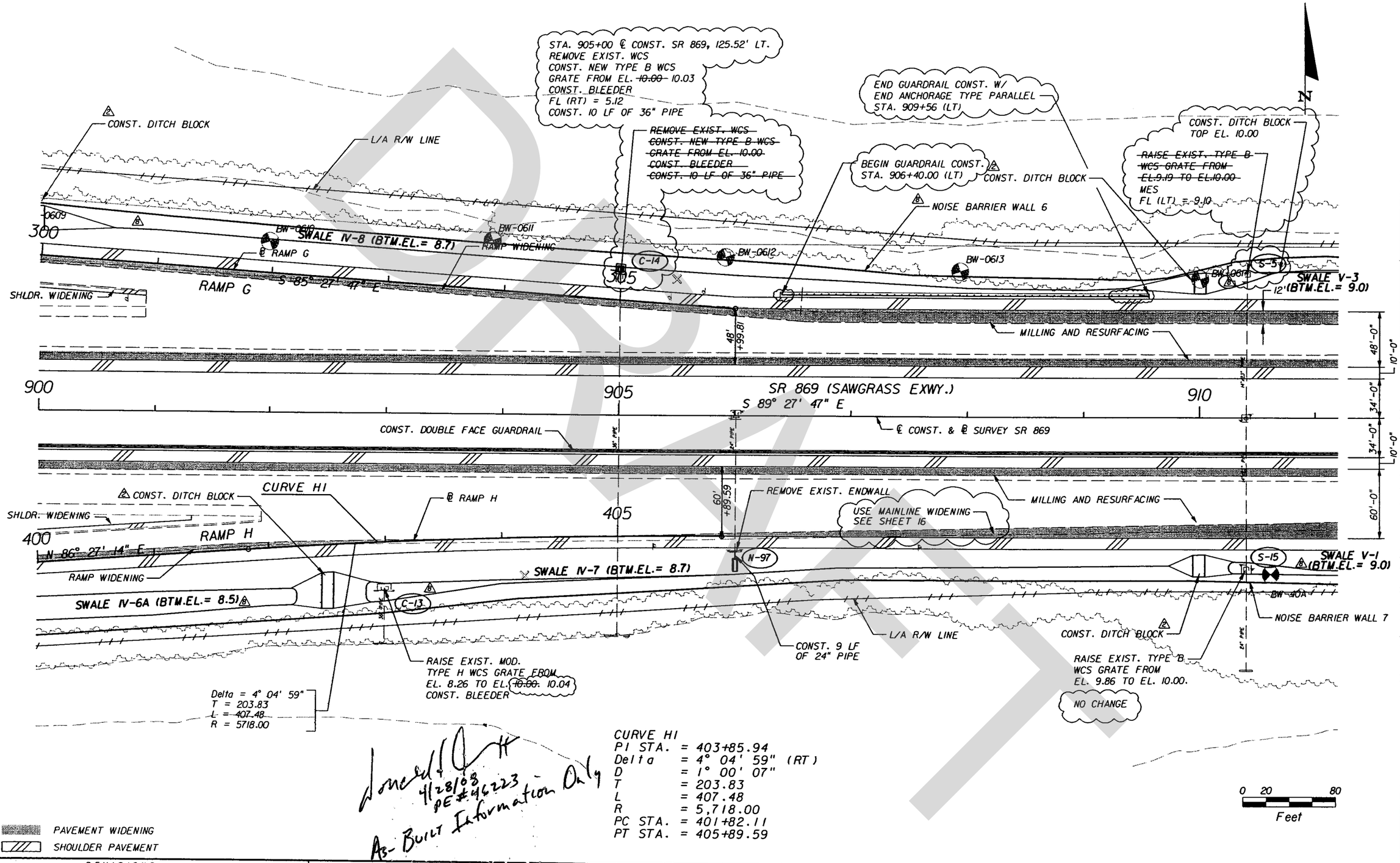

CURVE HI
PI STA. = 403+85.94
Delta = 4° 04' 59" (RT)
D = 1° 00' 07"
T = 203.83
L = 407.48
R = 5,718.00
PC STA. = 401+82.11
PT STA. = 405+89.59

Donald Ogden 4/28/08 PE#46223 As-Built Information Only

PAVEMENT WIDENING
SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	⚠2 ADDED DITCH BLOCK NOTE.
12-06-05	RVS	⚠4 REVISED NOISE BARRIER WALL 7 ALIGNMENT.
08-18-06	DFW	⚠6 REVISED STORMWATER TREATMENT SWALES AND NOISE BARRIER WALL 6. DELETE CANAL REVETMENT.

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 42

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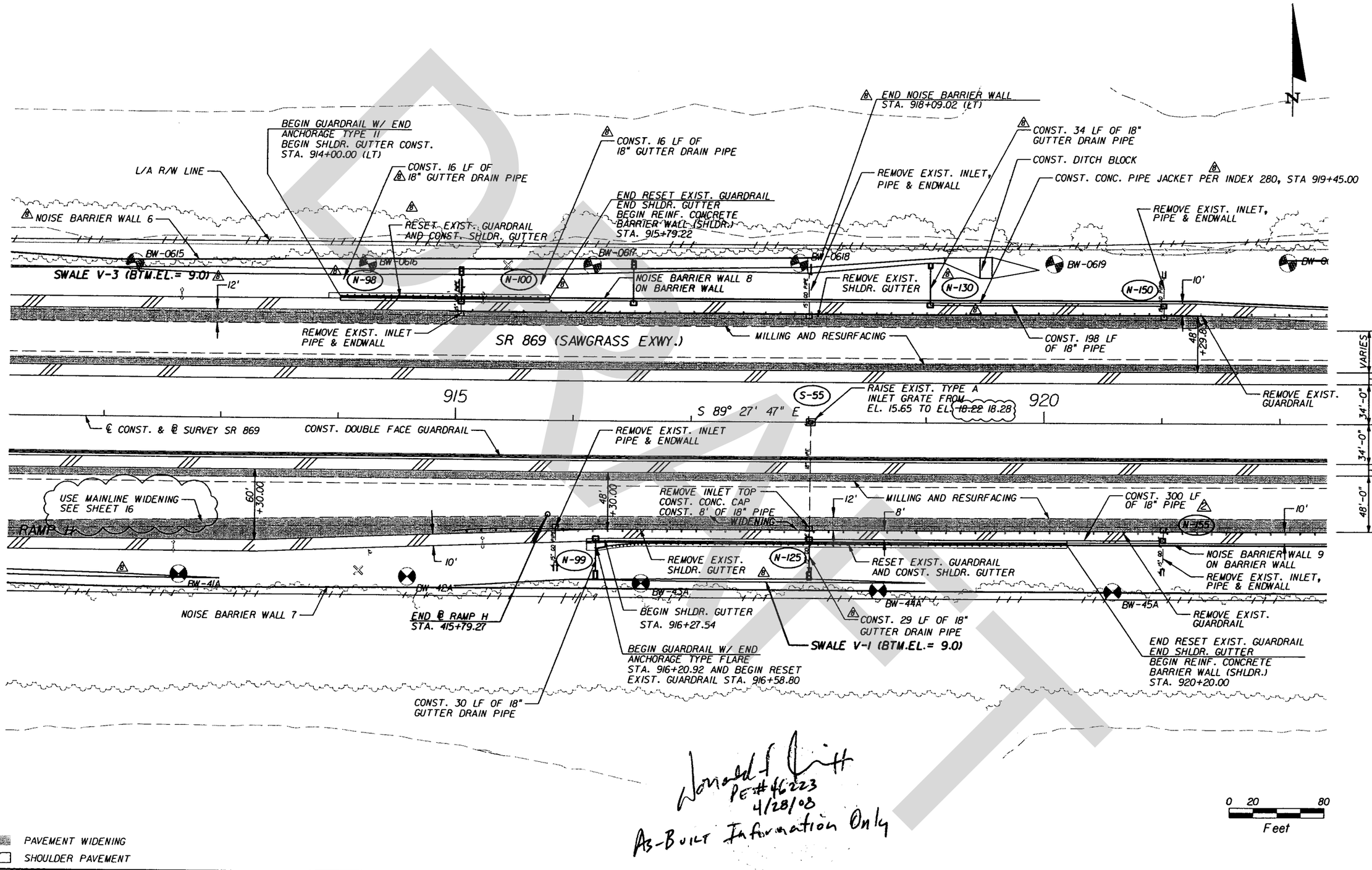

Donald J. Smith
PE# 46223
4/28/08
As-Built Information Only

PAVEMENT WIDENING

SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	TJG	⚠ REVISED LABEL
12-06-05	RVS	⚠ REVISED NOISE BARRIER WALL 7 ALIGNMENT.
08-18-06	DFW	⚠ REV. STORMWATER TREATMENT SWALES, DEL. REVETMENT, ADJUST NOISE WALLS 6 AND 8. REVISED N-98, N-100, N-130 AND ADJ. PIPES.

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 43

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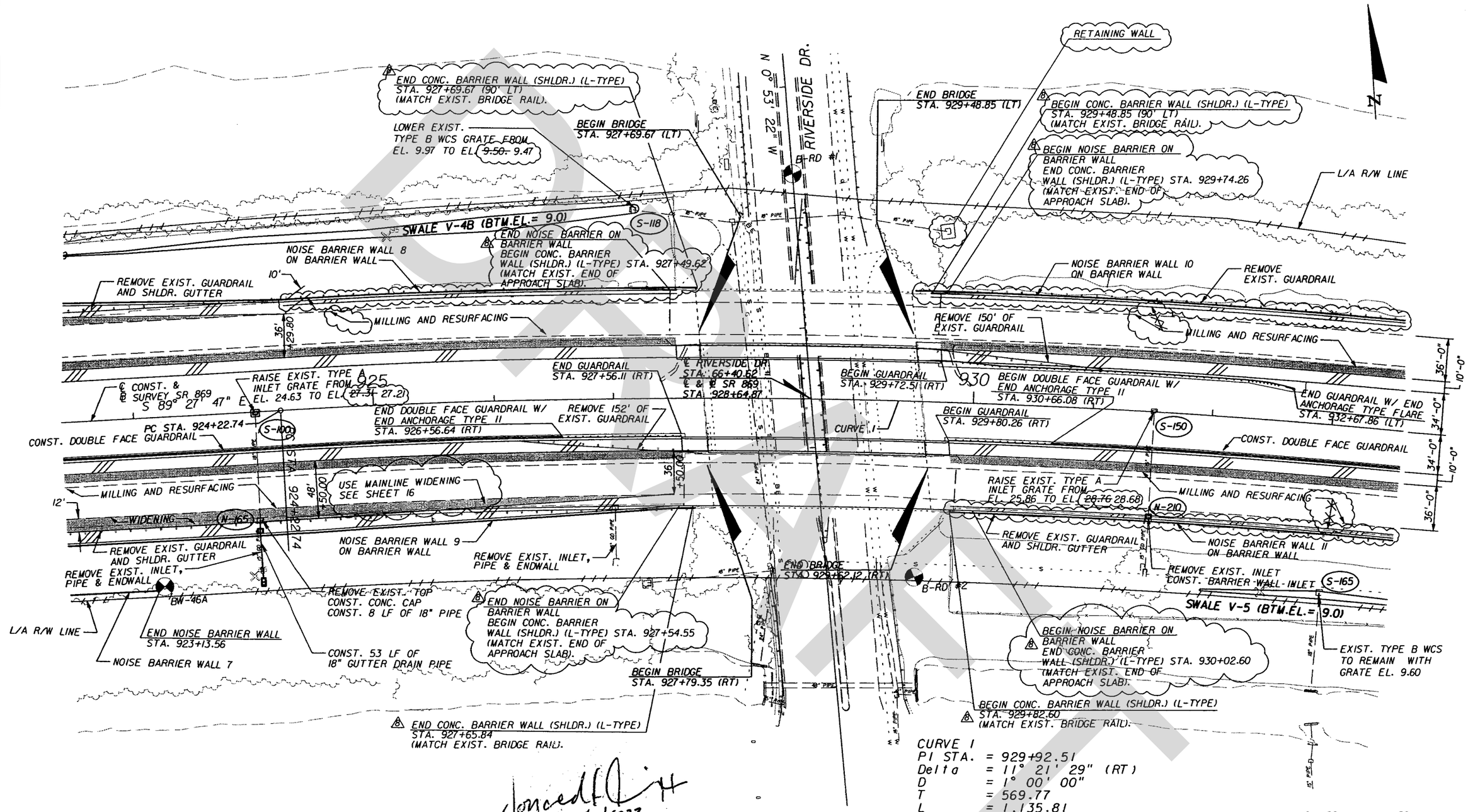

Jonathan Ogden
P.E. # 46223
4/28/08
As-Built Information Only

REVISIONS		
DATE	BY	DESCRIPTION
12-06-05	RVS	4 REVISED NOISE BARRIER WALL 7 ALIGNMENT.
08-18-06	DFW	6 REVISED STORMWATER TREATMENT SWALES, DELETE CANAL REVETMENT, REVISED CIP NOISE WALLS AT APPROACH SLABS.

apac
PARSONS

EOR: LON C. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 44

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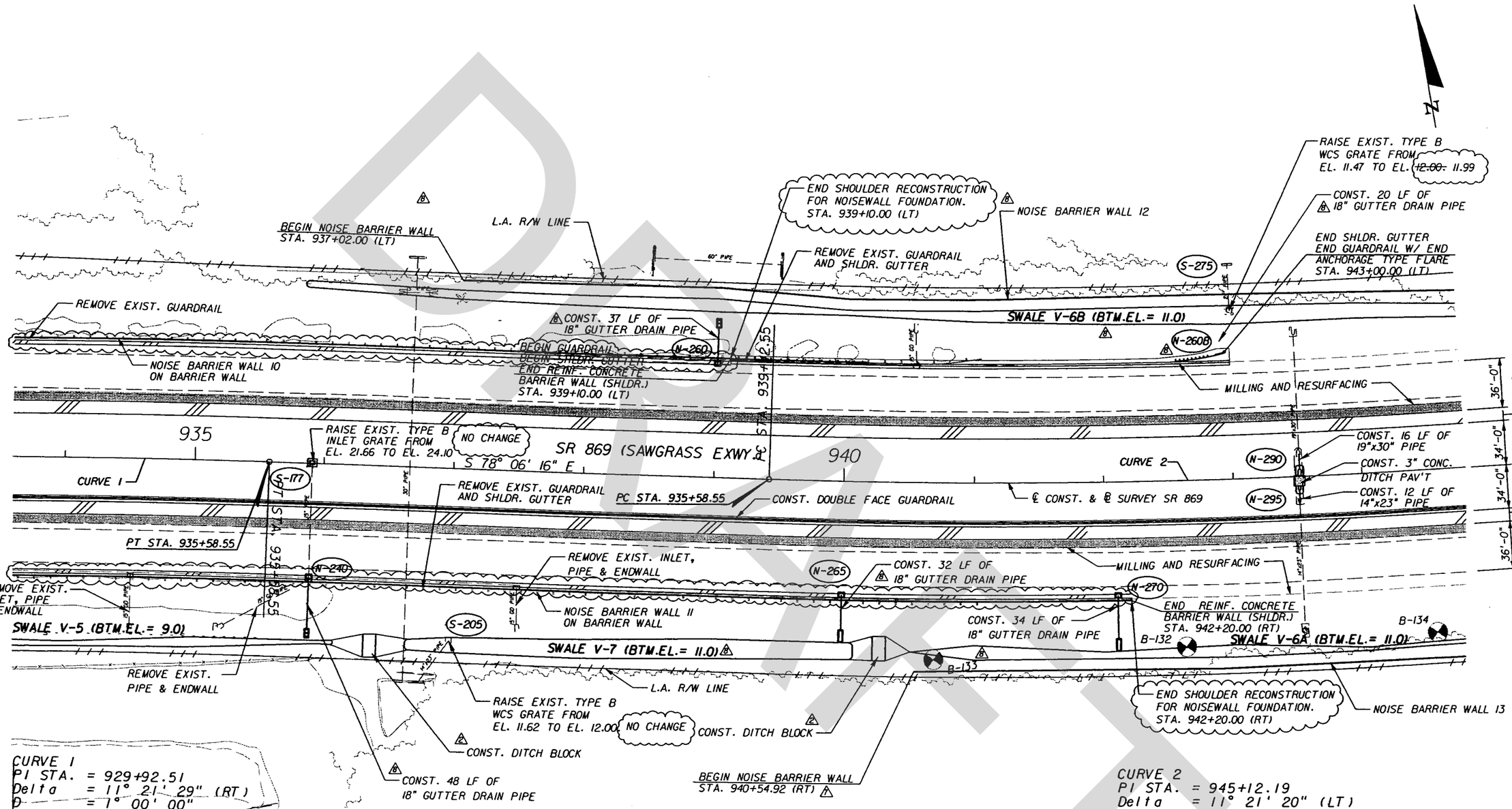

CURVE 1
PI STA. = 929+92.51
Delta = 11° 21' 29" (RT)
D = 1° 00' 00"
T = 569.77
L = 1,135.81
R = 5,729.58
PC STA. = 924+22.74
PT STA. = 935+58.55

CURVE 2
PI STA. = 945+12.19
Delta = 11° 21' 20" (LT)
D = 1° 00' 00"
T = 569.64
L = 1,135.56
R = 5,729.58
PC STA. = 939+42.55
PT STA. = 950+78.10

PAVEMENT WIDENING
SHOULDER PAVEMENT

Donald F. Cliff
PE # 46223
4/28/08
As-Built Information Only

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	2 ADDED DITCH BLOCK NOTE.
02-06-06	DFW	1 REVISED NOISE BARRIER WALL NO. 13 ALIGNMENT.
08-18-06	DFW	A REV. STORMWATER TREATMENT SWALES, DEL. CANAL REVET. & REVISE WALL 12 ALIGN., ADDED N-260B, REVISED PIPE LENGTH.

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 45

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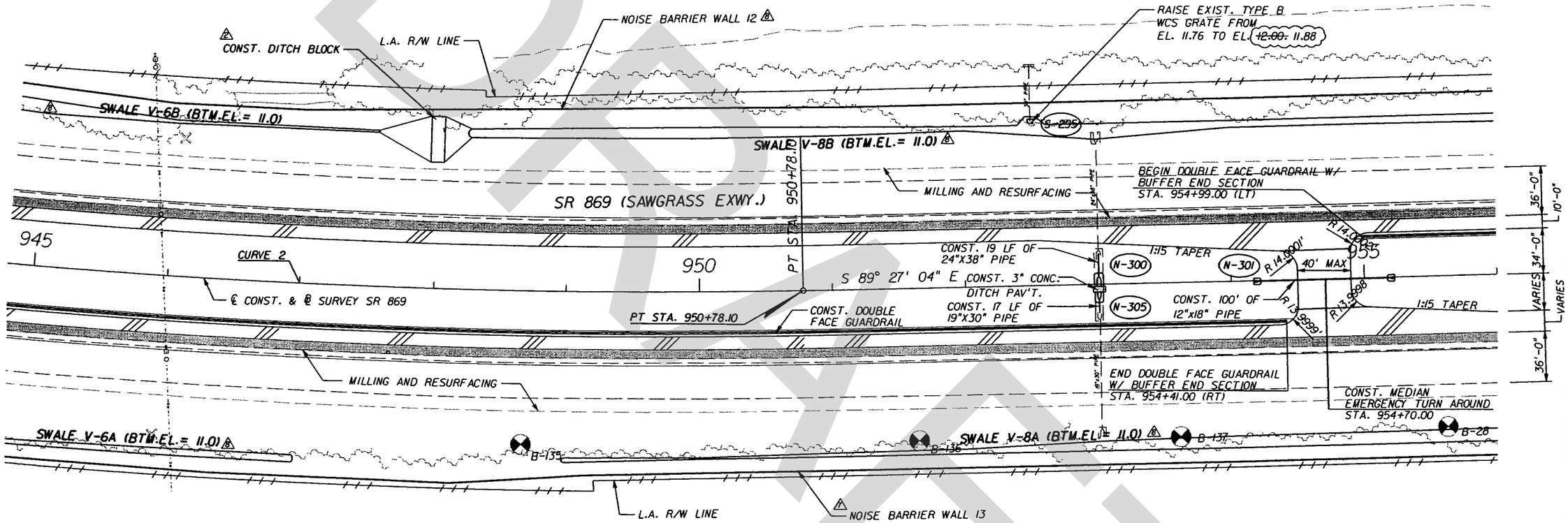
(N-301) STA. 954+20.00 ℄ CONST. SR 869 0.5' RT.
CONST. 12"x18" PIPE
FL = ~~11.40~~ 11.43 (EXIST.)
INDEX NO. 272

STA. 955+20.00 ℄ CONST. SR 869 0.5' RT.
CONST. 12"x18" PIPE
FL = ~~11.59~~ 12.55 (EXIST.)
INDEX NO. 272

N



CURVE 2
PI STA. = 945+12.19
Delta = 11° 21' 20" (LT)
D = 1° 00' 00"
T = 569.64
L = 1,135.56
R = 5,729.58
PC STA. = 939+42.55
PT STA. = 950+78.10

Donald L. Griff
PE# 46223
4/28/08
As-Built Information Only

0 20 80
Feet

PAVEMENT WIDENING
SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	A ADDED DITCH BLOCK NOTE.
02-06-06	DFW	1 REVISED NOISE BARRIER WALL NO. 13 ALIGNMENT.
08-18-06	DFW	B REVISED STORMWATER TREATMENT SWALES. REVISE WALL 12 ALIGNMENT

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 46

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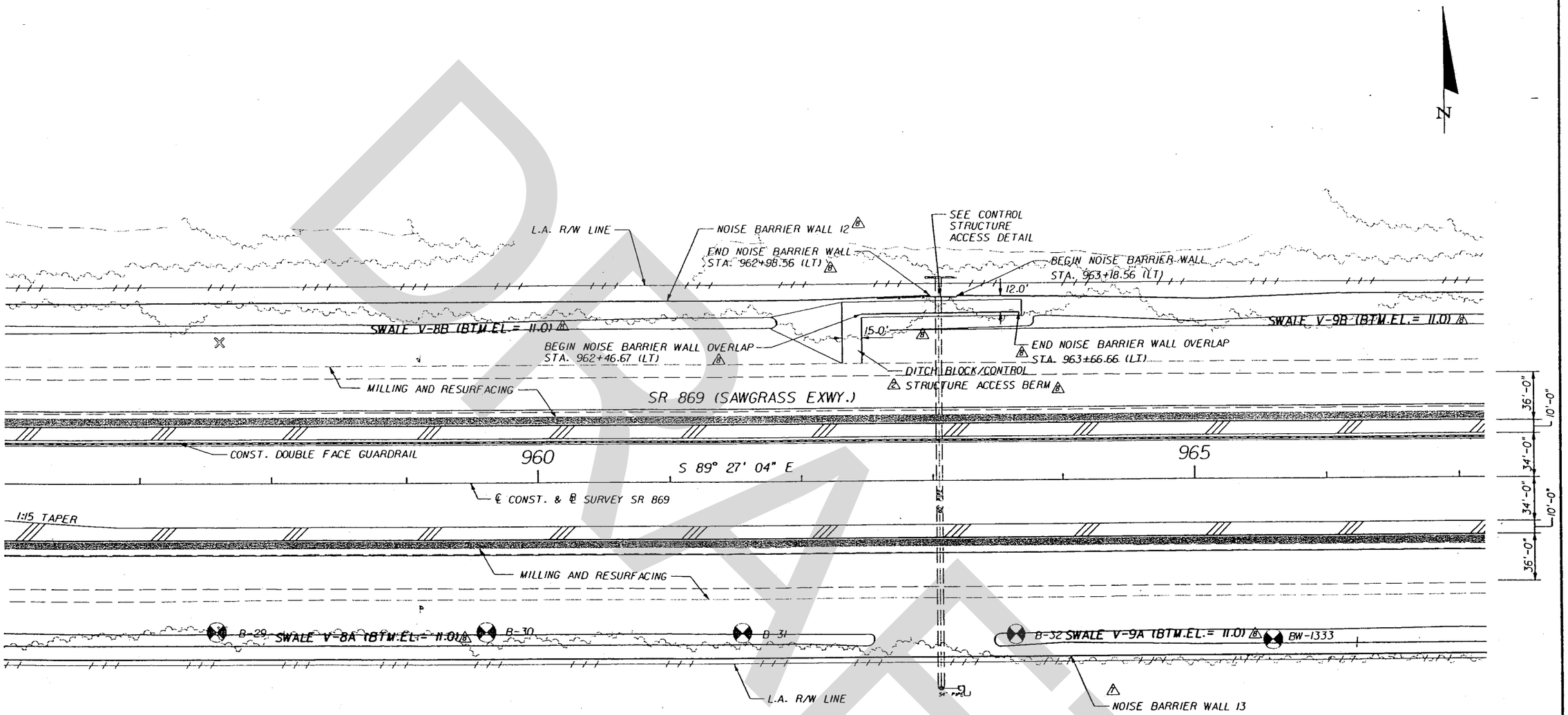


apac-PTG

~~MAR 15 2007~~

MAY 04 2007

3/13/07

0 20 80

Feet

PAVEMENT WIDENING

SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	(2) ADDED DITCH BLOCK NOTE.
02-06-06	DFW	(1) REVISED NOISE BARRIER WALL NO. 13 ALIGNMENT.
08-18-06	DFW	(8) REVISED STORMWATER TREATMENT SWALES, REVISED NOISE BARRIER WALL 12. ADDED NOISE BARRIER WALL

apac PARSONS

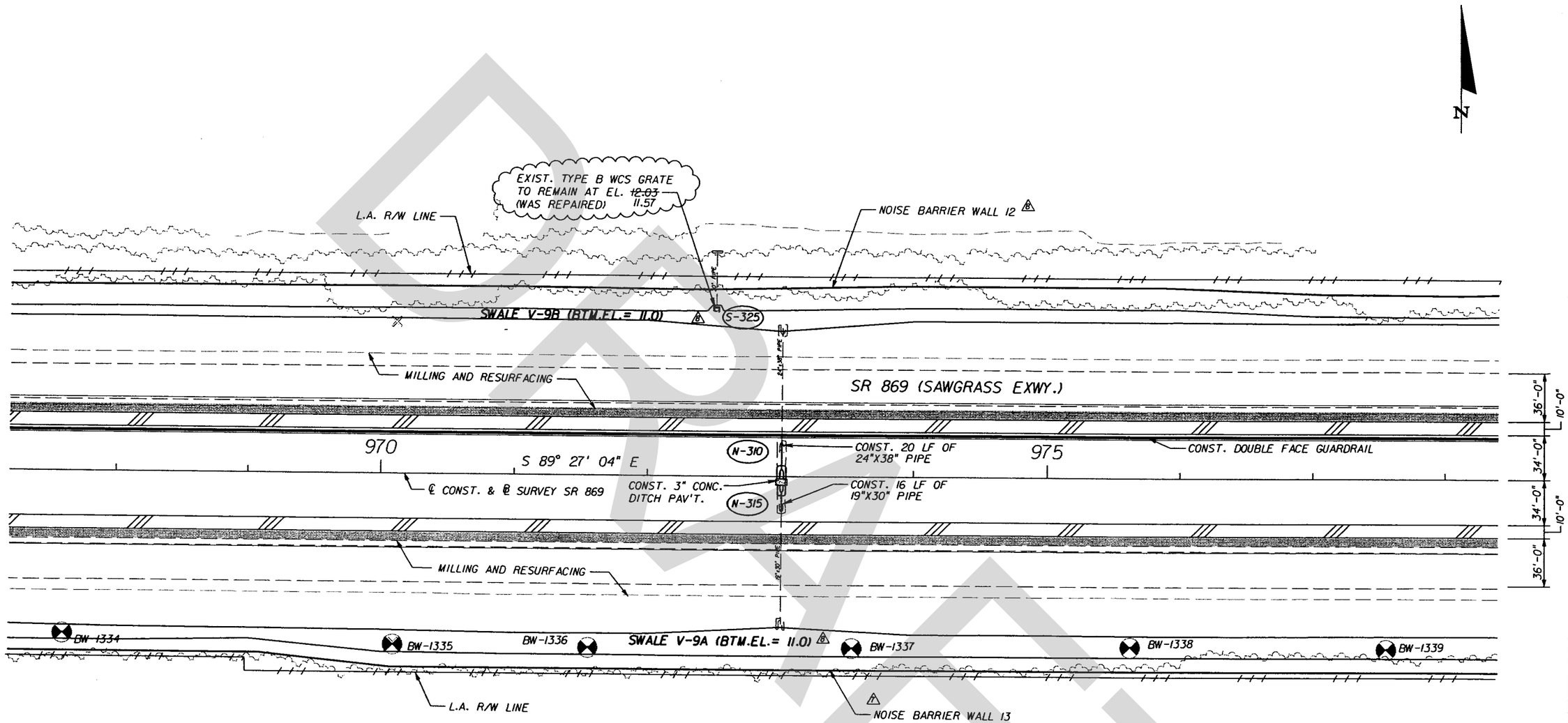
EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 47



Howard F. Quitt
PE #46223
4/28/08
As-Built Information Only

0 20 80
Feet

PAVEMENT WIDENING

SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
02-06-06	DFW	⚠7 REVISED NOISE BARRIER WALL NO. 13 ALIGNMENT.
08-18-06	DFW	⚠8 REVISED STORMWATER TREATMENT SWALES, REVISE WALL 12 ALIGNMENT

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 48

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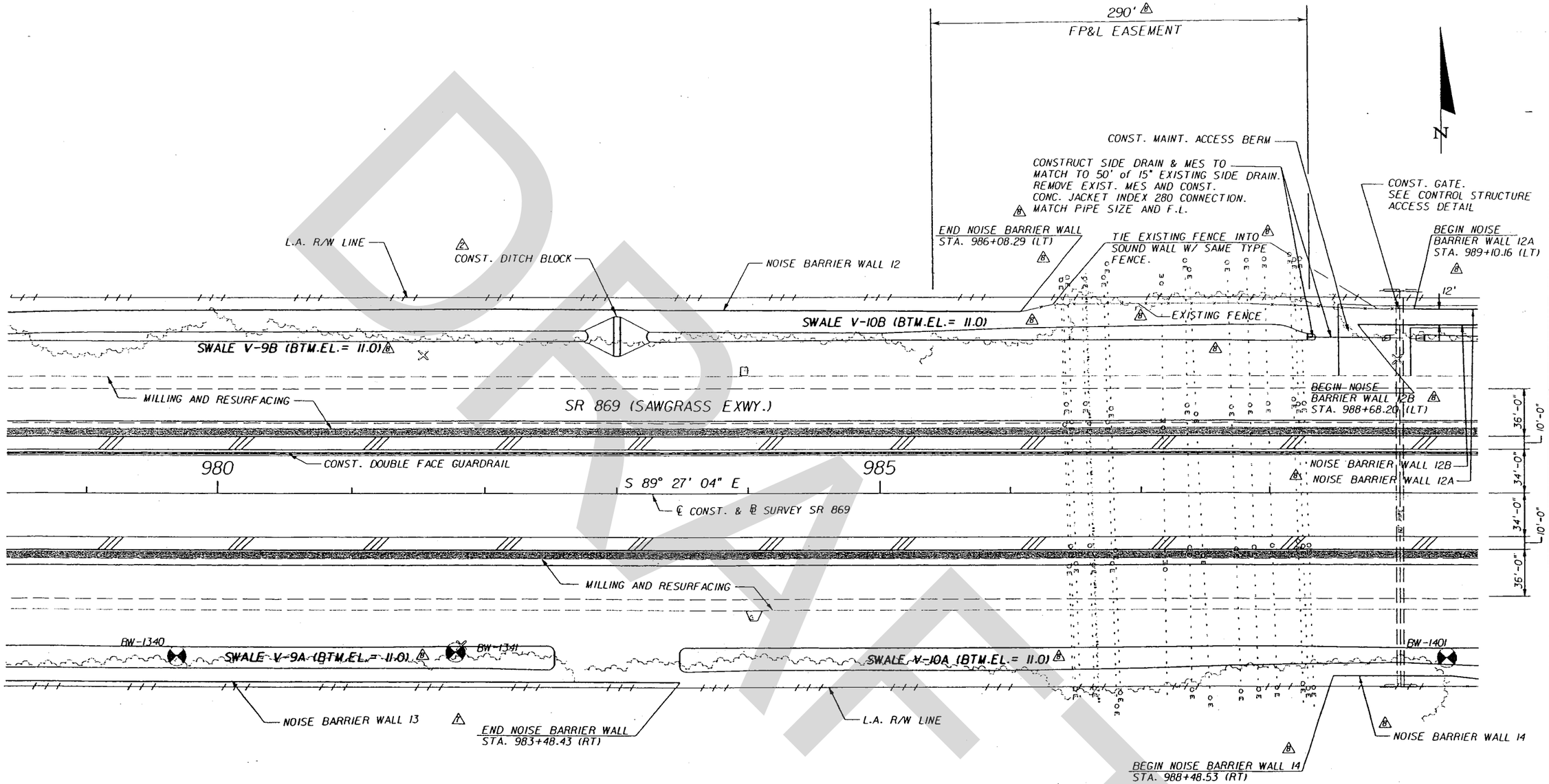


apac-PTG

~~MAR 15 2007~~
MAY 04 2007

3/14/07

0 20 80
Feet

PAVEMENT WIDENING

SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	Δ2 ADDED DITCH BLOCK NOTE.
02-06-06	DFW	Δ1 REVISED NOISE BARRIER WALL NO. 13 ALIGNMENT.
08-18-06	DFW	Δ8 REVISED TREATMENT SWALES, AND NOISE WALLS 12, 12A,

apac
PARSONS

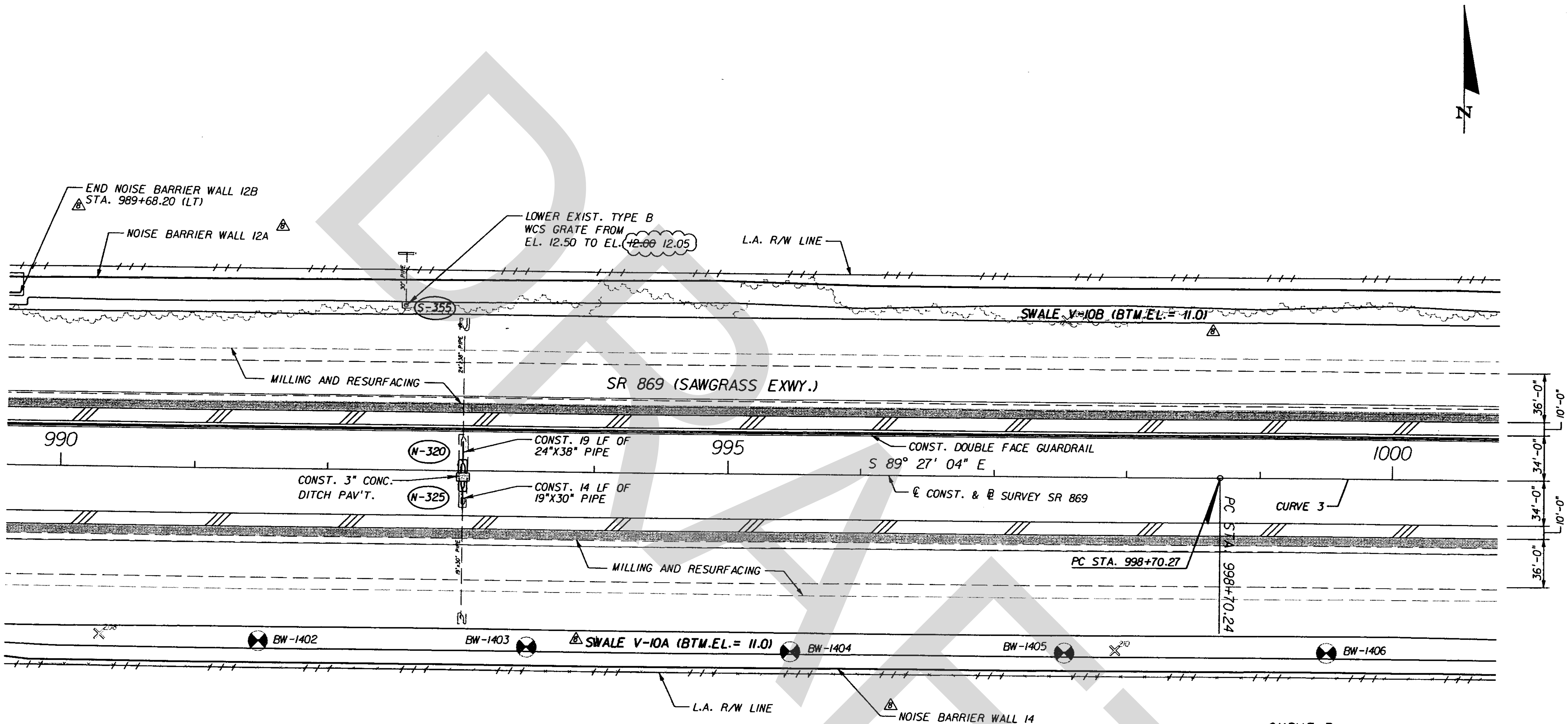
EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 49



CURVE 3
PI STA. = 1007+73.51
Delta = 4° 12' 48" (RT)
D = 0° 14' 00"
T = 903.26
L = 1,805.71
R = 24,555.33
PC STA. = 998+70.27
PT STA. = 1016+75.98

DRAFT

Donald [signature]
PE#46223
4/28/08
As-Built Revisions Only

0 20 80
Feet

PAVEMENT WIDENING
SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
08-18-06	DFW	REVISED STORMWATER TREATMENT SWALES, AND NOISE BARRIER WALLS 12A & 14

apac PARSONS

EOR: LON C. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 50

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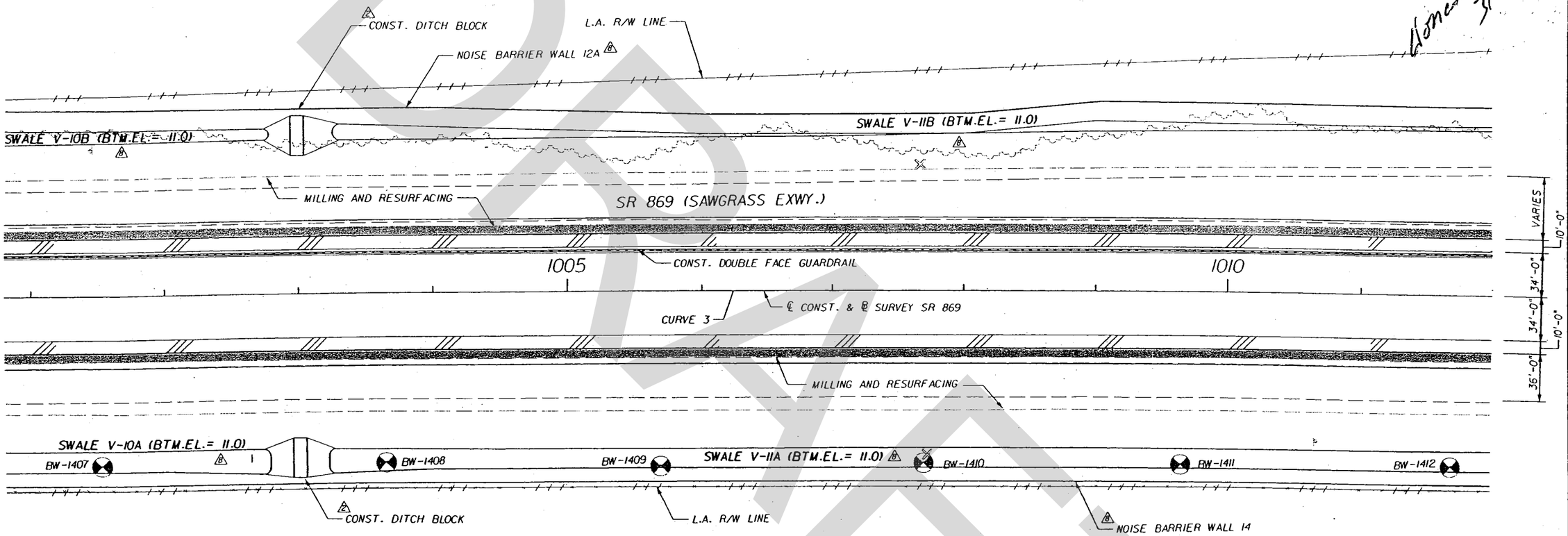
apac-PTG
~~MAR 15 2007~~
MAY 04 2007



CURVE 3
PI STA. = 1007+73.51
Delta = 4° 12' 48" (RT)
D = 0° 14' 00"
T = 903.26
L = 1,805.71
R = 24,555.33
PC STA. = 998+70.24
PT STA. = 1016+75.96

0 20 80
Feet

PAVEMENT WIDENING
SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	(2) ADDED DITCH BLOCK NOTE.
08-18-06	DFW	(8) REVISED STORMWATER TREATMENT SWALES AND NOISE BARRIER WALLS 12A & 14

apac
PARSONS

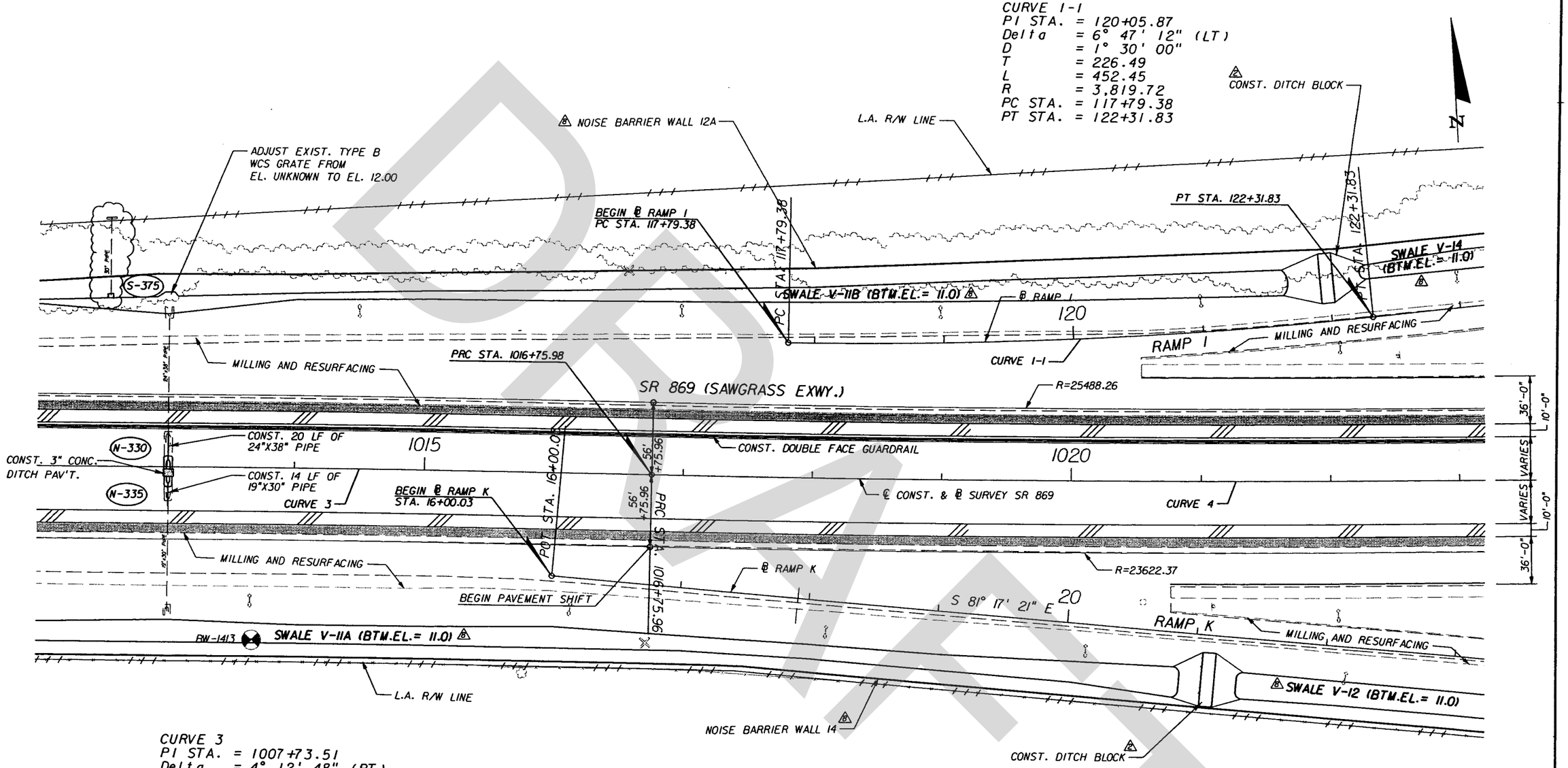
EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 51



CURVE 3
PI STA. = 1007+73.51
Delta = 4° 12' 48" (RT)
D = 0° 14' 00"
T = 903.26
L = 1,805.71
R = 24,555.33
PC STA. = 998+70.27
PT STA. = 1016+75.98

CURVE 4
PI STA. = 1027+81.34
Delta = 5° 09' 17" (LT)
D = 0° 14' 00"
T = 1,105.31
L = 2,209.13
R = 24,555.33
PC STA. = 1016+75.98
PT STA. = 1038+85.11

0 20 80
Feet

PE #46223
4/28/08
As-Built Revisions Only

PAVEMENT WIDENING
SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	⚠2 ADDED DITCH BLOCK NOTE.
08-18-06	DFW	⚠8 REVISED STORMWATER TREATMENT SWALES AND NOISE BARRIER WALLS 12A & 14

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 52

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NOISE BARRIER WALL 12A

END NOISE BARRIER WALL
STA. 1025+23.00 (LT)

L.A. R/W LINE

EXIST. TYPE B WCS GRATE
TO REMAIN AT EL. 12.14

PC STA. 127+57.60

S-393

CURVE 1-2

SWALE V-14 (BTM.EL.= 11.01)

℄ RAMP I

N 87° 44' 43" E

MILLING AND RESURFACING

RAMP I

MILLING AND RESURFACING

R=25488.26

SR 869 (SAWGRASS EXWY.)

1025

CONST. DOUBLE FACE GUARDRAIL

S-420

℄ CONST. & ℄ SURVEY SR 869

CURVE 4

RAISE EXIST. TYPE B INLET GRATE
FROM EL. 17.55 TO EL. ~~20.13~~ 20.15
CONST. TRAV. SLOT AHD.

MILLING AND RESURFACING

R=25682.37

PC STA. 27+09.48

LOWER EXIST. TYPE B
WCS GRATE FROM
EL. ~~12.51~~ TO EL. ~~12.00~~ 12.02

S-395

MILLING AND RESURFACING

S 81° 17' 21" E

RAMP K

℄ RAMP K

NOISE BARRIER WALL 14

S-397

CURVE K1

SWALE V-12 (BTM.EL.= 11.0)

END NOISE BARRIER WALL 14
BEGIN NOISE BARRIER WALL 15
STA. 1027+36.80 (RT)

RAISE EXIST. TYPE B
WCS GRATE FROM
EL. 11.58 TO EL. 12.00

NOISE BARRIER WALL 15

L.A. R/W LINE

END SHLDR.
GUTTER ℄ INLET

RESET EXIST. GUARDRAIL
AND CONST. SHLDR. GUTTER

BEGIN SHLDR. GUTTER CONST.
BEGIN RESET EXIST. GUARDRAIL W/
END ANCHORAGE TYPE FLARE
STA. ~~1031+98.66~~ (RT)
1032+20.00

PT STA. 33+15.66

SWALE V-13 (BTM.EL.= 11.0)

N-340

REMOVE EXIST.
SHLDR. GUTTER

CONST. 69 LF OF
18" GUTTER DRAIN PIPE

END MILLING & RESURFACING
RAMP K
STA. 33+68.53

36'-0" 10'-0" VARIES VARIES 10'-0" 36'-0"

0 20 80
Feet

CURVE 1-2
PI STA. = 129+61.11
Delta = 40° 36' 37" (LT)
D = 10° 25' 03"
T = 203.51
L = 389.83
R = 550.00
PC STA. = 127+57.60
PT STA. = 131+47.43

SWALE V-15 (BTM.EL.= 11.0)

END MILLING & RESURFACING
RAMP I
STA. 130+72.20

S-441

ADJUST EXIST. TYPE B
WCS GRATE FROM
EL. UNKNOWN TO EL. 12.00

RAMP J

CURVE 4
PI STA. = 1027+81.34
Delta = 5° 09' 18" (LT)
D = 0° 14' 00"
T = 1,105.39
L = 2,209.29
R = 24,555.33
PC STA. = 1016+75.98
PT STA. = 1038+85.11

CURVE K1
PI STA. = 30+13.21
Delta = 9° 05' 33" (LT)
D = 1° 30' 00"
T = 303.73
L = 606.18
R = 3,819.72
PC STA. = 27+09.48
PT STA. = 33+15.66

PAVEMENT WIDENING

SHOULDER PAVEMENT

Donald S. Ogden
PE #46223
4/28/08
As-Built Revisions Only

REVISIONS		
DATE	BY	DESCRIPTION
08-18-06	DFW	⚠6 REVISED STORMWATER TREATMENT SWALES, NOISE BARRIER WALLS 12, 14 & 15, AND GUTTER DRAIN LENGTH.

apac PARSONS

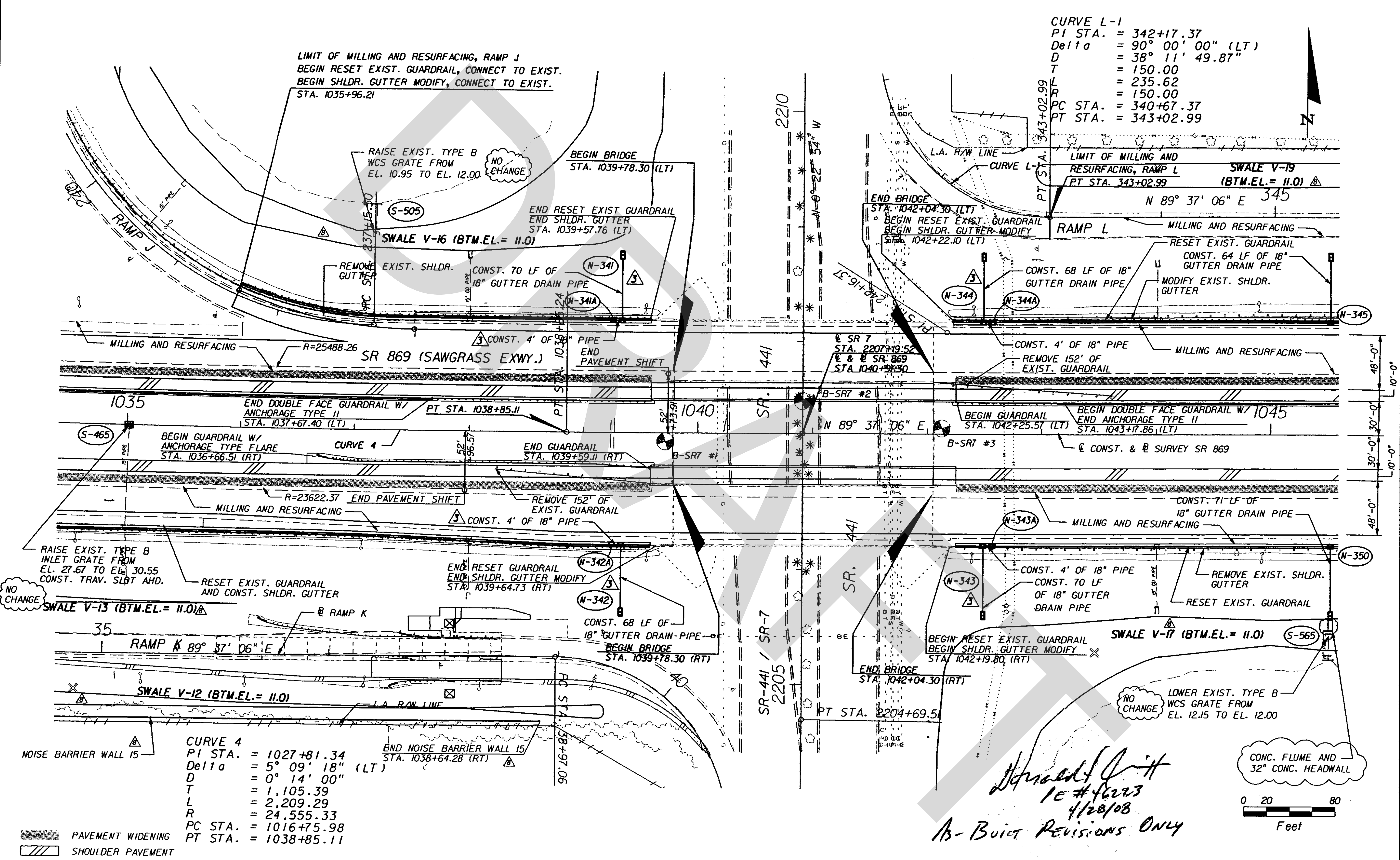
EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 53


CURVE L-1
PI STA. = 342+17.37
Delta = 90° 00' 00" (LT)
D = 38° 11' 49.87"
T = 150.00
L = 235.62
R = 150.00
PC STA. = 340+67.37
PT STA. = 343+02.99
N
LIMIT OF MILLING AND RESURFACING, RAMP J
BEGIN RESET EXIST. GUARDRAIL, CONNECT TO EXIST.
BEGIN SHLDR. GUTTER MODIFY, CONNECT TO EXIST.
STA. 1035+96.21
RAISE EXIST. TYPE B WCS GRATE FROM EL. 10.95 TO EL. 12.00
NO CHANGE
BEGIN BRIDGE STA. 1039+78.30 (LT)
S-505
END RESET EXIST GUARDRAIL
END SHLDR. GUTTER
STA. 1039+57.76 (LT)
SWALE V-16 (BTM.EL.= 11.0)
RAMP J
REMOVE EXIST. SHLDR. GUTTER
CONST. 70 LF OF 18" GUTTER DRAIN PIPE
N-341
N-341A
CONST. 4' OF 18" PIPE
END PAVEMENT SHIFT
MILLING AND RESURFACING
R=25488.26
SR 869 (SAWGRASS EXWY.)
1035
1040
1045
END DOUBLE FACE GUARDRAIL W/ ANCHORAGE TYPE II STA. 1037+67.40 (LT)
PT STA. 1038+85.11
S-465
BEGIN GUARDRAIL W/ ANCHORAGE TYPE FLARE STA. 1036+66.51 (RT)
CURVE 4
END GUARDRAIL STA. 1039+59.11 (RT)
B-SR7 #1
R=23622.37
END PAVEMENT SHIFT
REMOVE 152' OF EXIST. GUARDRAIL
MILLING AND RESURFACING
CONST. 4' OF 18" PIPE
RAISE EXIST. TYPE B INLET GRATE FROM EL. 27.67 TO EL. 30.55 CONST. TRAV. SLOT AHD.
RESET EXIST. GUARDRAIL AND CONST. SHLDR. GUTTER
END RESET GUARDRAIL
END SHLDR. GUTTER MODIFY
STA. 1039+64.73 (RT)
N-342A
N-342
SWALE V-13 (BTM.EL.= 11.0)
℄ RAMP K
RAMP K N 89° 37' 06" E
CONST. 68 LF OF 18" GUTTER DRAIN-PIPE
BEGIN BRIDGE STA. 1039+78.30 (RT)
SWALE V-12 (BTM.EL.= 11.0)
L.A. R/W LINE
NOISE BARRIER WALL 15
END NOISE BARRIER WALL 15 STA. 1038+64.28 (RT)
CURVE 4
PI STA. = 1027+81.34
Delta = 5° 09' 18" (LT)
D = 0° 14' 00"
T = 1,105.39
L = 2,209.29
R = 24,555.33
PC STA. = 1016+75.98
PT STA. = 1038+85.11
PAVEMENT WIDENING
SHOULDER PAVEMENT
2210
2205
SR 441
SR-441 / SR-7
℄ SR 7 STA. 2207+19.52
℄ & B SR 869 STA 1040+91.30
B-SR7 #2
B-SR7 #3
N 89° 37' 06" E
PT STA. 2204+69.51
L.A. R/W LINE
CURVE L-1
LIMIT OF MILLING AND RESURFACING, RAMP L
PT STA. 343+02.99
SWALE V-19 (BTM.EL.= 11.0)
N 89° 37' 06" E
345
END BRIDGE STA. 1042+04.30 (LT)
BEGIN RESET EXIST. GUARDRAIL
BEGIN SHLDR. GUTTER MODIFY
STA. 1042+22.10 (LT)
RAMP L
MILLING AND RESURFACING
RESET EXIST. GUARDRAIL
CONST. 64 LF OF 18" GUTTER DRAIN PIPE
CONST. 68 LF OF 18" GUTTER DRAIN PIPE
MODIFY EXIST. SHLDR. GUTTER
N-344
N-344A
N-345
CONST. 4' OF 18" PIPE
REMOVE 152' OF EXIST. GUARDRAIL
MILLING AND RESURFACING
BEGIN GUARDRAIL STA. 1042+25.57 (LT)
BEGIN DOUBLE FACE GUARDRAIL W/ END ANCHORAGE TYPE II STA. 1043+17.86 (LT)
℄ CONST. & B SURVEY SR 869
48'-0"
10'-0"
30'-0"
CONST. 71 LF OF 18" GUTTER DRAIN PIPE
N-343A
MILLING AND RESURFACING
N-350
CONST. 4' OF 18" PIPE
N-343
CONST. 70 LF OF 18" GUTTER DRAIN PIPE
REMOVE EXIST. SHLDR. GUTTER
RESET EXIST. GUARDRAIL
BEGIN RESET EXIST. GUARDRAIL
BEGIN SHLDR. GUTTER MODIFY
STA. 1042+19.80 (RT)
SWALE V-17 (BTM.EL.= 11.0)
S-565
END BRIDGE STA. 1042+04.30 (RT)
LOWER EXIST. TYPE B WCS GRATE FROM EL. 12.15 TO EL. 12.00
CONC. FLUME AND 32" CONC. HEADWALL
0 20 80
Feet
IE #46223
4/28/08
As-Built Revisions Only

DATE	BY	REVISIONS DESCRIPTION
08-31-05	TJG	(3) ADDED N-341, N-341A, N-342, N-342A, N-343, N-343A, N-344, & N-344A.
08-18-06	DFW	(B) REVISED STORMWATER TREATMENT SWALES AND NOISE BARRIER WALL 15

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

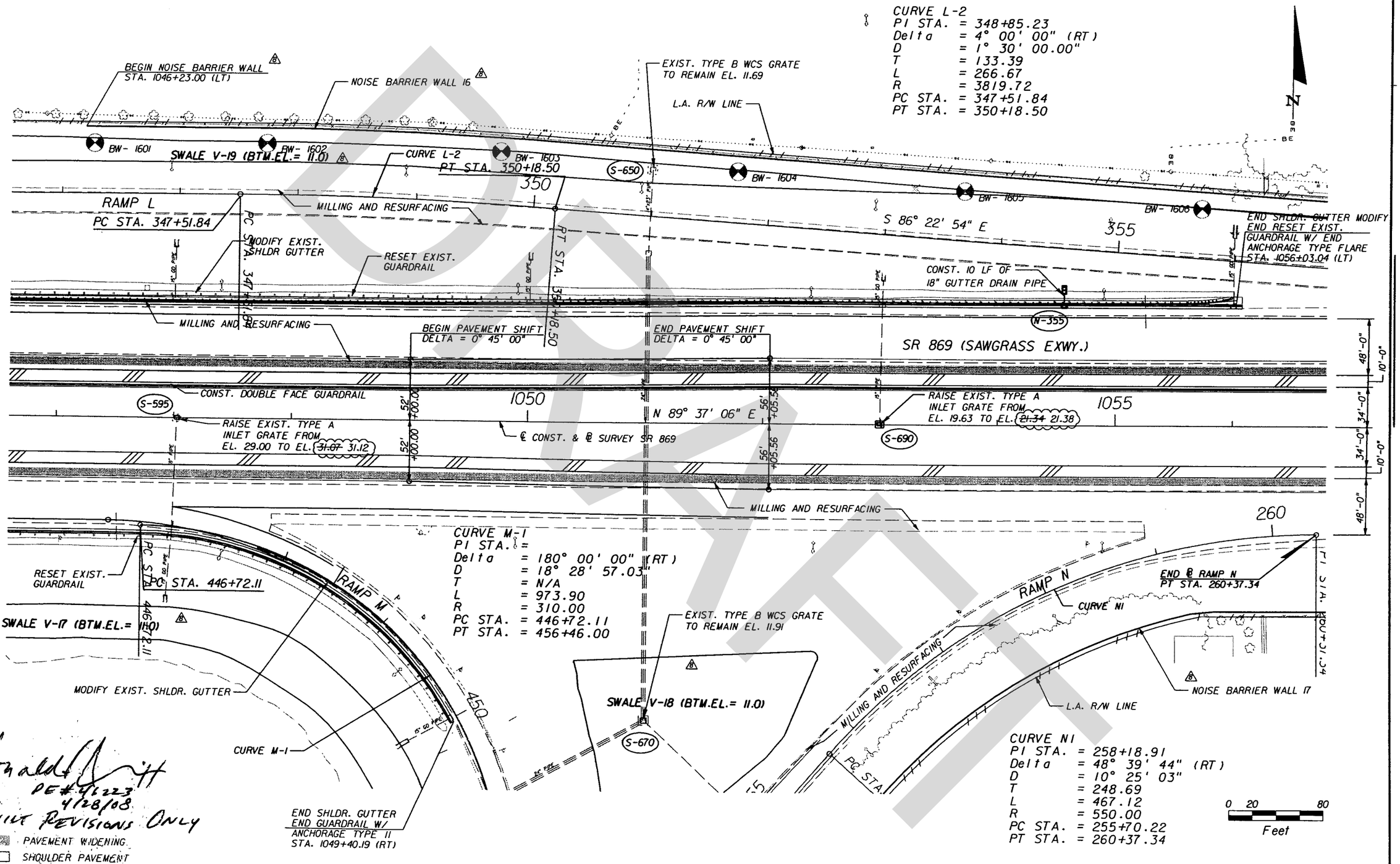
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 54

USER: p0024664 4/25/2008 12:29:44 PM p:\646334\40615315201\roadway\as_builts\planrd23.dgn



Donald A. Griffith
PE# 41223
4/28/08
As Built Revisions Only

PAVEMENT WIDENING
SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
08-18-06	DFW	⚠ REVISED STORMWATER TREATMENT SWALES AND NOISE BARRIER WALLS 16 & 17

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 55

apac-PTG
~~MAR 15 2007~~
MAY 04 2007

3/13/07

CONST. DITCH BLOCK
L.A. R/W LINE
NOISE BARRIER WALL 16
BW- 1607
SWALE V-19 (BTM.EL.= 11.0)
BW- 1608
S 86° 22' 54" E
RAMP L
360
BW- 1609
STA. 362+90.00
BW- 1610
SWALE V-21 (BTM.EL.= 11.0)
BW- 1611
BW- 1612
SR 869 (SAWGRASS EXWY.)
MILLING AND RESURFACING
1060
CONST. DOUBLE FACE GUARDRAIL
N 89° 37' 06" E
1065
℄ CONST. & ℄ SURVEY SR 869
48'-0"
10'-0"
34'-0"
34'-0"
10'-0"
48'-0"
MILLING AND RESURFACING
SWALE V-19A (BTM.EL.= 11.0)
NOISE BARRIER WALL 17
CONST. DITCH BLOCK
L.A. R/W LINE

0 20 80
Feet

PAVEMENT WIDENING
SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
08-11-05	LDO	② ADDED DITCH BLOCK NOTE.
08-18-06	DFW	⑧ REVISED STORMWATER TREATMENT SWALES AND NOISE BARRIER WALLS 16 & 17

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

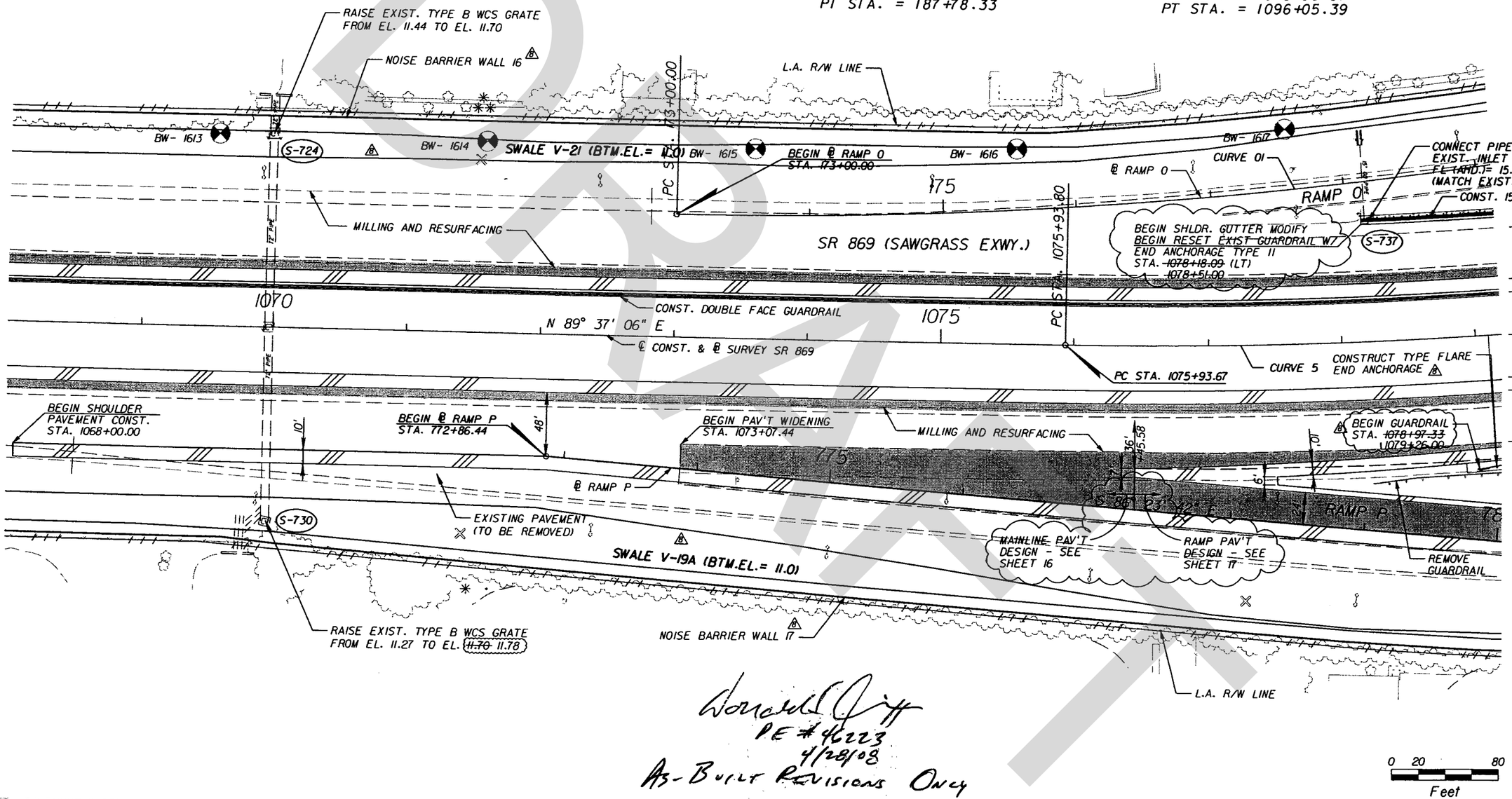
PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 56

CURVE 01
PI STA. = 180+48.53
Delta = 22° 10' 30" (LT)
D = 1° 30' 00"
T = 748.53
L = 1,478.33
R = 3,819.72
PC STA. = 173+00.00
PT STA. = 187+78.33

CURVE 5
PI STA. = 1086+23.58
Delta = 30° 10' 33" (LT)
D = 1° 30' 00"
T = 1,029.78
L = 2,011.72
R = 3,819.72
PC STA. = 1075+93.67
PT STA. = 1096+05.39

N



Donald Griff
PE # 46223
4/28/08
As-Built Revisions Only

PAVEMENT WIDENING
SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
08-18-06	DFW	(B) REVISED STORMWATER TREATMENT SWALES AND NOISE BARRIER WALLS 16 & 17
08-18-06	DFW	(B) CHANGE & RELOCATED TYPE FLARE END ANCHORAGE

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 57

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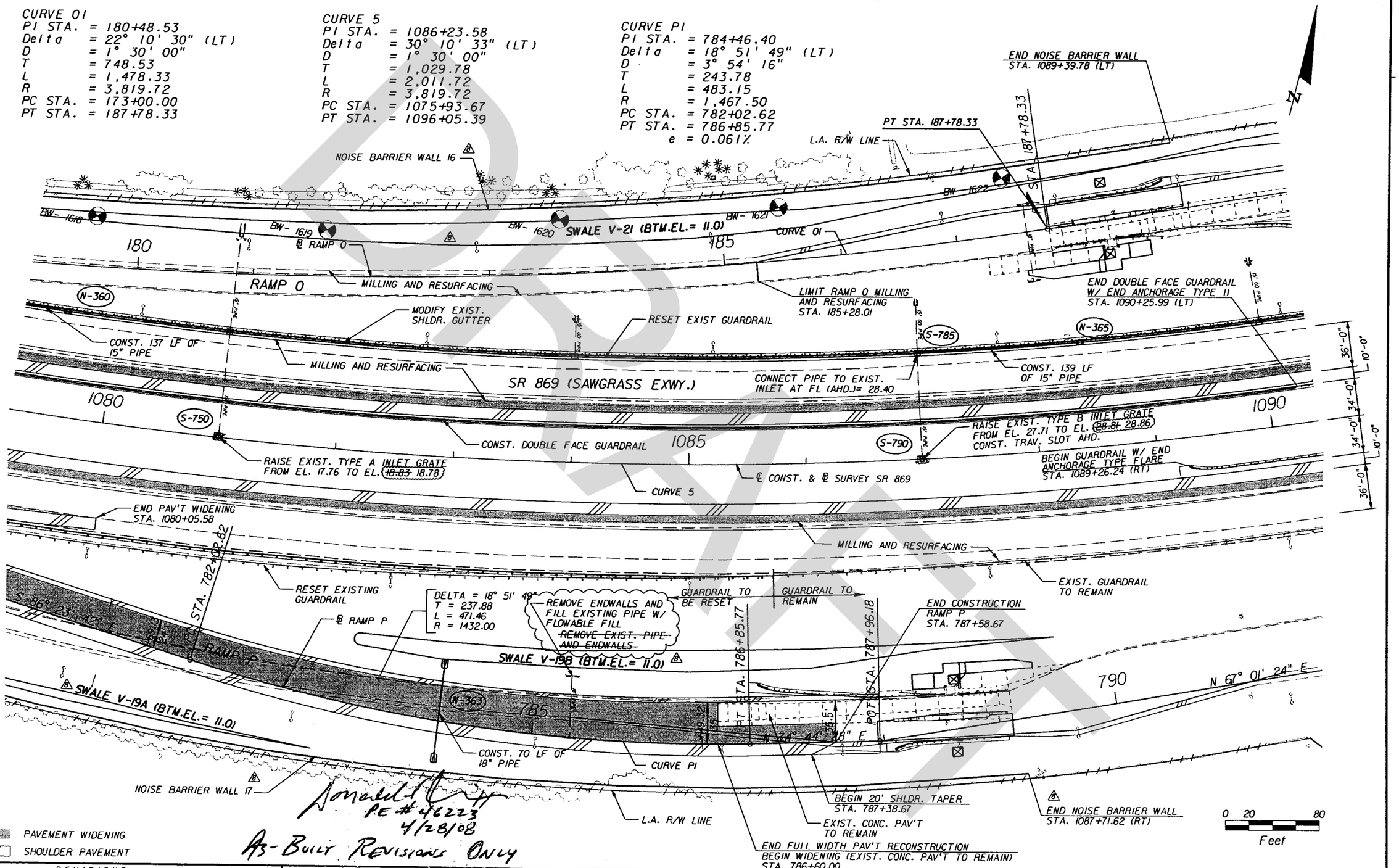
CURVE 01
PI STA. = 180+48.53
Delta = 22° 10' 30" (LT)
D = 1° 30' 00"
T = 748.53
L = 1,478.33
R = 3,819.72
PC STA. = 173+00.00
PT STA. = 187+78.33

CURVE 5
PI STA. = 1086+23.58
Delta = 30° 10' 33" (LT)
D = 1° 30' 00"
T = 1,029.78
L = 2,011.72
R = 3,819.72
PC STA. = 1075+93.67
PT STA. = 1096+05.39

CURVE PI
PI STA. = 784+46.40
Delta = 18° 51' 49" (LT)
D = 3° 54' 16"
T = 243.78
L = 483.15
R = 1,467.50
PC STA. = 782+02.62
PT STA. = 786+85.77
e = 0.061%



Donald L. Ogden
PE #46223
4/28/08
As-Built Revisions Only

REVISIONS		
DATE	BY	DESCRIPTION
08-18-06	DFW	⚠ REVISED STORMWATER TREATMENT SWALES AND NOISE BARRIER WALLS 16 & 17

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 58

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CURVE 5
PI STA. = 1086+23.58
Delta = 30° 10' 33" (LT)
D = 1° 30' 00"
T = 1,029.78
L = 2,011.72
R = 3,819.72
PC STA. = 1075+93.67
PT STA. = 1096+05.39

3 N-810A STA. 1092+42.78, 90.13' LT.
CONST. TYPE S GUTTER INLET
CONST. 4' OF 15" PIPE, TO CONNECT
TO EXIST. INLET S-810, (VERIFY FLOWLINE)
FL (34.08) MATCH EXIST.

BEGIN NOISE BARRIER WALL
STA. 1097+21.28 (LT)

L.A. R/W LINE

BEGIN ℄ RAMP Q
STA. 494+94.47

PT STA. 187+78.33

NOISE BARRIER WALL 19

L.A. R/W LINE

SWALE V-21 (BTM.EL.= 11.0)

190

N 67° 26' 56" E

END ℄ RAMP Q
STA. 193+93.25

495

℄ RAMP Q

N 63° 26' 33" E

500

A SWALE V-22/VI-1 (BTM.EL.= 11.0)

RAMP Q

MILLING AND RESURFACING

END BRIDGE
STA. 1095+31.44 (LT)

RAMP O

℄ RAMP O

CONST. 64 LF OF
18" GUTTER DRAIN PIPE

END RESET EXIST. GUARDRAIL
END SHLDR. GUTTER MODIFY
STA. 1092+79.56 (LT)

BEGIN BRIDGE
STA. 1092+78.22 (LT)

BEGIN RESET EXIST. GUARDRAIL
BEGIN SHLDR. GUTTER MODIFY
STA. 1095+71.31 (LT)

LIMIT OF MILLING AND RESURFACING, RAMP Q
STA. 496+67.98

CONST. 68 LF OF
18" GUTTERDRAIN

RESET EXIST. GUARDRAIL

REMOVE EXIST
SHLDR. GUTTER

3 CONST. 4' OF
15" PIPE

3 N-810A

S-810

N-370

CONST. 73 LF OF
18" GUTTER DRAIN
PIPE

CONST. 4 LF OF
18" PIPE 3

3 N-371

N-371A

N-375

RESET EXIST. GUARDRAIL
AND CONST. SHLDR. GUTTER

MILLING AND RESURFACING

N 0° 24' 54" W
LYONS RD.

SR 869 (SAWGRASS EXWY.)

END GUARDRAIL
STA. 1092+43.70 (RT)

CURVE 5

1095

PT STA.
1096+05.39

REMOVE 152' OF
EXIST. GUARDRAIL

N 59° 26' 33" E

1100

END GUARDRAIL
STA. 1092+15.74 (RT)

BEGIN GUARDRAIL
STA. 1095+41.61 (LT)

BEGIN DOUBLE FACE GUARDRAIL W/
ANCHORAGE TYPE II
STA. 1095+96.34 (LT)

℄ CONST. & ℄ SURVEY SR 869

S-850

RAISE EXIST. TYPE A
INLET GRATE FROM
EL. 27.44 TO EL. 29.86

REMOVE 150' OF
EXIST. GUARDRAIL

MILLING AND RESURFACING

℄ LYONS ROAD
STA. 20+00.00,
℄ & ℄ SR 869
STA. 1093+75.13

RESET EXIST. GUARDRAIL

GUARDRAIL TO REMAIN

BEGIN BRIDGE
STA. 1092+26.36 (RT)

END BRIDGE
STA. 1094+70.43 (RT)

MODIFY EXIST.
SHLDR. GUTTER

EXIST. TYPE B INLET GRATE
TO REMAIN AT EL. 13.11
CONST. BLEEDER TO EL. 12.00

S-825

BEGIN RESET EXIST. GUARDRAIL
BEGIN SHLDR. GUTTER CONST.
STA. 1094+67.70 (RT)

CURVE R1

SWALE V-23B (BTM.EL.= 12.0)

400

MILLING AND RESURFACING

RAMP P

BEGIN ℄ RAMP R
STA. 392+76.18

395

N 59° 26' 33" E

RAMP R

℄ RAMP R

℄ RAMP P

LIMIT OF MILLING AND RESURFACING, RAMP R
STA. 394+44.21

PC STA. 398+17.45

BW-1804

BW-1803

BW-1802

SWALE V-23A/VI-2 (BTM.EL.= 11.0)

BW-1801

END ℄ RAMP P
STA. 794+52.00

STA. 1094+44.74
252.60 (RT)

L.A. R/W LINE

NOISE BARRIER WALL 18

BEGIN NOISE BARRIER WALL
STA. 1093+58.00 (RT)

CURVE R1
PI STA. = 401+14.01
Delta = 5° 55' 33" (LT)
D = 1° 00' 00"
T = 296.56
L = 592.58
R = 5,729.58
PC STA. = 398+17.45
PT STA. = 404+10.03

0 20 80
Feet

36'-0" 34'-0" 10'-0"

PAVEMENT WIDENING
SHOULDER PAVEMENT

3/13/07

apac-PTG
MAR 15 2007
MAY 04 2007

REVISIONS		
DATE	BY	DESCRIPTION
8-31-05	TJG	3 ADDED N-810A, N-371, & N-371A.
08-18-06	DFW	A REVISED STORMWATER TREATMENT SWALES AND NOISE BARRIER WALLS 18 & 19.

apac
PARSONS

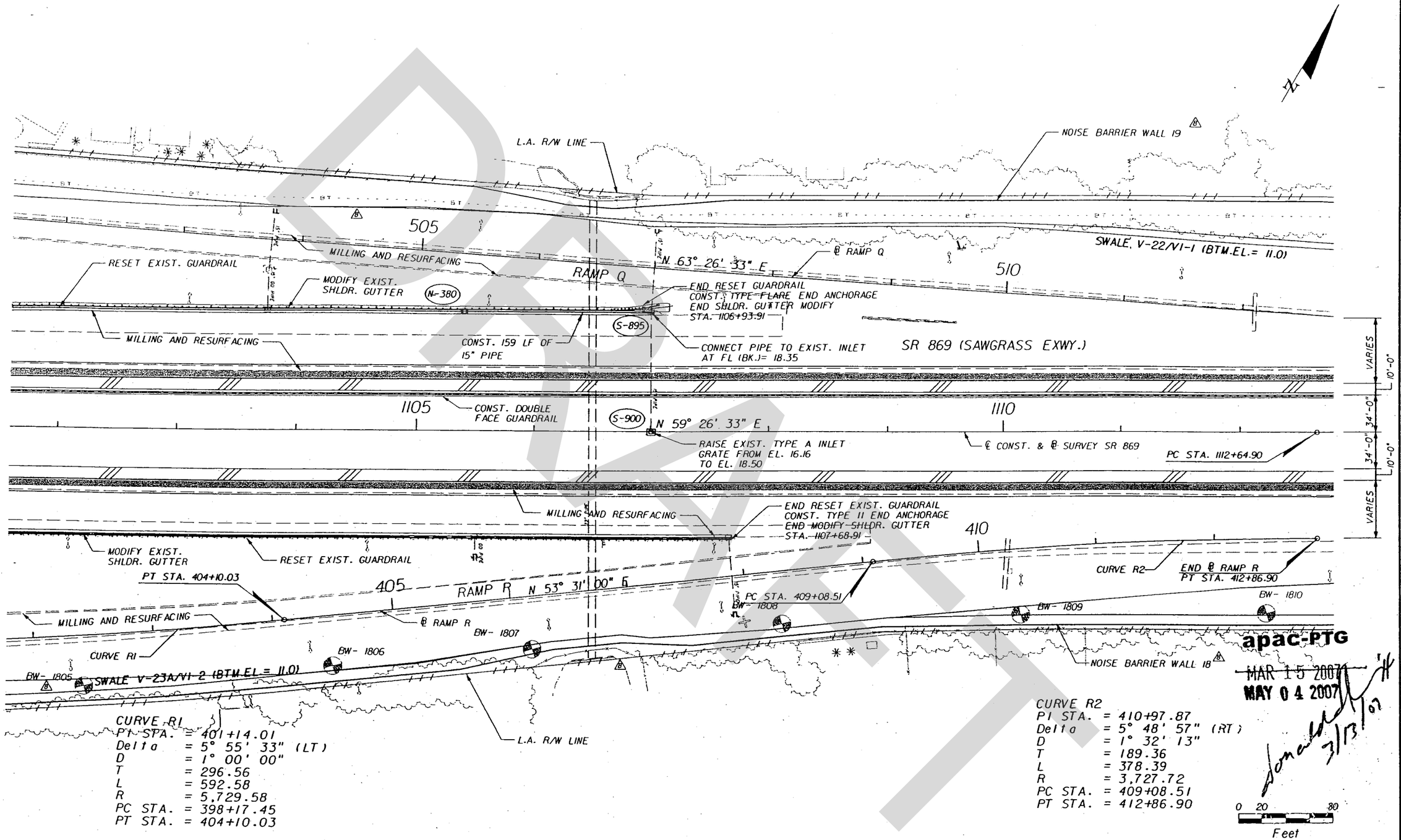
EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 59



CURVE R1
PI STA. = 401+14.01
Delta = 5° 55' 33" (LT)
D = 1° 00' 00"
T = 296.56
L = 592.58
R = 5,729.58
PC STA. = 398+17.45
PT STA. = 404+10.03

CURVE R2
PI STA. = 410+97.87
Delta = 5° 48' 57" (RT)
D = 1° 32' 13"
T = 189.36
L = 378.39
R = 3,727.72
PC STA. = 409+08.51
PT STA. = 412+86.90

PAVEMENT WIDENING

SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
08-18-06	DFW	⚠ REVISED STORMWATER TREATMENT SWALES AND NOISE BARRIER WALLS 18 AND 19

apac PARSONS

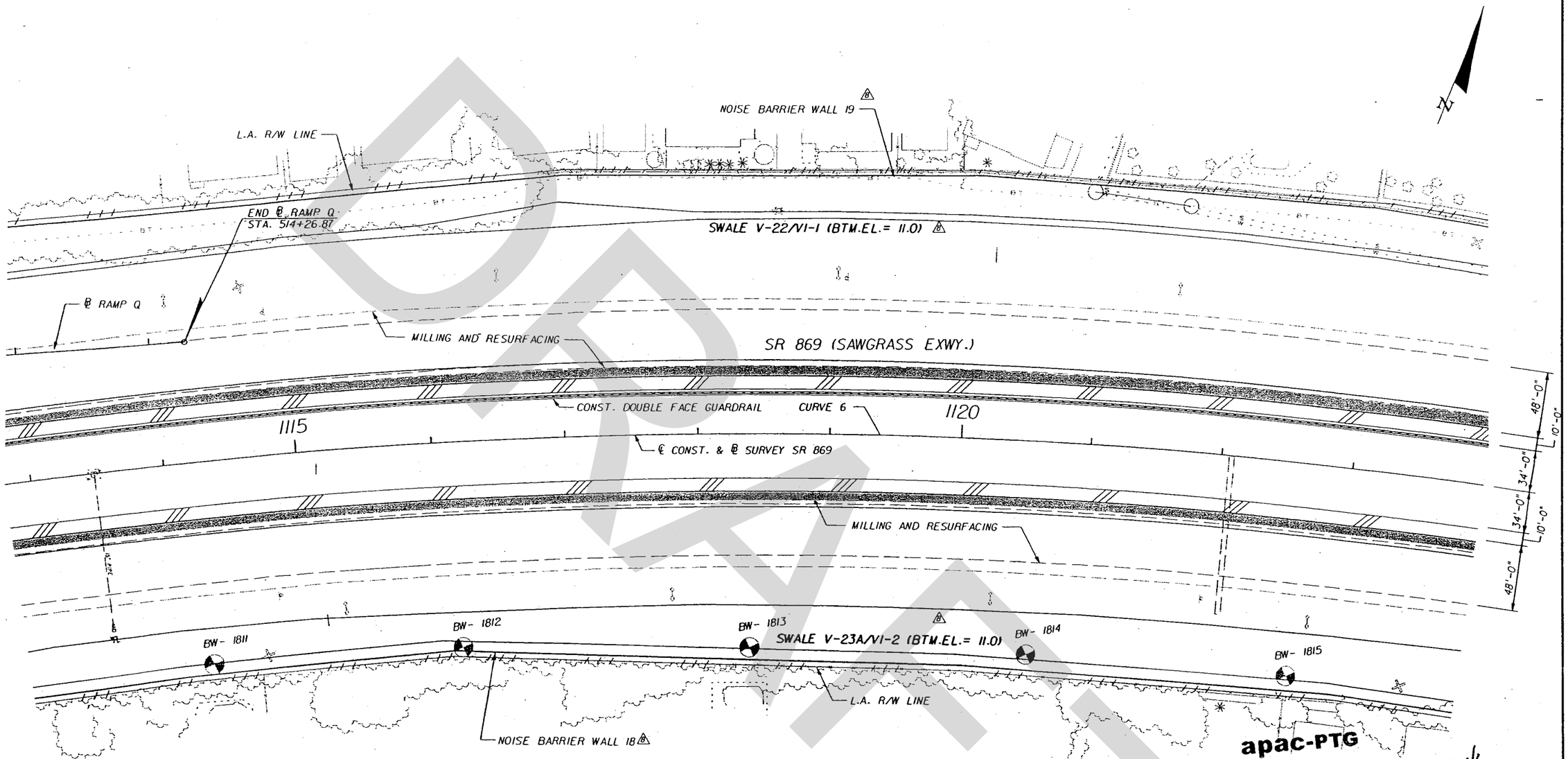
EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 60



CURVE 6
PI STA. = 1122+11.50
Delta = 27° 50' 13" (RT)
D = 1° 30' 00"
T = 946.59
L = 1,855.80
R = 3,819.72
PC STA. = 1112+64.90
PT STA. = 1131+20.70

apac-PTG
~~MAR 15 2007~~
MAY 04 2007

3/13/07

PAVEMENT WIDENING
SHOULDER PAVEMENT

REVISIONS		
DATE	BY	DESCRIPTION
08-18-06	DFW	⚠8 REVISED STORMWATER TREATMENT SWALES AND NOISE BARRIER WALLS 18 & 19.

apac PARSONS

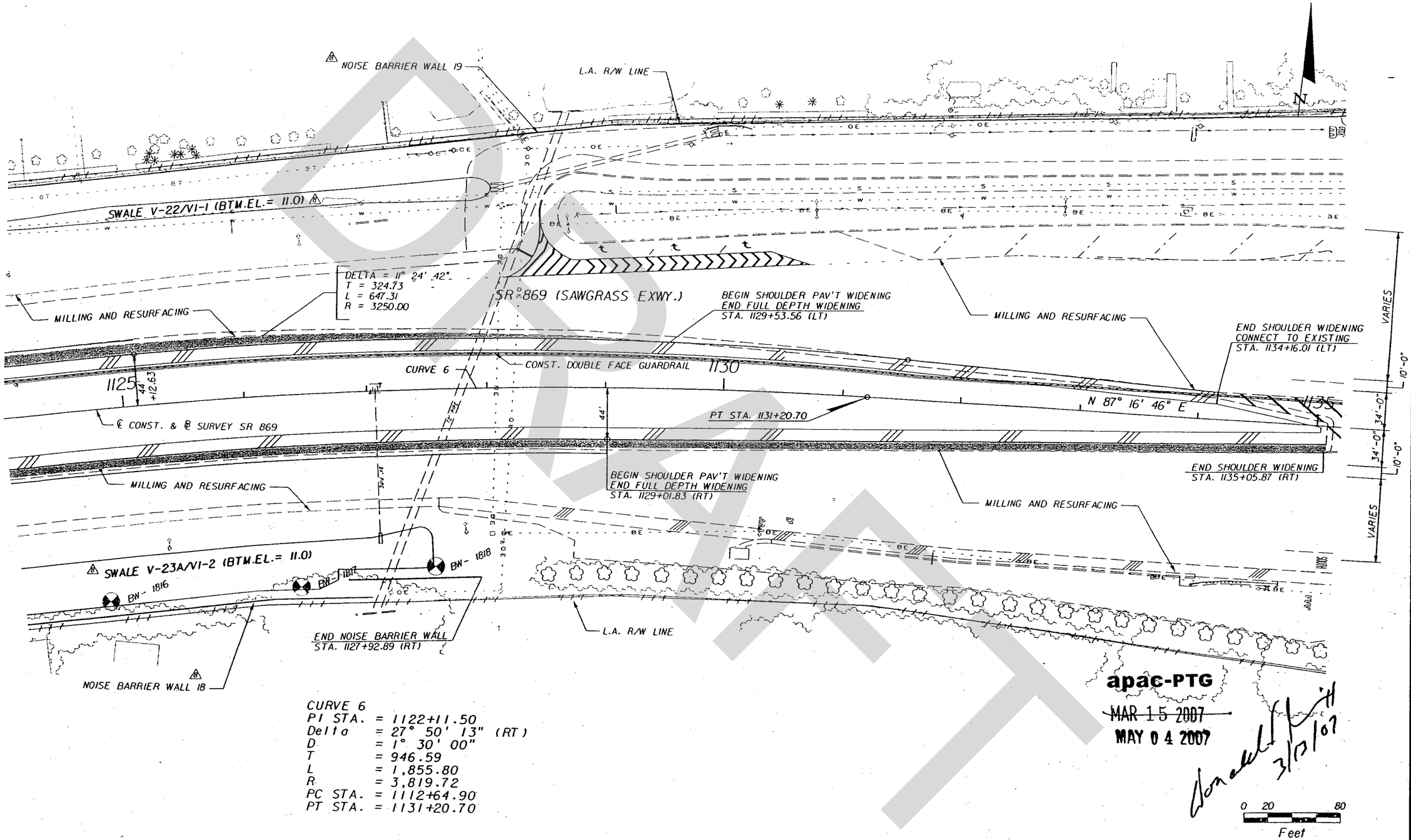
EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 61



CURVE 6
PI STA. = 1122+11.50
Delta = 27° 50' 13" (RT)
D = 1° 30' 00"
T = 946.59
L = 1,855.80
R = 3,819.72
PC STA. = 1112+64.90
PT STA. = 1131+20.70

PAVEMENT WIDENING
SHOULDER PAVEMENT

apac-PTG
~~MAR 15 2007~~
MAY 04 2007

3/13/07

REVISIONS		
DATE	BY	DESCRIPTION
08-18-06	DFW	⚠ REVISED STORMWATER TREATMENT SWALES AND NOISE BARRIER WALLS 18 & 19. ADDED WALL 18 OVERLAP.

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 62

L.A. R/W LINE

NOISE BARRIER WALL 19 (A)

NOISE BARRIER WALL 19 (A)

L.A. R/W LINE

PC STA. 41+03.84

SWALE VI-3 (BTM.EL.= 11.0)

RAMP S

END MILLING & RESURFACING
STA. 1139+07.45

MILLING AND RESURFACING

END DOUBLE FACE GUARDRAIL
CONNECT TO EXISTING GUARDRAIL (A)
STA. 1135+50.79 (LT)

SR 869 (SAWGRASS EXWY.)

1140

1145

N 87° 16' 46" E

℄ CONST. & ℄ SURVEY SR 869

EXIST. SUNPASS LOOPS
TO BE REPLACED
(SEE NOTE)

MILLING AND RESURFACING

RAMP T

DEERFIELD TOLL PLAZA

PC STA. 41+96.35

45

SWALE VI-4 (BTM.EL.= 11.0) (A)

BEGIN NOISE BARRIER WALL (A)
STA. 1138+90.00 (RT)

L.A. R/W LINE

NOISE BARRIER WALL 20 (A)

0 20 80
Feet

NOTE: EXISTING SUNPASS LANE LOOPS IN CONCRETE PAD SHALL NOT BE REPLACED.

apac-PTG

~~MAR 15 2007~~

MAY 04 2007

Donald F. 7/03/07

REVISIONS		
DATE	BY	DESCRIPTION
08-18-06	DFW	(A) REVISED STORMWATER TREATMENT SWALES AND NOISE BARRIER WALL 19 & 20. REVISED GUARDRAIL LABEL.

apac
PARSONS

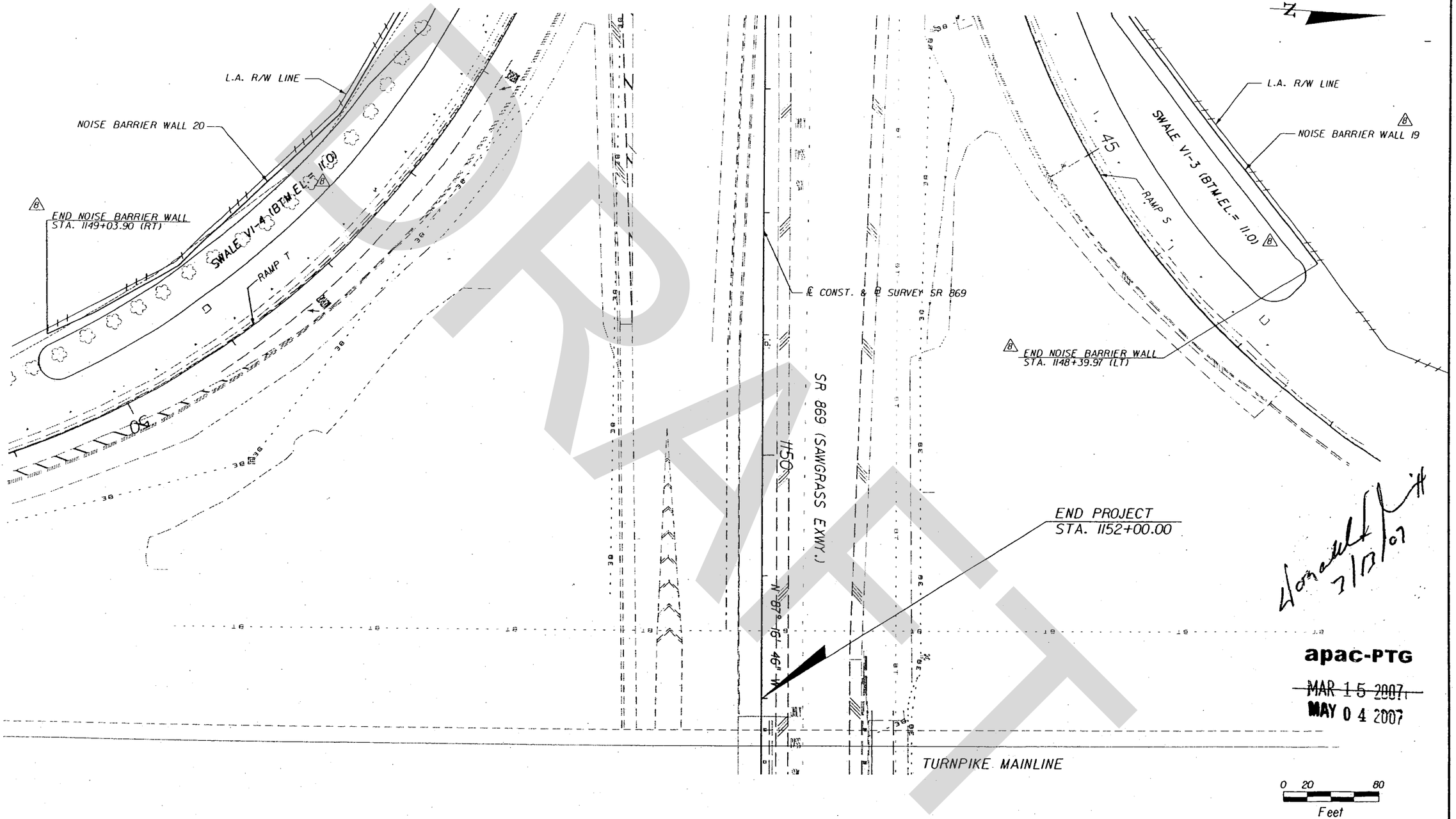
EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION #838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 63



apac-PTG

~~MAR 15 2007~~

MAY 04 2007

REVISIONS		
DATE	BY	DESCRIPTION
08-18-06	DFW	(2) REVISED STORMWATER TREATMENT SWALES AND NOISE BARRIER WALL 19 & 20

apac PARSONS

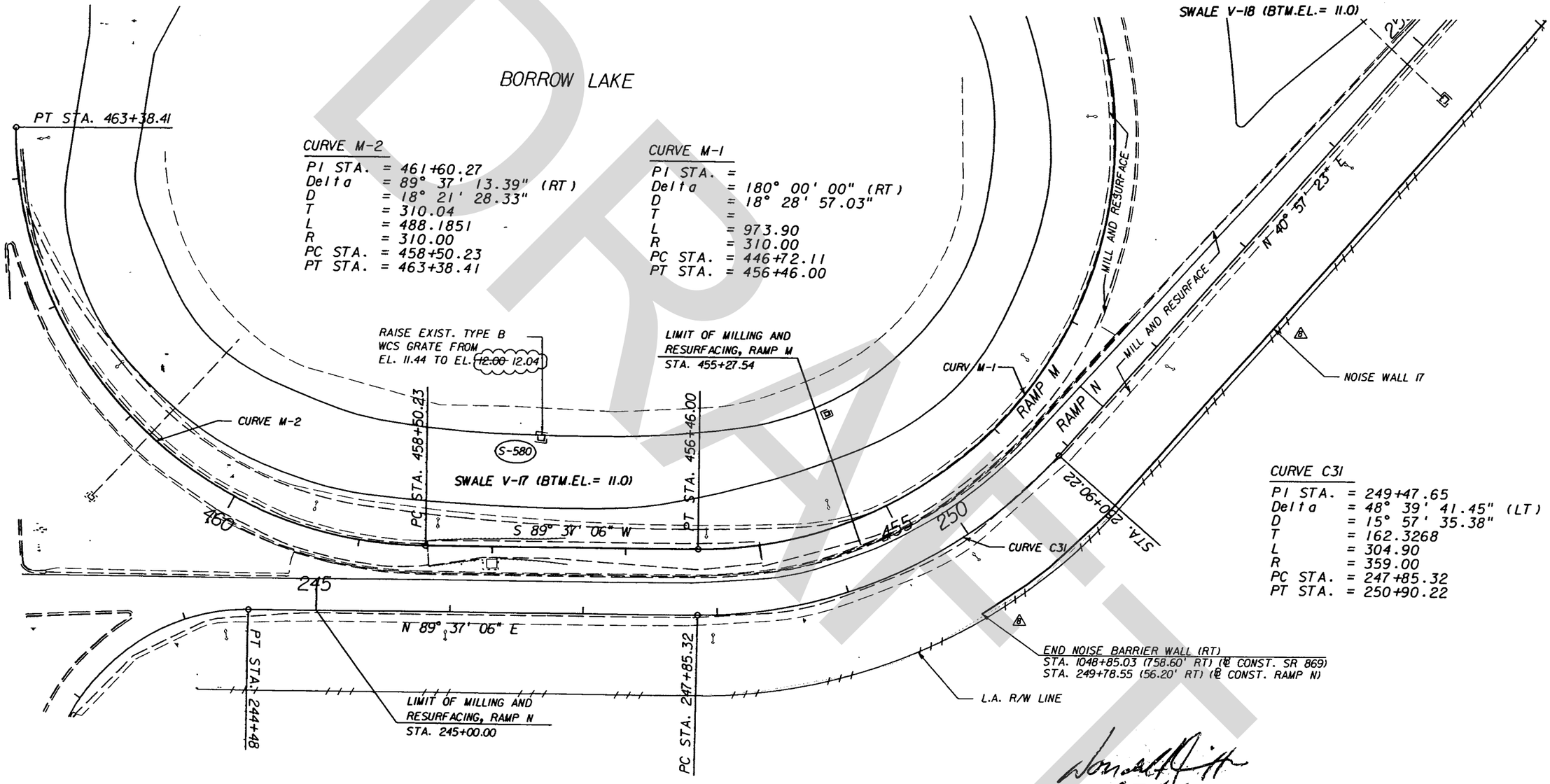
EOR: DONALD OGDENTTMANN
P.E. LICENSE NUMBER 58220
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 64



PE # 46223
4/28/08
As-Built Information Only

REVISIONS		
DATE	BY	DESCRIPTION
5-10-06	DFW	⚠ REVISED LOCATION OF NOISE BARRIER NO.17

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 65

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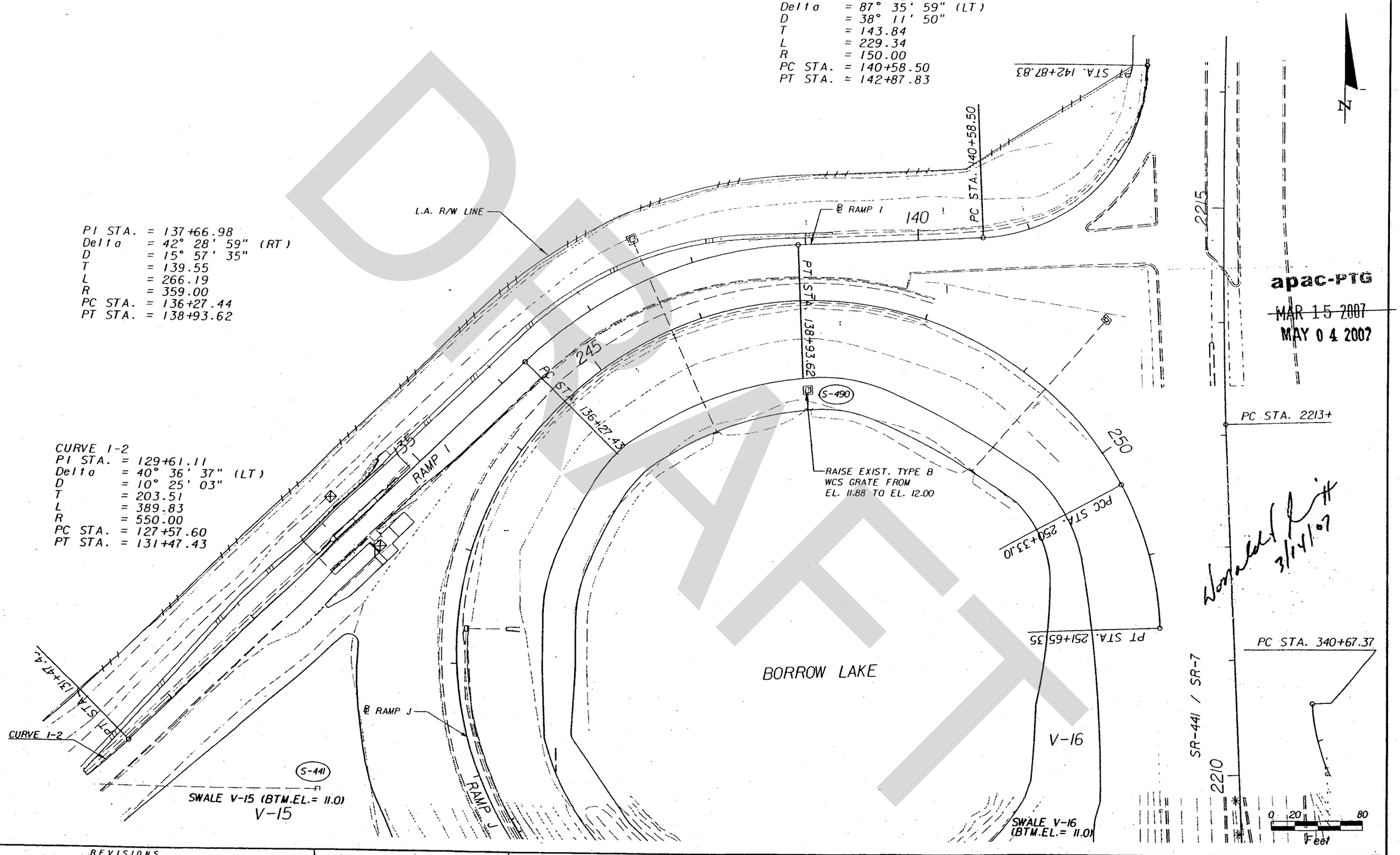
D = 38° 11' 50"
T = 143.84
L = 229.34
R = 150.00
PC STA. = 140+58.50
PT STA. = 142+87.83

PI STA. = 137+66.98
Delta = 42° 28' 59" (RT)
D = 15° 57' 35"
T = 139.55
L = 266.19
R = 359.00
PC STA. = 136+27.44
PT STA. = 138+93.62

CURVE 1-2
PI STA. = 129+61.11
Delta = 40° 36' 37" (LT)
D = 10° 25' 03"
T = 203.51
L = 389.83
R = 550.00
PC STA. = 127+57.60
PT STA. = 131+47.43



apac-PTG
~~MAR 15 2007~~
MAY 04 2007

3/14/07

DRAFT

REVISIONS		
DATE	BY	DESCRIPTION

apac PARSONS

EOR: LON G. OGDEN
P.E. LICENSE NUMBER 53200
PARSONS
1300 RIVERPLACE BLVD., SUITE 200
JACKSONVILLE, FL 32207
CERTIFICATE OF AUTHORIZATION 1838

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	406153-1-52-01

PLAN SHEET
S.R. 869
(SAWGRASS EXPRESSWAY)

SHEET NO. 66

APPENDIX E

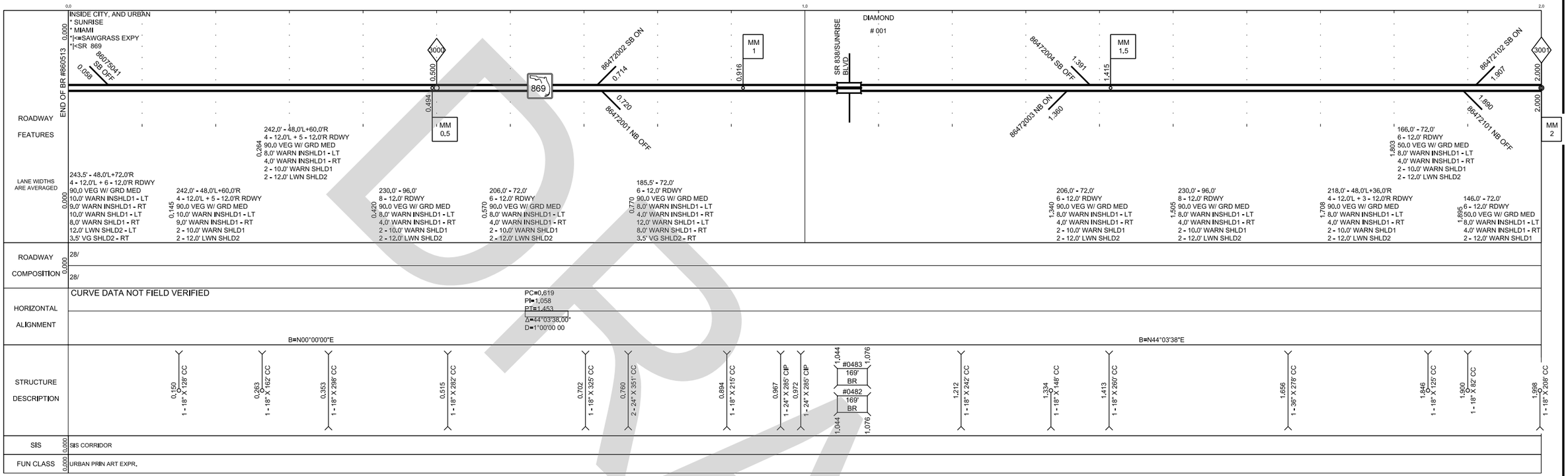
Straight Line Diagram

	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	04/01/2017	05/16/2017				
BY	Juan Echevarria - AECOM	Juan Echevarria - AECOM				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02		SR 869	BROWARD	08	86472000	1 OF 6



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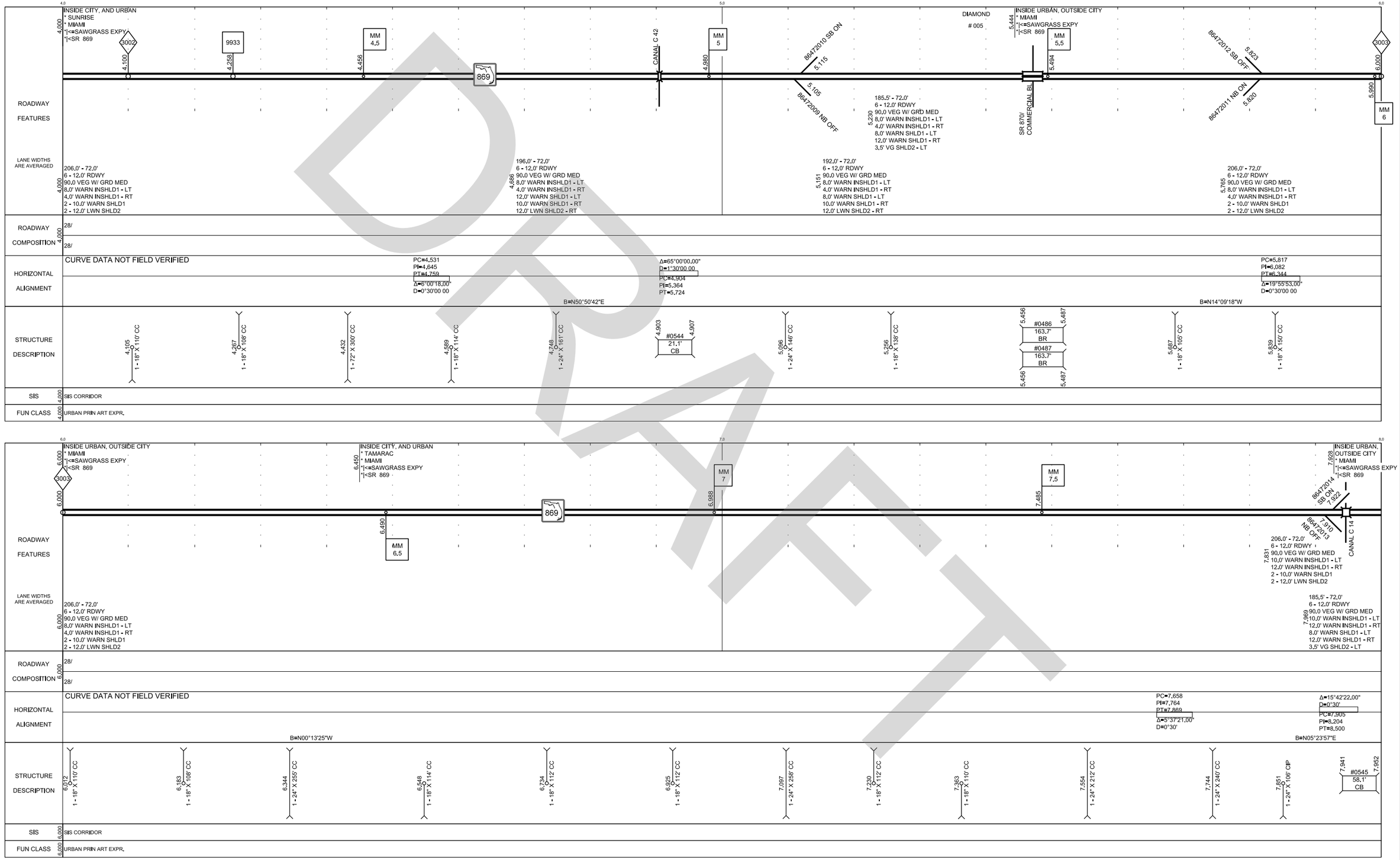
Version: 1.4.2.26 05/16/2017

	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	04/01/2017	05/16/2017				
BY	Juan Echevarria - AECOM	Juan Echevarria - AECOM				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02		SR 869	BROWARD	08	86472000	2 OF 6



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Version: 1.4.2.26 05/16/2017

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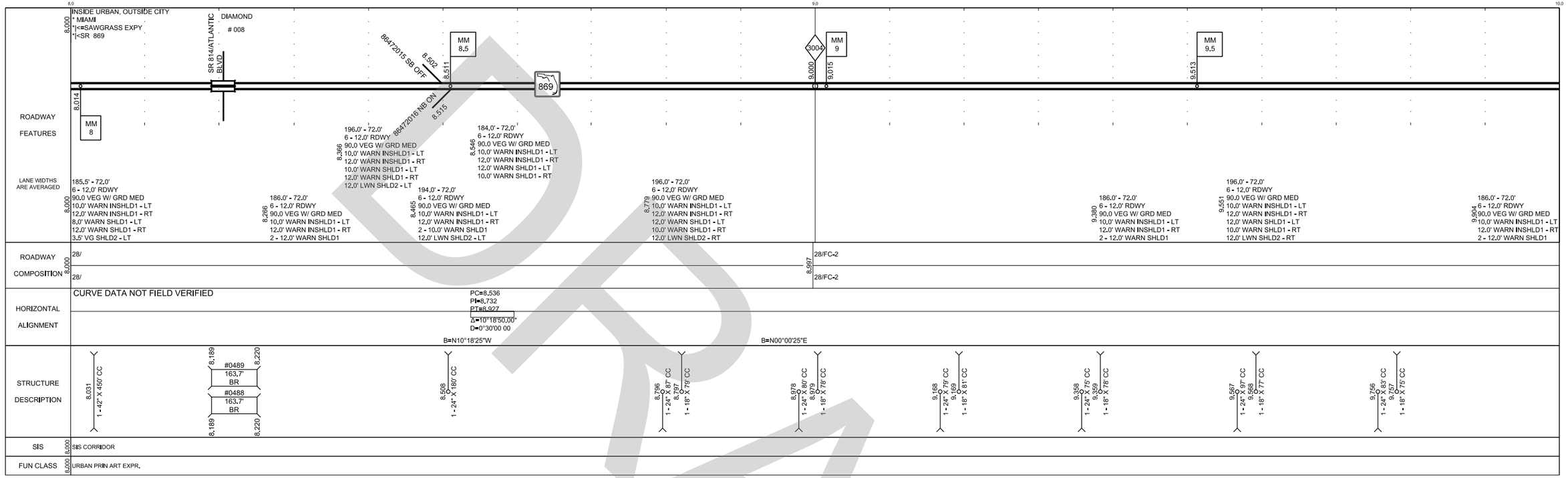
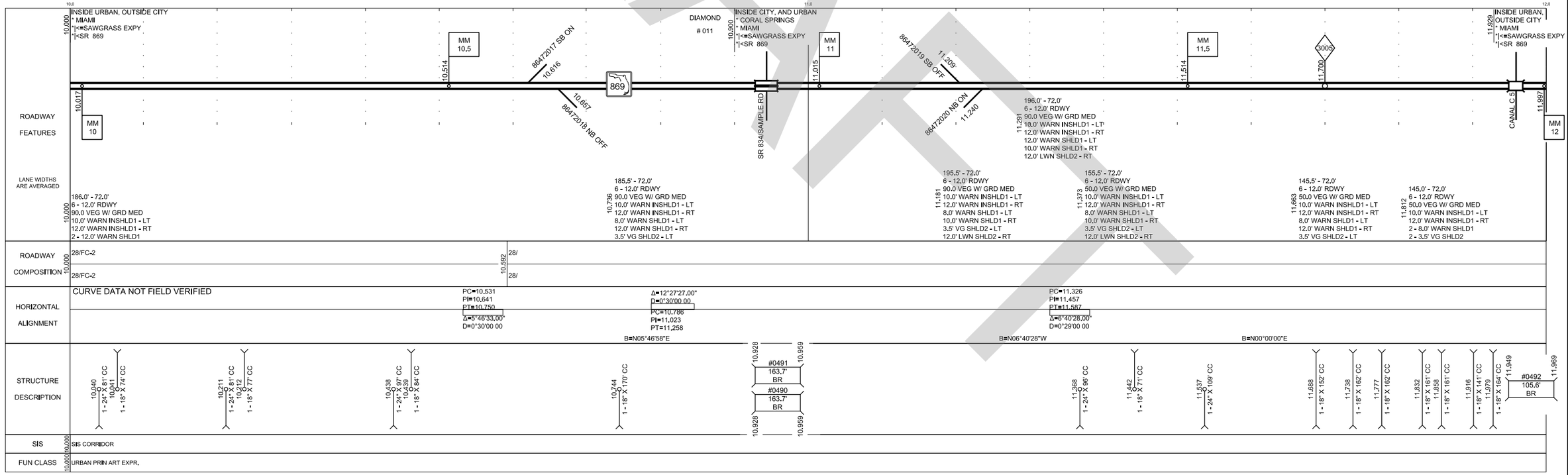
DATE	04/01/2017	05/16/2017				
BY	Juan Echevarria - AECOM	Juan Echevarria - AECOM				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02		SR 869	BROWARD	08	86472000	3 OF 6





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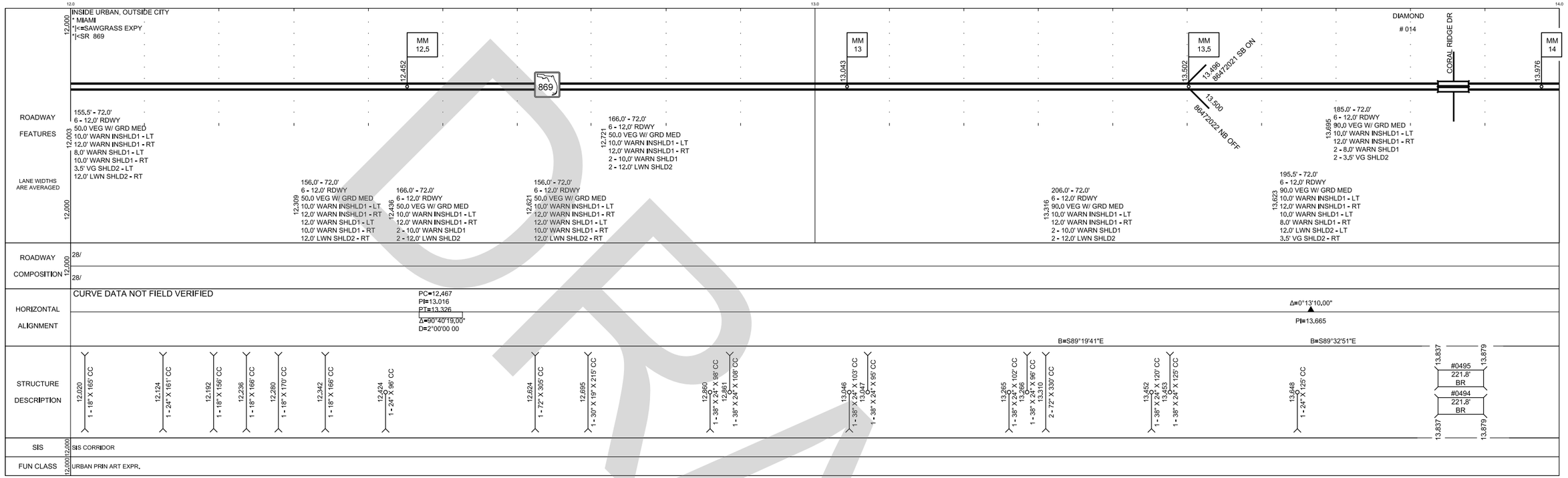
Version: 1.4.2.26 05/16/2017

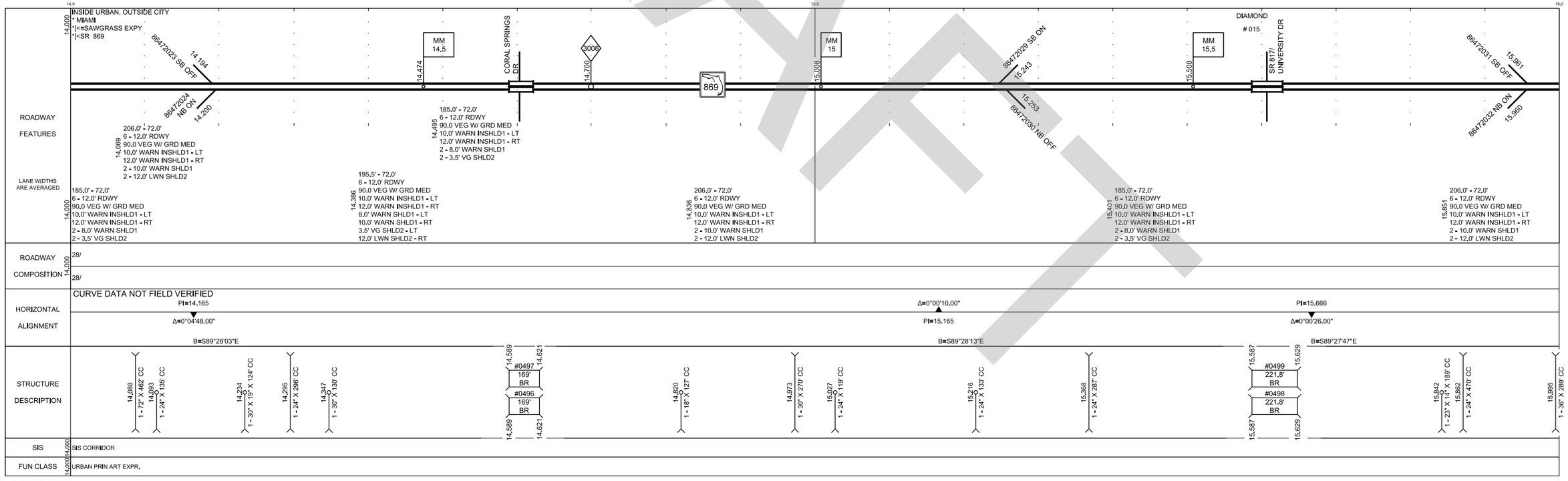
	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	04/01/2017	05/16/2017				
BY	Juan Echevarria - AECOM	Juan Echevarria - AECOM				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02		SR 869	BROWARD	08	86472000	4 OF 6





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Version: 1.4.2.26 05/16/2017

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DATE	04/01/2017	05/16/2017				
BY	Juan Echevarria - AECOM	Juan Echevarria - AECOM				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
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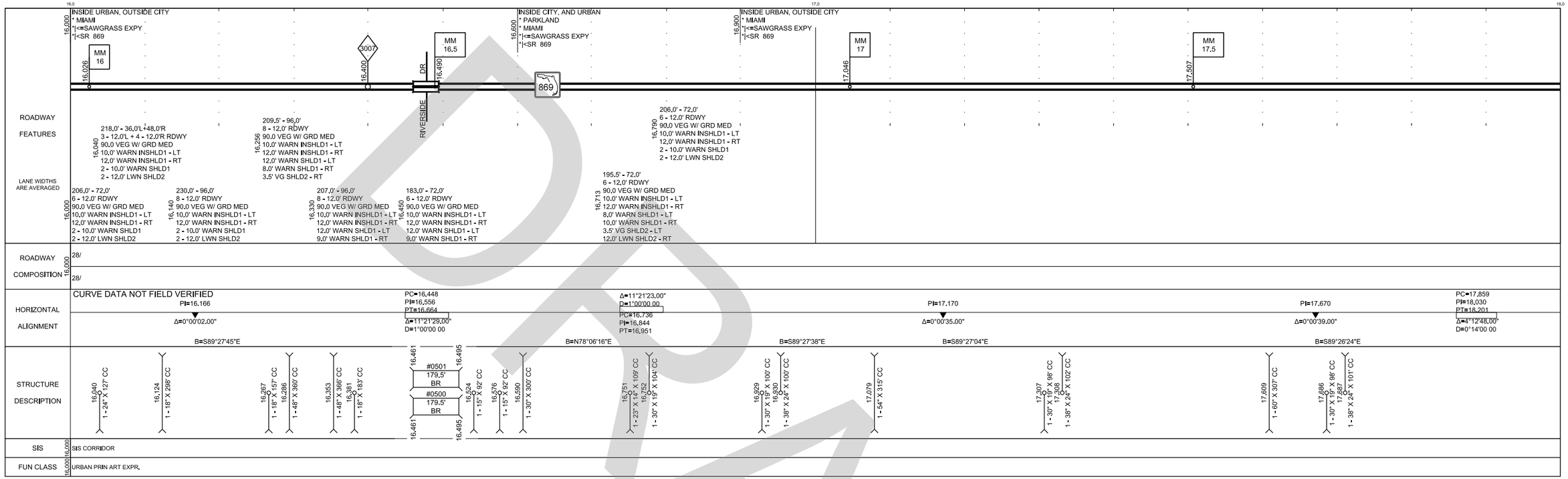

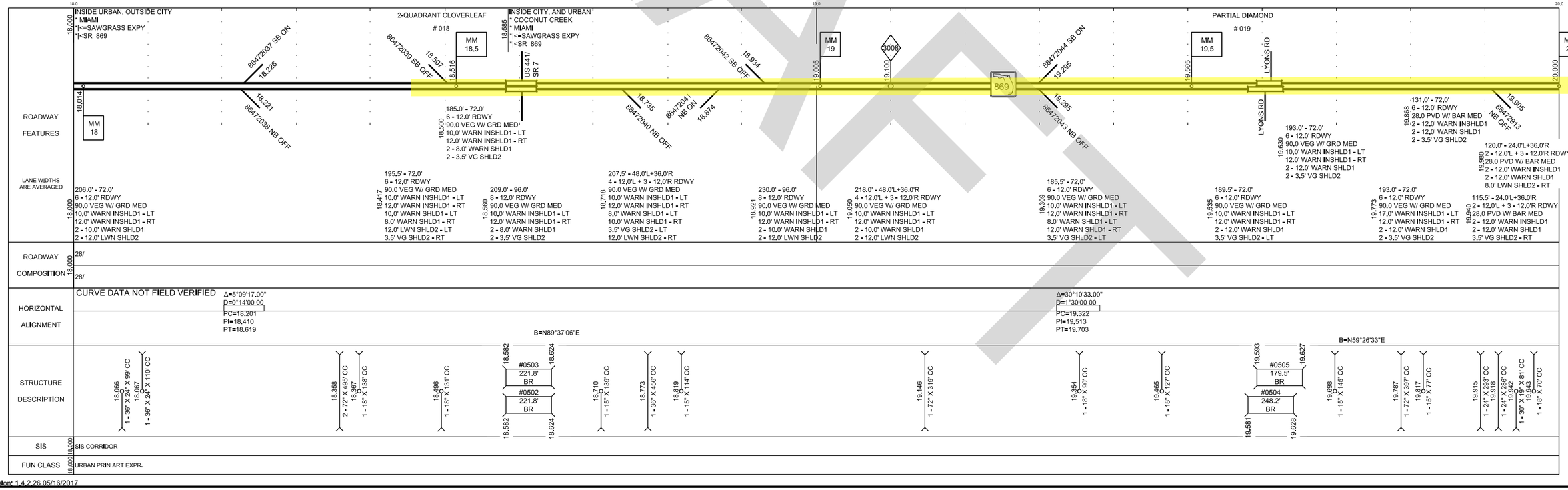

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Version: 1.4.2.26 05/16/2017

	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	04/01/2017	05/16/2017				
BY	Juan Echevarria - AECOM	Juan Echevarria - AECOM				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
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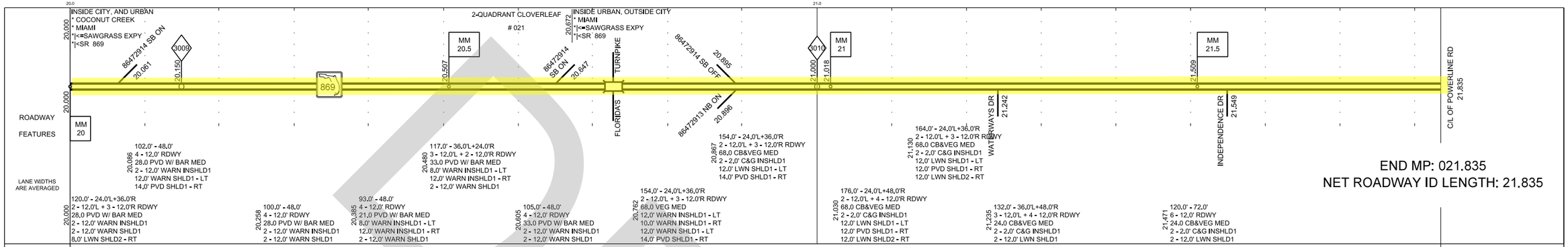

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Version: 14.2.26 05/16/2017

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BY	BMCD	BMCD

BMP	EMP	INV	SLD REV
000.000	001.315	03/04/2015 FDOT-D4	03/04/2015 FDOT-D4

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

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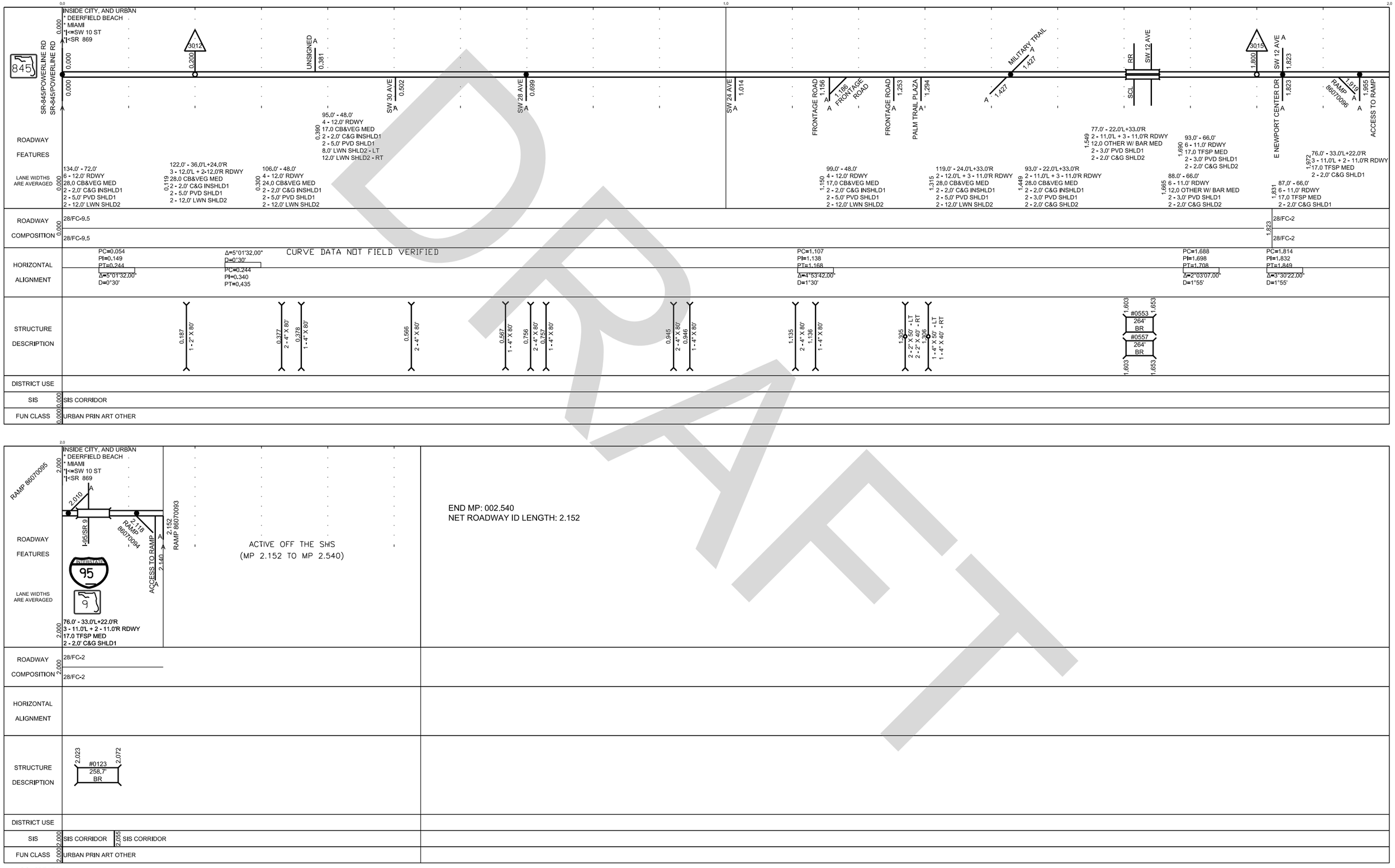

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APPENDIX F

Correspondence and Meeting Notes

Coordination with Broward Water Control District #2 & Cocomar Water Control District

Sawgrass Expressway (SR 869) Widening PD&E Study
From South of US 441/SR 7 (MP 18.0) to Powerline Road (MP 22.0)
Broward County, Florida
FPID# 437153-1-22-01 / Contract Number C-9P63

Monday, February 12, 2018
1:30 PM – 2:30 PM
Broward Co. Water and Wastewater Services/Water Management Division
2555 West Copans Road Pompano Beach, Fl. 33069

Meeting Minutes

Introductions

Mike Ciscar: We are doing a PD&E Study of the Sawgrass Expressway from just West of US-441 to Turnpike East, to complete the PD&E Study from Sunrise Rd. up to US-441. This is the remaining segment of the corridor from West of SR-441 to the mainline and ultimately down to Powerline Road. The main objective is to continue/complete the Express lanes network, to put Express lanes in the median along the Sawgrass Expressway as well as Interchange modifications necessary at US-441 and Lyons Road. The Mainline Interchange between the Sawgrass and the Turnpike it's a partial interchange from the North to the West as part of this study we are introducing the missing movements running from the East and also Direct Connects Express Lanes connections from the proposed express lanes to the main line because Turnpike also is going to be implementing Express lines on the mainline as well as the Sawgrass. That's the overall scope of our project. One very important component of it, is coordination with other adjacent projects. The Turnpike has projects like I mentioned on the Sawgrass to the west of this job and then on the main line north and south of this job and on the East district 4 (FDOT) is also conducting a PD&E Study along Southwest 10th Street, looking at several options there, one of which is a depressed option. So we have been coordinating closely with them on a bi weekly basis on that. But that's not part of our scope. Our scope is to coordinate with them and tie into them were then tie into us, make a seamless transition. But our objective is express lanes on the Sawgrass and then a mainline Interchange as well as the two service in general.

Mohammad Pervez: For drainage purposes for the corridor we researched the permits and the existing as-built plans. We are going through the basins, where those are, and how it is behaving. From the beginning of the project up to US-441 which is under Pine Tree Water Control District. Then from US-441 it's actually a genuine divide to Turnpike, is under Cocomar Water Control District. From Turnpike to the end of the project it under Broward County Water Control District No. 2. Turnpike interchange it is connected, meaning that both sides of the Turnpike are connected. Is there any physical divide between a Cocomar and Broward County Water Control District No. 2? Outfall 82 on the South East corner discharges to the Broward County Water Control District Canals and Outfall 84 North West Corner discharges to Cocomar Water Control District.

Carl Archie: A connection not included in SFWMD Permits shows a connection between Coco Lakes and the wet pond located SW of the turnpike interchange. Cross culvert No. 9 connects West and East of the Turnpike, which eventually discharges to a lake west of Independence Bay Community. We've always been concerned with the connectivity of these lakes. There were missing pipes, there was a whole lot

missing infrastructure that was never put in. Some of the Sawgrass was over dredged, some was under dredged and there are missing piece. For example outfall 85, we know it was never approved by the adjacent land owner. They used to be a lake and they never obtained an easement to drain. When they developed Independence Bay, the owner got permission to fill in that lake or to relocate it. The pipe goes nowhere because the lake was moved. I think the Sawgrass relocated the outfall between Waterways Blvd. and Independence Dr., you'll need to check our files for that. That's how the system goes. It's a whole series of four separate plans. The lakes (NE and SE of US-441, Cross Culvert No. 3) they were always a problem for us in the county since we need to get the across the states and divide and we regularly use this space and the light to get from over here to over here. There is a connection between these two lakes here,

Mohammad Pervez: I assume those were part of the development plans.

Carl Archie: The Lake (SE of US-441) was used by the Sawgrass, but the storage is owned by a development (NE of US-441). NE Lake is owned by the FDOT now. North and South Lakes are connected. There is an additional outfall underneath Sawgrass that connects North and South Lakes (West of Cross Culvert No. 3).

Mohammad Pervez: So as far as the storm management goes, seems like is mixed by the districts.

Carl Archie: The Cocomar plans were developed way before the Sawgrass Authority developed theirs. We had to have a north-south connectivity so pretty much. The Sawgrass was just in case the secondary user for the entire of things. And back then I think was Broward County was the developing the Sawgrass

Anaily Padron: Before you continue I have a question regarding Cross Culvert No. 4. Per BCPA all the outfalls located in Cocomar WCD are property of the City or County, except for Cross Culvert No. 4. It looks like it is property of Winston Park.

Carl Archie: This development was all coming in at one time and they needed the service. So they installed it.

Susan Juncosa: It's ours.

Mohammad Pervez: For stormwater management purposes, is there a separation a physical separation between East and West of the Turnpike?

Carl Archie: There is a physical divide that's about ten feet from the Turnpike property. The reason for suspicion at the lakes, they just doesn't look alike, it looks like that lake is isolated with the pipes were never maintained.

Mohammad Pervez: We will treat the interchange as a whole, meaning that in that interchange footprint would probably going to bring it in, in those two ponds and whatever the swales we get in between. And then finally we'll find the outfall, fall through the canal. Is it going to be OK to look at one interchange drainage?

Carl Archie: Yes. The divider is outside your right of way in the presumption it is closed. You can presume that the elevation 10.0 NGVD. That was the control elevation for that pond, but it was intended to be a basin divide that we can point.

Fred Gaines: Going back to the control structure. Where does it outfall? Does it the outfall on to the lake?

Carl Archie: It actually followed the fence line and goes into this lake then under the turnpike and then is actually a canal, this was supposed to be an off ramp and way back when they pick it up and that's the outfall to the east. It is piped from the Turnpike and it becomes an open canal.

Ryan Solis-Rios: The northern boundaries of the turnpike are actually changing. Right now the limits ends at the Hillsboro Blvd. We just recently got notice that we have to evaluate another PD&E that's actually 4,000 ft more from the County line. We're basically adding two express lanes of Sawgrass Expressway and two express lanes to FTE, just two lanes only ran into what's out there today and actually there's going to be an additional lane (auxiliary lane). Within the interchange area, we basically have four more lanes.

Mohammad Pervez: As far as the stormwater management goes, Mike already described the roadway improvements in the drainage part or a storm water management part. We would be providing a detention system in the interchanges and we'd be probably providing dry detention or retention in some places. We're explore if there is any way we can provide exfiltration trench. We have the Geotechnical Report and a few other things to do with all those options. We will provide a stormwater treatment attenuation within the limits of the project. So that's of our proposed improvement. For the stormwater management criteria as we always do we will be following south Florida water management district criteria for water quality and water quantity. We know that does project was permitted for 8-lanes, if we can have that storage for eighth lane permitted and then provide for the additional improvement and also analyze to see whether that is beneficial or all the water quality before entire project. And then we would provide the option for the project. For water quantity, we'll analyze Pre VS Post. Post development discharge will be less than Pre-development discharge without affecting any of the downstream properties.

Susan Juncosa: What would you be considering the project area?

Fred Gaines: For now we will consider from ROW to ROW. May be less, but I don't think there's that much new additional ROW they take them for the most part.

Ryan Solis-Rios: We may impacting the Park on both sides (additional ROW) on FTE and SW 10th St. corridor, but everything else in the project we are basically using the existing ROW.

Carl Archie: We had some plans associated to get more conveyance across FTE South of Sawgrass. I'll have to discuss it with John. In fact, we were planning this whole idea of getting water from the space in addition to independence bay.

Fred Gains: Is that the same area you and Jennifer Hereto talk about in 2006? We're not constructing but it is still an option if you wanted to do that anytime.

Carl Archie: Yes. Broward County Commissioners had some questions about that project and the Turnpike decided to just step back from the design. Secondly, we will have to see the intent with our wellfileld folks, about the lake and area NE FTE Interchange. The Ski Lake and the beach it's not supposed to be mixed with stormwater because of human contact, and so we have always wanted to surround this area with the water from over here, very close, 10 feet in some cases. There were plans associated with getting water over here. I'll get with our well field folks to see if they want to pursue it.

Anaily Padron: I have a question regarding the pipe connections inside Quiet Waters Park from this sketch from the ERP Permit. Looks like all the lakes are interconnected with equalizer pipes and they eventually discharge to C-3 Canal and that ultimately discharges to the Hillsboro Canal via a Control Structure.

Carl Archie: This was never put in place and everyone was very glad that was never put in place, it was installed far too high to be effective. We are not allowed to put water there. That option never came through. The System in the East is so depressed that they never had a flood issue. We have to talk to our wellfield folks, they desperately want to protect the well field. The best idea is to fill the surrounding lakes with surface water.

Fred Gains: All the culverts that are in your system are they free flowing, there are no gates underneath?

Carl Archie: Yes, at least in the Cocomar District.

Anaily Padron: We have no recent permits for SW 10th Street, we located the crossing pipes bases on the Survey and old permits.

Mohammad Pervez: Moving on with the Cross Culvert Extension. The only culvert extension that we have that might be outside FTE ROW is the one connecting the C-3 Canal. In that case do we need to submit permits?

Carl Archie: Yes. If you are impacting and the structure needs to be replaced.

Fred Gains: Do you want to move to question number five?

Mohammad Pervez: So challenging. You know, we don't have much room for stormwater in our area. I'm wondering, is there any storage available in the System that we can use or Cocomar needs more water?

Carl Archie: The district has no surplus left. All of it was sold out. I will need to contact Susan Bodman, Jennifer Hereto (Hydro geologists). I will let them know and we can plan another meeting with them.

Ryan Solis-Rios: You said that you had plans convey stormwater West-East of the FTE Mainline.

Fred Gains: We have done this, as you all know. We did it with Winding Waters, Palm Beach County. There are several instances when folks want stormwater runoff and it's relatively clean.

Mohammad Pervez: Can we treat FTE as a whole basin?

Carl Archie: You'll do it for both, the system are mixed. I suppose you can do it.

Fred Gains: We will make sure that all our coordination's will have NAVD, NGVD references.

Meeting Adjourned: 2:30 PM

Action Items:

- As-Builts from FDOT/FTE required by Susan Juncosa.
- Response from Well field office
- Meeting with Broward County Hydro geologist

Please see sign in sheet for attendance.

Coordination Meeting with South Florida
Water Management District
Sawgrass Expressway (SR 869) Widening PD&E Study
From South of US 441/SR 7 (MP 18.0) to Powerline Road (MP 22.0)
Broward County, Florida
FPID# 437153-1-22-01 / Contract Number C-9P63

Thursday, August 2, 2018
10:00 AM – 10:30 AM
SFWMD District Headquarter
3301 Gun Club Road West Palm Beach, FL 33406

MINUTES

1. Introduction to the Project

a. Objective and Schedule

The meeting was held to discuss scope of the project and pertinent South Florida Water Management District (SFWMD) drainage design criteria for the project. Fred Gaines opened meeting with a brief description of the project. Mr. Solis-Rios added more project information with discussing the project limits, importance of project and other surrounding FDOT and Turnpike projects within the vicinity of project area.

2. Existing Stormwater Management

a. Local Drainage Districts

There are three local drainage districts with in the project limits. From the beginning of the project to US 441 is within Pine Tree water Control District, from US 441 to FL Turnpike is within Cocomar Water Control District and from FL Turnpike to Powerline Road is within Broward County Water Control District #2.

b. Existing Permits and Pre-development Drainage for this Project

Mr. Pervez mentioned that there is an existing permit approved in 1985 for 8 lane section of the road within the project limit but only 4 lane section was built at that time. In the year 2005, 2 more lanes were added at the median with a letter modification. Mr. Pervez mentioned that the proposed project will have 10 to 12 lane of roadway and there are significant amount of existing roadside swales will be lost due to widening or reconstruction.

3. Stormwater Management Criteria

a. Water Quality and Water Quantity Criteria

Mr. Pervez mentioned that the design team would like to consider providing the storage (current volume) plus the required volume for the treatment of additional impervious area as an option to meet the water quality requirement for the project. The other option is to provide the water quality for entire roadway. Mr. De Rojas from SFWMD explained that since most roadside swale will be used for widening of the road, it is fair to use new permit with current design criteria (1" over the project area or 2.5" over impervious area, whichever the greater) for water quality treatment for new roadway. However, during the final design phase if the project finds that it is beneficial to use previous 8 lane section volume plus the additional volume for additional impervious area, SFWMD would like to evaluate the option at that time.
Mr. Gaines inquired if Independence Bay Ponds can be used for treatment and attenuation to avoid buying additional right of way. Mr. De Rojas replied that it depends on local drainage authority.

4. Proposed Improvement

a. Stormwater Management – Post-development

Basins – There are primarily four basins; (1) from beginning of the project to US 441, (2) from US 441 to east of Lyons Road, (3) from east of Lyons Road to waterways Blvd and (4) from waterways Blvd to Powerline Road.

Stormwater Management Options – *stormwater management will be primarily provided by wet detention in the interchange ponds and dry detention in the roadside swales and interchange infield areas.*

5. Cross-Culverts Extensions in WCD's Facilities

a. Culverts and jurisdiction – *There are several cross-culverts within the project needs to be extended which is under local drainage district jurisdiction*

6. Regional Stormwater Management Opportunities

a. Potential Wellfield Recharge Activity and Well Wellfield Protection Zones - *Mr. Pervez mentioned that the project team is coordinating with Local Drainage Districts about to design stormwater system that could help well field recharge located north-east of Turnpike and Sawgrass Expressway interchange. Mr. De Rojas mentioned Department of Environmental Protection (DEP) needs to be contacted in case well field recharge is involved.*

b. Regional Water Quality and Water Quality Basin, Quiet Waters Park and Independence Bay Community – *Mr. Rojas mentioned that Cocomar WCD has control structures at the system that regulates the flow to the Hillsboro Canal but BCWCD#2 does not have any defined system. Permitting at BCWCD#2 was delegated to the County*

7. Environmental Features and Approach

Rob Myers described the environmental features within the project corridor. They include a bald eagle nest in the Northeast quadrant of the intersection of Sawgrass Expressway and Florida's Turnpike. Mr. Myers stated that nest was active during the 2017/2018 nesting season and produced one chick. Mr. Myers pointed out that the nest is in a different tree than during previous years, but it is still on FDOT right-of-way. Other environmental features within the project area included wetlands, and Mr. Myers noted that wetlands occur on Quiet Waters Park, immediately north of Sawgrass Expressway and east of Florida's turnpike. The SFWMD noted that some of these lakes and wetlands appear to have been cut into uplands and are not natural wetlands. Wetlands and surface waters are also potentially suitable foraging habitat for the federally listed wood stork. Mr. Myers noted that potentially contaminated sites occur in the project area, included several gas stations and a landfill near the southern terminus along Florida's Turnpike.

8. Other

Mr. Pervez inquired if Hillsboro Aquifer Storage and Recovery, a Comprehensive Everglades Restoration Plan (CERP) project will be impacted by the project. SFWMD staff mentioned that CERP is little far north side of project, therefore it may not affect the project.

9. Closing Comments/Questions – Action Items

Meeting was concluded at 11:30 am on Thursday, August 3, 2018.

SFWMD COORDINATION MEETING

Sawgrass Expressway (SR 869) Widening PD&E Study
From South of US 441/SR 7 (MP 18.0) to Powerline Road (MP 22.0)
Broward County, Florida
FPID# 437153-1-22-01 / Contract Number C-9P63

Thursday, August 2, 2018
10:00 AM – 11:00 AM

SIGN IN SHEET

NAME	AGENCY / COMPANY	TELEPHONE	EMAIL	INITIALS
1) Barb Conmy	SFWMD	561-682-6937	bconmy@sfwmd.gov	BC
2) Carlos de Rojas	SFWMD	561-682-6505	cderojas@sfwmd.gov	CR
3) Martin Horwitz	FTE/EMO	407-264-3022	martin.horwitz@dot.state.fl.us	MH
4) Fred Gainer	Atkins	407 264 3689	fred.gainer@dot.state.fl.us	FG
5) Ryan Solis-Rios	Corredino	954-777-6044	rsolis-rios@corredino.com	RSR
6) Mohammad Pervez	HDR	305-728-7446	mohammad.pervez@hdrinc.com	MP
7) Imtyaz Shaikh	HDR	305-728-7434	imtyaz.shaikh@hdrinc.com	IS
8)				
9)				
10)				
11)				
12)				
13)				
14)				
15)				
16)				

Coordination with Broward Water Control District #2 and Cocomar Water Control District

Sawgrass Expressway (SR 869) Widening PD&E Study
From South of US 441/SR 7 (MP 18.0) to Powerline Road (MP 22.0)
Broward County, Florida
FPID# 437153-1-22-01 / Contract Number C-9P63

Thursday, August 2, 2018
2:00 PM – 3:00 PM
Broward Co. Water and Wastewater Services/Water Management Division
2555 West Copans Road Pompano Beach, Fl. 33069

AGENDA

1. **Update on Project**

- *This is a follow-up meeting with Broward County Water Control District#2 to provide an update on the project and to discuss the opportunity to recharge the wellfields.*
- *Fred Gaines opened the meeting with a brief description of the project. Mr. Solis-Rios added more project information with discussing the project limits, importance of project and other surrounding FDOT and FL Turnpike projects within the vicinity of project area.*

2. **Update on Stormwater Management Approach**

1. Proposed Basins- *Mohammad Pervez provided an update on the drainage design approach of the project since last meeting.*

3. **Update on Stormwater Management Opportunities**

2. Wellfield Recharge Possibility - Ponds at Quiet Waters Park
   - *Broward County Staff mentioned that the ground water flows from south to north through the wellfield zone on the east side of FL Turnpike. Therefore, Broward County has been trying to send water to the south side of Sawgrass Express way and east side of FL Turnpike. Mr. Archie mentioned to have a possible pipe connection under the FL Turnpike to bring water from west to east just north of Wiles Road towards well fields. Mr. Gaines mentioned that the crossing could be a cost sharing opportunity for both FL Turnpike and BCWCD#2 for mutual benefits.*
   - *Broward County staff mentioned that they do not have any issues on the location of the new ponds in Basin 4 inside the quite waters park. Since the parcels are owned by Broward County Parks and Recreational Department, the staff advised to contact the Parks department. They also mentioned that Quiet Waters Park ponds cannot be used for discharge because of human contact in the water (class I water).*

a. Project Discharge in Independence Bay Pond – Compensatory Discharge Opportunity

Carl Archie informed that BCWCD#2 has no objection on sending runoff from Sawgrass FL Turnpike interchange to Independence Bay through the current outfall at SE corner of the interchange. He also mentioned that the existing Sawgrass Express way east of FL Turnpike is also discharging to Independence bay. So Discharge for that part will also be allowed.

b. Potential Alternative Pond at NW Corner of Turnpike and Wiles Road

Regarding the potential offsite pond at the SE corner of FL Turnpike and Wiles Road, Mr. Archie suggested to relocate the pond footprint further north so that it falls in the path of the proposed crossing from Coco Lakes to Independence Bay.

c. Potential Overflow Discharge at Independence Bay from Basin 3B

Broward County staff mentioned to use SFWMD criteria for quality and quantity to release stormwater at Independence Bay. Carl Archie informed that any additional runoff going to the Independence Bay Pond will be subject to a potential Broward County permit. He suggested to have a well-established connection among proposed ponds with lower invert elevation at the pipes to help water to flow towards south of Sawgrass Expressway which may help recharging the well field.
Mr. Archie promised to send the legal agreement between the community and the county for receiving water to the lake.

4. Other Items

Broward County staff Ms. Maran suggested to use new Broward County Ground Water Elevation Maps for the design purposes.

Meeting was concluded at 3:30 am on Thursday, August 3, 2018.

COORDINATION WITH BROWARD WATER CONTROL DISTRICT #2 AND COCOMAR WATER CONTROL DISTRICT

Sawgrass Expressway (SR 869) Widening PD&E Study
From South of US 441/SR 7 (MP 18.0) to Powerline Road (MP 22.0)
Broward County, Florida
FPID# 437153-1-22-01 / Contract Number C-9P63

Thursday, August 2, 2018
2:00 PM – 3:00 PM
Broward County Water and Wastewater Services/Water Management Division
2555 West Copans Road Pompano Beach, FL 33069

SIGN IN SHEET

NAME	AGENCY / COMPANY	TELEPHONE	EMAIL	INITIALS
1) Fred Gaines	FTE/Atkins	(407) 532-3999	Fred.Gaines@dot.state.fl.us	
2) Mike Ciscar	Corradino	(954) 777-0044	MCiscar@corradino.com	
3) Ryan Solis-Rios	Corradino	(954) 777-0044	rsolis-rios@corradino.com	RSR
4) Anaily Padron	HDR	(305) 728-7459	Anaily.padron@hdrinc.com	
5) Mohammad Pervez	HDR	(305) 728-7446	Mohammad.Pervez@hdrinc.com	
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10) Carl Archie	Broward Co.	(954) 357-6410	CARCHIE@broward.org	
11) Adam Gardner	Broward Co	954-831-0754	adgardner@Broward.org	
12) Joe Heilman	"	(954)831-0764	JHeilman@Broward.org	
13) Susan Juncosa	BC WMD	831-0778	sjuncosa@broward.org	
14) Susan Bodmann	BC WMD	831-0760	sbodmann@broward.org	
15) Imtyaz Shaikh	HDR	305-728-7434	imtyaz.shaikh@hdrinc.com	
16) Fred Gaines	Atkins	4072643689	fred.gaines@dot.state.fl.us	
~~Martin Horwitz FTE~~				
17) Carolina Maran	Broward	(954) 5190356	cmaran@broward.org	

From: Ryan Solis-Rios
To: Shaikh, Imtyaz; Lopez, Carlos J.
Subject: FW: 437153-1 PD&E Widen Sawgrass US441 to Powerline
Date: Friday, October 6, 2023 9:35:43 AM
Attachments: image001.png
image002.png
Importance: High

Hi Guys:
See below from Turnpike.
Please confirm.
Thanks,

From: Stewart, Kevin <Kevin.Stewart@dot.state.fl.us>
Sent: Friday, October 6, 2023 9:14 AM
To: Heywood, Jazlyn <Jazlyn.Heywood@dot.state.fl.us>; Ryan Solis-Rios <rsolis-rios@CORRADINO.com>
Cc: Yao, Erin <Erin.Yao@dot.state.fl.us>; Gaines, Fred <Fred.Gaines@dot.state.fl.us>
Subject: 437153-1 PD&E Widen Sawgrass US441 to Powerline

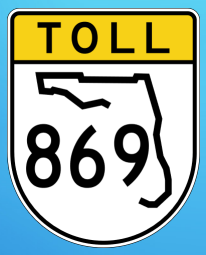
Ryan/Jazlyn,

An RAI comment recently came up on the widening project just east of this project. The Sawgrass (west of Turnpike mainline only) is within a WPA (special basin) which has some additional requirements such as an additional 50% water quality volume (for the extra lanes above 8 lanes that were previously permitted). I don't believe this has been accounted for in the volumes for this project. I wanted to pass this information along so it can be included. Thanks! See the SFWMD SWERP manual at erp_swerp_manual.pdf (sfwmd.gov) .

Kevin G. Stewart, P.E.

Senior Drainage Engineer
AtkinsRéalis
Engineering, Design and Project Management

Florida's Turnpike Milepost 263, Building 5315, Ocoee, Florida 34761
Tel: 407-264-3417 Mob: 407-448-3616



FDOT

www.floridasturnpike.com/sawgrass