Appendix D – Previous Permit Information

49-00765-S

SOUTH FLORIDA WATER
MANAGEMENT DISTRICT

BEG. PERMIT NUMBER:

49-00765-S

APPLICATION NUMBER:

950124-5

FORM #0190
Rev. 8/85

APPLICATION/PERMIT FILE RECORD & ACTION SHEET

Name: FL D.O.T. (S.R. 60 & Reedy Creek Bridge Replacement)

Permit No. 49-00765-S

Application No. _____

This file contains:

☐ ORIGINAL APPLICATION ☐ PERMIT ☐ SPECIAL CONDITION SHEET(S)

☐ STAFF CALCULATION SHEET(S) ☐ DRAWING(S) ☐ STAFF REPORT

Chronological Correspondence/Action Record

Date	Subject	By	Comments
12.96	NEW C.O. permit (has an addendum)	A.L.	960124-S
	(*NOTE: A conceptual permit was issued Nov. 10, 1994)		

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Form #0113
Rev 08/95

SURFACE WATER MANAGEMENT PERMIT NO. 49-00765-S

DATE ISSUED: DECEMBER 12, 1996

PERMITTEE: FLORIDA DEPT. OF TRANSPORTATION
(SR 600 RELOCATION & REEDY CREEK BRIDGE REPLACEMENT)
719 SOUTH WOODLAND BLVD.
DELAND, FL 32720

PROJECT DESCRIPTION: AUTHORIZATION FOR THE CONSTRUCTION AND OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM TO SERVE A 34.0 ACRE HIGHWAY PROJECT, DISCHARGING TO REEDY CREEK VIA REEDY CREEK SWAMP.
(NOTE: ORIGINAL PERMIT WAS ISSUED AS A CONCEPTUAL PERMIT DATED NOVEMBER 10, 1994)

PROJECT LOCATION: OSCEOLA COUNTY, SECTION 6,31,32 TWP 25,26S RGE 28E

This Permit is issued pursuant to Application No. 960124-5 dated January 19, 1996. Permittee agrees to hold and save the South Florida Water Management District and its successors harmless from any and all damages, claims or liabilities which may arise by reason of the construction, operation, maintenance or use of activities authorized by this Permit. This Permit is issued under the provisions of Subsections 373.414(11)-(16), Florida Statutes (F.S), and the Operating Agreement Concerning Regulation Under Part IV, Chapter 373 F.S., between South Florida Water Management District and the Department of Environmental Protection. Issuance of this Permit constitutes certification of compliance with state water quality standards where necessary pursuant to Section 401, Public Law 92-500, 33 USC Section 1341, unless this Permit is issued pursuant to the net improvement provisions of Subsections 373.414 (1) (b), F.S., or as otherwise stated herein.

This Permit may be transferred pursuant to the appropriate provisions of Chapter 373, F.S. and Sections 40E-1.6107(1) and (2), and 40E-4.351(1), (2), and (4), Florida Administrative Code (F.A.C).

This Permit may be revoked, suspended, or modified at any time pursuant to the appropriate provisions of Chapter 373, F.S., and Sections 40E-4.351(1), (2), and (4), F.A.C.

This Permit shall be subject to the General Conditions set forth in Rule 40E-4.381, F.A.C., unless waived or modified by the Governing Board. The Application, and the Surface Water Management Staff Review Summary of the Application, including all conditions, and all plans and specifications incorporated by reference, are a part of this Permit. All activities authorized by this Permit shall be implemented as set forth in the plans, specifications, and performance criteria as set forth and incorporated in the Surface Water Management Staff Review Summary. Within 30 days after completion of construction of the permitted activity, the Permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual, pursuant to the appropriate provisions of Chapter 373, F.S. and Sections 40E-4.361 and 40E-4.381, F.A.C.

In the event the property is sold or otherwise conveyed, the Permittee will remain liable for compliance with this Permit until transfer is approved by the District pursuant to Rule 40E-1.6107, F.A.C.

LIMITING AND SPECIAL CONDITIONS ARE AS FOLLOWS:

SEE PAGES 2-3 OF 6-10 SPECIAL CONDITIONS.
SEE PAGES 4-6 OF 6-19 LIMITING CONDITIONS.

FILED WITH THE CLERK OF THE
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

ON _____ Original signed by: Vern Kaiser

BY _____
DEPUTY CLERK

SOUTH FLORIDA WATER
MANAGEMENT DISTRICT, BY ITS
GOVERNING BOARD

Original signed by
TONY BURNS

BY _____
ASSISTANT SECRETARY

SPECIAL CONDITIONS

1 . DISCHARGE FACILITIES:

BASIN: BASIN 3:

1-2' WIDE SHARP CRESTED WEIR WITH CREST AT ELEV. 73.82' NGVD.
190 LF OF 1.5' DIA. RCP CULVERT.

RECEIVING BODY : REEDY CREEK SWAMP

CONTROL ELEV : 70 FEET NGVD. /70 FEET NGVD DRY SEASON.

BASIN: BASIN 4:

1-4.1' WIDE SHARP CRESTED WEIR WITH CREST AT ELEV. 68.4' NGVD.
1-.25' DIA. CIRCULAR ORIFICE WITH INVERT AT ELEV. 67.09' NGVD.
58 LF OF 3.2' WIDE X 2' HIGH ELLIPTICAL CULVERT.

RECEIVING BODY : REEDY CREEK SWAMP

CONTROL ELEV : 67.09 FEET NGVD. /67.09 FEET NGVD DRY SEASON.

2 . LAKE SIDE SLOPES SHALL BE NO STEEPER THAN 4:1 (HORIZONTAL:VERTICAL) TO A DEPTH OF TWO FEET BELOW THE CONTROL ELEVATION. SIDE SLOPES SHALL BE NURTURED OR PLANTED FROM 2 FEET BELOW TO 1 FOOT ABOVE CONTROL ELEVATION TO INSURE VEGETATIVE GROWTH.

3 . FACILITIES OTHER THAN THOSE STATED HEREIN SHALL NOT BE CONSTRUCTED WITHOUT AN APPROVED MODIFICATION OF THIS PERMIT.

4 . ALL SPECIAL CONDITIONS PREVIOUSLY STIPULATED BY PERMIT NUMBER 49-00765-S REMAIN IN EFFECT UNLESS OTHERWISE REVISED AND SHALL APPLY TO THIS MODIFICATION.

5 . OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM SHALL BE THE RESPONSIBILITY OF FLORIDA DEPARTMENT OF TRANSPORTATION.

6 . SILT SCREENS, HAY BALES OR OTHER SUCH SEDIMENT CONTROL MEASURES SHALL BE UTILIZED DURING CONSTRUCTION. THE SELECTED SEDIMENT CONTROL MEASURES SHALL BE INSTALLED LANDWARD OF THE UPLAND BUFFER ZONES AROUND ALL PROTECTED WETLANDS. ALL AREAS SHALL BE STABILIZED AND VEGETATED IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION INTO THE WETLANDS AND UPLAND BUFFER ZONES.

7 . THE SFWMD RESERVES THE RIGHT TO REQUIRE REMEDIAL MEASURES TO BE TAKEN BY THE PERMITTEE IF WETLAND AND/OR UPLAND MONITORING OR OTHER INFORMATION DEMONSTRATES THAT ADVERSE IMPACTS TO PROTECTED, CONSERVED, INCORPORATED OR MITIGATED WETLANDS OR UPLANDS HAVE OCCURRED DUE TO PROJECT RELATED ACTIVITIES.

8 . ANY FUTURE CHANGES IN LAND USE OR TREATMENT OF WETLANDS AND/OR UPLAND

BUFFER/COMPENSATION AREAS MAY REQUIRE A SURFACE WATER MANAGEMENT PERMIT MODIFICATION AND ADDITIONAL ENVIRONMENTAL REVIEW BY DISTRICT STAFF. PRIOR TO THE PERMITTEE INSTITUTING ANY FUTURE CHANGES NOT AUTHORIZED BY THIS PERMIT, THE PERMITTEE SHALL NOTIFY THE SFWMD OF SUCH INTENTIONS FOR A DETERMINATION OF ANY NECESSARY PERMIT MODIFICATIONS.

9 . MITIGATION SHALL BE PROVIDED BY DESIGNATION OF 95.7 ACRES OF WETLAND RESTORATION/ENHANCEMENT WITHIN THE 534.9-ACRE THREE LAKES WILDLIFE MANAGEMENT AREA (TLWMA) MITIGATION SITE (PREVIOUSLY AUTHORIZED BY SFWMD PERMIT APPLICATION NUMBERS 940614-10 AND 940614-1-D). THIS MITIGATION ACREAGE WILL BE SUBTRACTED FROM THE 500.9 ACRES THAT CURRENTLY REMAIN AVAILABLE, LEAVING A BALANCE OF 405.2 ACRES OF MITIGATION AVAILABLE TO OFFSET OTHER FDOT DISTRICT 5 ROADWAY PROJECTS (SEE EXHIBIT NO. 13).

10. ALL PROVISIONS OF THE TLWMA PERMIT APPLICATION NUMBER 940614-10 CONCERNING CONSTRUCTION, MONITORING AND MAINTENANCE OF THE MITIGATION SITE ARE INCORPORATED BY REFERENCE INTO THIS PERMIT.

LIMITING CONDITIONS

1 . THE PERMITTEE SHALL IMPLEMENT THE WORK AUTHORIZED IN A MANNER SO AS TO MINIMIZE ANY ADVERSE IMPACT OF THE WORKS ON FISH, WILDLIFE, NATURAL ENVIRONMENTAL VALUES, AND WATER QUALITY. THE PERMITTEE SHALL INSTITUTE NECESSARY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING FULL COMPACTION OF ANY FILL MATERIAL PLACED AROUND NEWLY INSTALLED STRUCTURES, TO REDUCE EROSION, TURBIDITY, NUTRIENT LOADING AND SEDIMENTATION IN THE RECEIVING WATERS.

2 . WATER QUALITY DATA FOR THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY OR INTO SURFACE WATERS OF THE STATE WILL BE SUBMITTED TO THE DISTRICT AS REQUIRED BY SECTION 5.9, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994." PARAMETERS TO BE MONITORED MAY INCLUDE THOSE LISTED IN CHAPTER 62-302, F.A.C. IF WATER QUALITY DATA IS REQUIRED, THE PERMITTEE SHALL PROVIDE DATA ON VOLUMES OF WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE DAYS OF SAMPLING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY OR INTO SURFACE WATERS OF THE STATE.

3 . THIS PERMIT SHALL NOT RELIEVE THE PERMITTEE OF ANY OBLIGATION TO OBTAIN NECESSARY FEDERAL, STATE, LOCAL OR SPECIAL DISTRICT APPROVALS.

4 . THE OPERATION PHASE OF THIS PERMIT WILL NOT BECOME EFFECTIVE UNTIL THE DISTRICT'S ACCEPTANCE OF CERTIFICATION OF THE COMPLETED SURFACE WATER WATER MANAGEMENT SYSTEM. THE PERMITTEE SHALL REQUEST TRANSFER OF THE PERMIT TO THE RESPONSIBLE OPERATIONAL ENTITY ACCEPTED BY THE DISTRICT, IF DIFFERENT FROM THE PERMITTEE. THE TRANSFER REQUEST CAN BE SUBMITTED CONCURRENTLY WITH THE CONSTRUCTION COMPLETION CERTIFICATION.

5 . ALL ROAD ELEVATIONS SHALL BE SET IN ACCORDANCE WITH THE CRITERIA SET FORTH IN SECTION 6.5, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994."

6 . ALL BUILDING FLOOR ELEVATIONS SHALL BE SET IN ACCORDANCE WITH THE CRITERIA SET FORTH IN SECTION 6.4, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994."

7 . OFF-SITE DISCHARGES DURING CONSTRUCTION AND DEVELOPMENT WILL BE MADE ONLY THROUGH THE FACILITIES AUTHORIZED BY THIS PERMIT.

8 . A PERMIT TRANSFER TO THE OPERATION PHASE SHALL NOT OCCUR UNTIL A RESPONSIBLE ENTITY MEETING THE REQUIREMENT IN SECTION 9.0, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994," HAS BEEN ESTABLISHED TO OPERATE AND MAINTAIN THE SYSTEM. THE ENTITY MUST BE PROVIDED WITH SUFFICIENT OWNERSHIP OR LEGAL INTEREST SO THAT IT HAS CONTROL OVER ALL WATER MANAGEMENT FACILITIES AUTHORIZED HEREIN.

9 . THE PERMIT DOES NOT CONVEY TO THE PERMITTEE ANY PROPERTY RIGHT NOR ANY

RIGHTS OR PRIVILEGES OTHER THAN THOSE SPECIFIED IN THE PERMIT AND CHAPTER 40E-4, FAC.

10. THE PERMITTEE SHALL HOLD AND SAVE THE DISTRICT HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS, OR LIABILITIES WHICH MAY ARISE BY REASON OF THE CONSTRUCTION, OPERATION, MAINTENANCE OR USE OF ANY FACILITY AUTHORIZED BY THE PERMIT.

11. THIS PERMIT IS ISSUED BASED ON THE APPLICANT'S SUBMITTED INFORMATION WHICH REASONABLY DEMONSTRATES THAT ADVERSE WATER RESOURCE RELATED IMPACTS WILL NOT BE CAUSED BY THE COMPLETED PERMIT ACTIVITY. SHOULD ANY ADVERSE IMPACTS CAUSED BY THE COMPLETED SURFACE WATER MANAGEMENT SYSTEM OCCUR, THE DISTRICT WILL REQUIRE THE PERMITTEE TO PROVIDE APPROPRIATE MITIGATION TO THE DISTRICT OR OTHER IMPACTED PARTY. THE DISTRICT WILL REQUIRE THE PERMITTEE TO MODIFY THE SURFACE WATER MANAGEMENT SYSTEM, IF NECESSARY, TO ELIMINATE THE CAUSE OF THE ADVERSE IMPACTS.

12. WITHIN 30 DAYS OF ISSUANCE OF THIS PERMIT, THE PERMITTEE OR AUTHORIZED AGENT SHALL NOTIFY THE DISTRICT (VIA THE SUPPLIED CONSTRUCTION COMMENCEMENT NOTICE OR EQUIVALENT) OF THE ACTUAL OR ANTICIPATED CONSTRUCTION START DATE AND THE EXPECTED COMPLETION DATE.

13. WHEN THE DURATION OF CONSTRUCTION EXCEEDS ONE YEAR, THE PERMITTEE OR AUTHORIZED AGENT SHALL SUBMIT CONSTRUCTION STATUS REPORTS ON AN ANNUAL BASIS (VIA THE SUPPLIED ANNUAL STATUS REPORT OR EQUIVALENT) BEGINNING ONE YEAR AFTER THE INITIAL COMMENCEMENT OF CONSTRUCTION.

14. WITHIN 30 DAYS AFTER COMPLETION OF CONSTRUCTION OF THE SURFACE WATER MANAGEMENT SYSTEM, THE PERMITTEE OR AUTHORIZED AGENT SHALL FILE A WRITTEN STATEMENT OF COMPLETION AND CERTIFICATION BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER. THESE STATEMENTS MUST SPECIFY THE ACTUAL DATE OF CONSTRUCTION COMPLETION AND MUST CERTIFY THAT ALL FACILITIES HAVE BEEN CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE PLANS AND SPECIFICATIONS APPROVED BY THE DISTRICT (VIA THE SUPPLIED CONSTRUCTION COMPLETION/ CONSTRUCTION CERTIFICATION OR EQUIVALENT). THE CONSTRUCTION COMPLETION CERTIFICATION MUST INCLUDE, AT A MINIMUM, EXISTING ELEVATIONS, LOCATIONS AND DIMENSIONS OF THE COMPONENTS OF THE WATER MANAGEMENT FACILITIES. ADDITIONALLY, IF DEVIATIONS FROM THE APPROVED DRAWING ARE DISCOVERED DURING THE CERTIFICATION PROCESS, THE CERTIFICATION MUST BE ACCOMPANIED BY A COPY OF THE APPROVED PERMIT DRAWINGS WITH DEVIATIONS NOTED.

15. WITHIN 30 DAYS OF ANY SALE, CONVEYANCE OR OTHER TRANSFER OF ANY OF THE LAND WHICH IS PROPOSED FOR DEVELOPMENT UNDER THE AUTHORIZATION OF THIS PERMIT, THE PERMITTEE SHALL NOTIFY THE DISTRICT OF SUCH TRANSFER IN WRITING VIA EITHER FORM 0483, REQUEST FOR PERMIT TRANSFER; OR FORM 0920, REQUEST FOR TRANSFER OF SURFACE WATER MANAGEMENT CONSTRUCTION PHASE TO OPERATION PHASE (TO BE COMPLETED AND SUBMITTED BY THE OPERATING ENTITY), IN ACCORDANCE WITH SECTIONS 40E-1.6105 AND 40E-4.351, F.A.C.

16. A PRORATED SHARE OF SURFACE WATER MANAGEMENT RETENTION/DETENTION AREAS, SUFFICIENT TO PROVIDE THE REQUIRED FLOOD PROTECTION AND WATER QUALITY TREATMENT, MUST BE PROVIDED PRIOR TO OCCUPANCY OF ANY BUILDING OR RESIDENCE.

17. A STABLE, PERMANENT AND ACCESSIBLE ELEVATION REFERENCE SHALL BE ESTABLISHED ON OR WITHIN ONE HUNDRED (100) FEET OF ALL PERMITTED DISCHARGE STRUCTURES NO LATER THAN THE SUBMISSION OF THE CERTIFICATION REPORT. THE LOCATION OF THE ELEVATION REFERENCE MUST BE NOTED ON OR WITH THE CERTIFICATION REPORT.

18. IT IS THE RESPONSIBILITY OF THE PERMITTEE TO INSURE THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS DO NOT OCCUR DURING CONSTRUCTION.

19. THE PERMITTEE MUST OBTAIN A WATER USE PERMIT PRIOR TO CONSTRUCTION DEWATERING, UNLESS THE WORK QUALIFIES FOR A GENERAL PERMIT PURSUANT TO SUBSECTION 40E-20.302(4), F.A.C.

File

South Florida Water Management District

3301 Gun Club Road, West Palm Beach, Florida 33406 • (561) 686-8800 • FL WATS 1-800-432-2045

December 12, 1996

Florida Department of Transportation
719 South Woodland Blvd.
Deland, FL 32720

Dear Sir or Madam:

Subject: Addendum to Staff Report Dated November 12, 1996
Application No. 960124-5, SR 600 Relocation & Reedy Creek Bridge Replacement,
Osceola County, S6,31,32/T26,25S/R28E

Enclosed is an addendum to a staff report sent to you on November 18, 1996. It is requested that you read this addendum thoroughly and understand its contents. The recommendations as stated in the staff report and the addendum will be presented to our Governing Board for consideration on December 12, 1996.

Should you wish to object to the staff recommendation or file a petition, please provide written objections, petitions, and/or waivers to:

Vern Kaiser, Deputy Clerk
South Florida Water Management District
Post Office Box 24680
West Palm Beach, Florida 33416-4680

Sincerely,

Kenneth G. Ammon, P.E.
Deputy Director
Regulation Department

CERTIFIED MAIL #P 422 680 934
RETURN RECEIPT REQUESTED

Governing Board:
Valerie Boyd, Chairman
Frank Williamson, Jr., Vice Chairman
William E. Graham
William Hammond
Betsy Krant
Richard A. Machek
Eugene K. Pettis
Nathaniel P. Reed
Miriam Singer
Samuel E. Poole III, Executive Director
Michael Slayton, Deputy Executive Director

Mailing Address: P.O. Box 24680, West Palm Beach, FL 33416-4680

DRAFT
Subject to Governing Board Approval

Addendum to Staff Report
SR 600 RELOCATION & REEDY CREEK BRIDGE REPLACEMENT

Application No. 960124-5

Orange County, S6/T26S/R28E & S31,32/T25S/R28E

The purpose of this addendum is to correct the following:

Page 8, the Save Our Rivers section, delete and replace with the following:

A portion of the project site falls within an area that has been acquired in conjunction with the Save Our Rivers program. The District is currently negotiating the purchase of additional lands and some of these lands are located within the project site. The District's Land Management Department has been previously notified of the proposed project during the Conceptual Approval process and during the review of this application and will continue to work with the Florida Department of Transportation to effectuate real estate transactions.

Page 2, Proposed Facilities, first paragraph, second sentence, delete and replace with the following:

The old road bed and three bridges will be removed upon completion of this phase, the fill embankments will be removed when this section of roadway is expanded to four lanes.

All other terms and conditions to remain unchanged.

SURFACE WATER MANAGEMENT DIVISION APPROVAL

Anthony M. Waterhouse, P.E. — DATE 12/4/96

NATURAL RESOURCE MANAGEMENT DIVISION APPROVAL

Robert G. Robbins — DATE 12/9/96

STAFF REPORT DISTRIBUTION LIST

PROJECT: SR 600 RELOCATION & REEDY CREEK BRIDGE REPLACEMENT
APPLICATION NUMBER: 960124-5
PERMIT MODIFICATION NUMBER: 49-00765-S

INTERNAL DISTRIBUTION

Reviewer:
X Alan L. Leavens
X John G. Lesman
X Edward W. Yaun, P.E.
X Marc S. Ady
X E. Edmundson - ORL
X D. Gilpin-Hudson - UDP
X J. Golden - REG
X A. Lee - Orl Service Center
X C. Rinaldi - CLM
X P Robbins - NRM
X ... Waterhouse - REG
Environmental PPC Reviewer
Field Engineering
X Office of Counsel

GOVERNING BOARD MEMBERS

Ms. Valerie Boyd
Mr. William Graham
Mr. William Hammond
Ms. Betsy Krant
Mr. Richard Machek
Mr. Eugene K. Pettis
Mr. Nathaniel P. Reed
Ms. Miriam Singer
Mr. Frank Williamson, Jr.

DEPT. OF ENVIRONMENTAL PROTECTION

EXTERNAL DISTRIBUTION

X Applicant:
FLORIDA DEPARTMENT OF TRANSPORTATION

X Applicant's Consultant:
AIKENHEAD & ODOM, INC.

X Engineer, County of:
OSCEOLA

Engineer, City of:
_____

Local Drainage District:
_____

COUNTY

BUILDING AND ZONING

OTHER

X Div of Recreation and Park - District 6
X F.G.F.W.F.C.
X Florida Audubon - Charles Lee
X Sierra Club - Central Florida Group

EXHIBIT 14

File

South Florida Water Management District

3301 Gun Club Road, West Palm Beach, Florida 33406 • (561) 686-8800 • FL WATS 1-800-432-2045

November 18, 1996

Florida Department of Transportation
719 South Woodland Blvd.
Deland, FL 32720

Dear Sir or Madam:

Subject: **Application No. 960124-5, SR 600 Relocation & Reedy Creek Bridge Replacement, Osceola County, S6,31,32/T26,25S/R28E**

Enclosed is a copy of this District's staff report covering the request for permit application referenced therein. It is requested that you read this staff report thoroughly and understand its contents. The recommendations as stated in the staff report will be presented to our Governing Board for consideration on **December 12, 1996.**

Should you wish to object to the staff recommendation or file a petition, please provide written objections, petitions and/or waivers (refer to the attached "Notice of Rights") to:

Vern Kaiser, Deputy Clerk
South Florida Water Management District
Office Box 24680
West Palm Beach, Florida 33416-4680

(The "Notice of Rights" addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action.) You are advised, however, to be prepared to defend your position regarding the permit application when it is considered by the Governing Board for final agency action, even if you agree with the staff recommendation, as the Governing Board may take final agency action which differs materially from the proposed agency action.

Please contact the District if you have any questions concerning this matter. If we do not hear from you prior to the date on the "Notice of Rights", we will assume you concur with our recommendations.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a "Notice of Rights" has been mailed to the addressee this 18th day of November 1996 in accordance with Section 120.60 (3), Florida Statutes.

Sincerely,

Kenneth G. Ammon, P.E.
Deputy Director
Regulation Department

CERTIFIED MAIL #P 422 680 900
RETURN RECEIPT REQUESTED

Governing Board:
Valerie Boyd, Chairman
Frank Williamson, Jr., Vice Chairman
William E. Graham
William Hammond
Betsy Krant
Richard A. Machek
Eugene K. Pettis
Nathaniel P. Reed
Miriam Singer
Samuel E. Poole III, Executive Director
Michael Slayton, Deputy Executive Director

Mailing Address: P.O. Box 24680, West Palm Beach, FL 33416-4680

South Florida Water Management District

Notice Of Rights

Form #0100
Rev. 7/94

NOTICE OF RIGHTS

Enclosed is a copy of the Staff Review Summary regarding the subject permit application, which is this agency's Notice of Proposed Agency Action.

PETITION FOR FORMAL ADMINISTRATIVE PROCEEDINGS

Any person whose substantial interests are or may be affected by the action which is proposed in the enclosed Notice of Proposed Agency Action/Staff Review Summary, may petition for an administrative hearing in accordance with the requirements of Rule 40E-1.521, Florida Administrative Code, and be filed with (received by) the District Clerk, 3301 Gun Club Road, West Palm Beach, Florida 33406. Petitions for administrative hearing on the above application must be filed within fourteen (14) days of actual receipt of this Notice of Proposed Agency Action. Failure to file a petition within this time period shall constitute a waiver of any rights such person may have to request an administrative determination ("hearing) under section 120.57, Florida Statutes, concerning the subject permit application. Petitions which are not filed in accordance with the above provisions are subject to dismissal.

FLORIDA LAND AND WATER ADJUDICATORY COMMISSION

A party to the proceeding below may seek review of a Final Order rendered on the permit application before the Land and Water Adjudicatory Commission. Review under section 373.114, Florida Statutes, is initiated by filing a request for review with the Land and Adjudicatory Commission and serving a copy on the Department of Environmental Protection and any person named in the Order within applicable statutory timeframes. This review is appellate in nature and limited to the record below.

DISTRICT COURT OF APPEAL

A party who is adversely affected by final agency action on the permit application is entitled to judicial review in the District Court of Appeal pursuant to section 120.68, Florida Statutes, as provided therein. Review under section 120.68, Florida Statutes, is initiated by filing a Notice of Appeal in the appropriate District Court of Appeal in accordance with Florida Rule of Appellate Procedure 9.110.

CIRCUIT COURT

Section 373.617(2), Florida Statutes, provides:

> Any person substantially affected by a final action of any agency with respect to a permit may seek review within 90 days of the rendering of such decision and request monetary damages and other relief in the circuit court in the judicial circuit in which the affected property is located; however, circuit court review shall be confined solely to determining whether final agency action is an unreasonable exercise of the state's police power constituting a taking with just compensation. Review of final agency action for the purpose of determining whether the action is in accordance with existing statutes or rules and based on competent substantial evidence shall proceed in accordance with Chapter 120.

40E-1.521 Initiation of Formal Proceedings

(1) Initiation of formal proceedings shall be made by filing a petition with the District Clerk within the applicable timeframes set forth in this chapter. The term petition includes any application or other document which expresses a request for formal proceedings.

(2) All petitions filed under these rules shall contain:

(a) The name and address of the District and the District's file or identification number, if known;
(b) The name and address of the petitioner or petitioners;
(c) An explanation of how each petitioner's substantial interests will be affected by the District's determination;
(d) A statement of when and how petitioner received notice of agency action or notice of proposed agency action;
(e) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
(f) A concise statement of the ultimate facts which petitioner believes entitle petitioner to the relief sought as well as the rules and statutes which support petitioner's claim for relief;
(g) A demand for the relief to which the petitioner deems himself entitled; and
(h) Other information which the petitioner contends is material.

(3) Upon receipt of a petition for formal proceedings, the Office of Counsel shall review the petition for compliance with subsection (2). The Board shall accept those petitions in substantial compliance therewith, which have been timely filed, which establish that the petitioner is a substantially affected party, and which state a dispute which is within the jurisdiction of the District to resolve. If accepted, the Board shall designate the presiding officer of the administrative hearing. The District shall promptly give written notice to all parties of the action taken on the petition, and shall state with particularity its reasons therefor.

(7) If the Board designates a Hearing Officer assigned by the Division of Administrative Hearings as the presiding officer, the District Clerk shall forward the petition and all relevant materials filed with the District to the Division of Administrative Hearings, and shall notify all parties of its action.

Specific Authority 373.044, 373.113 F.S.
Law Implemented 120.53(1), 120.57 F.S.
History --- New 9-3-81, Amended 5-11-93.
Formerly 16K-1.09(1), 16K-1.112(1) through (3), 16K-1.12

LAST DATE FOR GOVERNING BOARD ACTION:
DECEMBER 12, 1996

DRAFT
Subject to Governing Board Approval

SURFACE WATER MANAGEMENT STAFF REVIEW SUMMARY

I. ADMINISTRATIVE

APPLICATION NUMBER: 960124-5

PERMIT NUMBER: 49-00765-S

PROJECT NAME: SR 600 RELOCATION & REEDY CREEK BRIDGE REPLACEMENT

LOCATION: OSCEOLA COUNTY, S6/T26S/R28E
S31,32/T25S/R28E

APPLICANT'S NAME: FLORIDA DEPARTMENT OF TRANSPORTATION

OWNERS NAME AND ADDRESS: FLORIDA DEPARTMENT OF TRANSPORTATION
719 SOUTH WOODLAND BLVD
DELAND, FL 32720

ENGINEER: AIKENHEAD & ODOM, INC.

II. PROJECT DESCRIPTION

PROJECT AREA: 34.00 acres **DRAINAGE AREA:** 4.94 acres

DISTRICT DRAINAGE BASIN: REEDY CREEK

RECEIVING BODY: REEDY CREEK SWAMP

CLASSIFICATION: CLASS III

PURPOSE:

The purpose of this application is to authorize construction and operation of the surface water management system to serve the 34.0 acre SR 600 (US 17-92) road widening and bridge over Reedy Creek replacement project. The water management system will consist of one dry and one wet detention pond draining to Reedy Creek Swamp. Staff's recommendation is for approval.

BACKGROUND:

This project received conceptual approval from the Governing Board on November 10, 1994. This is the first phase of the project.

EXISTING FACILITIES:

Existing are a two lane highway and three bridges over Reedy Creek. Runoff discharges to Reedy Creek Swamp via sheet flow.

PROPOSED FACILITIES:

The first phase of the project consists of relocating the roadway to the south of the existing road, and construction of a single bridge spanning the Reedy Creek flood plain. The old road bed fill embankments and three bridges will be removed upon completion of this phase. This methodology will not result in any encroachment into the 100 year floodplain. The removal of the existing embankments will remove existing encroachment.

The project is divided into four basins. Basin 1 (the western approach) and Basin 2 (the bridge), consisting of 6.08 acres, will continue to drain by sheet flow or scupper drains, to Reedy Creek swamp. This was done to avoid additional wetland impacts that would be caused by construction of a pond in the area. Basins 3 and 4, consisting of 4.94 acres, will drain to one dry retention pond and one wet detention pond which discharge to Reedy Creek swamp. Pond 3, the retention pond, does not have a bleeder structure it recovers via percolation. The balance of the project acreage consists of embankment slopes which can not be drained to the detention ponds. Basins 3 and 4 do provide some excess water quality treatment to make up for the portion of Basin 1 (western approach) that is not being treated. There is no change in the way Basin 2 (the bridge) drains, via scupper drains, from the existing conditions due to its flat grade.

BASIN INFORMATION:

Basin	Area Acres	WSWT Elev (ft, NGVD)	Normal/Dry Ctrl Elev (ft, NGVD)	Method of Determination
BASIN 3	1.24	63.00	70/70	WET SEASON SOIL BORINGS
BASIN 4	3.70	67.00	67.09/67.09	WET SEASON SOIL BORINGS

DISCHARGE STRUCTURE INFORMATION:

Water Quality Structures:

Basin	Str. #	Bleeder Type	Dimensions	Invert Elev. (ft, NGVD)
BASIN 4	1	CIRCULAR ORIFICE	.25' dia.	67.09

Major Discharge Structures:

Basin	Str. #	Description	Crest Elev. (ft, NGVD)
BASIN 3	1	2' wide SHARP CRESTED weir	73.82
BASIN 4	1	4.1' wide SHARP CRESTED weir	68.40

Discharge Culverts:

Basin	Str. #	Description
BASIN 3	1	190' long, 1.5' dia. RCP
BASIN 4	1	58' long, 3.2' wide X 2' high ELLIPTICAL

Receiving Body:

Basin	Str. #	Receiving Body
BASIN 3	1	REEDY CREEK SWAMP
BASIN 4	1	REEDY CREEK SWAMP

III. PROJECT EVALUATION

Discharge Rate:

As shown in the table below, the proposed project discharge is within the allowable limit for the area.

Design Storm Frequency: 10 YR 72 HR Design Rainfall: 9.50 inches

Basin	Allow Disch (cfs)	Method of Determination	Design Disch (cfs)	Design Stage (ft, NGVD)
BASIN 3	6	EXISTING CONDITIONS	5.1	74.7

Basin	Allow Disch (cfs)	Method of Determination	Design Disch (cfs)	Design Stage (ft, NGVD)
BASIN 4	10.5	EXISTING CONDITIONS	10.2	69.2

WATER QUALITY:

Water quality treatment for 2.5 inches times the percentage of impervious coverage is provided for Basins 3 and 4 in a dry retention pond and a wet detention pond.

Basin	Treatment Method		Vol Req'd. (ac-ft)	Vol Prov'd (ac-ft)
BASIN 3	.16 acres	DRY RETENTION	0.09	0.14
BASIN 4	.66 acres	WET DETENTION	0.57	0.63

Water Quality Volume Existing Ponds

ROAD DESIGN:

As shown in the following table, minimum road center lines have been set at or above the calculated design storm flood elevation.

Design Storm Freq: 10 YR 24 HR **Design Rainfall:** 7.00 inches

Basin	Flood Elevation (ft., NGVD)	Minimum Centerline Elevation (ft, NGVD)
BASIN 3	72.99	77.99
BASIN 4	68.95	71.4

IV. ENVIRONMENTAL ASSESSMENT

PROJECT SITE DESCRIPTION:

The project site is parallel to, and south of, the existing SR600 highway crossing Reedy Creek. This area of the creek floodplain contains a number of crossings in addition to SR600, including the CSX railroad, a 100KV powerline, a 28" sewer pipe and telecommunications facilities. The existing highway is very narrow and the bridges are old and dilapidated. FDOT data indicates that SR600 is one of the most dangerous highways in Central Florida.

Forested wetlands exist within the undeveloped areas to the north and south of the existing highway. The proposed project falls within an area of forested wetlands adjacent to the existing highway. Historic silviculture has eliminated most of the large cypress trees in this area, but a few large specimens remain. The CSX railroad causeway has restricted upstream surface

water flow to this portion of the wetland.

EXISTING ON SITE WETLAND COMMUNITIES AND OTHER SURFACE WATERS:

ID NO	TOTAL ACREAGE	BIOLOGICAL CONDITION	COMMUNITY TYPE	COMMUNITY ACREAGE
OSW1	2.73	N/A	STREAMS AND WATERWAYS	2.73
OSW2	.16	N/A	WATER	.16
W1	10.55	GOOD/FAIR	WETLAND FORESTED MIXED	10.55

TOTAL ON SITE WETLAND/SURFACE WATER ACREAGE: 13.44

EXISTING ON SITE UPLAND COMMUNITIES:

ID NO	TOTAL ACREAGE	BIOLOGICAL CONDITION	COMMUNITY TYPE	COMMUNITY ACREAGE
UP1	14.85	N/A	ROADS AND HIGHWAYS	14.85
UP2	5.11	N/A	OTHER OPEN LANDS (RURAL)	5.11
UP3	.60	GOOD/FAIR	UPLAND HARDWOOD FOREST	.60

TOTAL ON SITE UPLAND ACREAGE: 20.56

ENDANGERED, THREATENED & SPECIES OF SPECIAL CONCERN SUMMARY:

The project site does not contain preferred habitat for endangered, threatened, or species of special concern. No endangered/threatened or species of special concern were observed on site, and submitted information indicates that endangered/threatened or species of special concern use of the site is not an issue. This permit does not relieve the applicant from complying with all applicable rules and any other agencies' requirements if in the future, endangered/threatened or species of special concern are discovered on the site.

WETLAND PRESERVATION AND IMPACT SUMMARY:

The proposed project will require fill to be placed over 3.78 acres of wetlands associated with the Reedy Creek Swamp. In addition, 2.01 acres of additional floodplain wetlands will be partially impacted (clearing) by construction of the bridge (Exhibit 12). This partial impact will be in the form of tree cutting and shading from the bridge deck. The existing two lanes of SR 600 will be taken out of service. The areas of impact are illustrated in Exhibit No. 11. A portion of the wetlands are under consideration for public acquisition by the District under the SOR program.

The proposed project will provide benefits which include the enhancement of wildlife corridors and reduced constriction of surface water flows in Reedy Creek. This will be accomplished through the proposed bridging (Exhibit 12)

and through the future bridging for the northern two lanes. As per the conceptual permit (Application No. 940614-9) a significant portion of existing causeway removal (approximately 2.45 acres) will be included in the highway design when the FDOT requests authorization for the future four-laning.

WETLAND PRESERVATION:

ID NO	COMMUNITY TYPE	PRESERVATION ACREAGE
W1	WETLAND FORESTED MIXED	4.76

TOTAL ON SITE PRESERVATION ACREAGE: 4.76

WETLAND IMPACTS:

ID NO	COMMUNITY TYPE	IMPACT ACREAGE	IMPACT TYPE	BIOLOGICAL CONDITION	ACREAGE
W1	WETLAND FORESTED MIXED	5.79	CLEARING AND FILLING	GOOD/FAIR	3.78
			CLEARING	GOOD/FAIR	2.01

TOTAL IMPACT ACREAGE: 5.79

MITIGATION/MONITORING:

The proposed impacts and mitigation are consistent with the conceptual permit (Application No. 940614-9). The wetland impacts caused by construction activities will be offset by use of 95.7 acres of FDOT Three Lakes Wildlife Management Area mitigation site (TLWMA mitigation site; total 534.9 acres) previously permitted by the District. This offsite mitigation area is located within the Prairie Lakes Unit of the 50,589-acre TLWMA in Osceola County (see Exhibit 8 of the conceptual permit). The TLWMA is owned by the State of Florida (Trustees) and is leased and managed by the FGFWFC. The FGFWFC manages the preserve for public recreation such as camping, hiking, fishing and hunting. Further details of the management plan are described in the conceptual permit. The 534.9 acre mitigation site has a management plan that includes the restoration of historically drained wetlands through the removal of leeves and ditches within the historical floodplain of Lake Jackson. The results of these activities will include the creation of 24.23 acres of freshwater marsh (in the footprint of the leeves and ditches). The remaining 500.67 acres of freshwater wetlands will be hydrologically enhanced through reconnection to Lake Jackson.

As per the conceptual permit, the ratio of mitigation acreage from TLWMA mitigation site to the wetland impact acreage will be 20:1 for the fill area and 10:1 for the partial impact area (under the bridge deck). The 534.9-acre offsite mitigation parcel at TLWMA will be debited 95.7 acres (3.78 acres of impact at 20:1 equals 75.6 acres of mitigation and 2.01 at 10:1 equals 20.1

acres of mitigation from the TLWMA mitigation site). The proposed activities will provide substantial benefits to at least eleven listed species of fauna in an area of great ecological concern to the state.

WETLAND INVENTORY NOTE:

The Wetland Inventory Table for the offsite mitigation was previously recorded under the conceptual permit (Application No. 940614-9).

WETLAND INVENTORY -

MOD PHASE - STATE RD 600/REEDY CRK BRIDGE REPLACEMENT **ONSITE**

	Cypress	Marsh	Trans.	Mix Forest	Totals
Total Wet. AC	0	0	0	10.55	10.55
Wet. Preserved	0	0	0	4.76	4.76
Wet. Impacted	0	0	0	5.79	5.79
Wet. Disturbed	0	0	0	0	0
Wet. Improved	0	0	0	0	0
Wet. Created	0	0	0	0	0

	Uplands
Other Compensation	0

ENVIRONMENTAL SUMMARY:

The activities described in the construction plans are consistent with the conceptual permit (Application No. 940614-9). These activities include 5.79 acres of mixed forested wetland impacts. Mitigation for these impacts will include offsite mitigation via the FDOT Three Lakes Wildlife Management site. This mitigation will consist of the debiting of 95.7 acres from the total remaining mitigation acreage (Exhibit No. 13). Considering the functions that could potentially be lost due to these impacts and the functions that could potentially be gained through the regionally significant offsite mitigation, it appears that the offsite mitigation is more significant.

SYSTEM OPERATION:

Florida Department Of Transportation

PROPOSED LAND USE(S):

Highway

WATER USE PERMIT STATUS:

No irrigation of landscaped areas is proposed at this time.

DRI STATUS:

This project is not a DRI.

SAVE OUR RIVERS:

A portion of the project site falls within an area that has been acquired in conjunction with the Save Our Rivers program. The District is currently negotiating the purchase of additional lands and some of these lands are located within the project site. The District's Land Management Department has been previously notified of the proposed project during the Conceptual Approval process and during the review of this application. The Land Management Department does not oppose the anticipated condemnation of District owned lands by FDOT, since adequate compensation will be provided in accordance with established condemnation procedings. Such compensation is typical of roadway projects involving condemnation of property.

SWIM BASIN:

The project is not within nor does it discharge directly to a designated SWIM basin.

RIGHT-OF-WAY PERMIT STATUS:

A Right-of-Way Permit is not required for this project.

ENFORCEMENT ACTIVITY:

There has been no enforcement activity associated with this application.

THIRD PARTY INTEREST:

No third party has contacted the District with concerns about this application.

WELL FIELD ZONE OF INFLUENCE:

The project is not located within the zone of influence of a wellfield.

PRIMARY ISSUES RESOLVED:

Wetland impacts, wetland mitigation in accordance with the permitted mitigation plan for the Three Lakes Wildlife Management Area.

V. APPLICABLE LAND AREA

The land use table has been updated to reflect the revised project acreage, (the conceptual approval was for 29.59 acres), based on the final alignment and pond sizes.

PROJECT

	TOTAL PROJECT	PREVIOUSLY PERMITTED	THIS PHASE	
TOTAL ACRES	34.00	.00	34.00	acres
WTRM ACREAGE	.82	.00	.82	acres
PAVEMENT	8.77	.00	8.77	acres
PERVIOUS	24.41	.00	24.41	acres

VI. STAFF RECOMMENDATION

The Staff recommends that the following be issued:

Authorization for the Construction and Operation of the surface water management system to serve a 34.0 acre HIGHWAY project, discharging to REEDY CREEK VIA REEDY CREEK SWAMP.

Based on the information provided, District rules have been adhered to.

Staff recommendation is for approval subject to the attached Standard Limiting and Special Conditions.

DRAFT
Subject to Governing Board Approval

VII. STAFF REVIEW

NATURAL RESOURCE MANAGEMENT DIVISION APPROVAL

APPLICATION REVIEWER

John G. Lesman

SUPERVISING PROFESSIONAL

Marc S. Ady

DIVISION DIRECTOR:

Robert G. Robbins

DATE: 11-7-96

SURFACE WATER MANAGEMENT DIVISION APPROVAL

APPLICATION REVIEWER

Alan L. Leavens

SUPERVISING PROFESSIONAL

Edward W. Yaun, P.E.

DIVISION DIRECTOR:

Anthony M. Waterhouse, P.E.

DATE: 11/12/96

LIMITING CONDITIONS

1. THE PERMITTEE SHALL IMPLEMENT THE WORK AUTHORIZED IN A MANNER SO AS TO MINIMIZE ANY ADVERSE IMPACT OF THE WORKS ON FISH, WILDLIFE, NATURAL ENVIRONMENTAL VALUES, AND WATER QUALITY. THE PERMITTEE SHALL INSTITUTE NECESSARY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING FULL COMPACTION OF ANY FILL MATERIAL PLACED AROUND NEWLY INSTALLED STRUCTURES, TO REDUCE EROSION, TURBIDITY, NUTRIENT LOADING AND SEDIMENTATION IN THE RECEIVING WATERS.

2. WATER QUALITY DATA FOR THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY OR INTO SURFACE WATERS OF THE STATE WILL BE SUBMITTED TO THE DISTRICT AS REQUIRED BY SECTION 5.9, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994." PARAMETERS TO BE MONITORED MAY INCLUDE THOSE LISTED IN CHAPTER 62-302, F.A.C. IF WATER QUALITY DATA IS REQUIRED, THE PERMITTEE SHALL PROVIDE DATA ON VOLUMES OF WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE DAYS OF SAMPLING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY OR INTO SURFACE WATERS OF THE STATE.

3. THIS PERMIT SHALL NOT RELIEVE THE PERMITTEE OF ANY OBLIGATION TO OBTAIN NECESSARY FEDERAL, STATE, LOCAL OR SPECIAL DISTRICT APPROVALS.

4. THE OPERATION PHASE OF THIS PERMIT WILL NOT BECOME EFFECTIVE UNTIL THE DISTRICT'S ACCEPTANCE OF CERTIFICATION OF THE COMPLETED SURFACE WATER WATER MANAGEMENT SYSTEM. THE PERMITTEE SHALL REQUEST TRANSFER OF THE PERMIT TO THE RESPONSIBLE OPERATIONAL ENTITY ACCEPTED BY THE DISTRICT, IF DIFFERENT FROM THE PERMITTEE. THE TRANSFER REQUEST CAN BE SUBMITTED CONCURRENTLY WITH THE CONSTRUCTION COMPLETION CERTIFICATION.

5. ALL ROAD ELEVATIONS SHALL BE SET IN ACCORDANCE WITH THE CRITERIA SET FORTH IN SECTION 6.5, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994."

6. ALL BUILDING FLOOR ELEVATIONS SHALL BE SET IN ACCORDANCE WITH THE CRITERIA SET FORTH IN SECTION 6.4, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994."

7. OFF-SITE DISCHARGES DURING CONSTRUCTION AND DEVELOPMENT WILL BE MADE ONLY THROUGH THE FACILITIES AUTHORIZED BY THIS PERMIT.

8. A PERMIT TRANSFER TO THE OPERATION PHASE SHALL NOT OCCUR UNTIL A RESPONSIBLE ENTITY MEETING THE REQUIREMENT IN SECTION 9.0, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994," HAS BEEN ESTABLISHED TO OPERATE AND MAINTAIN THE SYSTEM. THE ENTITY MUST BE PROVIDED WITH SUFFICIENT OWNERSHIP OR LEGAL INTEREST SO THAT IT HAS CONTROL OVER ALL

WATER MANAGEMENT FACILITIES AUTHORIZED HEREIN.

9. THE PERMIT DOES NOT CONVEY TO THE PERMITTEE ANY PROPERTY RIGHT NOR ANY RIGHTS OR PRIVILEGES OTHER THAN THOSE SPECIFIED IN THE PERMIT AND CHAPTER 40E-4, FAC.

10. THE PERMITTEE SHALL HOLD AND SAVE THE DISTRICT HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS, OR LIABILITIES WHICH MAY ARISE BY REASON OF THE CONSTRUCTION, OPERATION, MAINTENANCE OR USE OF ANY FACILITY AUTHORIZED BY THE PERMIT.

11. THIS PERMIT IS ISSUED BASED ON THE APPLICANT'S SUBMITTED INFORMATION WHICH REASONABLY DEMONSTRATES THAT ADVERSE WATER RESOURCE RELATED IMPACTS WILL NOT BE CAUSED BY THE COMPLETED PERMIT ACTIVITY. SHOULD ANY ADVERSE IMPACTS CAUSED BY THE COMPLETED SURFACE WATER MANAGEMENT SYSTEM OCCUR, THE DISTRICT WILL REQUIRE THE PERMITTEE TO PROVIDE APPROPRIATE MITIGATION TO THE DISTRICT OR OTHER IMPACTED PARTY. THE DISTRICT WILL REQUIRE THE PERMITTEE TO MODIFY THE SURFACE WATER MANAGEMENT SYSTEM, IF NECESSARY, TO ELIMINATE THE CAUSE OF THE ADVERSE IMPACTS.

12. WITHIN 30 DAYS OF ISSUANCE OF THIS PERMIT, THE PERMITTEE OR AUTHORIZED AGENT SHALL NOTIFY THE DISTRICT (VIA THE SUPPLIED CONSTRUCTION COMMENCEMENT NOTICE OR EQUIVALENT) OF THE ACTUAL OR ANTICIPATED CONSTRUCTION START DATE AND THE EXPECTED COMPLETION DATE.

13. WHEN THE DURATION OF CONSTRUCTION EXCEEDS ONE YEAR, THE PERMITTEE OR AUTHORIZED AGENT SHALL SUBMIT CONSTRUCTION STATUS REPORTS ON AN ANNUAL BASIS (VIA THE SUPPLIED ANNUAL STATUS REPORT OR EQUIVALENT) BEGINNING ONE YEAR AFTER THE INITIAL COMMENCEMENT OF CONSTRUCTION.

14. WITHIN 30 DAYS AFTER COMPLETION OF CONSTRUCTION OF THE SURFACE WATER MANAGEMENT SYSTEM, THE PERMITTEE OR AUTHORIZED AGENT SHALL FILE A WRITTEN STATEMENT OF COMPLETION AND CERTIFICATION BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER. THESE STATEMENTS MUST SPECIFY THE ACTUAL DATE OF CONSTRUCTION COMPLETION AND MUST CERTIFY THAT ALL FACILITIES HAVE BEEN CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE PLANS AND SPECIFICATIONS APPROVED BY THE DISTRICT (VIA THE SUPPLIED CONSTRUCTION COMPLETION/ CONSTRUCTION CERTIFICATION OR EQUIVALENT). THE CONSTRUCTION COMPLETION CERTIFICATION MUST INCLUDE, AT A MINIMUM, EXISTING ELEVATIONS, LOCATIONS AND DIMENSIONS OF THE COMPONENTS OF THE WATER MANAGEMENT FACILITIES. ADDITIONALLY, IF DEVIATIONS FROM THE APPROVED DRAWING ARE DISCOVERED DURING THE CERTIFICATION PROCESS, THE CERTIFICATION MUST BE ACCOMPANIED BY A COPY OF THE APPROVED PERMIT DRAWINGS WITH DEVIATIONS NOTED.

15. WITHIN 30 DAYS OF ANY SALE, CONVEYANCE OR OTHER TRANSFER OF ANY OF THE LAND WHICH IS PROPOSED FOR DEVELOPMENT UNDER THE AUTHORIZATION OF THIS PERMIT, THE PERMITTEE SHALL NOTIFY THE DISTRICT OF SUCH TRANSFER IN WRITING VIA EITHER FORM 0483, REQUEST FOR PERMIT TRANSFER; OR FORM 0920, REQUEST FOR TRANSFER OF SURFACE WATER MANAGEMENT CONSTRUCTION PHASE TO OPERATION PHASE (TO BE COMPLETED AND SUBMITTED BY THE OPERATING ENTITY),

IN ACCORDANCE WITH SECTIONS 40E-1.6105 AND 40E-4.351, F.A.C.

16. A PRORATED SHARE OF SURFACE WATER MANAGEMENT RETENTION/DETENTION AREAS, SUFFICIENT TO PROVIDE THE REQUIRED FLOOD PROTECTION AND WATER QUALITY TREATMENT, MUST BE PROVIDED PRIOR TO OCCUPANCY OF ANY BUILDING OR RESIDENCE.

17. A STABLE, PERMANENT AND ACCESSIBLE ELEVATION REFERENCE SHALL BE ESTABLISHED ON OR WITHIN ONE HUNDRED (100) FEET OF ALL PERMITTED DISCHARGE STRUCTURES NO LATER THAN THE SUBMISSION OF THE CERTIFICATION REPORT. THE LOCATION OF THE ELEVATION REFERENCE MUST BE NOTED ON OR WITH THE CERTIFICATION REPORT.

18. IT IS THE RESPONSIBILITY OF THE PERMITTEE TO INSURE THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS DO NOT OCCUR DURING CONSTRUCTION.

19. THE PERMITTEE MUST OBTAIN A WATER USE PERMIT PRIOR TO CONSTRUCTION DEWATERING, UNLESS THE WORK QUALIFIES FOR A GENERAL PERMIT PURSUANT TO SUBSECTION 40E-20.302(4), F.A.C.

SPECIAL CONDITIONS

1. DISCHARGE FACILITIES:

   BASIN: BASIN 3:

   1-2' WIDE SHARP CRESTED WEIR WITH CREST AT ELEV. 73.82' NGVD.
   190 LF OF 1.5' DIA. RCP CULVERT.

   RECEIVING BODY : REEDY CREEK SWAMP

   CONTROL ELEV : 70 FEET NGVD. /70 FEET NGVD DRY SEASON.

   BASIN: BASIN 4:

   1-4.1' WIDE SHARP CRESTED WEIR WITH CREST AT ELEV. 68.4' NGVD.
   1-.25' DIA. CIRCULAR ORIFICE WITH INVERT AT ELEV. 67.09' NGVD.
   58 LF OF 3.2' WIDE X 2' HIGH ELLIPTICAL CULVERT.

   RECEIVING BODY : REEDY CREEK SWAMP

   CONTROL ELEV : 67.09 FEET NGVD. /67.09 FEET NGVD DRY SEASON.

2. LAKE SIDE SLOPES SHALL BE NO STEEPER THAN 4:1 (HORIZONTAL:VERTICAL) TO A DEPTH OF TWO FEET BELOW THE CONTROL ELEVATION. SIDE SLOPES SHALL BE NURTURED OR PLANTED FROM 2 FEET BELOW TO 1 FOOT ABOVE CONTROL ELEVATION TO INSURE VEGETATIVE GROWTH.

3. FACILITIES OTHER THAN THOSE STATED HEREIN SHALL NOT BE CONSTRUCTED WITHOUT AN APPROVED MODIFICATION OF THIS PERMIT.

4. ALL SPECIAL CONDITIONS PREVIOUSLY STIPULATED BY PERMIT NUMBER 49-00765-S REMAIN IN EFFECT UNLESS OTHERWISE REVISED AND SHALL APPLY TO THIS MODIFICATION.

5. OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM SHALL BE THE RESPONSIBILITY OF FLORIDA DEPARTMENT OF TRANSPORTATION.

6. SILT SCREENS, HAY BALES OR OTHER SUCH SEDIMENT CONTROL MEASURES SHALL BE UTILIZED DURING CONSTRUCTION. THE SELECTED SEDIMENT CONTROL MEASURES SHALL BE INSTALLED LANDWARD OF THE UPLAND BUFFER ZONES AROUND ALL PROTECTED WETLANDS. ALL AREAS SHALL BE STABILIZED AND VEGETATED IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION INTO THE WETLANDS AND UPLAND BUFFER ZONES.

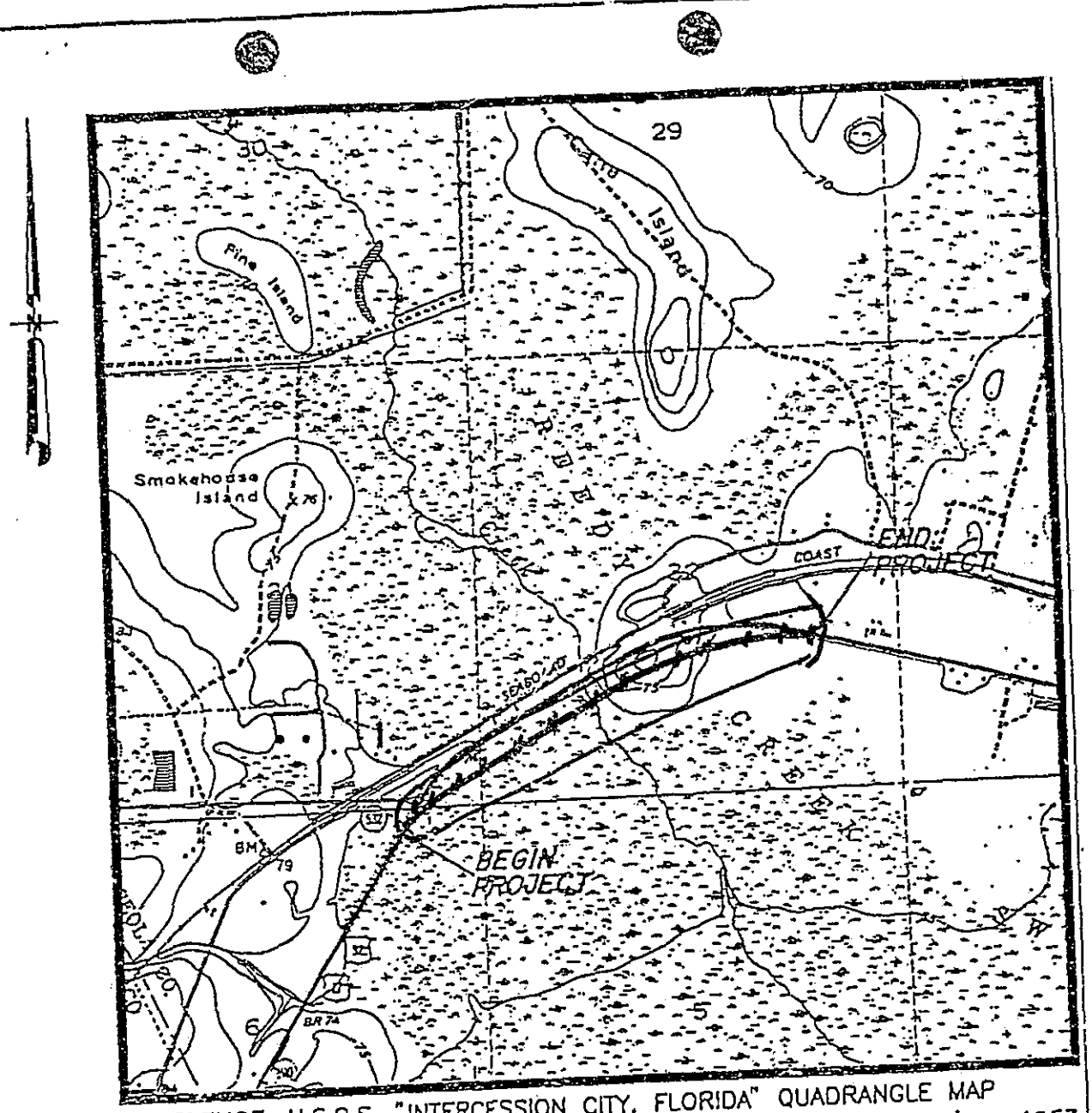
7. THE SFWMD RESERVES THE RIGHT TO REQUIRE REMEDIAL MEASURES TO BE TAKEN BY THE PERMITTEE IF WETLAND AND/OR UPLAND MONITORING OR OTHER INFORMATION DEMONSTRATES THAT ADVERSE IMPACTS TO PROTECTED, CONSERVED, INCORPORATED OR MITIGATED WETLANDS OR UPLANDS HAVE OCCURRED DUE TO PROJECT RELATED

ACTIVITIES.

8. ANY FUTURE CHANGES IN LAND USE OR TREATMENT OF WETLANDS AND/OR UPLAND BUFFER/COMPENSATION AREAS MAY REQUIRE A SURFACE WATER MANAGEMENT PERMIT MODIFICATION AND ADDITIONAL ENVIRONMENTAL REVIEW BY DISTRICT STAFF. PRIOR TO THE PERMITTEE INSTITUTING ANY FUTURE CHANGES NOT AUTHORIZED BY THIS PERMIT, THE PERMITTEE SHALL NOTIFY THE SFWMD OF SUCH INTENTIONS FOR A DETERMINATION OF ANY NECESSARY PERMIT MODIFICATIONS.

9. MITIGATION SHALL BE PROVIDED BY DESIGNATION OF 95.7 ACRES OF WETLAND RESTORATION/ENHANCEMENT WITHIN THE 534.9-ACRE THREE LAKES WILDLIFE MANAGEMENT AREA (TLWMA) MITIGATION SITE (PREVIOUSLY AUTHORIZED BY SFWMD PERMIT APPLICATION NUMBERS 940614-10 AND 940614-1-D). THIS MITIGATION ACREAGE WILL BE SUBTRACTED FROM THE 500.9 ACRES THAT CURRENTLY REMAIN AVAILABLE, LEAVING A BALANCE OF 405.2 ACRES OF MITIGATION AVAILABLE TO OFFSET OTHER FDOT DISTRICT 5 ROADWAY PROJECTS (SEE EXHIBIT NO. 13).

10. ALL PROVISIONS OF THE TLWMA PERMIT APPLICATION NUMBER 940614-10 CONCERNING CONSTRUCTION, MONITORING AND MAINTENANCE OF THE MITIGATION SITE ARE INCORPORATED BY REFERENCE INTO THIS PERMIT.



REFERENCE: U.S.G.S. "INTERCESSION CITY, FLORIDA" QUADRANGLE MAP

SECTION:	6	ISSUED:	1953
TOWNSHIP:	26 SOUTH	PHOTOREVISED:	1980
RANGE:	28 EAST	SCALE:	1" = 2000'
			1 : 24000

LOCATION MAP

AIKENHEAD & ODOM inc.
CONSULTING ENGINEERS

FRAZIER ENGINEERING, INC.
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
1682 N. Harbor City Boulevard, Melbourne, Florida 32935
TEL (407)-253-8131, FAX (407)-255-2231

STATE ROAD 600
AT
REEDY CREEK

EXHIBIT 1

NOVEMBER 1995

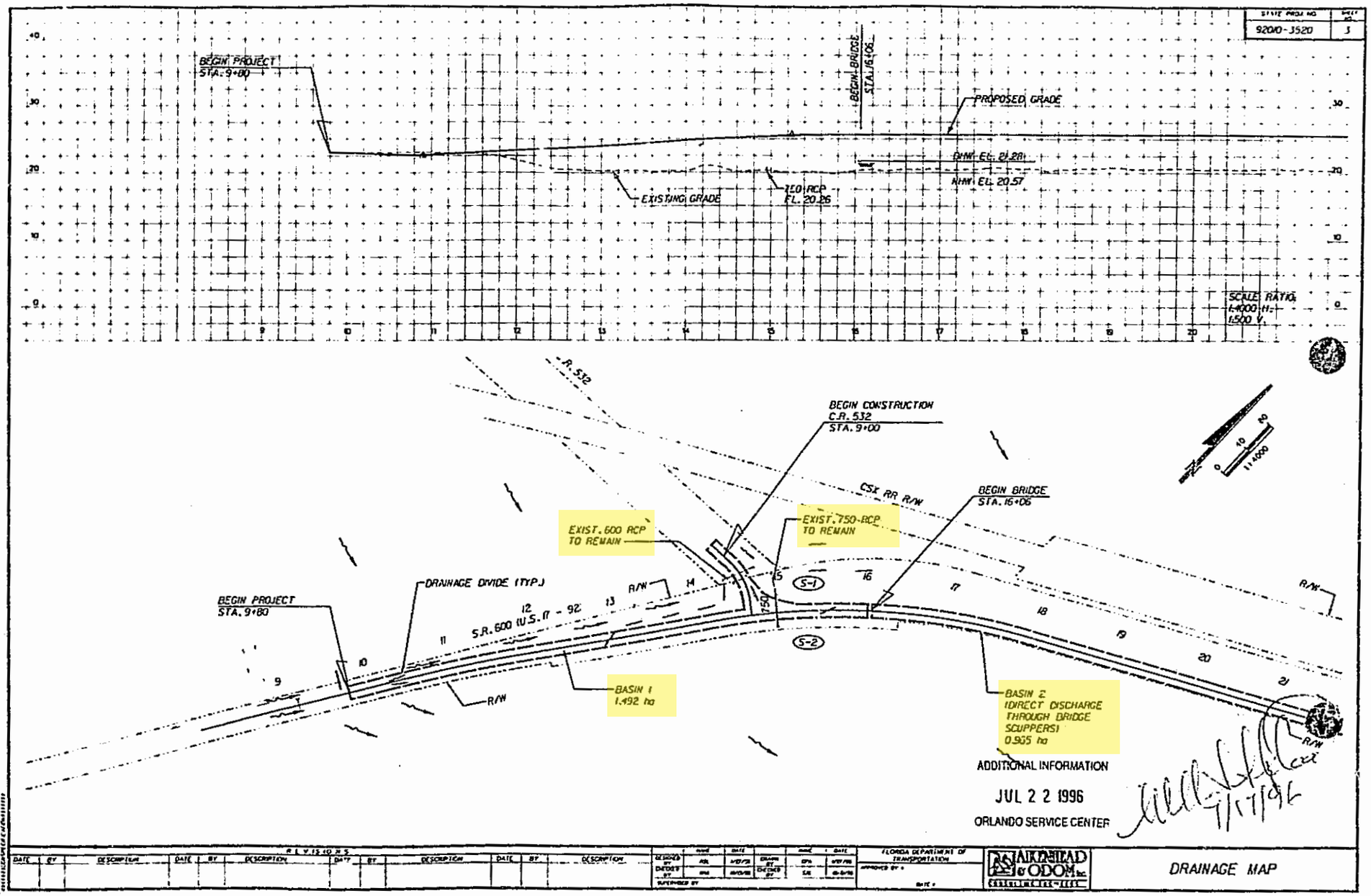
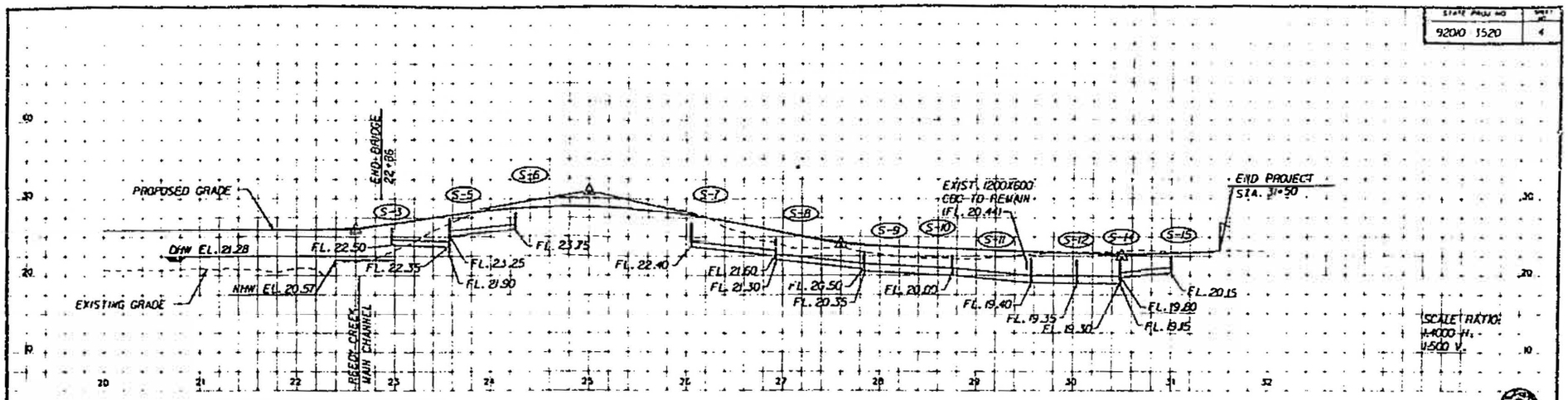

STATE PROJ NO.
92010-3520
SHEET NO.
3
BEGIN PROJECT
STA. 9+00
BEGIN BRIDGE
STA. 16+06
PROPOSED GRADE
EXISTING GRADE
600 RCP
FL. 20.26
OHW EL. 21.28
HHW EL. 20.57
SCALE: RATIO
1:400 H.
1:500 V.
S.R. 532
BEGIN CONSTRUCTION
C.R. 532
STA. 9+00
CSX RR R/W
BEGIN BRIDGE
STA. 16+06
EXIST. 600 RCP
TO REMAIN
EXIST. 750 RCP
TO REMAIN
DRAINAGE DIVIDE (TYP.)
BEGIN PROJECT
STA. 9+80
S.R. 600 (U.S. 17 - 92)
R/W
S-1
S-2
BASIN 1
1.492 ha
BASIN 2
(DIRECT DISCHARGE
THROUGH BRIDGE
SCUPPERS)
0.935 ha
1:4000
ADDITIONAL INFORMATION
JUL 2 2 1996
ORLANDO SERVICE CENTER
7/17/96
REVISIONS
DESCRIPTION
FLORIDA DEPARTMENT OF TRANSPORTATION
KIMLEY-HORN & ODOM, INC.
DRAINAGE MAP

EXHIBIT 2

STATE PROJ NO	SHEET NO
92010 3520	4



REEDY CREEK HYDRAULIC DESIGN DATA

NOTE. THE HYDRAULIC DATA IS SHOWN FOR INFORMATIONAL PURPOSES ONLY TO INDICATE THE FLOOD DISCHARGES AND WATER SURFACE ELEVATIONS WHICH MAY BE ANTICIPATED IN ANY GIVEN YEAR. THIS DATA WAS GENERATED USING HIGHLY VARIABLE FACTORS DETERMINED BY A STUDY OF THE WATERSHED. MANY JUDGEMENTS AND ASSUMPTIONS ARE REQUIRED TO ESTABLISH THESE FACTORS. THE RESULTANT HYDRAULIC DATA IS SENSITIVE TO CHANGES, PARTICULARLY ANTECEDENT CONDITIONS, URBANIZATION, CHANNELIZATION AND LAND USE. USERS OF THIS DATA ARE CAUTIONED AGAINST THE ASSUMPTION OF PRECISION WHICH CANNOT BE OBTAINED.

DEFINITIONS:

DESIGN FLOOD: THE FLOOD SELECTED BY THE FDOT TO BE UTILIZED TO ASSURE A STANDARD LEVEL OF HYDRAULIC PERFORMANCE.

BASE FLOOD: THE FLOOD HAVING A 1% CHANCE OF BEING EXCEEDED IN ANY YEAR. (100 YEAR FREQUENCY)

OVERTOPPING FLOOD: THE FLOOD WHERE FLOW OCCURS OVER THE HIGHWAY, OVER A WATERSHED DIVIDE, OR THRU EMERGENCY RELIEF STRUCTURES.

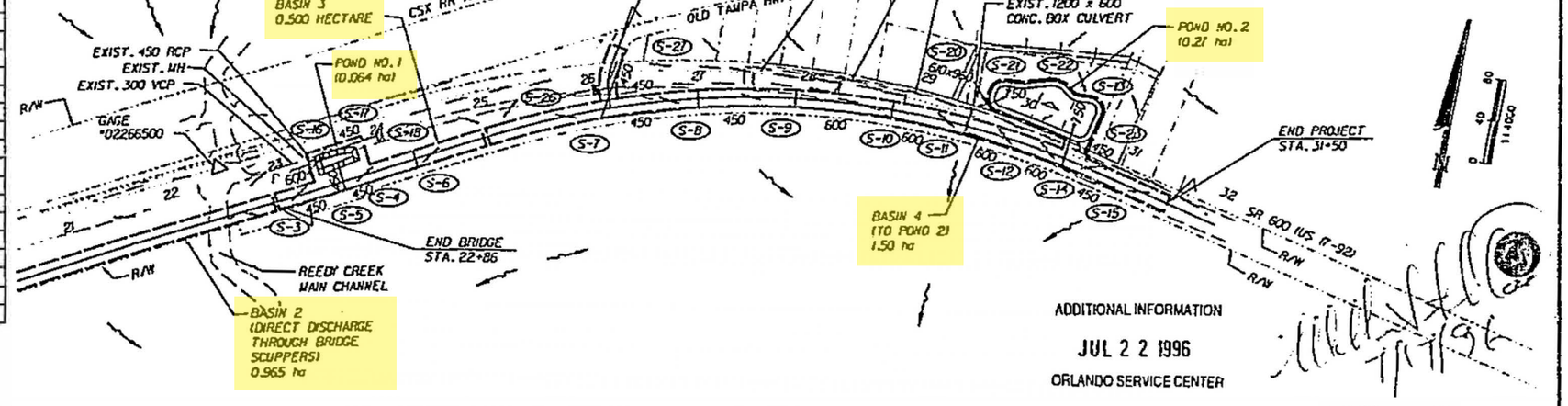
GREATEST FLOOD: THE MOST SEVERE FLOOD WHICH CAN BE PREDICTED WHERE OVERTOPPING IS NOT PRACTICABLE. NORMALLY USE WITH A 0.2% CHANCE OF BEING EXCEEDED IN ANY YEAR (500 YEAR FREQUENCY).

JCT.	AREA (Ha)
	0
	0
	0.103
	0
S-5	0.118
S-6	0.136
S-7	0.192
S-8	0.166
S-9	0.148
S-10	0.133
S-11	0.119
S-12	0.07
S-13	0
S-14	0.145
S-15	0.083
S-16	0
S-17	0
S-18	0
S-19	NOT USED
S-20	0
S-21	0
S-22	0
S-23	0
S-24	0
S-25	0
S-26	0
S-27	0.066

WATER SURFACE ELEVATIONS: M.S.L. (NON-TIDAL) 80.57 M.H.W. N/A M.L.W. N/A

FLOOD DATA:	MAX. EVENT OF RECORD	DESIGN FLOOD	BASE FLOOD	☐ OVERTOPPING FLOOD ☒ GREATEST FLOOD
STAGE ELEV. (NGVD) (m)	20.958	21.88	21.41	22.38
DISCHARGE (CMS)	23.12	5.97	10.30	10.189
AVERAGE VELOCITY (M/S)	UNKNOWN	0.22	0.21	0.16
EXCEEDANCE PROB. (%)	UNKNOWN	1%	1%	0.2%
FREQUENCY (J)	UNKNOWN	100	100	500

BASED ON GAGE # 02266500 - LOCATION IS APPROXIMATELY AT #22+75 C/L 53 L.F.



ADDITIONAL INFORMATION

JUL 2 2 1996

ORLANDO SERVICE CENTER

REVISIONS									
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DESIGNED BY	KCL	1/31/95	DRAWN BY	DTA	1/31/95
CHECKED BY	JMA	02/01/95	CHECKED BY	LG	02/01/95
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION

APPROVED BY:

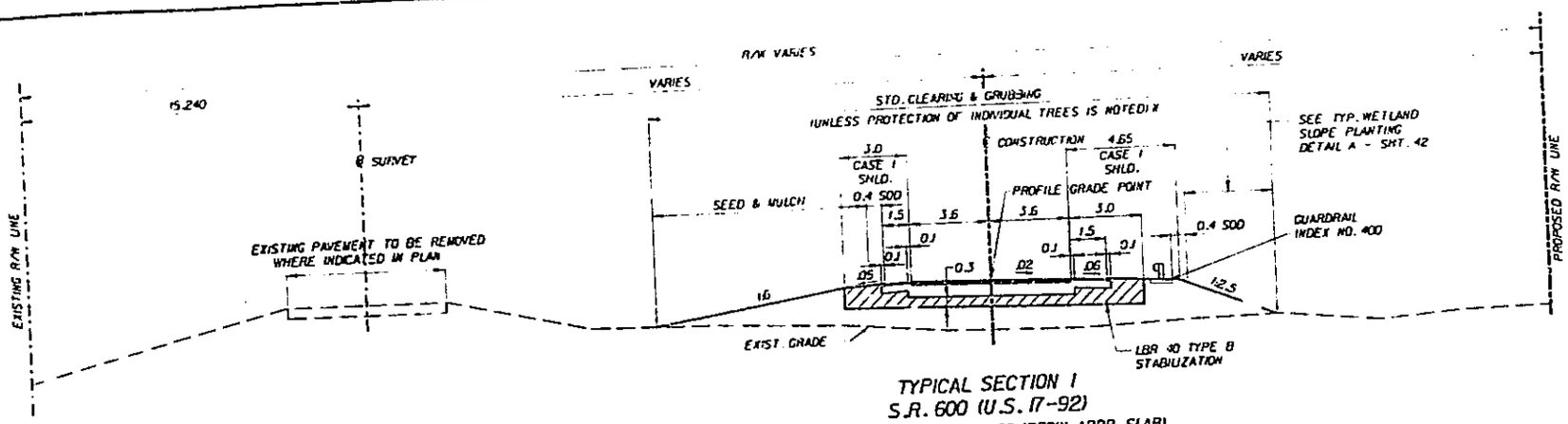
DATE:

ATKINS NEAD & ODOM INC. ENGINEERING CONSULTANTS

DRAINAGE MAP

EXHIBIT 3

PROJECT NUMBER	SHEET NO.
92010-3520	5



TYPICAL SECTION 1
S.R. 600 (U.S. 17-92)
STA. 9+80 TO STA. 16+00 (BEGIN APPR. SLAB)

TRAFFIC DATA

CURRENT YEAR ESTIMATE - 1995 ADT - 11,689
OPENING YEAR ESTIMATE - 2000 ADT - 15,911
DESIGN YEAR ESTIMATE - 2020 ADT - 32,800
K - 9.5% D - 54.3% T - 10.5% (24 HR.)
DESIGN SPEED - 105 km/h

NEW CONSTRUCTION

OPTIONAL BASE GROUP 12 WITH
TYPE S STRUCTURAL COURSE (110 mm)
AND FRICTION COURSE FC2 (15 mm) (RUBBER)

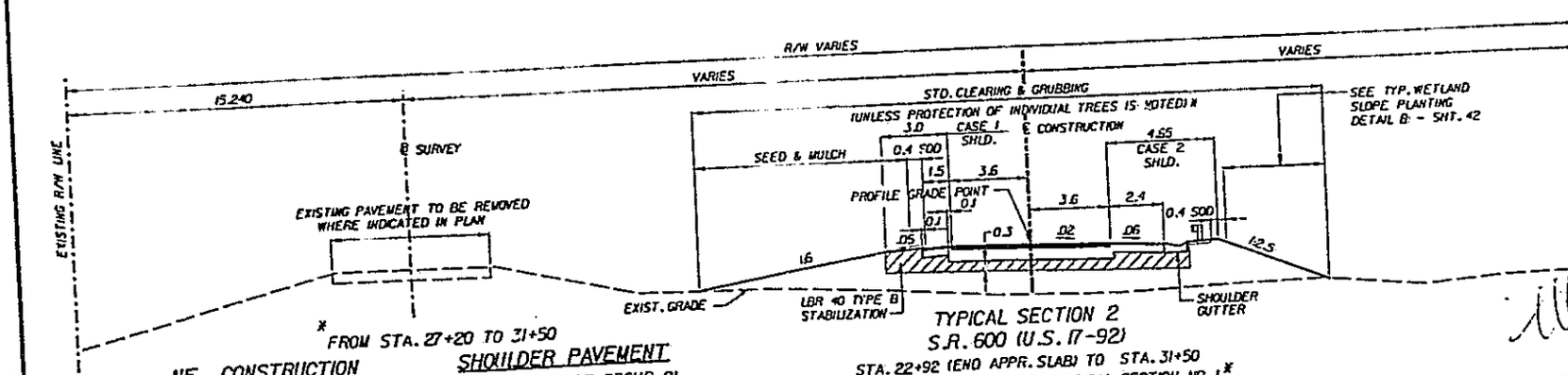
SHOULDER PAVEMENT

OPTIONAL BASE GROUP 01 WITH
TYPE S STRUCTURAL COURSE (30 mm)
AND FRICTION COURSE FC2 (15 mm) (RUBBER)

ADDITIONAL INFORMATION

JUL 2 2 1996

ORLANDO SERVICE CENTER



* FROM STA. 27+20 TO 31+50

NE. CONSTRUCTION

OPTIONAL BASE GROUP 12
USING ABC-3

SHOULDER PAVEMENT

OPTIONAL BASE GROUP 01
USING ABC-3

TYPICAL SECTION 2
S.R. 600 (U.S. 17-92)
STA. 22+92 (END APPR. SLAB) TO STA. 31+50
FOR PAVEMENT DESIGN SEE TYPICAL SECTION NO. 1 *

7/17/96

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

REVISIONS

	NAME	DATE		NAME	DATE
DESIGNED BY	RLF	5/24/96	DRAWN BY	MTC	5/24/96
CHECKED BY	MCH	5/24/96	CHECKED BY	MJB	5/24/96
APPROVED BY					

JACKSONVILLE TRANSPORTATION AUTHORITY

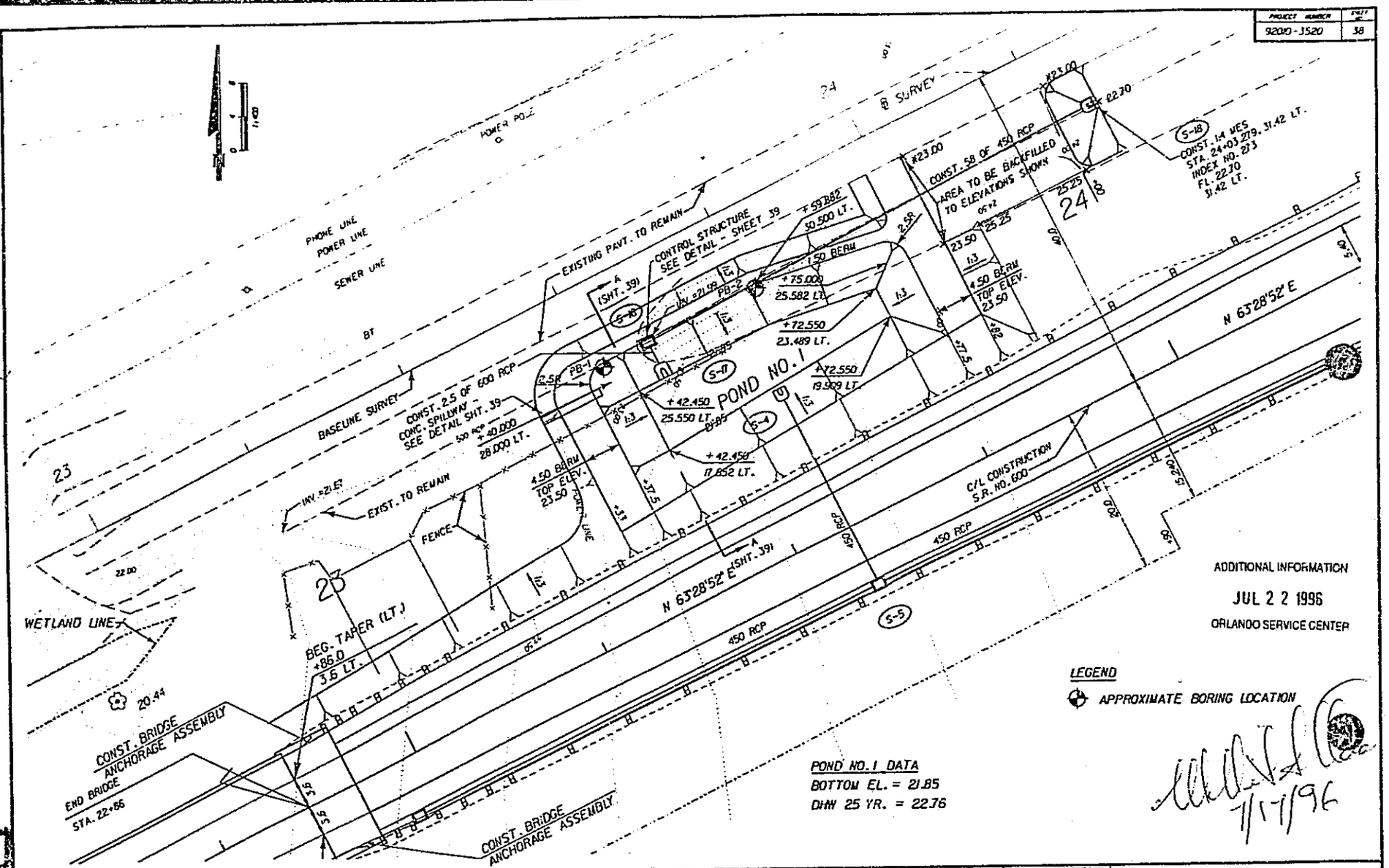
APPROVED BY: _____ DATE: _____

ARNOLD & ODOM Inc.

TYPICAL SECTIONS

EXHIBIT 4

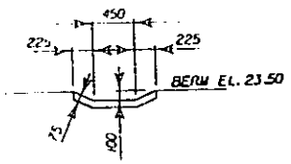
PROJECT NUMBER	SHEET NO.
92000-3520	38



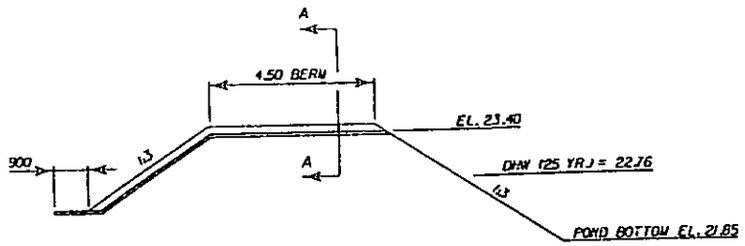
REVISIONS																				
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DESIGNED BY	MWF	DATE 5/31/96	DRAWN BY	MFC	DATE 5/31/96	JACKSONVILLE TRANSPORTATION AUTHORITY	ARMSTEAD ODOM INC. CONSULTING ENGINEERS	GRADING PLAN POND NO. 1
												CHECKED BY	MEH	5/31/96	CHECKED BY	MEH	5/31/96	APPROVED BY: DATE:		

EXHIBIT 5

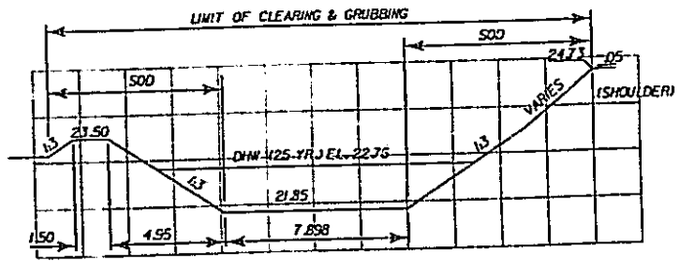
PROJECT NUMBER	SHEET NO.
92040-3520	39



SECTION AA

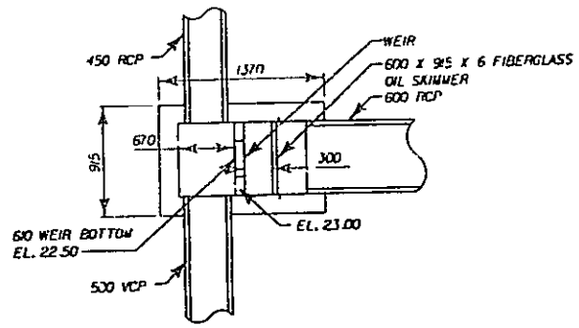


CONCRETE SPILLWAY
INDEX NO. 284

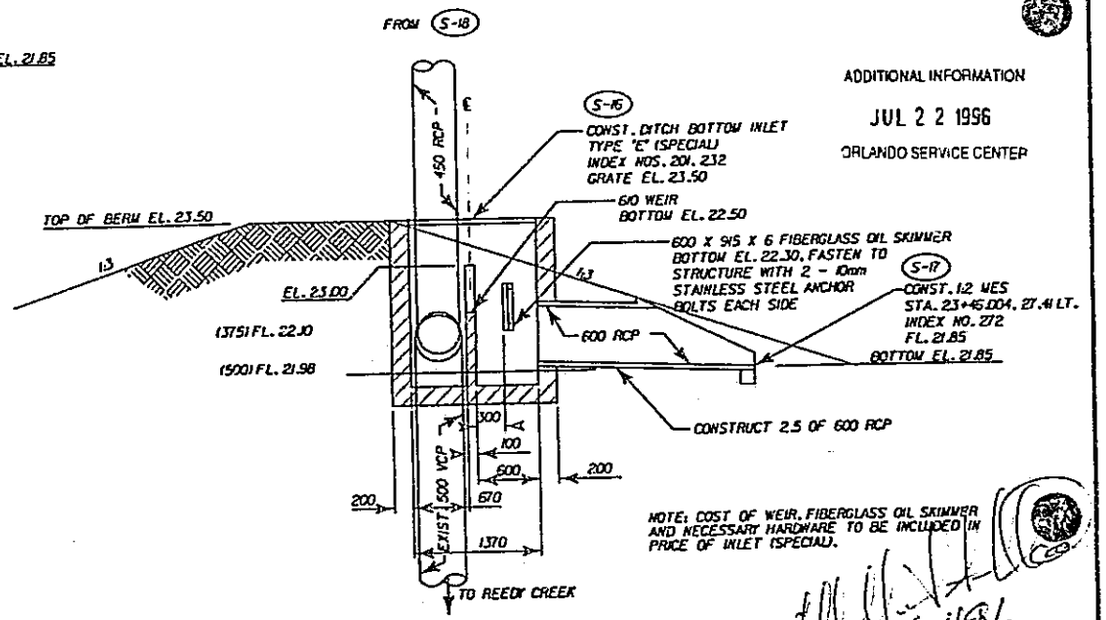


SECTION A-A (POND 1)

	FLOW	HWL
10 YR. - 24 HR. SCS STORM:	5.33 m3/min.	22.67
25 YR. - 24 HR. SCS STORM:	8.65 m3/min.	22.76
CRITICAL STORM:		
100 YR. - 1 HR. STORM:	7.88 m3/min.	22.75



PLAN VIEW



(S-16) CONTROL STRUCTURE DETAIL
STA. 23+46.002, 30.19 LT.
SCALE 1:50

ADDITIONAL INFORMATION

JUL 2 2 1996

ORLANDO SERVICE CENTER

NOTE: COST OF WEIR, FIBERGLASS OIL SKIMMER AND NECESSARY HARDWARE TO BE INCLUDED IN PRICE OF INLET (SPECIAL).

11/27/96

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DESIGNED BY	DATE	DRAWN BY	DATE	CHECKED BY	DATE
TMC	9/96	MJF	10/96	BPA	10/96

JACKSONVILLE TRANSPORTATION AUTHORITY

APPROVED BY: _____ DATE: _____

ARMSTEAD & ODOM, Inc.

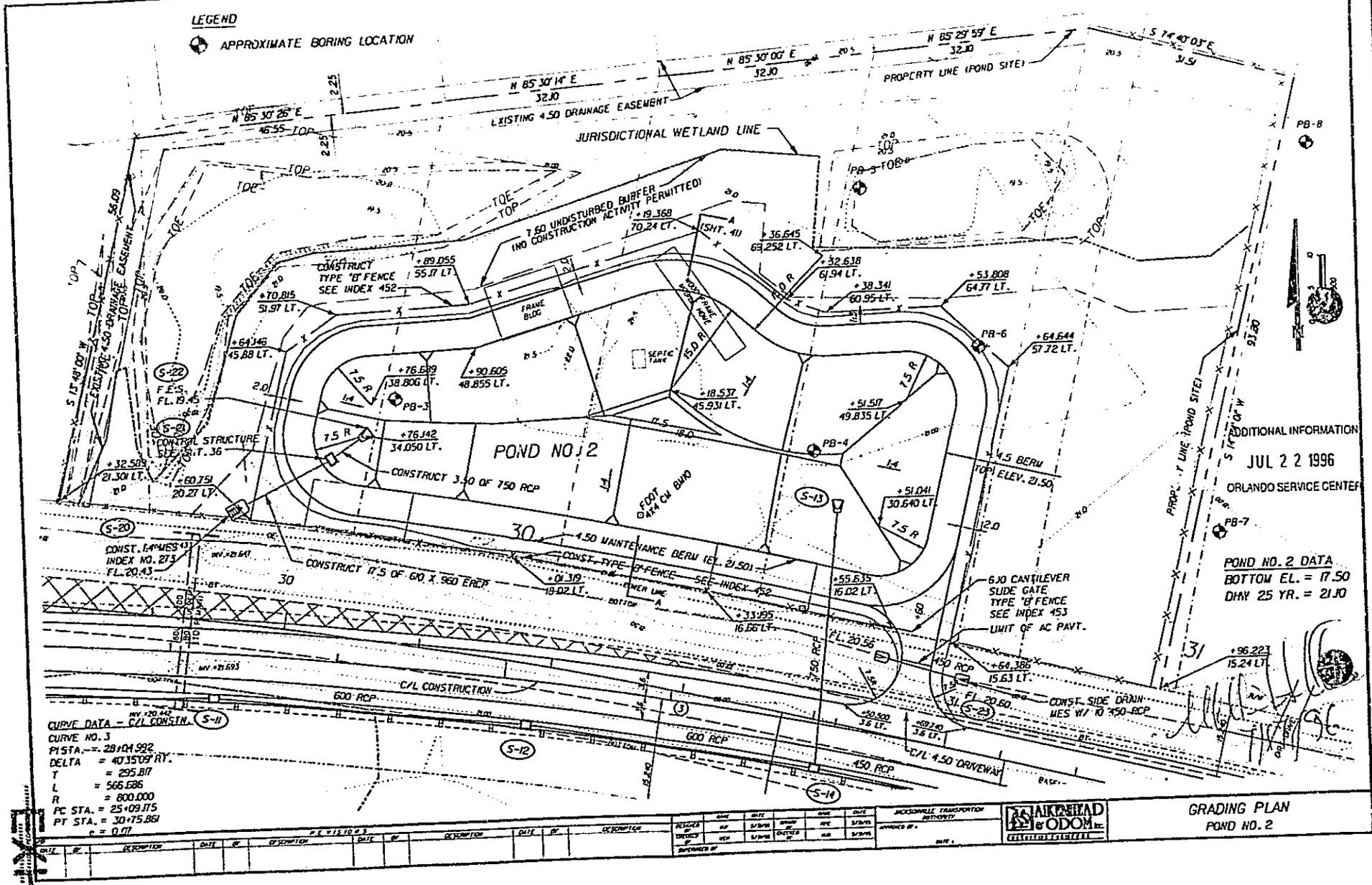
DETAILS
POND NO. 1

EXHIBIT 6

PROJECT NUMBER	SHT #
92040-3520	40

LEGEND

APPROXIMATE BORING LOCATION



POND NO. 2 DATA
BOTTOM EL. = 17.50
DHW 25 YR. = 21.30

ADDITIONAL INFORMATION

JUL 2 2 1996

ORLANDO SERVICE CENTER

DATE	BY	DESCRIPTION

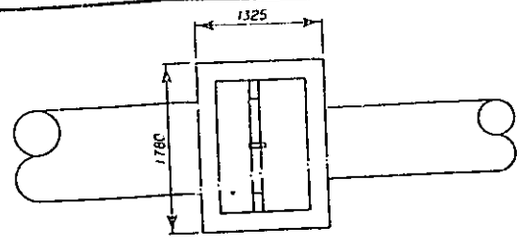
JACKSONVILLE TRANSPORTATION AUTHORITY

ALKSHTAD & ODOM, Inc.

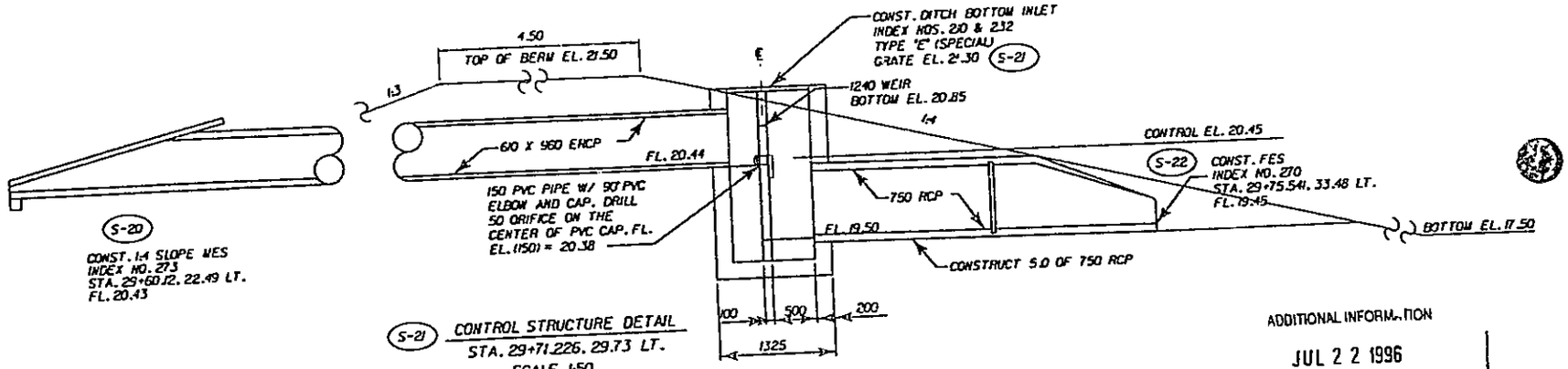
GRADING PLAN
POND NO. 2

EXHIBIT 7

PROJECT NUMBER	SHEET #
92040-3520	41



PLAN VIEW



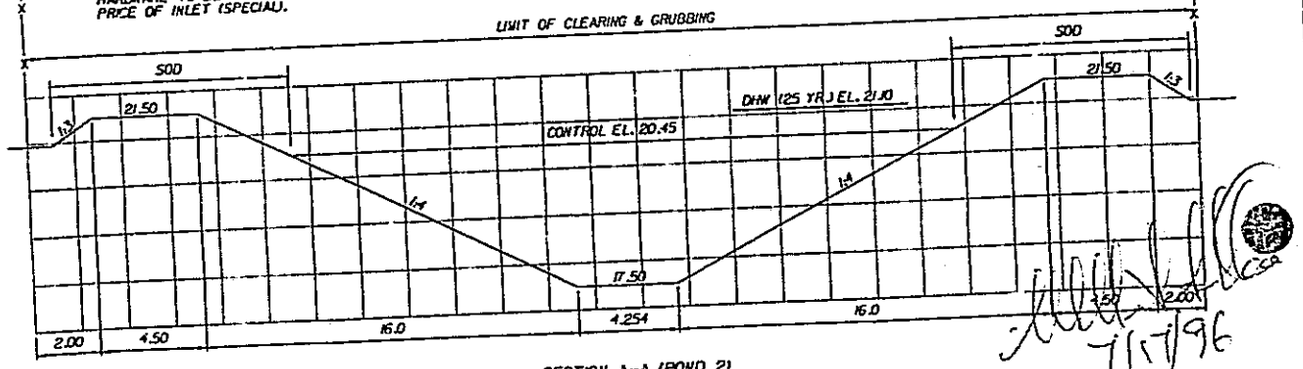
S-21 CONTROL STRUCTURE DETAIL
STA. 29+71.226, 29.73 LT.
SCALE 1:50

NOTE: COST OF WEIR AND NECESSARY HARDWARE TO BE INCLUDED IN PRICE OF INLET (SPECIAL).

ADDITIONAL INFORMATION

JUL 2 2 1996

ORLANDO SERVICE CENTER



SECTION A-A (POND 2)

	FLOW	HWL
10 YR. - 24 HR. SCS STORM:	9.24 m3/min.	21.02
25 YR. - 24 HR. SCS STORM:	17.35 m3/min.	21.10
CRITICAL STORM:		
100 YR. - 1 HR. STORM:	15.00 m3/min.	21.07

REVISIONS						
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DESIGNED BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
DRAWN BY	DATE	CHECKED BY	DATE		

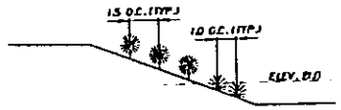
JACKSONVILLE TRANSPORTATION AUTHORITY
APPROVED BY:
DATE:

ATKINS NORTH & ODOM Inc.
Consultants & Engineers

DETAILS
POND NO. 2

EXHIBIT 8

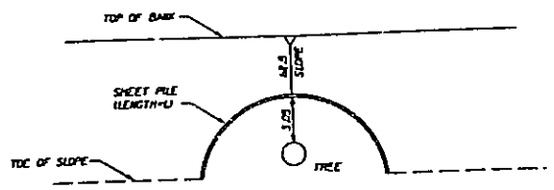
PROJECT NUMBER	SHEET NO.
92010 · 3520	42



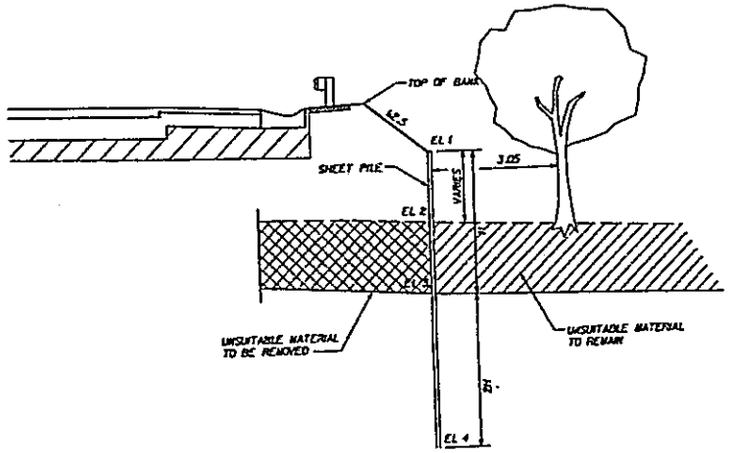
≥2.5 SLOPES SHALL BE PLANTED AS DETAILED ABOVE WHERE INDICATED IN THE PLANS. SPARTINA BAKERIS TO BE PLANTED BELOW THE 11.0 ELEVATION AT A NOMINAL SPACING OF 1.0 LONGITUDINALLY AND TRANSVERSELY. SERENOA REPENS IS TO BE PLANTED ABOVE THE 11.0 ELEVATION AT A NOMINAL SPACING OF 1.5 LONGITUDINALLY AND TRANSVERSELY.

SLOPE PLANTING DETAIL A

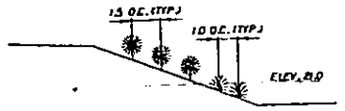
NOTE: USE NON-WOVEN FABRIC SOIL STABILIZATION FOR ALL SLOPES STEEPER THAN ≥2.5 AROUND TREES.



PLAN VIEW

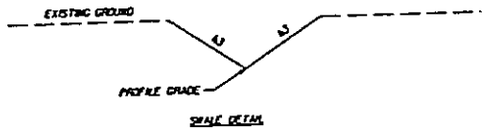


TREE PROTECTION FOR REMOVAL OF UNSUITABLE MATERIAL



≥2.5 SLOPES SHALL BE PLANTED AS DETAILED ABOVE WHERE INDICATED IN THE PLANS. SPARTINA BAKERIS TO BE PLANTED BELOW THE 11.0 ELEVATION AT A NOMINAL SPACING OF 1.0 LONGITUDINALLY AND TRANSVERSELY. SERENOA REPENS IS TO BE PLANTED ABOVE THE 11.0 ELEVATION AT A NOMINAL SPACING OF 1.5 LONGITUDINALLY AND TRANSVERSELY.

SLOPE PLANTING DETAIL B



SHAFT DETAIL

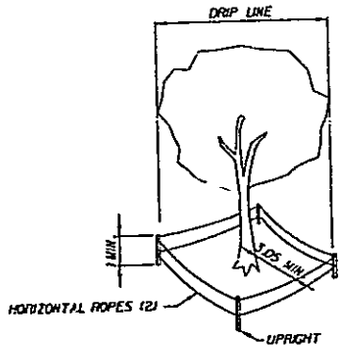
SHEET PILE TABLE

LOCATION	OFFSET	SIDE	EL1	EL2	EL3	EL4	L
13+12	16.0	RT.	21.2	20.2	18.8	14.0	7.7
14+03	15.0	RT.	22.6	20.2	18.7	10.9	13.8
15+27	15.0	LT.	23.2	20.4	19.8	13.0	8.2
15+60	22.5	LT.	22.9	20.4	18.8	10.6	13.0

ADDITIONAL INFORMATION

JUL 2 2 1996

ORLANDO SERVICE CENTER



TREE PROTECTION NOTES

1. NO HEAVY EQUIPMENT ALLOWED INSIDE BARRIER, ONLY HAND LABOR.
2. NO CONSTRUCTION MATERIALS OR TEMPORARY SOIL DEPOSITS ALLOWED INSIDE THIS AREA.
3. MINIMUM RADIUS TO BE PROTECTED IS ENTIRE DRIPLINE OR PROJECT SIDE OF TREE. AVOID EXCESS PLACEMENT OF PROTECTION WITHIN WETLANDS OR SOCCS AWAY FROM PROJECT.
4. UPRIGHTS SHALL BE A MINIMUM OF 1.0m IN HEIGHT.
5. UPRIGHTS – THE EQUIVALENT OF 2" x 4" LUMBER ON 2.5m MAXIMUM CENTERS.
6. HORIZONTAL – THE EQUIVALENT OF TWO COURSES OF 12mm MIN.) ROPING WITH YELLOW PLASTIC TAPE FLAGGING.
7. BARRIERS TO BE ERECTED AROUND TREES TO REMAIN BEFORE CONSTRUCTION OR NEARBY TREES ARE REMOVED.
8. BARRIERS TO REMAIN IN PLACE UNTIL ALL PAVING, CONSTRUCTION AND HEAVY EQUIPMENT IS OUT OF AREA.

TREE PROTECTION DETAIL

NOTE:
APPLIES TO CAUSEWAY FILL AREAS. NOT REQUIRED AT BRIDGE SPAN AREAS. PROTECTED TREES NOTED TO REMAIN IN BRIDGE AREAS SHALL BE "BARRICED WITH YELLOW OR ORANGE FLAGGING AT 0.3 METER INTERVALS 1.5 FEET BELOW TO 1.5 FEET ABOVE FINAL BRIDGE DECK ELEVATION. BRIDGE CONTRACTOR SHALL USE CAUTION WITH ALL EQUIPMENT TO AVOID UNNECESSARY SCARRING OF PROTECTED TREES.

NO.	DATE	BY	DESCRIPTION	NO.	DATE	BY	DESCRIPTION	NO.	DATE	BY	DESCRIPTION

DESIGNED - BLB	DATE 3/29/96	CHECKED - RPC	DATE 3/29/96
DRAWN - BCH	DATE 3/29/96	CHECKED - MD	DATE 3/29/96

JACKSONVILLE TRANSPORTATION AUTHORITY

APPROVED BY: _____ DATE: _____

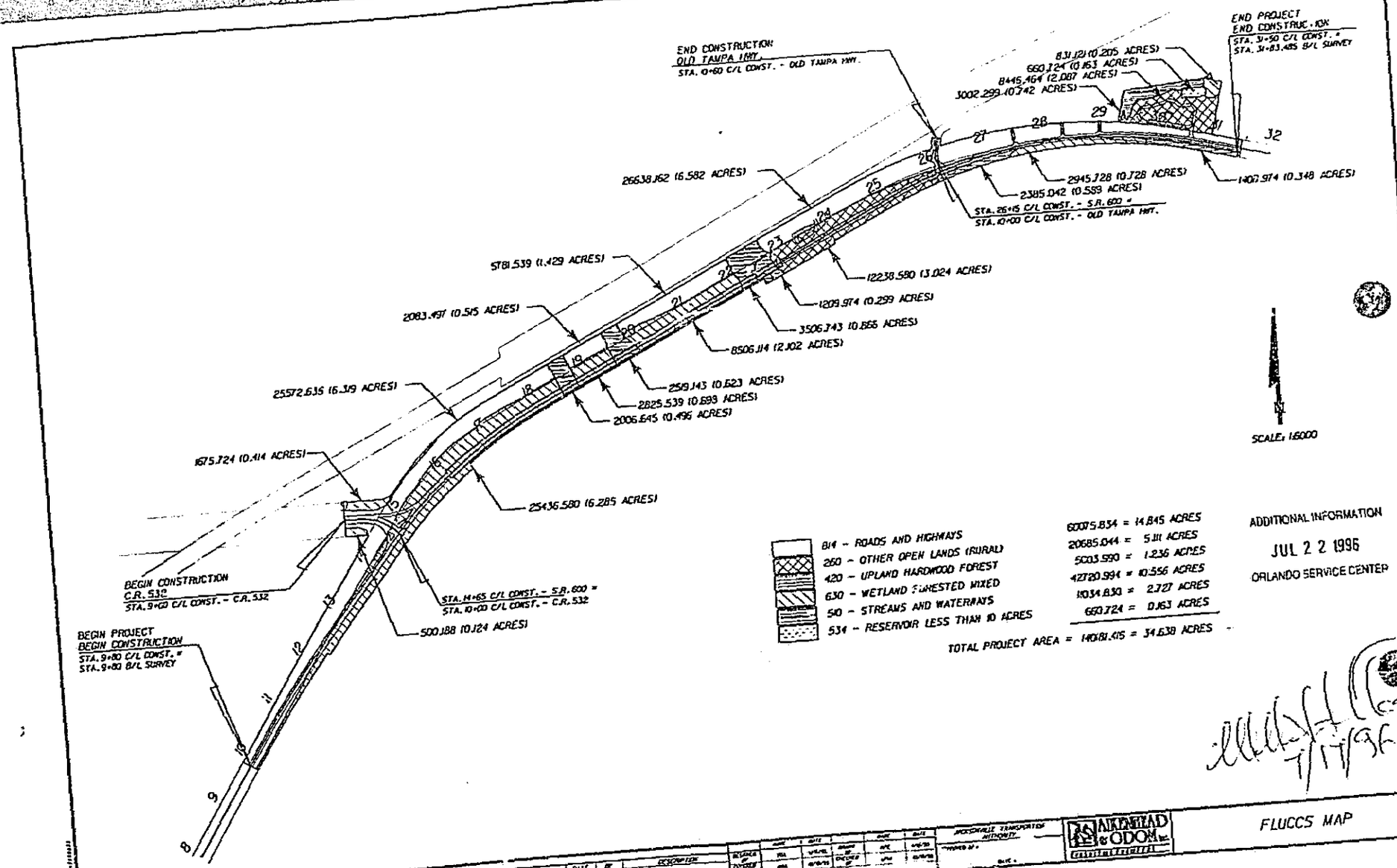
AIKMAN HEAD & ODOM, Inc.

CONSULTING ENGINEERS

SPECIAL DETAILS

EXHIBIT 9

PROJECT NUMBER	SHEET NO.
92010 15.10	9



814	ROADS AND HIGHWAYS
260	OTHER OPEN LANDS (RURAL)
420	UPLAND HARDWOOD FOREST
630	WETLAND FORESTED MIXED
50	STREAMS AND WATERWAYS
534	RESERVOIR LESS THAN 10 ACRES

60075.834 =	14.845 ACRES
20685.044 =	5.111 ACRES
5003.990 =	1.236 ACRES
42720.994 =	10.556 ACRES
10341.830 =	2.727 ACRES
660.724 =	0.163 ACRES

TOTAL PROJECT AREA = 140181.415 = 34.638 ACRES

ADDITIONAL INFORMATION

JUL 2 2 1996

ORLANDO SERVICE CENTER

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DESIGNED BY			CHECKED BY				
DRAWN BY			CHECKED BY				
QUANTITIES BY			CHECKED BY				

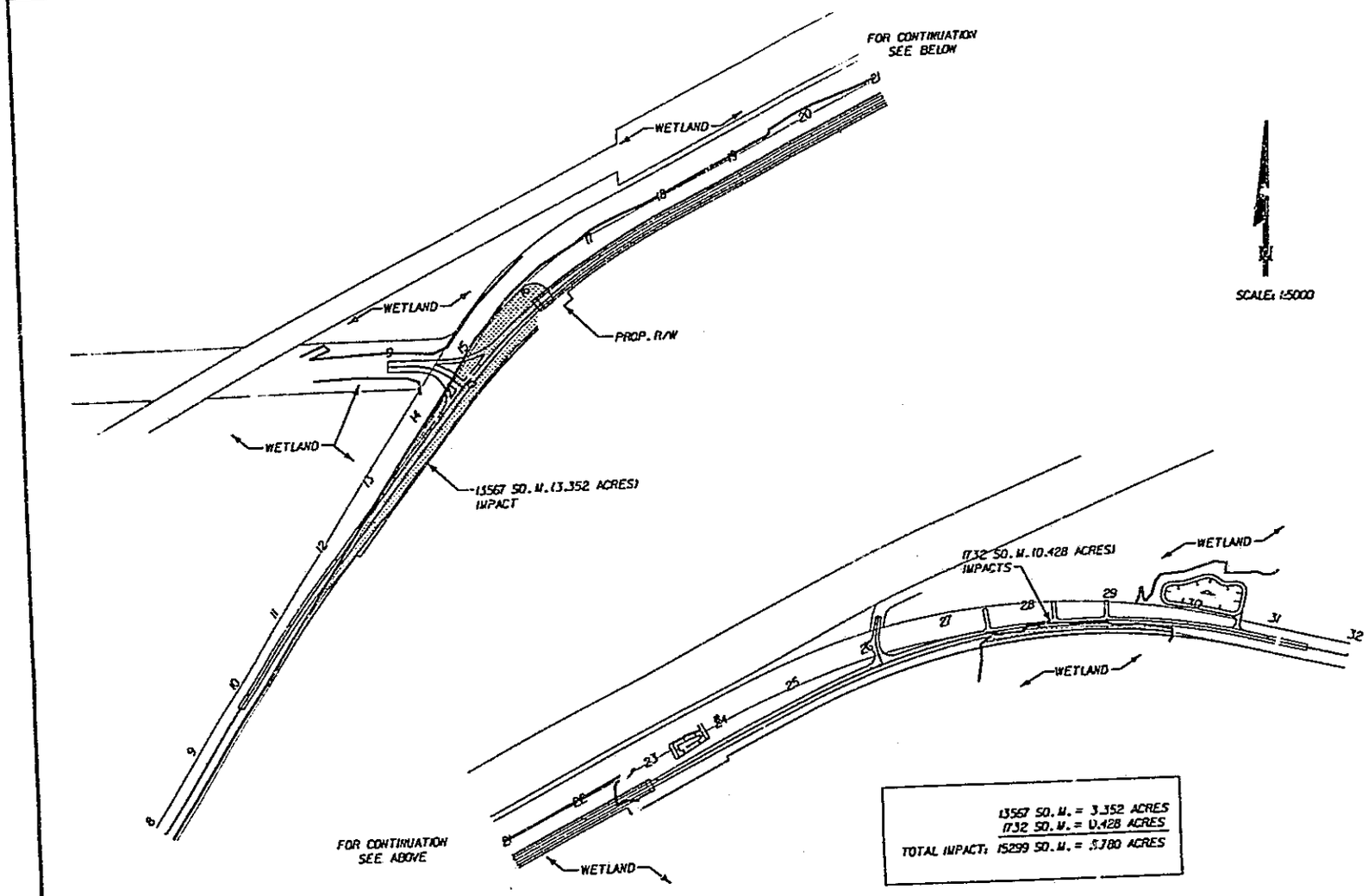
FLORIDA DEPARTMENT OF TRANSPORTATION

ALKHATIB & ODOM INC.

FLUCCS MAP

EXHIBIT 10

PROJECT NUMBER	SHEET NO.
92010-3520	98



13567 SQ. M. = 3.352 ACRES
1732 SQ. M. = 0.428 ACRES
TOTAL IMPACT: 15299 SQ. M. = 3.780 ACRES

ADDITIONAL INFORMATION

JUL 2 2 1996

ORLANDO SERVICE CENTER

7/17/96

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DESIGNED BY		DATE	5/31/96	DRAWN BY		DATE	5/31/96
CHECKED BY		DATE	5/31/96	CHECKED BY		DATE	5/31/96
APPROVED BY		DATE					

JACKSONVILLE TRANSPORTATION AUTHORITY

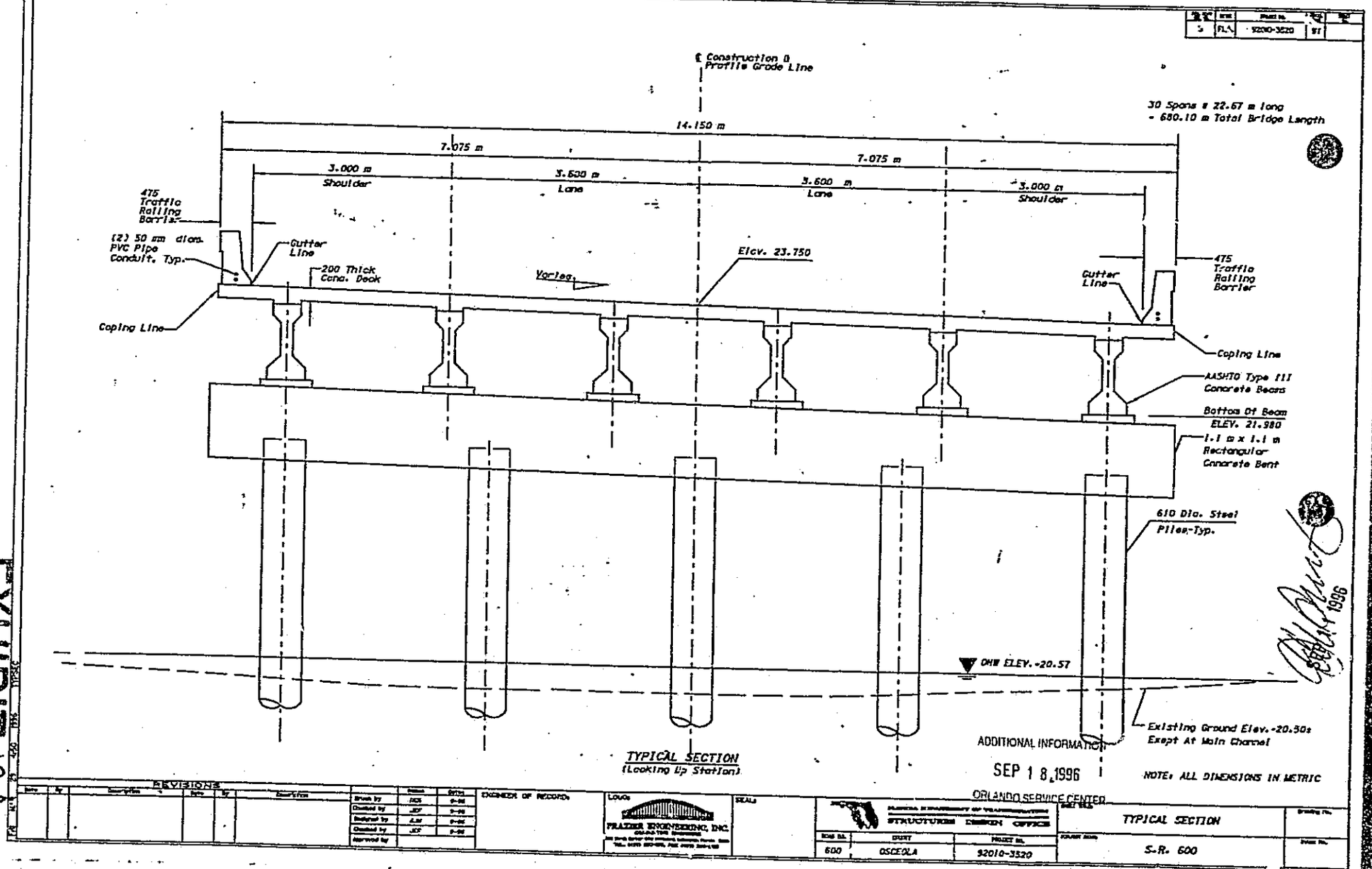
APPROVED BY:

DATE:

ARENDAL & ODOM Inc.
CONSULTING ENGINEERS

WETLAND IMPACTS

EXHIBIT 11



TYPICAL SECTION
(Looking Up Station)

ADDITIONAL INFORMATION

SEP 18 1996

ORLANDO SERVICE CENTER

NOTE: ALL DIMENSIONS IN METRIC

REVISIONS				
Date	By	Description	Date	By

		Date
Drawn by	RDS	9-96
Checked by	JCF	9-96
Designed by	AJW	9-96
Checked by	JCF	9-96
Approved by		

ENGINEER OF RECORD:

LOGO: FRAZIER ENGINEERING, INC.

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
600	OSCEOLA	92010-3520

SHEET TITLE: TYPICAL SECTION

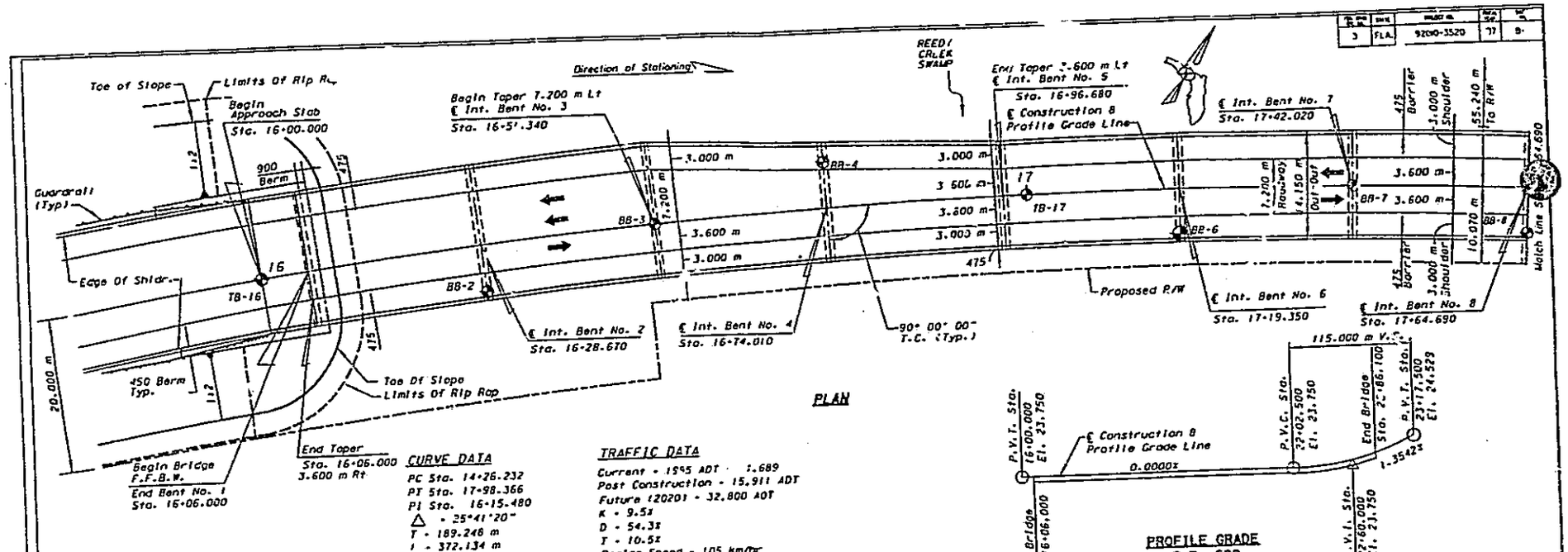
ROADWAY NAME: S.R. 600

DRAWING NO.

SHEET NO.

EXHIBIT 12-A

3	FLA.	92010-3520	77	9



PLAN

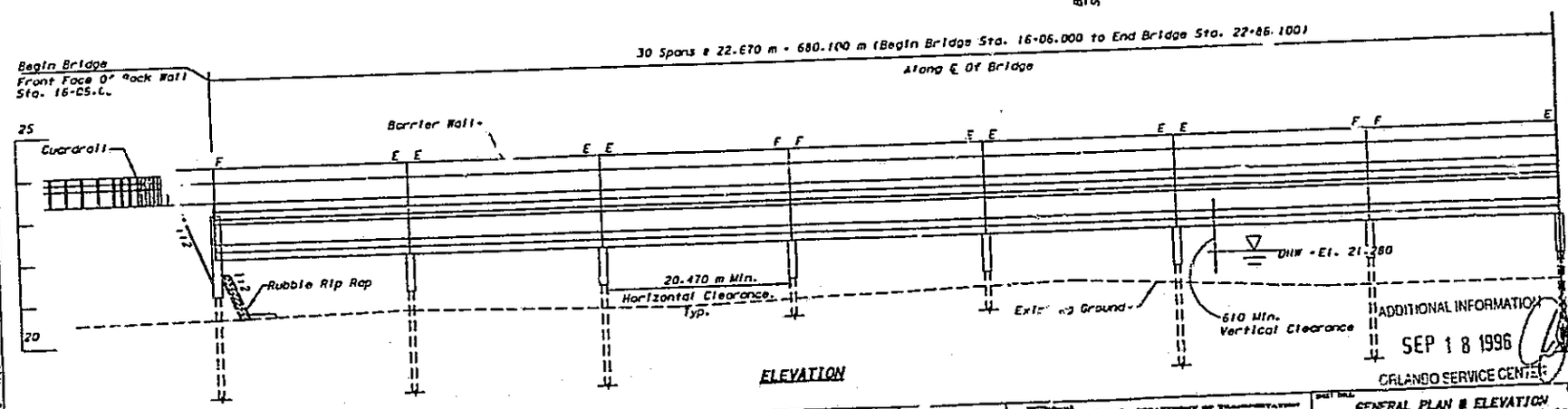
CURVE DATA

PC Sta. 14+26.232
PT Sta. 17+98.366
PI Sta. 16+15.480
△ = 25°41'20"
T = 189.246 m
L = 372.134 m
R = 830.000 m
e = 0.070

TRAFFIC DATA

Current - 1995 ADT = 15,689
Post Construction - 15,911 ADT
Future (2020) - 32,800 ADT
K = 9.5%
D = 54.3%
T = 10.5%
Design Speed = 105 km/hr

PROFILE GRADE
S.R. 600



ELEVATION

ADDITIONAL INFORMATION

SEP 18 1996

ORLANDO SERVICE CENTER

SEP 11 1996

REVISIONS					
Date	By	Description	Date	By	Correction

Drawn by	MCB	3-96
Designed by	AJM	3-96
Checked by	JEF	3-96
Checked by	JEF	3-96
Approved by		

ENGINEER OF RECORD

LOGO: FRAZER ENGINEERING, INC. Consulting Engineers

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

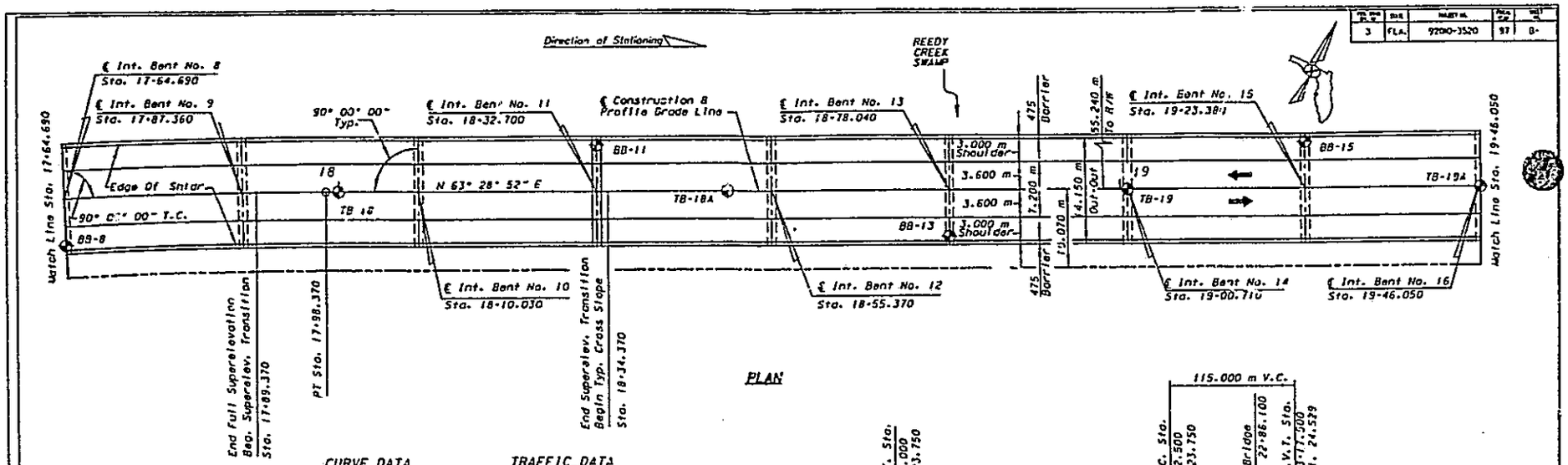
ROAD NO.	COUNTY	PROJECT NO.
600	OSCEOLA	92010-3520

SHEET TITLE: GENERAL PLAN & ELEVATION BEGIN BRIDGE TO STA. 17+64.690

PROJECT NAME: S.R. 600

EXHIBIT 128

EXHIBIT 12C



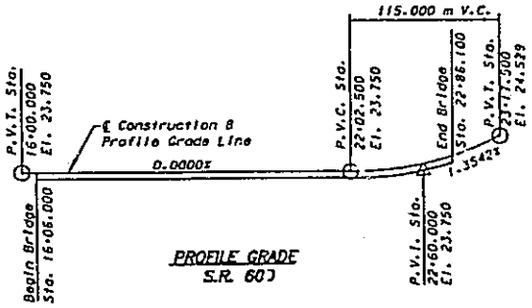
PLAN

CURVE DATA

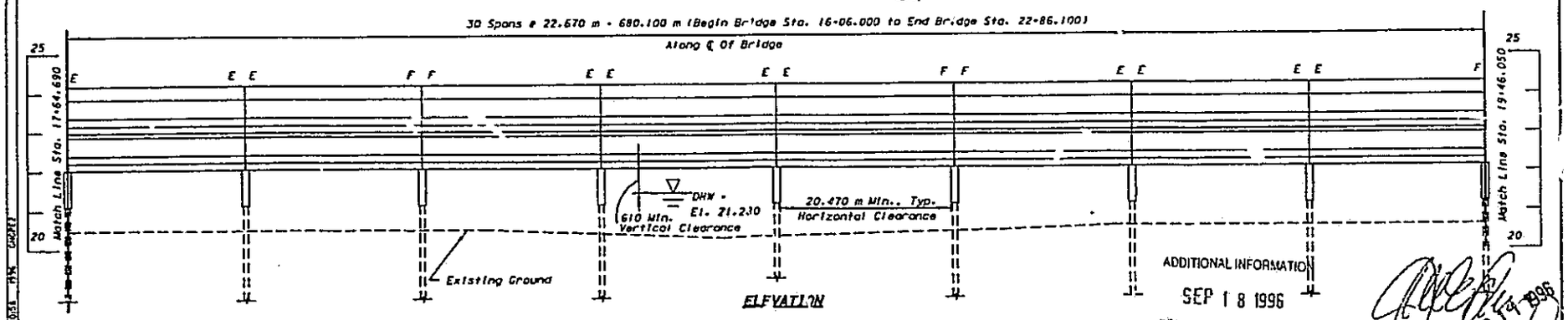
PC Sta. 14+26.232
PT Sta. 17+98.366
PI Sta. 16+15.480
△ = 25°41'20"
T = 189.248 m
L = 372.134 m
R = 830.000 m
e = 0.070

TRAFFIC DATA

Current = 9200 ADT
Post Construction = 14,900 ADT
Future (2020) = 29,900 ADT
K = 9.5%
D = 54.3%
T = 10.5%
Design Speed = 105 km/hr



PROFILE GRADE
S.R. 600



ELEVATION

ADDITIONAL INFORMATION
SEP 18 1996
ORLANDO SERVICE CENTER

REVISIONS						
Date	By	Description	Date	By	Description

Drawn by	ACD	3-96
Designed by	AJW	3-96
Checked by	JEF	3-96
Checked by	JEF	3-96
Approved by		

ENGINEER OF RECORD

LOGO: FRAZIER ENGINEERING, INC.

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

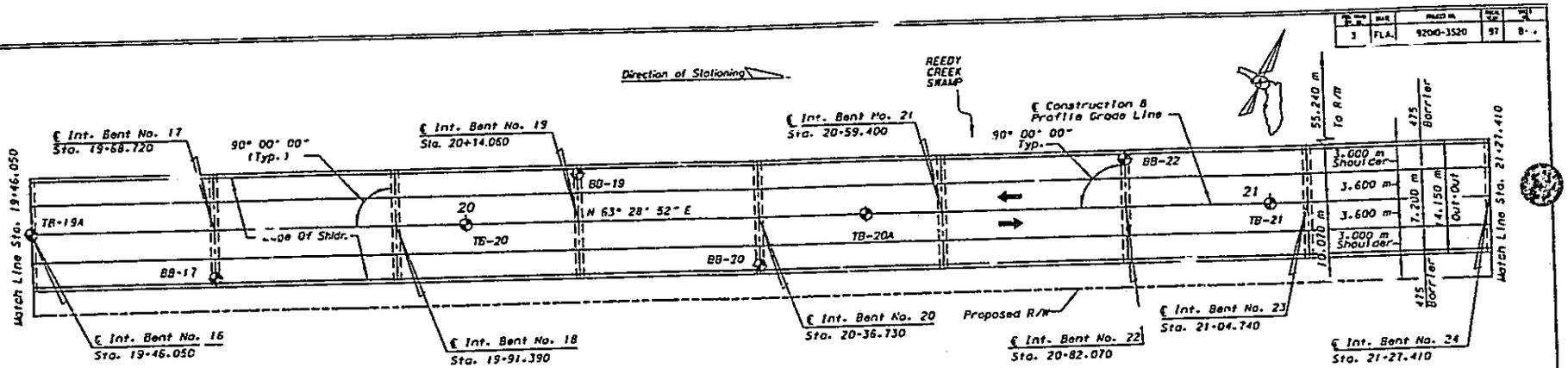
ROAD NO.	COUNTY	PROJECT NO.
600	OSCEOLA	92010-3520

GENERAL PLAN & ELEVATION
STA. 17+640 TO STA. 19+45.050

PROJECT NAME: S.R. 600

SHT. NO.	SHT.	SHEET NO.	FED. NO.	SHEET NO.
3	FLA.	92010-3520	97	8-

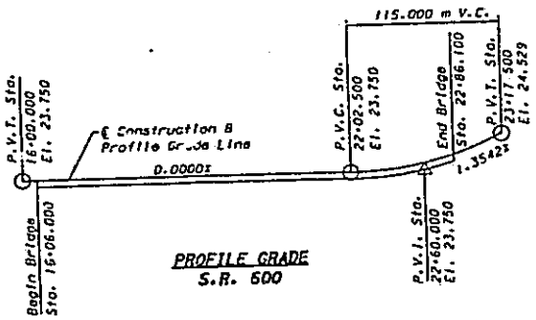
3	FLA.	9200-3520	97	B-..



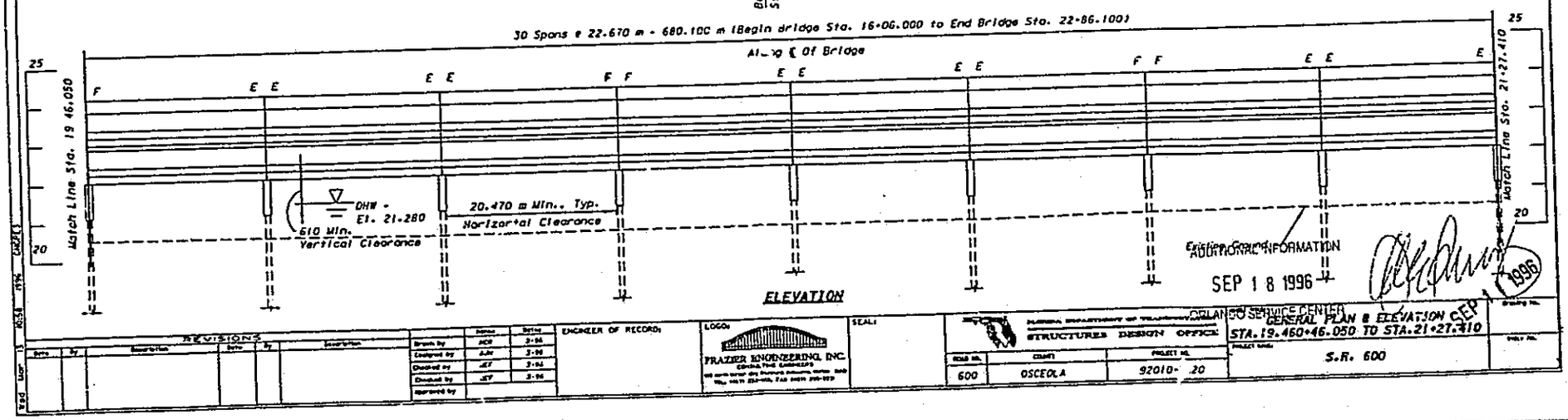
PLAN

TRAFFIC DATA

Current - 9200 ADT
Post Construction - 14,900 ADT
Future (2020) - 29,900 ADT
K - 9.5%
D - 54.3%
T - 10.5%
Design Speed - 105km/hr



PROFILE GRADE
S.R. 600



ELEVATION

ADDITIONAL INFORMATION

SEP 1 8 1996

ORLANDO SERVICE CENTER

REVISIONS									
Date	By	Description	Date	By	Description	Drawn by	MCP	3-96	
						Designed by	AJH	3-96	
						Checked by	JEF	3-96	
						Checked by	JEF	3-96	
						Approved by			

ENGINEER OF RECORD:

LOGO: FRAZIER ENGINEERING INC.

SEAL:

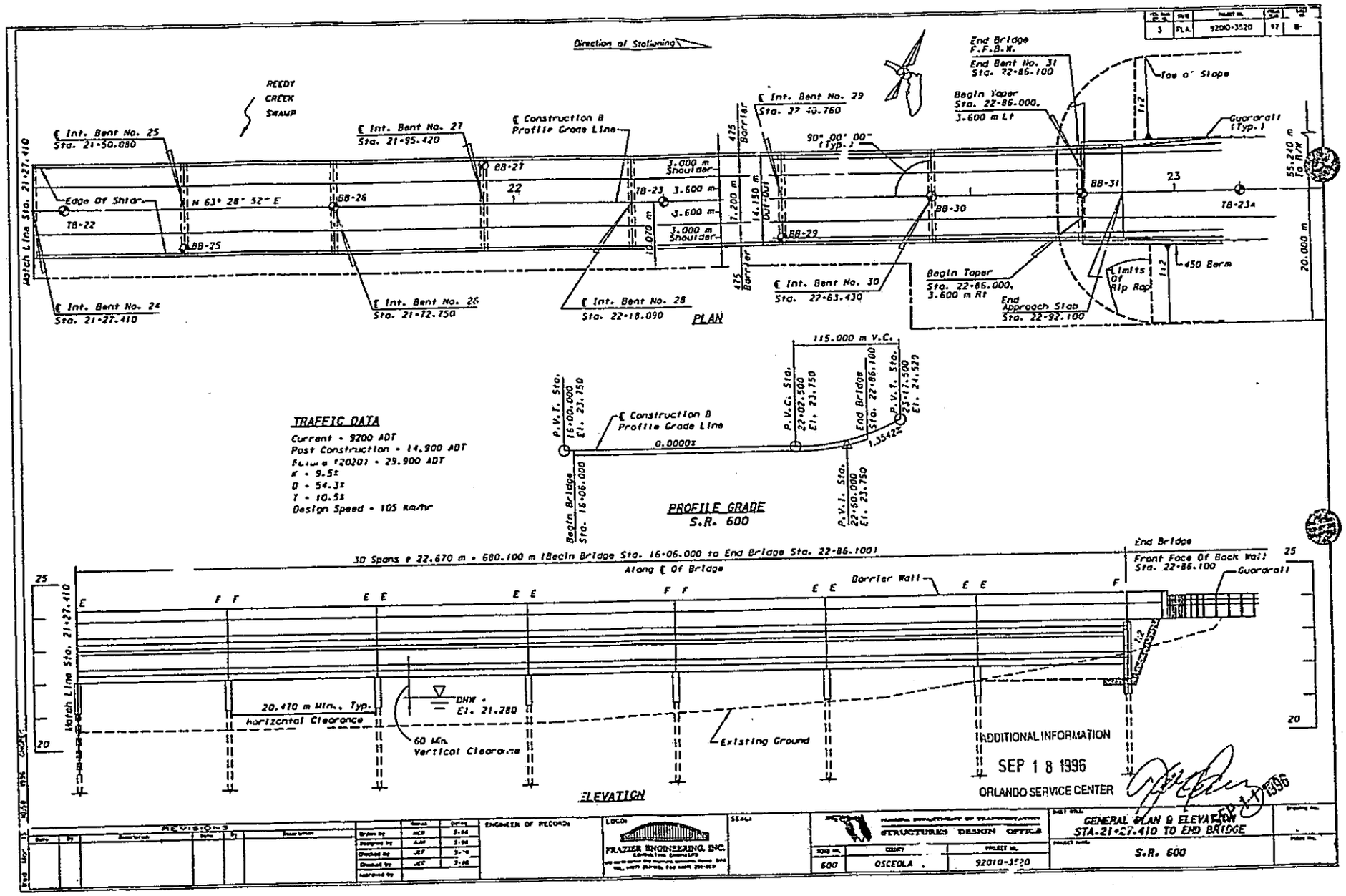
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
600	OSCEOLA	92010- 20

GENERAL PLAN & ELEVATION
STA. 19+460+46.050 TO STA. 21+27.410

S.R. 600

EXHIBIT 12



TRAFFIC DATA
Current - 9200 ADT
Post Construction - 14,900 ADT
Future (2020) - 29,900 ADT
K - 9.5%
D - 54.3%
T - 10.5%
Design Speed - 105 Km/hr

ADDITIONAL INFORMATION
SEP 18 1996
ORLANDO SERVICE CENTER

| REVISIONS | | |

TABLE OF CREDIT WITHDRAWAL

FDOT - THREE LAKES WILDLIFE MANAGEMENT AREA
MITIGATION BANK SITE

PERMIT #	*AC. IMPACTS*	*AC. MIT. USED*	*MIT. BALANCE*	*RATIO*
48-00840-S 48-00840-D		34.0	500.9	
49-00765-S (Mod)	3.78 2.01	75.6 20.1	405.2	20:1 10:1

This information is being submitted to the District per a request dated June 18, 1996.

ADDITIONAL INFORMATION
JUL 2 2 1996
ORLANDO SERVICE CENTER
EXHIBIT 13

STAFF REPORT DISTRIBUTION LIST

PROJECT: SR 600 RELOCATION & REEDY CREEK BRIDGE REPLACEMENT
APPLICATION NUMBER: 960124-5
PERMIT MODIFICATION NUMBER: 49-00765-S

INTERNAL DISTRIBUTION

Reviewer:
X Alan L. Leavens
X John G. Lesman
X Edward W. Yaun, P.E.
X Marc S. Ady
X E. Edmundson - ORL
X D. Gilpin-Hudson - UDP
X J. Golden - REG
X A. Lee - Orl Service Center
X C. Rinaldi - CLM
X R. Robbins - NRM
X A. Waterhouse - REG
Environmental PPC Reviewer
Field Engineering
X Office of Counsel

GOVERNING BOARD MEMBERS

Ms. Valerie Boyd
Mr. William Graham
Mr. William Hammond
Ms. Betsy Krant
Mr. Richard Machek
Mr. Eugene K. Pettis
Mr. Nathaniel P. Reed
Ms. Miriam Singer
Mr. Frank Williamson, Jr.

DEPT. OF ENVIRONMENTAL PROTECTION

EXTERNAL DISTRIBUTION

X Applicant:
FLORIDA DEPARTMENT OF TRANSPORTATION

X Applicant's Consultant:
AIKENHEAD & ODOM, INC.

X Engineer, County of:
OSCEOLA

Engineer, City of:
_____

Local Drainage District:
_____

COUNTY

BUILDING AND ZONING

OTHER

X Div of Recreation and Park - District 6
X F.G.F.W.F.C.
X Florida Audubon - Charles Lee
X Sierra Club - Central Florida Group

EXHIBIT 14

STAFF REPORT ROUTE SHEET

APPLICATION NO. 960124-5

PROJECT NAME: SR 600 RELOCATION & REEDY CREEK BRIDGE REPLACEMENT

SCHEDULED FOR 12-DEC-96 GOVERNING BOARD

	Name		Date
REVIEWER	Alan L. Leavens	to Supervisor	10/28
SUPERVISOR	Edward W. Yaun, P.E.	to Reviewer, NRM	
REVIEWER, NRM	John G. Lesman	to Supv. Prof., NRM	11/4
SUPV. PROF., NRM	Marc S. Ady	to Area Manager	11/7
AREA MGR.	Edward W. Yaun, P.E.	to Reg. Tech, SWM	
REG. TECH., SWM	Laurie Donovan	to Div. Dir., NRM	
DIV. DIR., NRM	Robert G. Robbins	to Reg. Tech., SWM	11-7
DIV. DIR., SWM		to Reg. Tech, SWM	
REG. TECH., SWM	Laurie Donovan	to Admin.	

11/12-96

2 USER DEFINED SPECIAL CONDITIONS: SEE ATTACHED PAGE(S)

RESOURCE CODES

WETLAND, FORESTED/FRESHWATER MARSH
WETLAND BUFFER
WETLAND IMPACTS
OFFSITE WETLAND MITIGATION

AIKENHEAD & ODOM inc.
CONSULTING ENGINEERS

5730 Bowden Road, Suite 200
Jacksonville, Florida 32216
Phone 904/636-5432
FAX 904/636-5433

September 16, 1996

RECEIVED
SEP 18 1996
ORLANDO SERVICE CENTER

Mr. Alan Leavens, Staff CE
South Florida Water Management District, Orlando Service Center
1756 Orlando Central Parkway
Orlando, Florida 32809

Re: Reconstruction of State Road 600/U.S. 17/92 at Reedy Creek
Response to Third RAI, ERP Application
SFWMD Conceptual Permit # 49-00765-S, Dated 11/10/94
FDOT Project # 92010-3520
Page 1 of 2

Dear Alan:

Per your third RAI letter dated August 21, 1996, I attach four (4) sets of revised drawings reflecting the requested revisions to the plan/profile sheets, wetland impact sheet, and the additional information concerning the bridge typical section. Two (2) of these sets are signed/sealed on every page, two (2) sets are signed/sealed on the cover page only (so noted) and stamped "Complimentary Copy" on the remaining pages.

The attached drawings include minor modification to several drawings in accordance with your request/RAI of August 21. These modifications are summarized as follows:

Sheet 12 through 25 - Plan/Profiles:

- The wetland impact areas have been identified with hatching on all Plan/Profile sheets.
- The limit of construction in the wetland area has been identified on all sheets.
- Turbidity and erosion control devices have been added and identified on all sheets.

Sheet 26 - Intersection Layout - C.R. 532:

- The wetland impact areas have been identified with hatching.
- The limits of construction in the wetland area has been identified.
- Turbidity and erosion control devices have been added and identified.

Sheet 27 - Intersection Layout - Old Tampa Highway:

- Turbidity and erosion control devices have been added and identified.

Sheet 38 - Grading Plan - Pond No. 1:

- The wetland impact areas have been identified with hatching.
- Turbidity and erosion control devices have been added and identified.

Sheet 40 - Grading Plan - Pond No. 2:

- The wetland impact areas have been identified with hatching.
- The limit of construction in the wetland area has been identified.
- Turbidity and erosion control devices have been added and identified.

Sheet 98 - Wetland Impacts:

- The impacts associated with the bridge have been hatched, labeled, and the quantity added to the label.

Bridge Component Set (5 sheets):

- The typical section of the bridge, including the normal high water level and clearance to the bottom of the structure, and the plan and profile sheets from the bridge component set have been included. Also, for your information, the ordinary high water (OHW) elevation shown on the typical section is 20.57m, the design high water for a 50 year storm (DHW-50) elevation is 21.29m, the DHW-100 is 21.32m, and the DHW-500 is 21.38m.

If you have any questions, please call at your convenience.

Sincerely,

Neil Aikenhead, P.E.
President

NA:sw

Encl. (signed/sealed sets revised drawings)

xc: David Cooke, FDOT District 5, Deland, w/ encl.
John Frazier, Frazier Engineering, Melbourne, w/ encl.
Stuart Bradow, EMS, Orlando, w/ encl.

ADDITIONAL INFORMATION
SEP 1 8 1996
ORLANDO SERVICE CENTER

Total Proj 34 ac

WM .16 Bus 3 (.82)
.66 Bus 4

Sump .80 Bus 3
2.75 Bus 4
2.39 Bus 2 Bridge (8.77)
2.75 Bus 1

24.41

(25.4) (150 mm = 6")

450 = 18"

600 2-1

Conceptual

Area Eng.

DRAFT
Subject to Governing
Board Approval

LAST DATE FOR GOVERNING BOARD ACTION:
NOVEMBER 10, 1994

SURFACE WATER MANAGEMENT STAFF REVIEW SUMMARY

I. ADMINISTRATIVE

APPLICATION NUMBER: 940614-9

PROJECT NAME: BRIDGE REPLACEMENTS/S.R.600 (US192)

LOCATION: OSCEOLA COUNTY
S31,32/T25S/R27E

APPLICANT'S NAME: FLORIDA DEPARTMENT OF TRANSPORTATION

OWNERS NAME AND ADDRESS: FLORIDA DEPARTMENT OF TRANSPORTATION
719 S. WOODLAND BLVD.
DELAND, FL 32720

DEVELOPER: FLORIDA DEPARTMENT OF TRANSPORTATION

ENGINEER: ENVIRONMENTAL MANAGEMENT SYSTEMS INC

II. PROJECT DESCRIPTION

PROJECT AREA: 29.59 acres **DRAINAGE AREA:** 29.59 acres

OFFSITE MITIGATION: 93.90 acres WETLANDS

DISTRICT DRAINAGE BASIN: REEDY CREEK

RECEIVING BODY: REEDY CREEK SWAMP

CLASSIFICATION: CLASS III

PURPOSE:

The purpose of this application is to authorize conceptual approval of the surface water management system to serve the SR 600 (US 17-92) bridge replacement over Reedy Creek. The road will drain to a proposed wet detention pond discharging to the Reedy Creek Swamp. Staff's recommendation is for approval.

BACKGROUND:

The Florida Department of Transporation is requesting conceptual approval of this application in order to establish the proposed roadway corridor. Once the corridor is established they can proceed with detailed drainage design and construction plans.

EXISTING FACILITIES:

There is an existing two lane roadway and three bridges over Reedy Creek. Runoff from the roadway discharges to Reedy Creek swamp via overland sheet flow.

PROPOSED FACILITIES:

The conceptual drainage plans call for bridging the majority of the Reedy Creek swamp. The new corridor will be south of the existing road and bridges. The proposed water management system will consist of a wet detention pond discharging to Reedy Creek Swamp. Once the new lanes and bridge are completed the old lanes and bridges will be reconstructed. This reconstruction will result in again bridging the majority of the Reedy Creek swamp. The majority of the existing fill embankments and roadway will be removed as part of this reconstruction. Detailed plans and caluclations for the water management system will be submitted with the construction application. Any compensating storage for flood plain encroachment will be addressed with the construction application also. However, with the removal of the existing embankments and roadway and bridging the swamp there may be an increase in storage available.

III. PROJECT EVALUATION

WATER QUALITY:

Details of the proposed water management system providing water quality treatment will be included with the construction application.

IV. ENVIRONMENTAL ASSESSMENT

PROJECT SITE DESCRIPTION:

The project site is parallel to, and south of, the existing SR600 highway crossing Reedy Creek. This area of the creek floodplain contains a number of crossings in addition to SR600, including the CSX railroad, a 100KV powerline, a 28" sewer pipe and telecommunications facilities. The existing highway is very narrow and the bridges are old and dilapidated. FDOT data indicates that

SR600 is one of the most dangerous highways in central Florida.

Forested wetlands exist within the undeveloped areas to the north and south of the existing highway. The proposed project falls within an area of forested wetlands adjacent to the existing highway. Historic silviculture has eliminated most of the large cypress trees in this area, but a few large specimens remain. The CSX railroad causeway has restricted upstream surface water flow to this portion of the wetland.

EXISTING ON SITE WETLAND COMMUNITIES AND OTHER SURFACE WATERS:

ID NO	TOTAL ACREAGE	BIOLOGICAL CONDITION	COMMUNITY TYPE	COMMUNITY ACREAGE
W1	5.70	GOOD	MIXED FORESTED WETLANDS	5.70
W2	7.75	GOOD	MIXED FORESTED WETLANDS	7.75

TOTAL ON SITE WETLAND/SURFACE WATER ACREAGE: 13.45

EXISTING ON SITE UPLAND COMMUNITIES:

ID NO	TOTAL ACREAGE	BIOLOGICAL CONDITION	COMMUNITY TYPE	COMMUNITY ACREAGE
U1	16.14	N/A	ROADS AND HIGHWAYS	16.14

TOTAL ON SITE UPLAND ACREAGE: 16.14

ENDANGERED, THREATENED & SPECIES OF SPECIAL CONCERN SUMMARY:

Although endangered, threatened, or species of species of special concern were not observed on site, the project is located within Reedy Creek, a diverse wetland ecosystem known to contain preferred habitat for endangered, threatened, or species of special concern. Therefore, use of this area by endangered, threatened, or species of special concern is anticipated. This permit does not relieve the applicant from complying with all applicable rules and any other agencies' requirements if in the future, endangered/threatened or species of special concern are discovered on the site.

WETLAND PRESERVATION AND IMPACT SUMMARY:

The proposed project will require fill to be placed over 3.69 acres of wetlands associated with the Reedy Creek Swamp. In addition, 2.01 acres of additional floodplain wetlands will be partially impacted (clearing) by the construction of the bridge. This partial impact will be in the form of tree cutting and shading from the bridge deck. The existing two lanes of SR 600 will be taken out of service. A portion of the wetlands are under consideration for public acquisition by the District under the SOR program.

Part of the benefit of this project is that it will facilitate the eventual four-laning of SR600 in such a way as to recreate a significant wildlife corridor and eliminate restriction of surface water flows in the project area. This will be accomplished through the proposed bridging and through the future bridging for the northern two lanes. A significant portion of existing causeway removal (approximately 2.45 acres) will be included in the highway design when the FDOT requests authorization for the future four-laning. FDOT has stipulated to this future design feature under the current proposal.

WETLAND PRESERVATION:

ID NO	COMMUNITY TYPE	PRESERVATION ACREAGE
W2	MIXED FORESTED WETLANDS	7.75

TOTAL ON SITE PRESERVATION ACREAGE: 7.75

WETLAND IMPACTS:

ID NO	COMMUNITY TYPE	IMPACT ACREAGE	IMPACT TYPE	BIOLOGICAL CONDITION	ACREAGE
W1	MIXED FORESTED WETLANDS	5.70	FILL	GOOD	3.69
			CLEARING	GOOD	2.01

TOTAL IMPACT ACREAGE: 5.70

MITIGATION/MONITORING:

The wetland impacts of this project are proposed to be offset by use of 93.9 acres of FDOT Three Lakes WMA mitigation site (total 534.9 acres) previously permitted by the District. The offsite mitigation area is located within the Prairie Lakes Unit of the 50,589 acre Three Lakes Wildlife Management Area (TLWMA) in Osceola County (Exhibit 8). The TLWMA is owned by the State of Florida (Trustees) and is leased and managed by the FGFWFC. The FGFWFC manages the preserve for public recreation such as camping, hiking, fishing, and hunting. The Prairie Lakes Unit is located adjacent to Lakes Jackson and Marian. The overall restoration of Lake Jackson is a cooperative effort by FGFWFC, SFWMD, FDEP and District 5 FDOT. The goal is to restore the lake to its historic size and hydrology, thereby restoring the wildlife and fishery habitats associated with Lake Jackson. The FGFWFC has determined that the proposed mitigation project is consistent with the management of TLWMA and the Game Commission is cooperating with FDOT on construction and long-term management and maintenance.

The overall FDOT Three Lakes WMA mitigation site involves restoration of 534.9

acres of historically drained wetlands. The applicant proposes to remove levees and backfill ditches within the historic floodplain of Lake Jackson. Removal of the levees will result in the creation of 21.03 acres of freshwater marsh in the footprint of the levees. the backfilling of the ditches will result in the creation of 13.2 acres of freshwater marsh in the footprint of the ditches. The remaining 500.67 acres of freshwater wetlands will be hydrologically enhanced through reconnection to Lake Jackson.

The 534.9 acre offsite mitigation parcel at TLWMA will be drawn upon (debited from) to offset the wetland impacts of this project. Specifically, 93.9 acres of the mitigation site are proposed to be debited from the total mitigation acreage. The proposed project will provide substantial benefits to at least eleven listed species of fauna in an area of great ecological concern to the state. The ratio of mitigation acreage to impact acreage is 20:1 for the fill area and 10:1 for the partial impact area.

PROPOSED OFF SITE MITIGATION:

ID NO	MITIGATION TYPE	TOTAL ACREAGE MIT.	COMMUNITY TYPE	COMMUNITY ACREAGE
WETLAND OW1	RESTORATION	93.90	FRESHWATER MARSHES	93.90

TOTAL OFF SITE MITIGATION ACREAGE: 93.90

WETLAND INVENTORY -

NEW PHASE - SR 600 BRIDGE **ONSITE**

	Cypress	Marsh	Trans.	Mix Forest	Totals
Total Wet. AC	0	0	0	13.45	13.45
Wet. Preserved	0	0	0	7.75	7.75
Wet. Impacted	0	0	0	3.69	3.69
Wet. Disturbed	0	0	0	2.01	2.01
Wet. Improved	0	0	0	0	0
Wet. Created	0	0	0	0	0

	Uplands	
Other Compensation	0	-

WETLAND INVENTORY -

NEW PHASE - SR 600 BRIDGE OFFSITE OFFSITE

	Cypress	Marsh	Trans.	Mix Forest	Totals
Total Wet. AC	0	93.9	0	0	93.9
Wet. Preserved	0	0	0	0	0
Wet. Impacted	0	0	0	0	0
Wet. Disturbed	0	0	0	0	0
Wet. Improved	0	93.9	0	0	93.9
Wet. Created	0	0	0	0	0

	Uplands
Other Compensation	0

SYSTEM OPERATION:

Florida Department Of Transportation

PROPOSED LAND USE(S):

Highway

WATER USE PERMIT STATUS:

No irrigation of landscaped areas is proposed.

DRI STATUS:

This project is not a DRI.

SAVE OUR RIVERS:

Part of the project site falls within an area that is currently under negotiations for acquisition. Land Management Department staff has been notified of the proposed project.

The mitigation area is approximately 2 miles from any land under consideration for acquisition within the Upper Basins Lakes Watershed Save Our Rivers corridor.

SWIM BASIN:

The project is not within nor does it discharge directly to a designated SWIM basin.

RIGHT-OF-WAY PERMIT STATUS:

A Right-of-Way Permit is not required for this project.

ENFORCEMENT ACTIVITY:

There has been no enforcement activity associated with this application.

THIRD PARTY INTEREST:

Concerns over preservation of the large cypress trees within the historic Tufts College tract by DEP and Osceola County has been resolved.

WELL FIELD ZONE OF INFLUENCE:

The project is not located within the zone of influence of a wellfield.

PRIMARY ISSUES RESOLVED:

Wetland impacts, floodplain restoration, large tree preservation, offsite wetland mitigation in accordance with permitted mitigation plan for the Three Lakes Wildlife Management Area.

V. APPLICABLE LAND AREA

The land use table only shows the total project area and the proposed water management area at this time as detailed construction plans are not available.

PROJECT

	TOTAL PROJECT	PREVIOUSLY PERMITTED	THIS PHASE	
TOTAL ACRES	29.59		.00	acres
WTRM ACREAGE	2.50		.00	acres

VI. STAFF RECOMMENDATION

The Staff recommends that the following be issued:

Authorization for Conceptual Approval for the proposed water management system to serve the 29.59 acre HIGHWAY project, discharging to REEDY CREEK via the REEDY CREEK SWAMP.

Based on the information provided, District rules have been adhered to.

Staff recommendation is for approval subject to the attached Special Conditions.

VII. STAFF REVIEW

AREA MANAGER

Alan Leavens

DRAFT
Subject to Governing Board Approval

NATURAL RESOURCE MANAGEMENT DIVISION APPROVAL

APPLICATION REVIEWER

Stacy Myers

SUPERVISING PROFESSIONAL

Deborah L. Goss

DIVISION DIRECTOR:

Terrie A. Bates

DATE: 10/17/94

SURFACE WATER MANAGEMENT DIVISION APPROVAL

APPLICATION REVIEWER

Alan L. Leavens

DIVISION DIRECTOR

JBR Richard A. Rogers, P.E.

DATE: 10/20/94

LIMITING CONDITIONS

1 . THE PERMITTEE SHALL IMPLEMENT THE WORK AUTHORIZED IN A MANNER SO AS TO MINIMIZE ANY ADVERSE IMPACT OF THE WORKS ON FISH, WILDLIFE, NATURAL ENVIRONMENTAL VALUES, AND WATER QUALITY. THE PERMITTEE SHALL INSTITUTE NECESSARY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING FULL COMPACTION OF ANY FILL MATERIAL PLACED AROUND NEWLY INSTALLED STRUCTURES, TO REDUCE EROSION, TURBIDITY, NUTRIENT LOADING AND SEDIMENTATION IN THE RECEIVING WATERS.

2 . WATER QUALITY DATA FOR THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY OR INTO SURFACE WATERS OF THE STATE WILL BE SUBMITTED TO THE DISTRICT AS REQUIRED BY SECTION 5.9, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994." PARAMETERS TO BE MONITORED MAY INCLUDE THOSE LISTED IN CHAPTER 62-302, F.A.C. IF WATER QUALITY DATA IS REQUIRED, THE PERMITTEE SHALL PROVIDE DATA ON VOLUMES OF WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE DAYS OF SAMPLING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY OR INTO SURFACE WATERS OF THE STATE.

3 . THIS PERMIT SHALL NOT RELIEVE THE PERMITTEE OF ANY OBLIGATION TO OBTAIN NECESSARY FEDERAL, STATE, LOCAL OR SPECIAL DISTRICT APPROVALS.

4 . THE OPERATION PHASE OF THIS PERMIT WILL NOT BECOME EFFECTIVE UNTIL THE DISTRICT'S ACCEPTANCE OF CERTIFICATION OF THE COMPLETED SURFACE WATER WATER MANAGEMENT SYSTEM. THE PERMITTEE SHALL REQUEST TRANSFER OF THE PERMIT TO THE RESPONSIBLE OPERATIONAL ENTITY ACCEPTED BY THE DISTRICT, IF DIFFERENT FROM THE PERMITTEE. THE TRANSFER REQUEST CAN BE SUBMITTED CONCURRENTLY WITH THE CONSTRUCTION COMPLETION CERTIFICATION.

5 . ALL ROAD ELEVATIONS SHALL BE SET IN ACCORDANCE WITH THE CRITERIA SET FORTH IN SECTION 6.5, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994."

6 . ALL BUILDING FLOOR ELEVATIONS SHALL BE SET IN ACCORDANCE WITH THE CRITERIA SET FORTH IN SECTION 6.4, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994."

7 . OFF-SITE DISCHARGES DURING CONSTRUCTION AND DEVELOPMENT WILL BE MADE ONLY THROUGH THE FACILITIES AUTHORIZED BY THIS PERMIT.

8 . A PERMIT TRANSFER TO THE OPERATION PHASE SHALL NOT OCCUR UNTIL A RESPONSIBLE ENTITY MEETING THE REQUIREMENT IN SECTION 9.0, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994," HAS BEEN ESTABLISHED TO OPERATE AND MAINTAIN THE SYSTEM. THE ENTITY MUST BE PROVIDED WITH SUFFICIENT OWNERSHIP OR LEGAL INTEREST SO THAT IT HAS CONTROL OVER ALL WATER MANAGEMENT FACILITIES AUTHORIZED HEREIN.

9 . THE PERMIT DOES NOT CONVEY TO THE PERMITTEE ANY PROPERTY RIGHT NOR ANY RIGHTS OR PRIVILEGES OTHER THAN THOSE SPECIFIED IN THE PERMIT AND CHAPTER 40E-4, FAC.

10. THE PERMITTEE SHALL HOLD AND SAVE THE DISTRICT HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS, OR LIABILITIES WHICH MAY ARISE BY REASON OF THE CONSTRUCTION, OPERATION, MAINTENANCE OR USE OF ANY FACILITY AUTHORIZED BY THE PERMIT.

11. THIS PERMIT IS ISSUED BASED ON THE APPLICANT'S SUBMITTED INFORMATION WHICH REASONABLY DEMONSTRATES THAT ADVERSE WATER RESOURCE RELATED IMPACTS WILL NOT BE CAUSED BY THE COMPLETED PERMIT ACTIVITY. SHOULD ANY ADVERSE IMPACTS CAUSED BY THE COMPLETED SURFACE WATER MANAGEMENT SYSTEM OCCUR, THE DISTRICT WILL REQUIRE THE PERMITTEE TO PROVIDE APPROPRIATE MITIGATION TO THE DISTRICT OR OTHER IMPACTED PARTY. THE DISTRICT WILL REQUIRE THE PERMITTEE TO MODIFY THE SURFACE WATER MANAGEMENT SYSTEM, IF NECESSARY, TO ELIMINATE THE CAUSE OF THE ADVERSE IMPACTS.

12. WITHIN 30 DAYS OF ISSUANCE OF THIS PERMIT, THE PERMITTEE OR AUTHORIZED AGENT SHALL NOTIFY THE DISTRICT (VIA THE SUPPLIED CONSTRUCTION COMMENCEMENT NOTICE OR EQUIVALENT) OF THE ACTUAL OR ANTICIPATED CONSTRUCTION START DATE AND THE EXPECTED COMPLETION DATE.

13. WHEN THE DURATION OF CONSTRUCTION EXCEEDS ONE YEAR, THE PERMITTEE OR AUTHORIZED AGENT SHALL SUBMIT CONSTRUCTION STATUS REPORTS ON AN ANNUAL BASIS (VIA THE SUPPLIED ANNUAL STATUS REPORT OR EQUIVALENT) BEGINNING ONE YEAR AFTER THE INITIAL COMMENCEMENT OF CONSTRUCTION.

14. WITHIN 30 DAYS AFTER COMPLETION OF CONSTRUCTION OF THE SURFACE WATER MANAGEMENT SYSTEM, THE PERMITTEE OR AUTHORIZED AGENT SHALL FILE A WRITTEN STATEMENT OF COMPLETION AND CERTIFICATION BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER. THESE STATEMENTS MUST SPECIFY THE ACTUAL DATE OF CONSTRUCTION COMPLETION AND MUST CERTIFY THAT ALL FACILITIES HAVE BEEN CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE PLANS AND SPECIFICATIONS APPROVED BY THE DISTRICT (VIA THE SUPPLIED CONSTRUCTION COMPLETION/ CONSTRUCTION CERTIFICATION OR EQUIVALENT). THE CONSTRUCTION COMPLETION CERTIFICATION MUST INCLUDE, AT A MINIMUM, EXISTING ELEVATIONS, LOCATIONS AND DIMENSIONS OF THE COMPONENTS OF THE WATER MANAGEMENT FACILITIES. ADDITIONALLY, IF DEVIATIONS FROM THE APPROVED DRAWING ARE DISCOVERED DURING THE CERTIFICATION PROCESS, THE CERTIFICATION MUST BE ACCOMPANIED BY A COPY OF THE APPROVED PERMIT DRAWINGS WITH DEVIATIONS NOTED.

15. WITHIN 30 DAYS OF ANY SALE, CONVEYANCE OR OTHER TRANSFER OF ANY OF THE LAND WHICH IS PROPOSED FOR DEVELOPMENT UNDER THE AUTHORIZATION OF THIS PERMIT, THE PERMITTEE SHALL NOTIFY THE DISTRICT OF SUCH TRANSFER IN WRITING VIA EITHER FORM 0483, REQUEST FOR PERMIT TRANSFER; OR FORM 0920, REQUEST FOR TRANSFER OF SURFACE WATER MANAGEMENT CONSTRUCTION PHASE TO OPERATION PHASE (TO BE COMPLETED AND SUBMITTED BY THE OPERATING ENTITY), IN ACCORDANCE WITH SECTIONS 40E-1.6105 AND 40E-4.351, F.A.C.

16. A PRORATED SHARE OF SURFACE WATER MANAGEMENT RETENTION/DETENTION AREAS, SUFFICIENT TO PROVIDE THE REQUIRED FLOOD PROTECTION AND WATER QUALITY TREATMENT, MUST BE PROVIDED PRIOR TO OCCUPANCY OF ANY BUILDING OR RESIDENCE.

17. A STABLE, PERMANENT AND ACCESSIBLE ELEVATION REFERENCE SHALL BE ESTABLISHED ON OR WITHIN ONE HUNDRED (100) FEET OF ALL PERMITTED DISCHARGE STRUCTURES NO LATER THAN THE SUBMISSION OF THE CERTIFICATION REPORT. THE LOCATION OF THE ELEVATION REFERENCE MUST BE NOTED ON OR WITH THE CERTIFICATION REPORT.

18. IT IS THE RESPONSIBILITY OF THE PERMITTEE TO INSURE THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS DO NOT OCCUR DURING CONSTRUCTION.

19. THE PERMITTEE MUST OBTAIN A WATER USE PERMIT PRIOR TO CONSTRUCTION DEWATERING, UNLESS THE WORK QUALIFIES FOR A GENERAL PERMIT PURSUANT TO SUBSECTION 40E-20.302(4), F.A.C.

SPECIAL CONDITIONS

1 . THE PERMITTEE SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SHOALING OR WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

2 . MEASURES SHALL BE TAKEN DURING CONSTRUCTION TO INSURE THAT SEDIMENTATION AND/OR TURBIDITY PROBLEMS ARE NOT CREATED IN THE RECEIVING WATER.

3 . THE DISTRICT RESERVES THE RIGHT TO REQUIRE THAT ADDITIONAL WATER QUALITY TREATMENT METHODS BE INCORPORATED INTO THE DRAINAGE SYSTEM IF SUCH MEASURES ARE SHOWN TO BE NECESSARY.

4 . LAKE SIDE SLOPES SHALL BE NO STEEPER THAN 4:1 (HORIZONTAL:VERTICAL) TO A DEPTH OF TWO FEET BELOW THE CONTROL ELEVATION. SIDE SLOPES SHALL BE NURTURED OR PLANTED FROM 2 FEET BELOW TO 1 FOOT ABOVE CONTROL ELEVATION TO INSURE VEGETATIVE GROWTH.

5 . PRIOR TO THE INITIATION OF ANY WITHDRAWAL OF WATER (IRRIGATION, DEWATERING, PUBLIC WATER SUPPLY, ETC.), IT WILL BE NECESSARY TO APPLY FOR A WATER USE PERMIT. THE PERMITTEE IS CAUTIONED THAT A MINIMUM OF 90 DAYS IS REQUIRED FOR CONSIDERATION OF THE WATER USE PERMIT APPLICATION. THE PERMITTEE IS CAUTIONED THAT THE ISSUANCE OF A SURFACE WATER MANAGEMENT PERMIT SHALL NOT BE CONSTRUED TO BE A GUARANTEE THAT WATER WILL BE AVAILABLE.

6 . OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM SHALL BE THE RESPONSIBILITY OF FLORIDA DEPARTMENT OF TRANSPORTATION.

7 . SILT SCREENS, HAY BALES OR OTHER SUCH SEDIMENT CONTROL MEASURES SHALL BE UTILIZED DURING CONSTRUCTION. THE SELECTED SEDIMENT CONTROL MEASURES SHALL BE INSTALLED LANDWARD OF THE UPLAND BUFFER ZONES AROUND ALL PROTECTED WETLANDS. ALL AREAS SHALL BE STABILIZED AND VEGETATED IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION INTO THE WETLANDS AND UPLAND BUFFER ZONES.

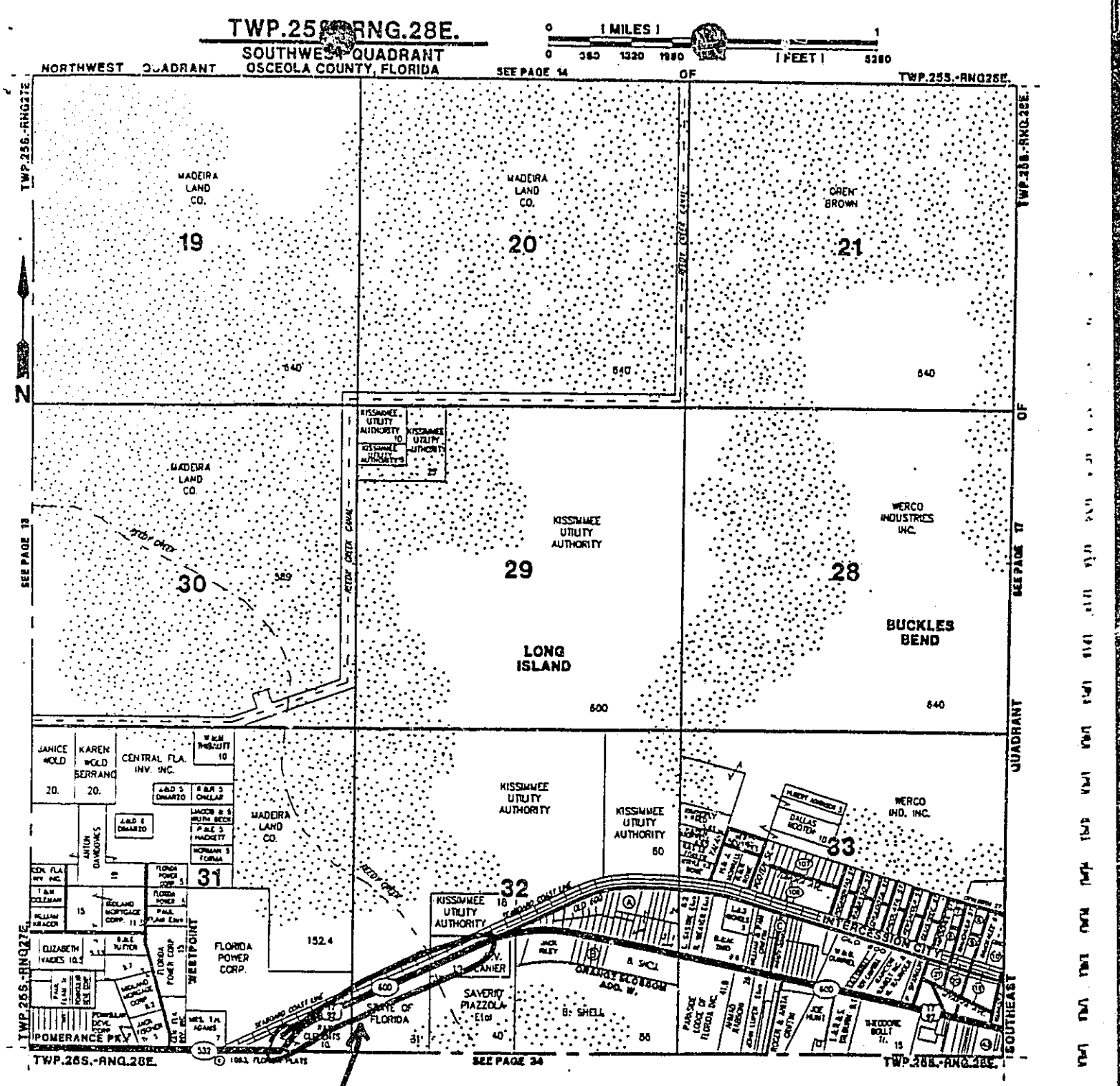
8 . THE SFWMD RESERVES THE RIGHT TO REQUIRE REMEDIAL MEASURES TO BE TAKEN BY THE PERMITTEE IF WETLAND AND/OR UPLAND MONITORING OR OTHER INFORMATION DEMONSTRATES THAT ADVERSE IMPACTS TO PROTECTED, CONSERVED, INCORPORATED OR MITIGATED WETLANDS OR UPLANDS HAVE OCCURRED DUE TO PROJECT RELATED ACTIVITIES.

9 . ANY FUTURE CHANGES IN LAND USE OR TREATMENT OF WETLANDS AND/OR UPLAND BUFFER/COMPENSATION AREAS MAY REQUIRE A SURFACE WATER MANAGEMENT PERMIT MODIFICATION AND ADDITIONAL ENVIRONMENTAL REVIEW BY DISTRICT STAFF. PRIOR TO THE PERMITTEE INSTITUTING ANY FUTURE CHANGES NOT AUTHORIZED BY THIS PERMIT, THE PERMITTEE SHALL NOTIFY THE SFWMD OF SUCH INTENTIONS FOR A DETERMINATION OF ANY NECESSARY PERMIT MODIFICATIONS.

10. MITIGATION SHALL BE PROVIDED BY DESIGNATION OF 93.9 ACRES OF WETLAND RESTORATION/ENHANCEMENT WITHIN THE THREE LAKES WILDLIFE MANAGEMENT AREA (TLWMA) MITIGATION SITE (PREVIOUSLY AUTHORIZED BY SFWMD PERMIT APPLICATION NUMBERS 940614-10 AND 940614-1-D). THIS MITIGATION ACREAGE WILL BE SUBTRACTED FROM THE TOTAL 534.9 ACRES, LEAVING A BALANCE OF 441 ACRES OF MITIGATION AVAILABLE TO OFFSET OTHER FDOT DISTRICT 5 ROADWAY PROJECTS.

11. ALL PROVISIONS OF THE TLWMA PERMIT APPLICATION NUMBER 940614-10 (EXHIBIT 9) CONCERNING CONSTRUCTION, MONITORING AND MAINTENANCE OF THE MITIGATION SITE ARE INCORPORATED BY REFERENCE INTO THIS PERMIT.

12. WHEN THE FOUR-LANING OF SR600 IN THIS AREA IS PROPOSED, FDOT SHALL INCORPORATE A SINGLE BRIDGE SPANNING THE DISTANCE BETWEEN POINTS (Y) AND (Z) AS SHOWN ON SHEET 1 (EXHIBIT 2). IN ADDITION, ALL HISTORIC FILL FOR HIGHWAY CONSTRUCTION BETWEEN THESE POINTS WILL BE REMOVED TO THE GREATEST EXTENT POSSIBLE, AND THE AREA WILL BE REGRADED TO A NATURAL ELEVATION.



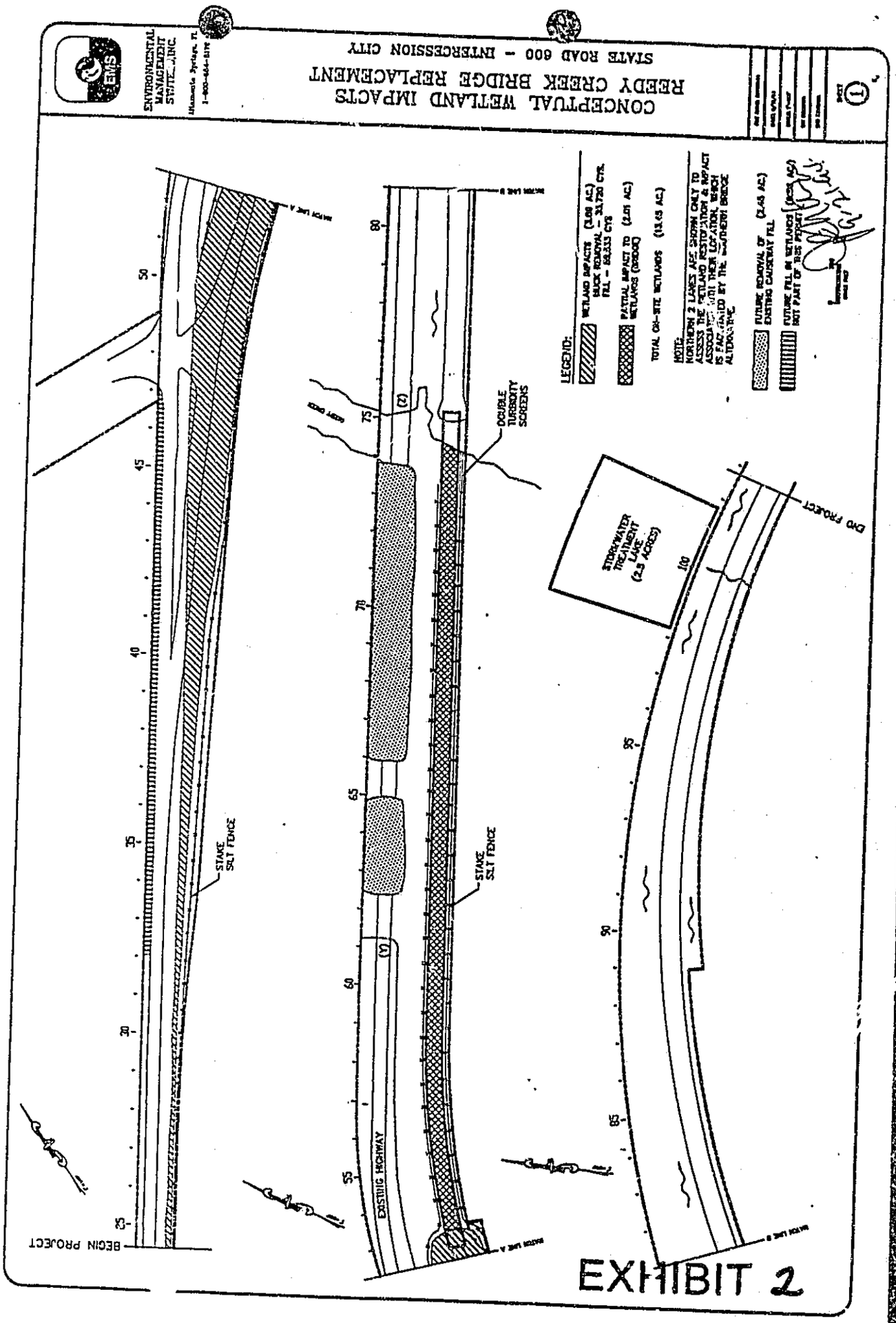
PROJECT LOCATION

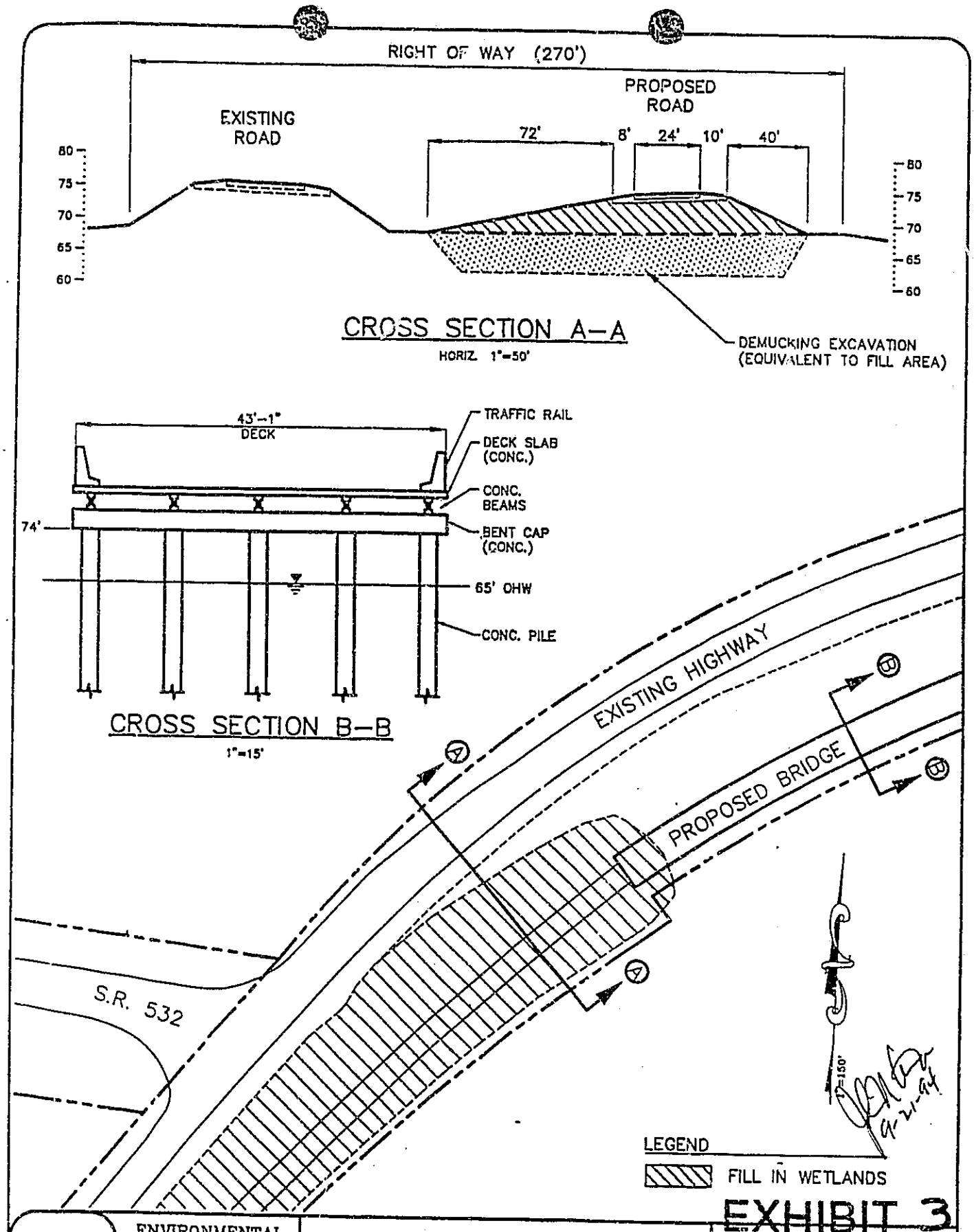
DIAGRAM OF QUARTERED MAPS

This is how each township is broken down when quartered:

NORTHWEST QUARTER			NORTHEAST QUARTER			SOUTHWEST QUARTER			SOUTHEAST QUARTER		
6	5	4	3	2	1	19	20	21	22	23	24
7	8	9	10	11	12	30	29	28	27	26	25
18	17	16	15	14	13	31	32	33	34	35	36

EXHIBIT 1


CONCEPTUAL WETLAND IMPACTS
REEDY CREEK BRIDGE REPLACEMENT
STATE ROAD 600 - INTERCESSION CITY
ENVIRONMENTAL MANAGEMENT SERVICES, INC.
LEGEND:
WETLAND IMPACTS (1.66 AC.)
BUCK REMOVAL - 24,720 CYS.
FILL - 68,333 CYS
PARTIAL IMPACT TO WETLANDS (DRAIN) (2.01 AC.)
TOTAL ON-SITE WETLANDS (13.15 AC.)
FUTURE REMOVAL OF EXISTING CAUSEWAY FILL (2.45 AC.)
FUTURE FILL IN WETLANDS (NOT PART OF THIS PROJECT) (NEGL AC.)
NOTE:
NORTHBOUND 2 LANES ARE SHOWN ONLY TO ASSESS THE WETLAND RESTORATION & IMPACT ASSOCIATED WITH THEIR LOCATION. SUCH IS FACILITATED BY THE SOUTHBOUND BRIDGE ALIGNMENT.
STORMWATER TREATMENT LAKE (2.3 ACRES)
DRAINAGE DITCH
DOUBLE TURBIDITY SCREENS
STAKE SILT FENCE
EXISTING HIGHWAY
BEGIN PROJECT
END PROJECT
EXHIBIT 2



CROSS SECTION A–A

HORIZ. 1"=50'

CROSS SECTION B–B

1"=15'

EXHIBIT 3

SHEET 2

ENVIRONMENTAL MANAGEMENT SYSTEMS, INC.
800/654-5176

ROAD SECTION

STATE ROAD 600 – INTERCESSION CITY

DATE: 9/19/94
SCALE: AS SHOWN
FILE NAME: 66605144

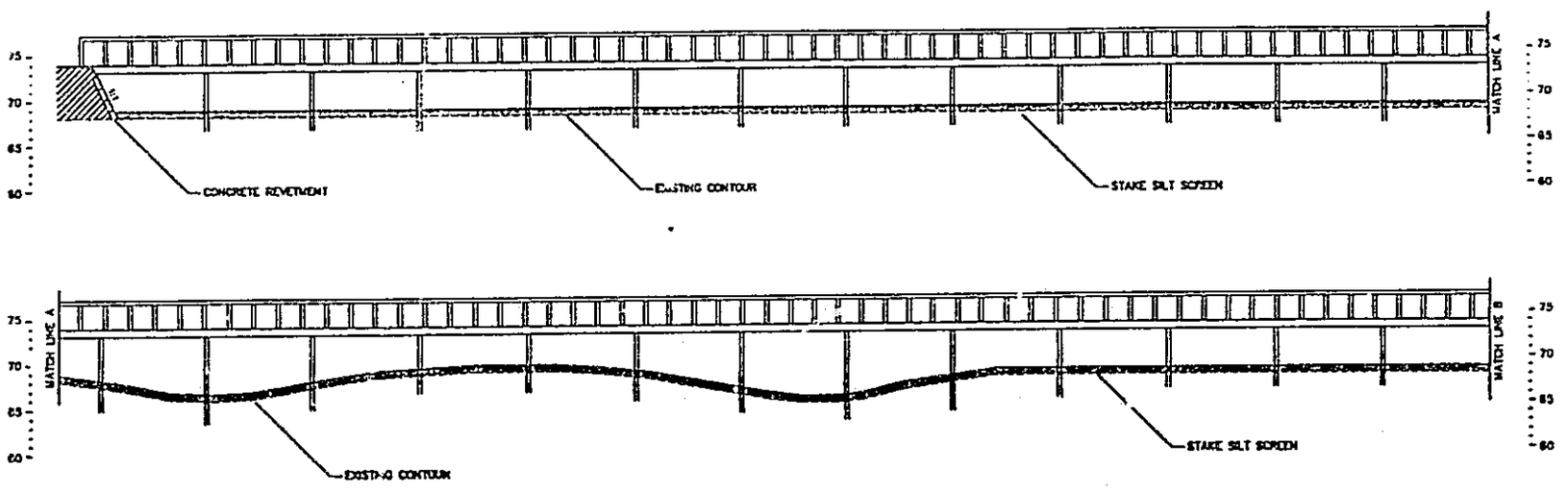


EXHIBIT 4

9-21-94

ENVIRONMENTAL MANAGEMENT SYSTEMS, INC. 800/654-5176	BRIDGE PROFILES STATE ROAD 600 – INTERCESSION CITY	FILE NAME: 66603144 DATE: 9/19/94 SCALE: 1"=100'	SHEET 3

ENVIRONMENTAL MANAGEMENT SYSTEMS, INC.

TOPOGRAPHIC MAP

STATE ROAD 600 – INTERCESSION CITY

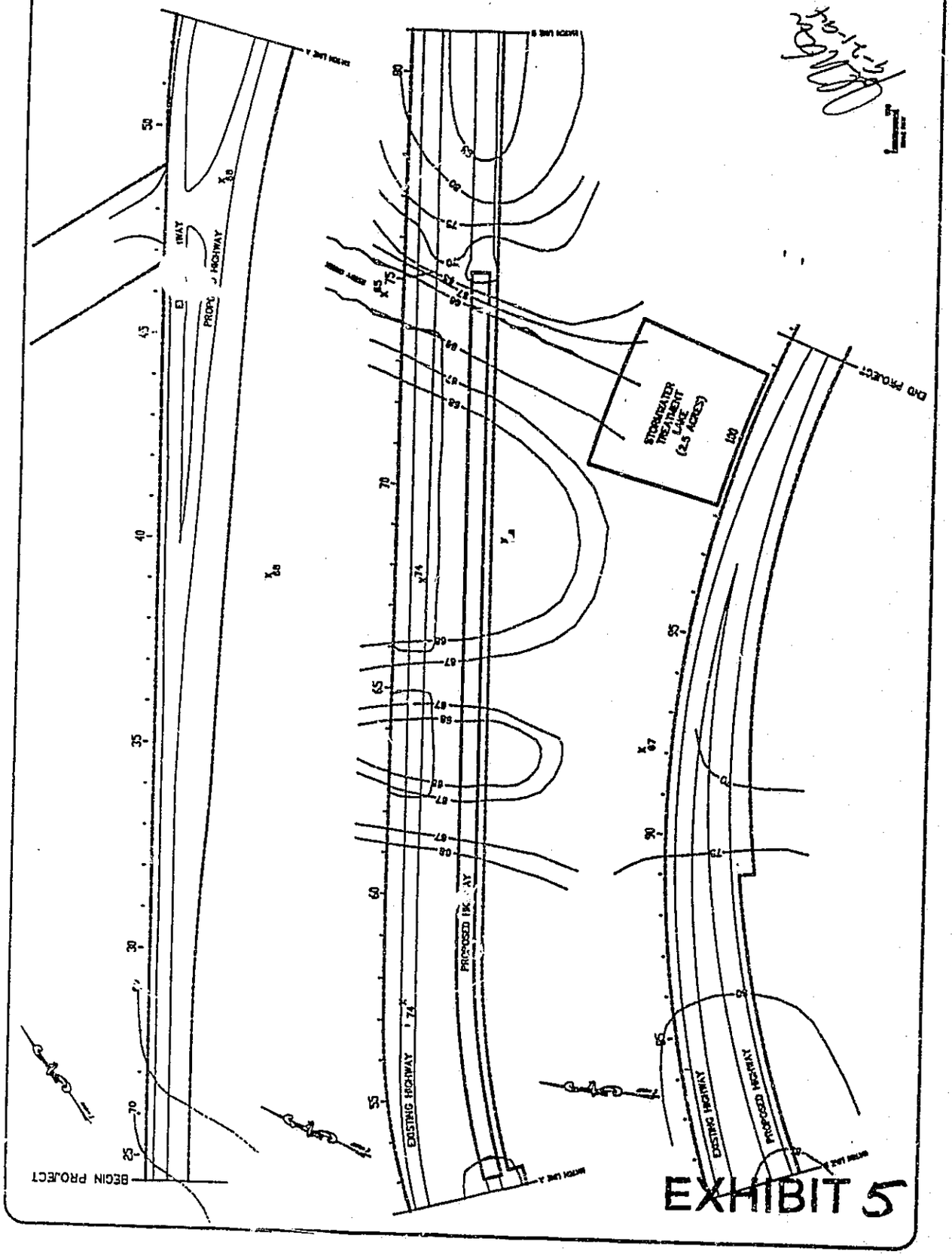


EXHIBIT 5

CONCEPTUAL WETLAND IMPACTS
ALTERNATIVE ANALYSIS FOR SOUTHERN
CAUSEWAY WITH TWO BRIDGES
STATE ROAD 630 - INTERCESSION CITY

ENVIRONMENTAL MANAGEMENT SYSTEMS, INC.

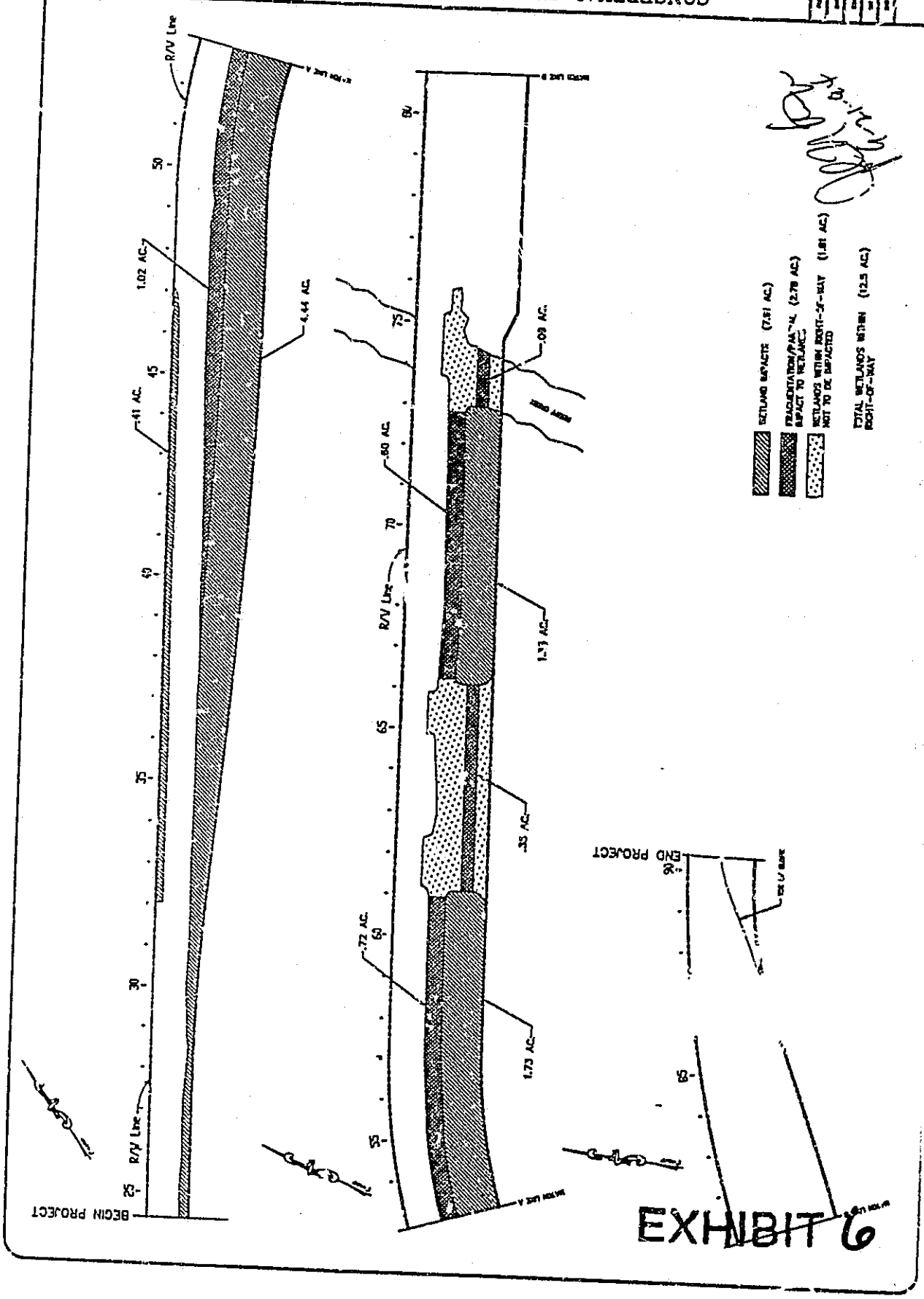


EXHIBIT 6

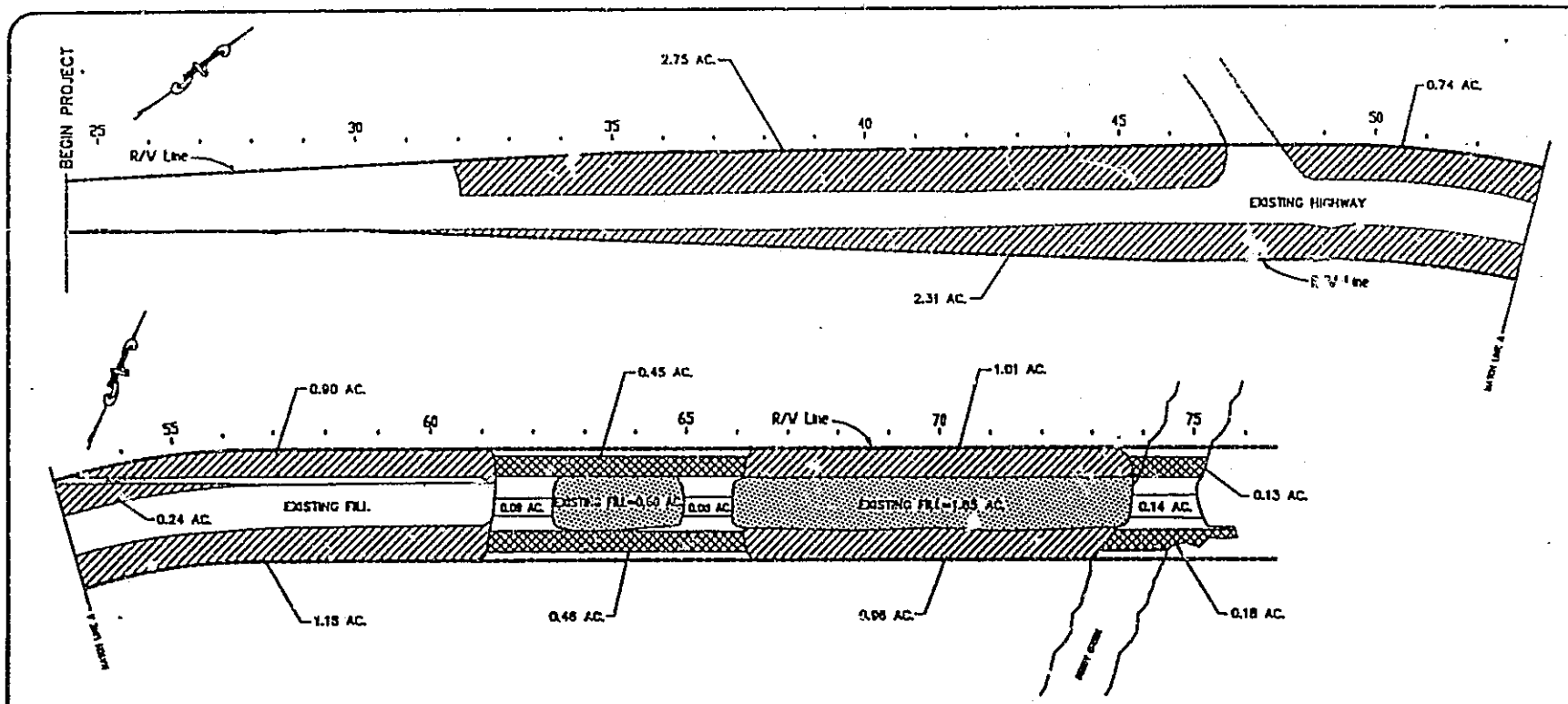


EXHIBIT 7

NOTE:

1. SOUTH[illegible]NES ARE SHOWN ONLY TO ASSESS [illegible]LAND IMPACTS ASSOCIATED WITH THEIR LOCATION, WHICH WOULD BE [illegible]STATED BY THE NORTHERN ALTERNATIVE.
2. NORTHERN R.O.W. LINE IS CONTINUOUS WITH SOUTHERN EDGE OF CSX RAILROAD EASEMENT.
3. NORTHERN BRIDGE ALONE, (COMBINE 3 to 1)
   4.39ac. WETLAND IMPACTS (FILL)
   1.28ac. PARTIAL WETLAND IMPACTS (BRIDGE)
4. NORTHERN BRIDGE PLUS SOUTHERN BRIDGE, (COMBINE 3 to 1)
   7.88ac. WETLAND IMPACTS (FILL)
   2.82ac. PARTIL WETLAND IMPACTS (BRIDGE)

LEGEND

WETLAND IMPACTS (10.08 AC.) (FILL)

PARTIAL IMPACT TO WETLANDS (1.22 AC.) (BRIDGE)

4-21-04

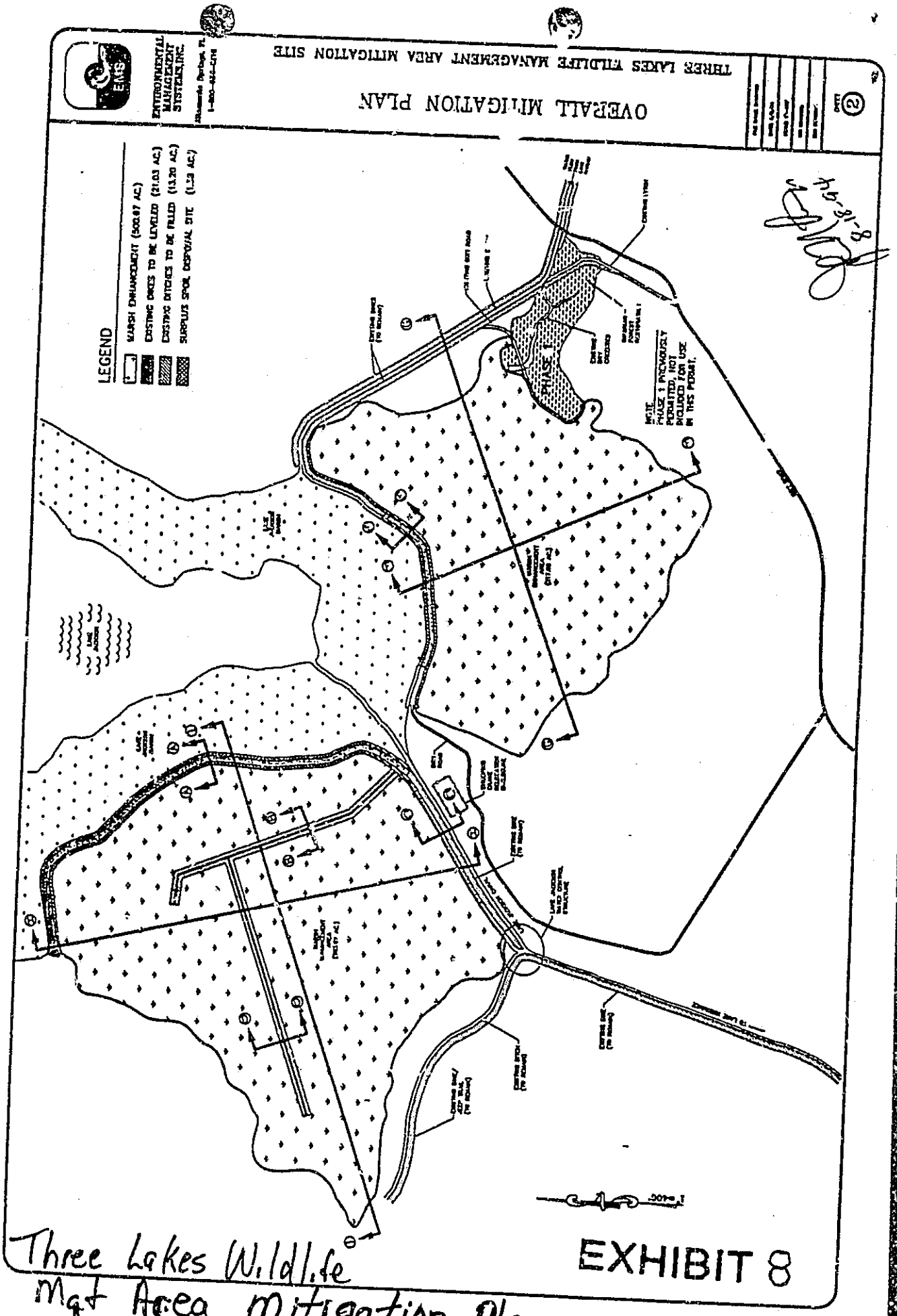
EMS

ENVIRONMENTAL MANAGEMENT SYSTEMS, INC.

Altamonte Springs, FL
1-800-[illegible]

CONCEPTUAL WETLAND IMPACTS
ALTERNATIVE ANALYSIS FOR
NORTHERN ALIGNMENT
STATE ROAD 600 - INTERCESSION CITY

6



Three Lakes Wildlife Mgt Area Mitigation Plan

EXHIBIT 8

SPECIAL CONDITIONS

1. DISCHARGE FACILITIES: THROUGH PREVIOUSLY PERMITTED FACILITIES.

2. THE PERMITTEE SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SHOALING OR WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

3. MEASURES SHALL BE TAKEN DURING CONSTRUCTION TO INSURE THAT SEDIMENTATION AND/OR TURBIDITY PROBLEMS ARE NOT CREATED IN THE RECEIVING WATER.

4. THE DISTRICT RESERVES THE RIGHT TO REQUIRE THAT ADDITIONAL WATER QUALITY TREATMENT METHODS BE INCORPORATED INTO THE DRAINAGE SYSTEM IF SUCH MEASURES ARE SHOWN TO BE NECESSARY.

5. PRIOR TO THE INITIATION OF ANY WITHDRAWAL OF WATER (IRRIGATION, DEWATERING, PUBLIC WATER SUPPLY, ETC.), IT WILL BE NECESSARY TO APPLY FOR A WATER USE PERMIT. THE PERMITTEE IS CAUTIONED THAT A MINIMUM OF 90 DAYS IS REQUIRED FOR CONSIDERATION OF THE WATER USE PERMIT APPLICATION. THE PERMITTEE IS CAUTIONED THAT THE ISSUANCE OF A SURFACE WATER MANAGEMENT PERMIT SHALL NOT BE CONSTRUED TO BE A GUARANTEE THAT WATER WILL BE AVAILABLE.

6. FACILITIES OTHER THAN THOSE STATED HEREIN SHALL NOT BE CONSTRUCTED WITHOUT AN APPROVED MODIFICATION OF THIS PERMIT.

7. OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM SHALL BE THE RESPONSIBILITY OF FLORIDA GAME AND FRESHWATER FISH COMMISSION.

8. THE SFWMD RESERVES THE RIGHT TO REQUIRE REMEDIAL MEASURES TO BE TAKEN BY THE PERMITTEE IF WETLAND AND/OR UPLAND MONITORING OR OTHER INFORMATION DEMONSTRATES THAT ADVERSE IMPACTS TO PROTECTED, CONSERVED, INCORPORATED OR MITIGATED WETLANDS OR UPLANDS HAVE OCCURRED DUE TO PROJECT RELATED ACTIVITIES.

9. THE PERMITTEE SHALL BE RESPONSIBLE FOR THE SUCCESSFUL COMPLETION OF THE MITIGATION WORK, INCLUDING THE MONITORING AND MAINTENANCE OF THE MITIGATION AREAS FOR THE DURATION OF THE PLAN. THE MITIGATION AREA(S) SHALL NOT BE TURNED OVER TO THE OPERATION ENTITY UNTIL THE MITIGATION WORK IS ACCOMPLISHED AS PERMITTED AND SFWMD STAFF HAS CONCURRED.

10. A WETLAND MITIGATION PROGRAM SHALL BE IMPLEMENTED IN ACCORDANCE WITH EXHIBIT(S) 2 THRU 10. THE PERMITTEE SHALL CREATE 34.23 ACRES OF MARSH AND RESTORE 500.67 ACRES OF MARSH.

11. A BASELINE WETLAND MONITORING REPORT SHALL BE CONDUCTED IN ACCORDANCE WITH EXHIBIT(S) 10C.

Three Lakes Wildlife Mgt. Area Mitigation Plan

EXHIBIT 9

12. ACTIVITIES ASSOCIATED WITH IMPLEMENTATION OF THE WETLAND MITIGATION, MONITORING AND MAINTENANCE SHALL BE IN ACCORDANCE WITH THE FOLLOWING WORK SCHEDULE. ANY DEVIATION FROM THESE TIME FRAMES SHALL REQUIRE FORMAL SFWMD APPROVAL. SUCH REQUESTS MUST BE MADE IN WRITING AND SHALL INCLUDE (1) REASON FOR THE MODIFICATION; (2) PROPOSED START/FINISH DATES; AND (3) PROGRESS REPORT ON THE STATUS OF THE EXISTING MITIGATION EFFORTS.

COMPLETION DATE	ACTIVITY
OCTOBER 15, 1994	BASELINE MONITORING REPORT
NOVEMBER 1, 1994	EXECUTE AGREEMENT WITH FGFWFC
DECEMBER 1, 1994	TRANSFER OF FUNDS TO FGFWFC
FEBRUARY 1, 1995	SITE PREPARATION
APRIL 1, 1995	RESTORATION COMPLETE
MAY 1, 1995	TIME ZERO MONITORING REPORT
OCTOBER 1, 1995	FIRST MONITORING REPORT
APRIL 1, 1996	SECOND MONITORING REPORT
OCTOBER 1, 1996	THIRD MONITORING REPORT
OCTOBER 1, 1997	FOURTH MONITORING REPORT
OCTOBER 1, 1998	FIFTH MONITORING REPORT
OCTOBER 1, 1999	SIXTH MONITORING REPORT

13. PRIOR TO COMMENCEMENT OF CONSTRUCTION OF WETLAND MITIGATION, THE SFWMD SHALL BE NOTIFIED BY THE PERMITTEE OR AUTHORIZED AGENT (VIA THE SUPPLIED MITIGATION COMMENCEMENT NOTICE) OF THE ACTUAL OR ANTICIPATED MITIGATION CONSTRUCTION START DATE AND THE EXPECTED COMPLETION DATE/DURATION.

14. A MAINTENANCE PROGRAM SHALL BE IMPLEMENTED IN ACCORDANCE WITH EXHIBIT(S) 10, 11 FOR THE CREATED/RESTORED WETLAND AREAS ON A REGULAR BASIS TO ENSURE THE INTEGRITY AND VIABILITY OF THE CONSERVATION AREA(S) AS PERMITTED. MAINTENANCE SHALL BE CONDUCTED IN PERPETUITY TO ENSURE THAT THE CONSERVATION AREAS ARE MAINTAINED FREE FROM EXOTIC VEGETATION (BRAZILIAN PEPPER, MELALEUCA, AND AUSTRALIAN PINE) AND THAT OTHER NUISANCE SPECIES SHALL CONSTITUTE NO MORE THAN 10% OF TOTAL COVER.

15. THE PERMITTEE SHALL PROVIDE $300,000 TO FUND THE LONG TERM MANAGEMENT AND MAINTENANCE OF THE MITIGATION AREAS IN ACCORDANCE WITH EXHIBIT 11. FUNDING SHALL BE PROVIDED TO THE FGFWFC BY DECEMBER 1, 1994.

16. CREDITS GENERATED BY THIS RESTORATION MITIGATION PROGRAM SHALL BE USED SOLELY FOR WETLAND IMAPCTS INCURRED BY FDOT DISTRICT 5 ROADWAY PROJECTS.

17. THE PERMITTEE SHALL PROVIDE AN ACCOUNTING SYSTEM WHICH INCLUDES EACH ROADWAY PROJECT PROPOSING TO USE CREDITS FROM THIS MITIGATION PROGRAM. THE ACCOUNTING SYSTEM SHALL BE UPDATED FOR EACH NEW PROJECT SUBMITTED TO THE SFWMD AND INCLUDED WITH THE PERMIT APPLICATION PACKAGE. THE ACCOUNTING SYSTEM SHALL INCLUDE ACREAGE FOR ALL PROPOSED WETLAND IMPACTS, ACREAGE OF MITIGATION USED TO DATE, ACREAGE OF MITIGATION REMAINING, AND RATIOS APPLIED.

18. A WETLAND MONITORING PROGRAM SHALL BE IMPLEMENTED WITHIN THE RESTORED AND

Three Lakes Wildlife Mgt. Area

EXHIBIT 9A

ENHANCED WETLANDS. MONITORING SHALL BE CONDUCTED IN ACCORDANCE WITH EXHIBIT 10 AND SHALL INCLUDE ANNUAL REPORTS SUBMITTED TO THE SFWMD FOR REVIEW. MONITORING SHALL CONTINUE FOR A PERIOD OF 5 YEARS.

19. A COPY OF THE REVISED DRAFT AGREEMENT BETWEEN THE FDOT AND THE FGFWFC SHALL BE PROVIDED TO THE SFWMD PRIOR TO EXECUTION OF SAID AGREEMENT. THE AGREEMENT SHALL SPECIFY THAT THE FUNDS PROVIDED BY FDOT TO FGFWFC SHALL BE USED EXCLUSIVELY FOR LONG TERM MANAGEMENT AND MAINTENANCE ACTIVITIES AT TLWMA ASSOCIATED WITH THIS MITIGATION PROJECT. A COPY OF THE EXECUTED AGREEMENT SHALL BE SUBMITTED TO THE SFWMD PRIOR TO ANY CREDITS BEING WITHDRAWN FROM THE MITIGATION PROJECT.

20. IMPLEMENTATION OF THE WETLAND MITIGATION PLAN IS EXPECTED TO RESULT IN AN INCREASED OCCURRENCE OF OBLIGATE AND FACULTATIVE WET SPECIES IN THE 500.67 ACRE ENHANCEMENT AREA AND THE ESTABLISHMENT OF OBLIGATE AND FACULTATIVE WET SPECIES IN THE 34.23 ACRE CREATION AREA. MITIGATION SUCCESS SHALL BE DEMONSTRATED BY (1) THE RECREATION OF THE HYDROLOGIC REGIME AND FLOWS BETWEEN LAKE JACKSON AND THE WETLAND ENHANCEMENT AREA, (2) A TRANSITION TO 80% COVERAGE OF OBLIGATE AND FACULTATIVE WET SPECIES IN THE ENHANCEMENT AREA, (3) ESTABLISHMENT OF 80% COVERAGE OF OBLIGATE AND FACULTATIVE WET SPECIES IN THE WETLAND CREATION AREA, AND (4) INCREASED DIVERSITY AND NUMBERS OF AQUATIC ANIMAL SPECIES.

EXHIBIT 9B

Three Lakes Wildlife Mgmt Area

STAFF REPORT DISTRIBUTION LIST

PROJECT: BRIDGE REPLACEMENTS/S.R.600 (US192)
APPLICATION NUMBER: 940614-9

INTERNAL DISTRIBUTION

Reviewer:
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X Stacy Myers
X Carlos A. De Rojas, P.E.
X Deborah L. Goss
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X P. Rhoads - EVR
X R. Rogers - REG
X B. Stimmel - GPA
D. Thatcher - CPR
W. Van Voorhess - GPA
X K. Wallace - REG
A. Waterhouse - REG
Director, Big Cypress Basin
X Area Engineer
X Day File
X Office of Counsel
X Permit File

GOVERNING BOARD MEMBERS

Ms. Annie Betancourt
Ms. Valerie Boyd
Mr. William Hammond
Ms. Betsy Krant
Mr. Allan Milledge
Mr. Eugene K. Pettis
Mr. Nathaniel P. Reed
X Ms. Leah Schad
Mr. Frank Williamson, Jr.

DEPT. OF ENVIRONMENTAL PROTECTION

X Orlando

EXTERNAL DISTRIBUTION

X Applicant:
FLORIDA DEPARTMENT OF TRANSPORTATION

X Applicant's Consultant:
ENVIRONMENTAL MANAGEMENT SYSTEMS INC

X Engineer, County of:
OSCEOLA

Engineer, City of:

Local Drainage District:

COUNTY

BUILDING AND ZONING

OTHER

X Charles Lee - Florida Audubon Society
X Div of Recreation and Park - District 6
F.G.F.W.F.C.
Port St. Lucie Planning Division
S.W.F.R.P.C. - Glenn Heath
X Sierra Club - Central Florida Group

EXHIBIT 10

South Florida Water Management District
Orlando Service Center • 1756 Orlando Central Parkway, Orlando, FL 32809 • (407) 858-6100

CON 24-06-02

Regulation Department
Application No.: 960124-5
Permit (Mod) No.: 49-00765-S

August 21, 1996

Mr. M. Neil Aikenhead, P.E.
Aikenhead & Odom, Inc.
5730 Bowden Road, Suite 200
Jacksonville, FL 32217

Dear Mr. Aikenhead:

Subject: **SR 600 Relocation & Reedy Creek Bridge Replacement, Osceola County, S6,31,32/T26,25S/R28E**

We have received information from you on July 22, 1996. The information received did not adequately address the following comments. According to Rule 40E-40, Florida Administrative Code (FAC), and as we discussed on August 21, 1996, the following 2 comments must be addressed before our review can continue.

1. Upon review of the most recent plans, it appears that the proposed bridge will be within wetlands. However, the plans do not illustrate or otherwise indicate that this is a wetland impact, nor do they describe the design of the bridge. Please provide the following:

   (a) Please revise the Plan & Profile and Sheet 98 portions of the construction plans to illustrate and label the impacts associated with the bridge (including the area of clearing). Please revise Sheet 98 to include an acreage figure in the label; and

   (b) Please provide (on the construction plans) a typical cross-section and profile of the proposed bridge. This cross-section should show the distance between the ordinary high water line and the bottom of the bridge.

2. There appears to be inconsistencies between Sheet 98 and the Plan and Profile portions of the construction plans. Please revise the Plan and Profile sheets to reflect the following information (as depicted on Sheet 98):

   (a) Location of the wetland impacts (including clearing);
   (b) Limits of construction (including clearing); and
   (c) Turbidity and erosion control devices.

Governing Board:
Valerie Boyd, Chairman
Frank Williamson, Jr., Vice Chairman
William E. Graham
William Hammond
Betsy Krant
Richard A. Machek
Eugene K. Pettis
Nathaniel P. Reed
Miriam Singer
Samuel E. Poole III, Executive Director
Michael Slayton, Deputy Executive Director

In accordance with 40E-1.603(8)(a) FAC, if the requested information is not received within 90 days of the date of this letter, this application may be processed for denial, if not withdrawn by the applicant. Please use the enclosed transmittal form and submit FOUR (4) copies of the requested information to the Orlando Service Center and include the above referenced application number. Should you have any questions, please call me or John Lesman at (407) 858-6100.

Sincerely,

Alan Leavens
Staff Civil Engineer
Orlando Service Center

AL/al

c: Osceola County Engineer

bc: Alan Leavens
John Lesman
Backup File
Reader File

CON-24-06

MEMORANDUM C

TO: Alan Leavens, Staff Engineer, SWM Division

THROUGH: Marc Ady, Sr. Sup. Environmental Analyst, NRM Division

FROM: John Lesman, Environmental Analyst, NRM Division JL

DATE: August 21, 1996

SUBJECT: FDOT District 5, U.S. 17-92 Realignment Over Reedy Creek (Application number 960124-5), Orange County

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The following information is required to complete the environmental review of the subject application:

1. Upon review of the most recent plans, it appears that the proposed bridge will be within wetlands. However, the plans do not illustrate or otherwise indicate that this is a wetland impact, nor do they describe the design of the bridge. Please provide the following:

   a) Please revise the Plan & Profile and Sheet 98 portions of the construction plans to illustrate and label the impacts associated with the bridge (including the area of clearing). Please revise Sheet 98 to include an acreage figure in the label; and

   b) Please provide (on the construction plans) a typical cross-section and profile of the proposed bridge. This cross-section should show the distance between the ordinary high water line and the bottom of the bridge.

2. There appears to be inconsistencies between Sheet 98 and the Plan and Profile portions of the construction plans. Please revise the Plan and Profile sheets to reflect the following information (as depicted on Sheet 98):

   a) Location of the wetland impacts (including clearing);
   b) Limits of construction (including clearing); and
   c) Turbidity and erosion control devices.

AIKENHEAD & ODOM inc.
CONSULTING ENGINEERS

5730 Bowden Road, Suite 200
Jacksonville, Florida 32216
Phone 904/636-5432
FAX 904/636-5433

ADDITIONAL INFORMATION

JUL 2 2 1996

ORLANDO SERVICE CENTER

July 17, 1996

Mr. Alan Leavens, Staff CE
South Florida Water Management District, Orlando Service Center
1756 Orlando Central Parkway
Orlando, FL 32809

RECEIVED
JUL 2 2 1996
ORLANDO SERVICE CENTER

Re: Reconstruction of State Road 600/U.S. 17/92 at Reedy Creek
Response to Second RAI, ERP Application
SFWMD Conceptual Permit # 49-00765-S, Dated 11/10/94
FDOT Project # 92010-3520
Page 1 of 2

Dear Alan:

Per your original RAI letter dated February 22, 1996, response from David Cook of FDOT dated May 20, 1996, and your second RAI letter dated June 18, 1996, I attach four (4) sets of revised drawings reflecting the requested wetland delineation on the plan/profile sheets. Two (2) of these sets are signed/sealed on every page, two (2) sets are signed/sealed on the cover page only (so noted) and stamped "Complimentary Copy" on the remaining pages. I also attach a copy of a letter from Stuart Bradow of EMS delineating the requested Three Lakes WMA mitigation bank credit status. This reflects the 0.09 acre impacts of the final design of this project beyond that delineated as part of the conceptual permit impacts.

For your information and records, the attached drawings include minor modification to the design drawings previously submitted, none of which affect the permit status from either the stormwater management or the wetland impact standpoint. These minor modifications are summarized as follows:

Sheet 5 - Typical Sections:

- "Shoulder Pavement Detail" (unchanged) has been relocated to sheet 6.

Sheet 6 - Typical Sections:

- "Case 1 & 2 Shoulder Pavement Details" added, Case 2 from Sheet 5, Case 1 added (no change in proposed pavement, the detail had been omitted from previous drawing).
- "Typical Section 4" added (typical section for Old Tampa Hgwy had not been addressed, no change in proposed pavement from plan or original design).
- "Slope Planting Detail" moved to Special Details drawing (deleted from this drawing).

Sheet 26, 27, 28, & 29 - Plans & Profiles:

- These sheets take the place of previous plan/profile sheets for these intersections, separating the plan to one sheet, the profile to another. No change in design or proposed pavement

ADDITIONAL INFORMATION

JUL 2 2 1996

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Sheet 39 - Details - Pond No. 1:

- "Plan View" of S-16 added (per FDOT, no change in original design).
- "Concrete Spillway" detail added (per FDOT, no change in original design).
- "Soil Profile" removed (per FDOT, no change in original design).

Sheet 41 - Details - Pond No. 2:

- "Plan View" of S-21 added (per FDOT, no change in original design).
- "Soil Profile" removed (per FDOT, no change in original design).

Sheet 42 - Special Details:

- "Tree Protection for Removal of Unsuitable Material" detail added (clarification of detail, no change in original design, replaces the "Slope Transition" detail which has been removed).
- "Sheet Pile Table" added (clarification of detail, no change in original design).
- "Slope Planting Detail A & B" added (clarification of details, no change in original design).
- "Swale Detail" added (clarification of detail, no change in original design).

In addition to the above, please note that the overall design set sheet numbers have changed slightly. Also note, as with the previous submittal, that the last two (2) sheets in this set (now sheet numbers 97 and 98) are permit set drawings only and will not be included in the construction drawings.

If you have any questions, please call at your convenience.

Sincerely,

Neil Armenhead, P.E.
President

NA:sw

Encl. (signed/sealed sets revised drawings, copy of letter from Stuart Bradow)

xc: David Cooke, FDOT District 5, Deland, w/ encl.
John Frazier, Frazier Engineering, Melbourne, w/ encl.
Stuart Bradow, EMS, Orlando, w/ encl.

ENVIRONMENTAL MANAGEMENT SYSTEMS, INC.
CRANE'S ROOST
393 Whooping Loop, Suite 1483
Altamonte Springs, FL 32701
(407) 260-[illegible]683

July 3, 1996

Mr. Neil Aikenhead
Aikenhead and Odom, Inc.
5730 Bowden Road, Suite 200
Jacksonville, FL 32216

RE: Response to Request for Additional Information, SR 600 Reed Bridge Replacement, Application # 960124-5, A&O #94-005

RECEIVED
JUL 15 1996
AIKENHEAD & ODOM, I...

Dear Neil:

The following comments relate to the item concerning the past and present use of the FDOT Three Lakes Mitigation Area.

2. The FDOT Three Lakes Wildlife Management Area (TLWMA) mitigation bank has been previously designated for use by two projects. One of those projects was the conceptual permit for the SR 600 bridge replacement that is the subject of this application. The other is a SR 530 job that received construction permits from SFWMD. The conceptual permit is listed as the current modification to avoid confusion in the table below.

As indicated in the last RAI response, the SR600 bridge replacement project resulted in the unavoidable elimination of 0.09 acres of additional forested wetlands as compared to the conceptual permit. This change resulted in an increase in the mitigation area of 1.8 acres (at the previously agreed upon ratio of 20:1). The following table illustrates the total withdrawal of credits from TLWMA, including the present project:

PERMIT #	*AC. IMPACTS*	*AC. MIT. USED*	*MIT. BALANCE*	*RATIO*
48-00840-S 48-00840-D		34.0	500.9	
49-00765-S (Mod)	3.78 2.01	75.6 20.1	405.2	20:1 10:1

Let me know if you need anything further.

Sincerely,

Stuart N. Bradow,
Director of Environmental Permitting

ADDITIONAL INFORMATION
JUL 22 1996
ORLANDO SERVICE CENTER

TABLE OF CREDIT WITHDRAWAL

FDOT - THREE LAKES WILDLIFE MANAGEMENT AREA MITIGATION BANK SITE

PERMIT #	AC. IMPACTS	AC. MIT. USED	MIT. BALANCE	RATIO
48-00840-S 48-00840-D		34.0	500.9	
49-00765-S (Mod)	3.78 2.01	75.6 20.1	405.2	20:1 10:1

This information is being submitted to the District per a request dated June 18, 1996.

ADDITIONAL INFORMATION

JUL 2 2 1996

ORLANDO SERVICE CENTER

South Florida Water Management District

Orlando Service Center • 1756 Orlando Central Parkway, Orlando, FL 32809 • (407) 858-6100

CON 24-06-02
Regulation Department
Application No. 960124-5
Permit (Mod) No. 49-00765-S

June 18, 1996

M. Neil Aikenhead, P.E.
Aikenhead & Odom, Inc.
5730 Bowden Road, Suite 200
Jacksonville, FL 32217

Dear Mr. Aikenhead:

Subject: SR 600 Reloc- ion & Reedy Creek Bridge Replacement, Osceola County, S6,31,32/T26,25S/R28E

We have received information from you on May 22, 1996, and as we discussed on June 14, 1996. The information received did not adequately address the following comments. According to Rule 40E-40, Florida Administrative Code (FAC), the following two (2) comments must be addressed before our review can continue.

1. Please label and illustrate the wetland delineation lines on the construction plans. (The wetland delineation lines provided on Sheet No. 101 are of insufficient detail because they do not include construction details). The construction plans should illustrate the location of proposed construction r lative to the location of the wetland delineation line.

2. As per the Special Condition in the Three Lakes Wildlife Management Area (TLWMA) mitigation permit (Special Condition No. 17 in Application No. 940614-10), please provide an updated accounting system (i.e., table) for the TLWMA mitigation bank. Please include acreage of all proposed wetland impacts, acreage of mitigation used to date, acreage of mitigation remaining, and ratios applied.

Governing Board:
Valerie Boyd, Chairman
Frank Williamson, Jr., Vice Chairman
William E. Graham
William Hammond
Betsy Krant
Richard A. Machek
Eugene K. Pettis
Nathaniel P. Reed
Miriam Singer
Samuel E. Poole III, Executive Director
Michael Slayton, Deputy Executive Director

In accordance with 40E-1.603(8)(a) FAC, if the requested information is not received within 90 days of the date of this letter, this application may be processed for denial, if not withdrawn by the applicant. Please use the enclosed transmittal form and submit FOUR (4) copies of the requested information to the Orlando Service Center and include the above referenced application number. Should you have any questions, please call me or John Lesman at (407) 858-6100.

Sincerely,

Alan Leavens
Staff Civil Engineer
Orlando Service Center

AL

c: Osceola County Engineer

CON-24-06

MEMORANDUM

TO: Alan Leavens, Staff Civil Engineer, SWM Division

THROUGH: Marc Ady, Supervising Professional, NRM Division

FROM: John Lesman, Environmental Analyst, NRM Division

DATE: June 17, 1996

SUBJECT: FDOT District 5, U.S. 17-92 Realignment Over Reedy Creek (Application number 960124-5), Orange County

---

The following information is required to complete the environmental review of the subject application:

1. Please label and illustrate the wetland delineation lines on the construction plans. (The wetland delineation lines provided on Sheet No. 101 are of insufficient detail because they do not include construction details). The construction plans should illustrate the location of proposed construction relative to the location of the wetland delineation line.

2. As per the Special Condition in the Three Lakes Wildlife Management Area (TLWMA) mitigation permit (Special Condition No. 17 in Application No. 940614-10), please provide an updated accounting system (i.e., table) for the TLWMA mitigation bank. Please include acreage of all proposed wetland impacts, acreage of mitigation used to date, acreage of mitigation remaining, and ratios applied.

South Florida Water Management District

3301 Gun Club Road, West Palm Beach, Florida 33406 • (407) 686-8800 • FL WATS 1-800-432-2045

Receipt No. 0000026682 - 0001

(receipt)

Refer to Application: 960124-5
Project Name : SR 600 RELOCATION & REEDY CREEK BRIDGE REPLACEMENT

RECEIVED
MAY 30 1996
ORLANDO SERVICE CENTER

STATE OF FLORIDA
C/O AIKENHEAD & ODOM INC
5730 BOWDEN ROAD SUITE 200
JACKSONVILLE, FL 32217

RECEIPT OF PERMIT APPLICATION

REVENUE ACCOUNT CODE	TYPE OF APPLICATION	FEE AMOUNT
4620	SWM INDIVIDUAL CONSTRUCTION/OPERATION - MOD	$2,050.00

ITEM	TRANS TYPE	DATE RECEIVED	CHECK NO	AMOUNT RECEIVED
1	PAYMENT MADE BY APPLICANT	05/28/96	3565157	$2,050.00
			BALANCE DUE	$0.00

ITEM	COMMENT
1	V052987

PROCESSED BY : FMB
DATE : May 28, 1996
SERVICE CENTER : ORL

c: Applicant
Accounting
Control
File

Governing Board:
Valerie Boyd, Chairman
Frank Williamson, Jr., Vice Chairman
William E. Graham
William Hammond
Betsy Krant
Richard A. Machek
Eugene K. Pettis
Nathaniel P. Reed
Miriam Singer
Samuel E. Poole III, Executive Director
Michael Slayton, Deputy Executive Director

Mailing Address: P.O. Box 24680, West Palm Beach, FL 33416-4680

FORM 244-01
5/84

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

PURCHASE REQUISITION

NO. R 148790

PAGE 1 OF 1

ESTIMATED TOTAL COST $ 2050.00

INSTRUCTIONS FOR COMPLETING THIS FORM ARE PRINTED ON THE REVERSE SIDE:

SHIP TO	
(DOT C/O) NAME: Mary E. Anderson, D.O.T.	
ADDRESS (NUMBER, STREET): 719 S. Woodland Blvd. 4-542	
CITY, STATE & ZIP: DeLand, Florida 32720	(AREA) TELEPHONE: 904 943-5540

NOTIFY	
NAME: Same	
ADDRESS (NUMBER, STREET):	
CITY, STATE & ZIP	(AREA) TELEPHONE

SPECIAL DELIVERY INSTRUCTIONS (F.O.B., D.O.T. PICKUP ETC.)

ADDITIONAL INFORMATION

MAY 2 2 1996

ORLANDO SERVICE CENTER

ENTER COST DISTRIBUTION LETTER (A, B, OR C) WHICH APPLIES TO THE ITEM)

CODE	ITEM DESCRIPTION	DOT CATALOG NUMBER	QUANTITY	UNIT OF MEAS.	PURCHASING OFFICE USE ONLY UNIT	PURCHASING OFFICE USE ONLY TOTAL
	S.R. 600, Relocation & Reedy Creek Bridge					
	Replacement					
	Condition of permit to pay this amount					$2,050.00
						$2,050.00

S/ PREPARED BY 4-19-96 DATE

S/ DISTRICT OFFICE APPROVAL 4-19-96 DATE

S/ CENTRAL OFFICE APPROVAL DATE

TALLAHASSEE FISCAL ONLY IF USED FOR PURCHASE ORDER

South Fl. Water Mgmt. Dist.
P. O. Box 24680
West Palm Beach, Fl.
33416-4680

COST DISTRIBUTION

BF-OB | VENDOR ID: F362481781009 | VOUCHER

	ORG-CODE	EO	OBJECT	C/R	AMOUNT	QUANTITY	INVOICE	LINE	DESCRIPTION CO	SEC	JOB	WP PH	OTHER-DOC	B C/B		EOB FCT	BPIN
A	55053010542	11	~~131683~~		$2,050.00				92	010	3520	40	R148790			145	
B	55																
C	55																

PERSON INITIATING REQUEST Mary E. Anderson SUNCOM 373-5540

4

AIKENHEAD & ODOM inc.
CONSULTING ENGINEERS

5730 Bowden Road, Suite 200
Jacksonville, Florida 32216
Phone 904/636-5432
FAX 904/636-5433

May 10, 1996

Mr. David Cooke, Project Manager
Florida Department of Transportation
District Five
719 South Woodland Boulevard
Deland, Florida 32720

Re: SR 600 Relocation & Reedy Creek Bridge Replacement, Osceola County
Response to RAI
S6, 31, 32/T26, 25S/R28E
SFWMD CON 24-06-02
Page 1 of 6

ADDITIONAL INFORMATION
MAY 2 2 1996
ORLANDO SERVICE CENTER
ADDITIONAL INFORMATION CENTER
MAY 2 2 1996
ORLANDO SERVICE CENTER

Dear David:

Attached are the following:

A. Three (3) sets of drawings, two (2) of which have been original signed and sealed for your submittal to SFWMD as they have requested. These drawings are "incomplete sets", containing only those sheets specifically requested by SFWMD plus additional "informational" sheets as required for the submittal and response to Alan's questions.

B. One (1) original signed application form. SFWMD requires only one "original" and four copies. I will leave it to you to have the attached signed and make copies as required for SFMWD, yourself, and ask that you please send us a completed/signed copy for our records as well.

C. Three (3) sets of the SWPPP, two (2) of which have been original signed for your submittal to SFWMD.

In response to Alan Leavens RAI letter of February 22, 1996 regarding the referenced permit application, we offer the following responses **to <u>you</u>** in the order of <u>his</u> letter (note you will need to alter the "tense" of my responses for your letter to Alan), with his comments in *italics* preceding each response:

1. *Please submit a check for the permit application processing fee, or a purchase order from the Department of Transportation in the amount of $2,050.00.*
Your office will be doing this.

2. *Please verify that Pond 3 is a dry pond and provide the elevation of the average wet season water table, in feet NGVD, in the vicinity of the pond.*

We assume Alan is referring to Pond # 1, which serves area 3. This pond is a designed-dry pond with a water table at approximately elevation 63' (19.2 m) NGVD in the area of the pond. The pond bottom design elevation is 71.7' (21.85 m) NGVD, yielding approximately 7' of differential between groundwater and pond bottom. We have modified the soil boring data provided on the pond sheet to include elevations at the top of boring location. Please note that data provided on the drawings is in meters, not feet. Soils in this area are relatively uniform sands, and the close proximity of the main channel of Reedy Creek to this location is anticipated to afford an excellent operation and maintenance record for this pond.

3. *Please submit two (2) sets of the construction plans with a minimum of the following sheets; drainage maps, typical sections, plan and profile, and pond details, individually signed and sealed.*
We attach herewith three sets for your use, providing you with one set and two (2) sets to be transmitted to Alan as requested. Please note that these drawings incorporate a modification in the roadway profile necessitated by a modification in the bridge structure design. No changes in the areas to be treated or in the basic function of the collection system were required for this change, and all permit criteria are met in precisely the same manner as the previously-reviewed set of drawings.

4. *It appears that the project contains or is adjacent to wetlands and/or unique uplands which are not addressed on the plans. Please review plans to illustrate all on-site and adjacent offsite wetlands, as well as any other environmentally sensitive areas. Please label the wetland delineation lines accordingly and provide a unique reference label and acreage figure (on the construction drawings) for each wetland. Additionally, please label each of the wetland areas within the project as preserved, impacted, created, restored or enhanced. If not already determined, wetland boundaries, including buffer zones, should be field staked for SFWMD staff verification and approval. If appropriate, please stake the wetland/buffer boundaries and contact Jo m Lesman, the environmental reviewer, at (407) 858-6149 to arrange a field inspection.*
We have provided a "Wetlands Impacts" drawing with the attached revised drawings which clearly delineates all areas of proposed filling operations and all delineated wetland lines. Please note that all wetland boundaries were flagged and reviewed by the District during the conceptual permitting with the exception of wetlands in the vicinity of Pond #2, which were flagged later. The wetlands adjacent to Pond #2 are associated with an overgrown drainage ditch and an earlier excavation, and are of low quality. This delineation was very obvious and the flags are likely still in place. These wetlands form the boundary of the cleared area proposed for Pond #2, and no impacts are proposed in this area.

ADDITIONAL INFORMATION
MAY 2 2 1996
ORLANDO SERVICE CENTER

5. *Please provide a Florida Land Use Classification Cover System (FLUCCS Level 3) description of the project area, including all existing wetlands, native upland areas, and existing construction within the boundaries of the project. This description should be provided in the form of a map (at the same scale as the topographic map; 1"=400' or 1"=200'). A FLUCCS code and an acreage figure should be provided as a label on each area illustrated on the map. The total of the acreage figures should be equivalent to the total project acreage.*

A Level 3 FLUCCS map of the project site is enclosed as part of the attached revised drawings as requested.

6. *District criteria requires a upland buffer zone around wetlands that will be protected or incorporated into a surface water management system. Natural or structural buffers which extend at least 15 feet landward from the edge of the wetland in all places and average 25 feet from the edge of the wetland are presumed to be adequate. What type of buffer mechanism will be provided? Please revise plans to illustrate the limits of the buffer zones and label each buffer zone with an acreage figure and unique reference number.*

No buffer is possible along the majority of the project, due to the fact that it is a linear road project crossing pristine wetlands. The only feasible location for a buffer zone is at the Pond #2 site, where a 25' construction setback is provided and shown on the plans. The buffer is part of the historically cleared and mowed lot and as such has little habitat value. The acreage of this setback is slightly less than 0.4 acres. There are no wetlands incorporated into the surface water management system.

7. *Upland buffer zones and any wetland areas that will remain on site should be dedicated as conservation area and placed under a conservation easement. The conservation easement must meet the requirements of Chapter 704.06 F.S. A copy of the District's conservation easement form is enclosed for your convenience. An instruction sheet is attached which outlines the District's Real Estate Division's review requirements for conservation easements. Please submit a draft copy of the conservation easement(s) with specific details pursuant to this project's requirements. Additionally, the following information will be required in order to process the conservation easement:*

(1) Site map of conservation easement; (2) Legal description and number of acres; (3) Survey by professional land surveyor registered in Florida; (4) Plat (if already platted); (5) Title commitment/title insurance.

The majority of the project traverses wetlands that are owned by the State of Florida or the South Florida Water Management District. FDOT can not place a

ADDITIONAL INFORMATION

MAY 2 2 1996

ORLANDO SERVICE CENTER

conservation easement on these lands. At Pond #2, the wetlands are part of an existing drainage easement that may require maintenance cleaning to avoid flooding of upstream public right-of-ways or homes. Also, the required setback which has been provided at Pond #2, as noted above, has no environmental value. For these reasons, it is not advantageous nor feasible to grant a conservation easement within the limits of this project. Please note that conservation easements in <u>any</u> FDOT highway right-of-way are highly impractical.

Despite the lack of conservation easements and buffers, the secondary and cumulative impacts of this project will <u>benefit</u>, rather than degrade, the environmental values in this area. This is due to the fact that the proposed long bridge will replace a causeway and provide more treatment of stormwater prior to discharge to the Reedy Creek Basin than is currently provided. The FDOT has committed to removing 2.45 acres of the historic SR 600 causeway when four-laning of this portion of the highway is completed in the future, all as stipulated in the conceptual permit. These actions will result in less intrusion in the Reedy Creek Basin, better water quality, and an overall increase in the acreage of wetland habitat.

8. *According to the Basis of Review, Section 4.10(B) Lake-Wetland Separation (Management and Storage of Surface Waters Permit Information Manual, Volume IV), lakes, ditches, canals and borrow pits shall be separated from wetland preservation, creation or restoration areas by a distance sufficient to protect the wetland hydroperiod. It is assumed that a gradient less than 0.005 ft/ft (vertical distance in elevation/horizontal distance) will not result in adverse impacts to adjacent wetland systems. This formula is based on the elevation at the wetland boundary and the proposed control elevation of the lake (surface water management) area. The submitted construction drawings do not indicate the location of the wetland delineation line near Pond 1 (Sheet No. 26). Please modify the construction drawings accordingly so that compliance with this requirement can be verified.*

Here again we <u>assume</u> Alan would be curious about the hydraulic gradient issue for Pond <u>#2</u>! Even though he specifically calls out Pond <u>#1</u>, on Sheet <u>26</u>, as noted in Item 2 above, this pond is over 7 <u>feet *above*</u> the <u>*ground water*</u>, and probably 10 to 15 <u>feet above</u> the wetland, <u>obviously</u> posing no threat whatsoever to a possible "dewatering of the wetland", which is the driving force behind the basis of review clause he specifies. <u>However</u>, for Pond <u>#2</u>, the pond control elevation is 20.45 m (67.09') and the wetland line is at el. 20.50 m (67.25) . The distance between the two lines is approximately 20 m, yielding a gradient of 0.0025 m/m (<u>or</u> ft/ft), <u>well</u> within the "presumed acceptable gradient".

ADDITIONAL INFORMATION

MAY 2 2 1996

ORLANDO SERVICE CENTER

9. *Reedy Creek is a diverse wetland ecosystem known to contain preferred habitat for endangered, threatened, and species of special concern. In order to determine potential adverse impacts to threatened or endangered species, please provide a list of all plant and animal species listed as endangered, threatened or of special concern which have been observed within the project area or may be affected by the proposed activities.*
During the conceptual permitting process, field investigations were conducted to identify any Listed Species that may be present. The findings were submitted to the District and the results were included in the Staff Report for the conceptual permit. The only Listed Species observed was a little blue heron that was seen on the banks of Reedy Creek, north of the project site. No impacts to this or other Listed Species would result from the project. No additional Listed Species have been noted during subsequent field inspections.

10. *Please submit a maintenance plan for the on-site areas that are being proposed for preservation. Maintenance should be done on a regular basis to ensure the integrity and viability of the surrounding wetland areas. The maintenance should be conducted in perpetuity to ensure that the wetland is free of exotic vegetation (Brazilian pepper, melaleuca, climbing fern and Australian pine) and nuisance species constitute no more than 10% of the total vegetative coverage.*
No FDOT owned areas are proposed for on-site preservation. The 25' construction setback around Pond #2 does not contain wildlife habitat, nor is it proposed to be converted to such use. No maintenance is warranted nor planned in this area.

11. *As per the Special Condition in the Three Lakes Wildlife Management Area (TLWMA) mitigation permit (Special Condition No. 17 in Application No. 940614-10), please provide an accounting table which includes each roadway project that proposes using credits from the Three Lakes Wildlife Management Area mitigation site.*
As a point of clarification, Special Condition 17 was intended to require a list of all projects that <u>have used</u> or are <u>currently proposing</u> to use the Three Lakes Wildlife Management Area Mitigation Bank. Two projects fall into this category. The first was the conceptual SWM/Wetland Resource Permit for the bridge crossing currently under review. This reserved 93.9 acres of the mitigation bank to offset the impacts to wetlands. The second project was for an improvement to SR 192 (Permit #'s 48-00840-S and 48-00018-D). This project used another 34 acres of credit from the bank, leaving a balance of 407 acres. This acreage is to be used in accordance with the ratios previously determined to be appropriate by the District in consideration of the quality and type of wetlands being impacted.

ADDITIONAL INFORMATION

MAY 2 2 1996

ORLANDO SERVICE CENTER

It is important to note that due to design modifications in the latter stages of planning for this bridge replacement (which is a modification of the above-referenced conceptual permit), the actual wetland impacts will be slightly greater than originally anticipated in the conceptual permit. The actual wetland impacts to forested wetlands will be 3.78 acres, compared to 3.69 previously anticipated and permitted. As a result, instead of requiring 93.9 acres of mitigation from Three Lakes Mitigation Bank, the project will require 95.7 acres of mitigation credits. This is based on multiplying the additional impacts (0.09 acres) times the 20:1 ratio for impacts to good quality forested wetlands, as previously approved by the District, yielding 1.8 acres additional credits required. As additional credits are needed on future projects, FDOT will debit this balance and report the new balance to the District during the application review process.

12. *The cross-sectional detail referenced by "A-A" on Sheet No. 28 specifies Sheet o. 36. However, the appropriate cross-sectional drawing appears to be on Sheet No. 28. Please clarify this apparent discrepancy or correct the construction drawings appropriately.*
This drafting error is corrected on the attached sets of drawings.

The above incorporates substantial coordination with Stuart Bradow of EMS, including his wording on many of the environmental question responses. We trust the above and attached will be sufficient to get the desired permit! Certainly if you have any questions regarding any of the above or attached, please call me at your earliest convenience.

Also please remember we need to do a EPA NOI application sometime before this project commences. Will your office handle that or do we?

Sincerely,

Neil Aikenhead, P.E., President

NA:slw

Encl.

c: John Frazier, FEI, w/encl
Stuart Bradow, EMS, w/encl

P:\PROJECTS\DOT-REED\DOTDC4-WMD.AIK

ADDITIONAL INFORMATION
MAY 2 2 1996
ORLANDO SERVICE CENTER

ADDITIONAL INFORMATION
MAY 2 2 1996
ORLANDO SERVICE CENTER

STORMWATER POLLUTION PREVENTION PLAN

FOR S.R. 600 (U.S. 17/92)
OSCEOLA COUNTY
FROM METRIC STA. 9+80 TO METRIC STA 31+50

STATE PROJECT NO: 92010-3520
WORK PROGRAM NO: 5115692

PREPARED BY: M. Neil Aikenhead, P.E.
President, Aikenhead and Odom, Inc.

MAY, 1996

1. SITE DESCRIPTION

A. Construction ...ity/Project Limits

The project is located on S.R. 600/U.S. 17/92 in Osceola County, Sections 31,32 of Township 25 South, Section 6 of Township 26 South, Range 28 East.

The project consists of realigning S.R. 600 (U.S. 17/92) at its crossing of Reedy Creek (from metric station 9+80 to metric station 31+50). Proposed construction includes construction of a 583 meter (2240 feet) bridge. Stormwater collection and treatment from end of bridge to end of project will be provided by gutter inlets routed to two storm water ponds. Milling and resurfacing will extend 20 meters beyond project limits.

The total project length is 2,170 meters (7,119 feet).

B. Sequence of Major Activity and Implementation of Controls

1. Installation of control measures.
2. Clearing, grubbing, and excavation
3. Construction of Bridge (possibly concurrent with 4. and 5. below).
4. Construction of land-side storm water management facilities.
5. Construction of new roadway areas.

The Contractor is responsible for providing a detailed sequence of construction for all construction activities in the Section 104 Erosion Control Plan.

C. Estimate of Total Project Area and Area to be Disturbed

The total project area is estimated to be 14.0 Hectares (34.6 acres). The estimated area to be disturbed is 6.1 Hectares (15.1 acres).

D. Estimate of Runoff Coefficients and Existing Soil Data

The estimated runoff coefficient before construction: C = 0.47
The estimated runoff coefficient during construction: C = 0.47
The estimated runoff coefficient after construction: C = 0.49

The USDA Soil Conservation Service of Osceola County lists Immokalee Fine Sand, Nittaw Muck, Ona Fine Sand, Riviera Fine Sand, Riviera Fine Sand Depressional and Hontoon Muck as the soil types for the project area.

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E. **Site Map**

Please see Sheet 1 of the Roadway Construction Plans

F. **Receiving Waters/Wetland Areas**

Reedy Creek and the adjacent Reedy Creek Swamp is the receiving water.

2. **CONTROLS**

A. **Erosion and Sediment Controls**

During the construction operations, the following control measures will be used to prevent erosion and sedimentation:

- Clearing and grubbing operations shall be controlled so as to minimize unprotected erodible areas exposed to weather. Areas outside the limits of construction shall not be disturbed.

- Excavated material shall not be deposited in locations where it could be washed away by high water or storm water runoff. Any stockpiles shall be covered or encircled with sediment containment devices adequate for any severe storm condition.

- New and existing structures shall be protected from siltation during construction.

- Permanent bank stabilization (see "Slope Planting Detail" on the Typical Sections of the Design Drawings) shall be placed immediately (within the same day) after final grading. Any damages to permanent plantings during the course of construction shall be repaired before the end of each day. All fill shall be protected as described by the Erosion Control Plan of the Design Drawings prior to placement of fill and these protective measures shall remain in place until all permanent planting has adequately rooted and grown to provide permanent erosion control.

- Bridge construction may include placement of mats to allow equipment necessary for clearing and grubbing operations and removal of clearing and grubbing materials from the corridor. Mats may also be required for cranes to drive temporary and/or permanent piling. Muck depths exceed ±12 meters (±40 feet) throughout much of the proposed bridge corridor, making initial clearing and construction access difficult at best. Bridge construction is currently anticipated to include placement of temporary piling following clearing and grubbing of the bridge corridor. A temporary work platform

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shall be constructed on these temporary piling, partially within and slightly beyond (±0.7 meters, ±2 feet) the limits of the proposed bridge construction. Permanent piling shall be driven from this platform, and forming and placement of cast-in-place bridge bents, pre-cast bridge beams, and cast-in-place bridge deck concrete shall also occur from this platform. Following completion of the bridge deck, the temporary platform shall be removed from the bridge deck without re-entering the wetland area. Every effort shall be made to contain all proposed bridge construction within the temporary and permanent deck platforms, above the wetlands. Construction debris falling into wetlands shall be retrieved immediately during the entire course of construction, except in dry weather when the much below the platform(s) is dry, in which case retrieval may occur at the end of each work day. In no case shall any construction or construction debris be allowed outside the footprint of the proposed and temporary platforms, and extreme care shall be taken to avoid damage to any tree limbs within ±0.3 meters (±1 foot) of these limits. The Contractor shall be responsible for filing and obtaining written approval for any necessary amendment to this plan with the engineer of record and with the South Florida Water Management District.

The Contractor is responsible for documenting this portion of the SWPPP in the Section 104 Erosion Control Plan.

(1) Stabilization Practices

The Contractor shall be responsible for the following measures:

- Erosion and sediment control measures are to be placed prior to, or as the first step in construction. Sediment control devices will be employed as a perimeter defense against any transportation of silt beyond the construction limits.

- Stabilization measures, on areas other than slopes, channels, or ditches, shall be initiated for erosion and sediment control of disturbed areas as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased. In no case shall stabilization fail to be provided in areas where construction activities have ceased for more than fourteen (14) calendar days after the construction activity in that portion of the site has temporarily or permanently ceased.

- For all slopes, channels, or ditches, permanent soil erosion control measures shall be completed immediately (within the same day) after final grading. When it is not possible to permanently protect a disturbed area immediately after grading operations, temporary

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erosion control measures shall be installed immediately (within the same day). All temporary protection shall be maintained until permanent measures are in place and established.

- The Contractor shall furnish, install, maintain and subsequently remove, all necessary erosion control, including but not limited to silt fences, hay bales, turbidity barriers and any other miscellaneous items as indicated within the contract documents or as required per applicable standards or the Project Engineer.

- The Contractor is advised that the contract drawings only indicate erosion, sediment, and turbidity controls at locations determined in the design process. However, the Contractor is required to provide any additional controls necessary to prevent the possibility of silting any adjacent lowland parcel or receiving water.

The Contractor is responsible for documenting this portion of the SWPPP in the Section 104 Erosion Control Plan.

(2) Structural Practices

Hay bales and silt fences have been included as structural practices pay items in the summary of quantities within the construction plans:

The Contractor is also responsible for documenting this portion of the SWPPP in the Section 104 Erosion Control Plan.

B. Stormwater Management

The stormwater runoff from End of Bridge to End of Project will be collected in a system of gutter inlets and conveyed to either the proposed dry retention storm water pond or the proposed wet detention storm water pond.

C. Other Controls

(1) Waste Disposal

All construction waste material shall be collected and hauled to a permitted landfill.

The Contractor is responsible for documenting this portion of the SWPPP in the Section 104 Erosion Control Plan.

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(2) **Off-Site Tracking/Spillage**

The Contractor shall prevent the spillage of materials onto existing roadways. Loaded haul trucks shall be covered with tarpaulins.

Any spillage shall be promptly removed by the Contractor.

The Contractor is responsible for documenting this portion of the SWPPP in the Section 104 Erosion Control Plan.

(3) **Sanitary Waste**

At minimum, portable sanitary units shall be provided by the Contractor.

(4) **Fertilizers and Pesticides**

Fertilizers and pesticides, if used, shall be applied in accordance with manufacturers' recommendations and subsections of Section 570 or 577 of the FDOT Standard Specifications for Road and Bridge Construction.

The Contractor is responsible for documenting the use of pesticides in the Section 104 Erosion Control Plan.

(5) **Non-Stormwater Discharges and Hazardous Waste**

No non-stormwater discharges are anticipated for this project.

When the Contractor encounters a spill, construction will stop and work will not resume until directed by the Project Engineer. Disposition of hazardous waste will be made in accordance with any requirements and regulations of any local, state, or federal agency having jurisdiction.

If contaminated soil or groundwater is encountered, contact Randy Stafford, District Hazardous Materials Coordinator at (904) 943-5395.

The Contractor is responsible for documenting this portion of the SWPPP in the Section 104 Erosion Control Plan.

D. Approved State and Local Plans or Permits

The following permits have been issued for the construction of the stormwater facilities for this project:

ADDITIONAL INFORMATION

MAY 2 2 1996

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South Florida Water Management District
Permit Number 4900025-D/Wet Resource

South Florida Water Management District
4900765-S/Conceptual MSSW

3. MAINTENANCE

The Contractor shall be responsible for maintaining all pollution prevention and erosion ans sediment control facilities. Daily inspections shall be made by the Contractor to determine the effe··eness of erosion, sedimentation, turbidity, and pollution control measures. Remedial action shall be performed without delay. The Department will perform inspections and complete a report detailing measures and areas which are not achieving permit compliance. As a condition of the NPDES Permit for Stormwater Discharges from Construction Sites, corrective measures must be taken within seven (7) calendar days of the date of the inspection. Hay bales shall be replaced every three (3) months. Silt fencing shall be replaced every twelve (12) months.

The Contractor is responsible for documenting this portion of the SWPPP in the Section 104 Erosion Control Plan.

4. INSPECTION

The Contractor is required to inspect and maintain controls on a daily basis. The Department shall perform and report inspections weekly and within 24 hours after a rainstorm in excess of 0.25 inches. These inspection reports shall be signed by the Contractor. Where sites have been finally stabilized, inspections shall be conducted at least once every month at the following locations as a minimum:

- Points of discharge to waters of the United States
- Points of discharge to municipal separate storm sewer systems.
- Disturbed areas of the site that have not been finally stabilized.
- Areas used for storage of materials that are exposed to precipitation.
- Structural controls.
- Storm water m··nagement systems.
- Locations where vehicles enter or exit the site.

5. REFERENCES

The construction plans and specifications for S.R. 600/U.S. 17/92 (S.P.N. 92010-3520, W.P.I. 5115692) are hereby referenced and made a part of this plan.

The Florida Department of Transportation 1994 Roadway and ··affic Design Standards are hereby referenced and made a part of this plan.

ADDITIONAL INFORMATION

MAY 2 2 1996

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTAT

PURCHASE ORDER

PO NO: S 5550 056919
DATE: APRIL 22, 1996

PO NUMBER MUST APPEAR ON ALL CORRESPONDENCE, SHIPMENTS, AND INVOICES. SEE REVERSE SIDE FOR ADDITIONAL TERMS AND CONDITIONS.

SHIP TO: DEPARTMENT OF TRANSPORTATION
CONSULTANT PROJECT MANAGEMENT
719 SOUTH WOODLAND BLVD
DELAND FL 32720

INVOICE TO: SEE "SHIP TO" ADDRESS

VENDOR (NOT TRANSFERABLE)

SOUTH FLORIDA WATER
MANAGEMENT DISTRICT
PO BOX 24680
WEST PALM BEACH FL 33416-4680

VEN#: F362481781009
CMBE: A
BID/QUOTE/CONT NO: GOVERNMENT.

PAYMENT SHALL BE MADE IN ACCORDANCE WITH SECTION 215.422, FLORIDA STATUTES, WHICH STATES THE SELLER'S RIGHTS AND BUYER'S RESPONSIBILITIES CONCERNING INTEREST PENALTIES AND TIME LIMITS FOR PAYMENT OF INVOICES.

RECEIVED
MAY 16 1996
ORLANDO SERVICE CENTER

EFFECTIVE JANUARY 1, 1995, THE INTEREST PENALTY SHALL BE AT THE RATE SET BY THE COMPTROLLER PURSUANT TO SECTION 55.03, FLORIDA STATUTES.

THE UNDERSIGNED HEREBY ATTEST THAT THEY HAVE READ AND FULLY UNDERSTAND THE CODE OF ETHICS RESTRICTION, THAT THEY TOOK PART IN THE PROCUREMENT REPRESENTED, AND THAT THEY ARE INDEPENDENT OF AND HAVE NO CONFLICT OF INTEREST IN THE ENTITY EVALUATED AND SELECTED. (287.057 (19), FLORIDA STATUTES)

VENDOR PHONE #407-687-6477
ATTN: MARIA PAPADIA

DOT CONSULTANT PROJECT MANAGEMENT
PHONE #904-943-5540
MARY E. ANDERSON

ATTACHED: APPLICATION REQUEST.

STATE SALES TAX EXEMPT

FOB: DESTINATION FGT: FRT PREPAID AND ALLOWED

P.O. LINE	COMMODITY CODE/DESCRIPTION	QUANTITY AND UNIT	UNIT PRICE	EXTENDED TOTAL
1	991 521 000 0000 PERMIT APPLICATION PROCESSING FEE FOR S.R. 600, RELOCATION AND REEDY CREEK BRIDGE REPLACEMENT, OSCEOLA COUNTY, S6, 31, 32/T26, 25S/R28E APPLICATION NO. 960124-5	1 EACH	$2,050.000 0.000% DISC TAKEN	$2,050.00

CONTINUED ON NEXT PAGE

1 VENDOR COPY

RECYCLED PAPER

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTAT

PURCHASE ORDER

PO NO: S 5550 056919
PAGE: 2

PERMIT (MOD) NO. 49-00765-S
REGULATION DEPARTMENT.

DELIVER ON OR BEFORE: 06/30/96
PURCHASE CODE: E PRIDE/RESPECT/GOVERNMENT

ADDITIONAL CONDITIONS/INSTRUCTIONS

CO	SEC	JOB	WPPH	FCT
79	080	1544	20	145

****
REQUISITION #148790
****

TOTAL $2,050.00

REQ NO	ORIGINATOR	P.A. / TELEPHONE
NONE		RICHARD S. BECK 904-943-5514

---ORG. CODE--- EO VR OBJECT	ENCUMBRANCE	AMOUNT	VENDOR NO	P/O NUMBER
55 05 30 10 542 11 00 499005	$0.00	$2,050.00	F362481781 009	S 5550 056919

BY: Richard S. Beck
AS AGENT FOR ABOVE NAMED GOVERNMENT ENTITY

****** END OF PURCHASE ORDER, LINE ITEM COUNT: 1 **********

1 VENDOR COPY

RECYCLED PAPER

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
PURCHASING
12/92

PURCHASE ORDER CONDITIONS

1. No charges are allowed for boxing, crating, packing, insurance or transportation, unless authorized on face of purchase order.

2. Any gratuity or offer of value is not permitted to be given by the vendor to any employee of the Florida Department of Transportation. Violation of this condition shall suspend the vendor from doing business with the Department.

3. Invoices for goods are not subject to approval for payment until complete shipment has been received except when partial delivery is approved by the Department.

4. Goods received in poor condition, of off board, inferior quality or workmanship, will be returned to vendor with charge for transportation (not parcel post, crating, trucking, etc.) and are not to be replaced except upon receipt of written instruction from this office.

5. Packing slips must accompany each shipment.

6. Florida Statutes provide that agencies have 5 working days to inspect and approve goods and services, unless bid specifications or the purchase order specifies otherwise. If payment is not available within 40 days, measured from the latter of the date the invoice is received or the date the goods or services are received, inspected and approved, a late payment interest penalty of .0533% will be due and payable in addition to the invoice amount. Payment shall be made only upon receipt of a proper invoice. Mathematical computation errors will result in a payment delay. Invoice payment requirements do not begin until a properly completed invoice is provided to the agency. A Vendor Ombudsman, whose duties include acting as an advocate for vendors who may experience problems in obtaining payment(s) from a state agency, may be contacted at 850/488-8733 or by calling the Department of Banking and Finance Hotline, 1-800-848-3792.

FLORIDA SALES AND USE TAX
EXEMPTION NO. 42-08-0584-52C

FEDERAL EXCISE TAX
NO. 59-73-0209K

BILLING INSTRUCTIONS

1. INVOICE IN TRIPLICATE, WITH NAME IDENTICAL TO THE NAME OF INDIVIDUAL, FIRM, COMPANY, OR CORPORATION TO WHOM THE ORDER IS ISSUED, SHOWING PURCHASE ORDER NUMBER, TERMS OF PAYMENT AND PRICING MUST BE MAILED TO THE "NOTICE" ADDRESS ON THE REVERSE SIDE APPROXIMATELY THE SAME DATE SHIPMENT IS MADE.

   WHERE MORE THAN ONE SHIPMENT IS MADE ON A PURCHASE ORDER AND INVOICED SEPARATELY, EACH INVOICE MUST CROSS OUR PURCHASE ORDER NUMBER, AND INDICATE THEREON THAT SAID INVOICE COVERS "PART" SHIPMENT NO. ____ ETC.

2. EACH INVOICE MUST BE ACCOMPANIED BY THE FOLLOWING ADDITIONAL PAPERS:

   a. Original copy of bill of lading when shipment is made by freight, express or bus.

   b. When parcel post is used, attach delivery receipt signed by department employee.

   c. When prepaid is allowed, attach two copies of prepaid freight bill or prepaid express receipt.

3. ALL BILLS OF LADING, SHIPPING PAPERS AND PACKAGES MUST BE MARKED PLAINLY WITH OUR PURCHASE ORDER NUMBER.

4. DO NOT PREPAY PARCEL POST, SO STATE ON INVOICE.

5. ON ALL RAILROAD OR TRUCKING CARLOAD SHIPMENTS OF MATERIALS MUST SHOW GROSS, TARE, AND NET WEIGHTS.

6. ITEMS ORDERED ARE TO BE INVOICED AT LAST PRICE QUOTED, INVOICED OR BID, UNLESS PRESENT MARKET PRICE IS LOWER, IN WHICH CASE LOWER PRICE TO APPLY. PRICES HIGHER THAN THOSE SHOWN ON THIS ORDER OR ABOVE MUST BE AUTHORIZED BY PURCHASING AGENT BEFORE SHIPPING.

7. THE PERIOD OF ANY DISCOUNT GRANTED BY A VENDOR SHALL BEGIN TO RUN FROM THE DATE OR RECEIPT OF THE INVOICE OR FROM DATE OF COMPLETION OF ALL CONDITIONS AND INSTRUCTION SET FORTH HEREIN.

BY: _____
AS AGENT FOR ABOVE NAMED GOVERNMENT

********** END OF PURCHASE ORDER, LINE ITEM COUNT: **********

South Florida Water Management District

Orlando Service Center • 1756 Orlando Central Parkway, Orlando, FL 32809 • (407) 858-6100

CON 24-06-02

Application No. 960124-5
Permit (Mod) No. 49-00765-S
Regulation Department

February 22, 1996

Mr. M. Neil Aikenhead, P.E.
Aikenhead & Odom, Inc.
5730 Bowden Road, Suite 200
Jacksonville, FL 32217

Dear Mr. Aikenhead:

Subject: SR 600 Relocation & Reedy Creek Bridge Replacement, Osceola County, S6,31,32/T26,25S/R28E

The staff has completed a preliminary review of the above referenced application. According to Rule 40E-4, Florida Administrative Code (FAC), the satisfactory answers to the following 12 comments must be provided before our review can continue.

1. Please submit a check for the permit application processing fee, or a purchase order from the Department of Transportation in the amount of $2050.00.

2. Please verify that Pond 3 is a dry pond and provide the elevation of the average wet season water table, in feet NGVD, in the vicinity of the pond.

3. Please submit two (2) sets of the construction plans with a minimum of the following sheets; drainage maps, typical sections, plan and profile, and pond details, individually signed and sealed.

4. It appears that the project contains or is adjacent to wetlands and/or unique uplands which are not addressed on the plans. Please revise plans to illustrate all on-site and adjacent offsite wetlands, as well as any other environmentally sensitive areas. Please label the wetland delineation lines accordingly and provide a unique reference label and acreage figure (on the construction drawings) for each wetland. Additionally, please label each of the wetland areas within the project as preserved, impacted, created, restored or enhanced. If not already determined, wetland boundaries, including buffer zones, should be field staked for SFWMD staff verification and approval. If appropriate, please stake the wetland/buffer boundaries and contact John Lesman, the environmental reviewer, at (407)858-6149 to arrange a field inspection.

Governing Board:
Valerie Boyd, Chairman
Frank Williamson, Jr., Vice Chairman
William E. Graham
William Hammond
Betsy Kranz
Richard A. Machek
Eugene K. Pettis
Nathaniel P. Reed
Miriam Singer
Samuel E. Poole III, Executive Director
Michael Slayton, Deputy Executive Director

5. Please provide a Florida Land Use Classification Cover System (FLUCCS Level 3) description of the project area, including all existing wetlands, native upland areas, and existing construction within the boundaries of the project. This description should be provided in the form of a map (at the same scale as the topographic map; 1"=400' or 1"=200'). A FLUCCS code and an acreage figure should be provided as a label on each area illustrated on the map. The total of the acreage figures should be equivalent to the total project acreage.

6. District criteria requires a upland buffer zone around wetlands that will be protected or incorporated into a surface water management system. Natural or structural buffers which extend at least 15 feet landward from the edge of the wetland in all places and average 25 feet from the edge of the wetland are presumed to be adequate. What type of buffer mechanism will be provided? Please revise plans to illustrate the limits of the buffer zones and label each buffer zone with an acreage figure and unique reference number.

7. Upland buffer zones and any wetland areas that will remain on site should be dedicated as conservation area and placed under a conservation easement. The conservation easement must meet the requirements of Chapter 704.06 F.S. A copy of the District's conservation easement form is enclosed for your convenience. An instruction sheet is attached which outlines the District's Real Estate Division's review requirements for conservation easements. Please submit a draft copy of the conservation easement(s) with specific details pursuant to this project's requirements. Additionally, the following information will be required in order to process the conservation easement:

   (1) Site map of conservation easement; (2) Legal description and number of acres; (3) Survey by professional land surveyor registered in Florida; (4) Plat (if already platted); (5) Title commitment/title insurance.

8. According to the Basis of Review, Section 4.10(B) Lake-Wetland Separation (Management and Storage of Surface Waters Permit Information Manual, Volume IV), lakes, ditches, canals and borrow pits shall be separated from wetland preservation, creation or restoration areas by a distance sufficient to protect the wetland hydroperiod. It is assumed that a gradient less than 0.005 ft/ft (vertical distance in elevation/horizontal distance) will not result in adverse impacts to adjacent wetland systems. This formula is based on the elevation at the wetland boundary and the proposed control elevation of the lake (surface water management) area. The submitted construction drawings do not indicate the location of the wetland delineation line near Pond 1 (Sheet No. 26). Please modify the construction drawings accordingly so that compliance with this requirement can be verified.

9. Reedy Creek is a diverse wetland ecosystem known to contain preferred habitat for endangered, threatened, and species of special concern. In order to determine potential adverse impacts to threatened or endangered species, please provide a list of all plant and animal species listed as endangered, threatened or of special concern which have been observed within the project area or may be affected by the proposed activities.

10. Please submit a maintenance plan for the on-site areas that are being proposed for preservation. Maintenance should be done on a regular basis to ensure the integrity and viability of the surrounding wetland areas. The maintenance should be conducted in perpetuity to ensure that the wetland is free of exotic vegetation (Brazilian pepper, melaleuca, climbing fern and Australian pine) and nuisance species constitute no more than 10% of the total vegetative coverage.

11. As per the Special Condition in the Three Lakes Wildlife Management Area (TLWMA) mitigation permit (Special Condition No. 17 in Application No. 940614-10), please provide an accounting table which includes each roadway project that proposes using credits from the Three Lakes Wildlife Management Area mitigation site.

12. The cross-sectional detail referenced by "A-A" on Sheet No. 28 specifies Sheet No. 36. However, the appropriate cross-sectional drawing appears to be on Sheet No. 28. Please clarify this apparent discrepancy or correct the construction drawings appropriately.

In accordance with 40E-1.603(8)(a) FAC, if the requested information is not received within 90 days of the date of this letter, this application may be processed for denial, if not withdrawn by the applicant. Please use the enclosed transmittal form and submit FOUR (4) copies of the requested information to the Orlando Service Center and include additional copies of your cover letter. Also, in order to process your application as expeditiously as possible, please collate your response into separate complete packages. Should you have any questions, please call me or John Lesman at (407) 858-6100.

Sincerely,

Alan Leavens
Staff Civil Engineer
Orlando Service Center

AL!

c: Osceola County Engineer

CON-24-06

MEMORANDUM

TO: Alan Leavens, Staff Civil Engineer, SWM Division

THROUGH: Marc Ady, Supervising Professional, NRM Division

FROM: John Lesman, Environmental Analyst, NRM Division

DATE: February 21, 1996

SUBJECT: FDOT District 5. U.S. 17-92 Realignment Over Reedy Creek (Application number 960124-5), Orange County

---

The following information is required to complete the environmental review of the subject application:

1. It appears that the project contains or is adjacent to wetlands and/or unique uplands which are not addressed on the plans. Please revise plans to illustrate all on-site and adjacent offsite wetlands, as well as any other environmentally sensitive areas. Please label the wetland delineation lines accordingly and provide a unique reference label and acreage figure (on the construction drawings) for each wetland. Additionally, please label each of the wetland areas within the project as preserved, impacted, created, restored or enhanced. If not already determined, wetland boundaries, including buffer zones, should be field staked for SFWMD staff verification and approval. If appropriate, please stake the wetland/buffer boundaries and contact John Lesman, the environmental reviewer, at (407)858-6149 to arrange a field inspection.

2. Please provide a Florida Land Use Classification Cover System (FLUCCS Level 3) description of the project area, including all existing wetlands, native upland areas, and existing construction within the boundaries of the project. This description should be provided in the form of a map (at the same scale as the topographic map; 1"=400' or 1"=200'). A FLUCCS code and an acreage figure should be provided as a label on each area illustrated on the map. The total of the acreage figures should be equivalent to the total project acreage.

3. District criteria requires a upland buffer zone around wetlands that will be protected or incorporated into a surface water management system. Natural or structural buffers which extend at least 15 feet landward from the edge of the wetland in all places and average 25 feet from the edge of the wetland are presumed to be adequate. What type of buffer mechanism will be provided? Please revise plans to illustrate the limits of the buffer zones and label each buffer zone with an acreage figure and unique reference number.

4. Upland buffer zones and any wetland areas that will remain on site should be dedicated as conservation area and placed under a conservation easement. The conservation easement must meet the requirements of Chapter 704.06 F.S. A copy of the District's conservation easement form is enclosed for your convenience. An instruction sheet is attached which outlines the District's Real Estate Division's review requirements for conservation easements. Please submit a draft copy of the conservation easement(s) with specific details pursuant to this project's requirements. Additionally, the following information will be required in order to process the conservation easement:

   (1) Site map of conservation easement; (2) Legal description and number of acres; (3) Survey by professional land surveyor registered in Florida; (4) Plat (if already platted); (5) Title commitment/title insurance.

5. According to the Basis of Review, Section 4.10(B) Lake-Wetland Separation (Management and Storage of Surface Waters Permit Information Manual, Volume IV), lakes, ditches, canals and borrow pits shall be separated from wetland preservation, creation or restoration areas by a distance sufficient to protect the wetland hydroperiod. It is assumed that a gradient less than 0.005 ft/ft (vertical distance in elevation/horizontal distance) will not result in adverse impacts to adjacent wetland systems. This formula is based on the elevation at the wetland boundary and the proposed control elevation of the lake (surface water management) area. The submitted construction drawings do not indicate the location of the wetland delineation line near Pond 1 (Sheet No. 26). Please modify the construction drawings accordingly so that compliance with this requirement can be verified.

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7. Please submit a maintenance plan for the on-site areas that are being proposed for preservation. Maintenance should be done on a regular basis to ensure the integrity and viability of the surrounding wetland areas. The maintenance should be conducted in perpetuity to ensure that the wetland is free of exotic vegetation (Brazilian pepper, melaleuca, climbing fern and Australian pine) and nuisance species constitute no more than 10% of the total vegetative coverage.

8. As per the Special Condition in the Three Lakes Wildlife Management Area (TLWMA) mitigation permit (Special Condition No. 17 in Application No. 940614-10), please provide an accounting table which includes each roadway project that proposes using credits from the Three Lakes Wildlife Management Area mitigation site.

9. The cross-sectional detail referenced by "A-A" on Sheet No. 28 specifies Sheet No. 36. However, the appropriate cross-sectional drawing appears to be on Sheet No. 28. Please clarify this apparent discrepancy or correct the construction drawings appropriately.

FLORIDA DEPARTMENT OF TRANSPORTATION

LAWTON CHILES
GOVERNOR

BEN G. WATTS
SECRETARY

719 South Woodland Blvd.
DeLand, Florida 32720

ORIGINAL SUBMITTAL

JAN 24 1996

ORLANDO SERVICE CENTER

January 22, 1996

Mr. Edward W. Yaun, P.E.
South Florida Water Management District
1756 Orlando Central Parkway
Orlando, Florida 32809

Re: Permit No. 49-00765-S (Individual-Modification)
Work Program No. 5115692
State Project No. 92010-3520
S.R. 600 Reedy Creek Bridge Replacement
Osceola County

Dear Mr. Yaun:

Please find the attached Individual Permit Modification Package. Included are five copies of application forms, drainage computations, and the construction plans.

If you have any questions or need additional information, don't hesitate to contact me at SC-373-5546 or 904-943-5546.

Sincerely,

David J. Cooke

David J. Cooke
Project Manager

DJC:d

CC: Mr. Mike Snyder, P.E.
Mr. John Frazier, P.E.- Frazier Engineering, Inc.

Attachment

ORIGINAL SUBMITTAL

JAN 24 1996

ORLANDO SERVICE CENTER

FOR AGENCY USE ONLY

ACOE Application # _____
Date Application Received _____
Proposed Project Lat. ____°____'____"
Proposed Project Long. ____°____'____"

DEP/WMD Application # 960124-5
Date Application Received 1/24/96
Fee Received $_____
Fee Receipt #_____

SECTION A

Are any of the activities described in this application proposed to occur in, on, or over wetlands or other surface waters? ☒ yes ☐ no

Is this application being filed by or on behalf of a government entity or drainage district? ☒ yes ☐ no

A. Type of Environmental Resource Permit Requested (check at least one)

☐ Noticed General - include information requested in Section B.
☐ Standard General (Single Family Dwelling)-include information requested in Sections C and D.
☐ Standard General (all other projects) - include information requested in Sections C and E.
☐ Individual (Single Family Dwelling) - include information requested in Sections C and D.
☒ Individual (all other projects) - include information requested in Sections C and E.
☐ Conceptual - include information requested in Sections C and E.
☐ Mitigation Bank Permit (construction) - include information requested in Section C and F.
(If the proposed mitigation bank involves the construction of a surface water management system requiring another permit defined above, check the appropriate box and submit the information requested by the applicable section.)
☐ Mitigation Bank (conceptual) - include information requested in Section C and F.

B. Type of activity for which you are applying (check at least one)

☒ Construction or operation of a new system including dredging or filling in, on or over wetlands and other surface waters.
☐ Alteration or operation of an existing system which was not previously permitted by a WMD or DEP.
☐ Modification of a system previously permitted by a WMD or DEP. Provide previous permit numbers. _____
☐ Alteration of a system ☐ Extension of permit duration ☐ Abandonment of a system
☐ Construction of additional phases of a system ☐ Removal of a system

C. Are you requesting authorization to use State Owned Lands. ☒ yes ☐ no
(If yes include the information requested in Section G.)

D. For activities in, on or over wetlands or other surface waters, check type of federal dredge and fill permit requested: (Obtained, IP-CC 199403416)
☒ Individual ☐ Programmatic General
☐ General ☐ Nationwide ☐ Not Applicable

E. Are you claiming to qualify for an exemption? ☐ yes ☒ no
If yes provide rule number if known._____

Form 0971

OWNER(S) OF LAND	ENTITY TO RECEIVE PERMIT (IF OTHER THAN OWNER)
NAME Florida Dept. of Transportation	NAME
ADDRESS 719 South Woodland Boulevard	ADDRESS
CITY, STATE, ZIP Deland, Florida 32720	CITY, STATE, ZIP
COMPANY AND TITLE James Bassett Env. Permit Coordinator	COMPANY AND TITLE
TELEPHONE (904) 943-5408 FAX (904) 736-5059	TELEPHONE ( ) FAX ( )
AGENT AUTHORIZED TO SECURE PERMIT (IF AN AGENT IS USED)	**CONSULTANT (IF OIFFERENT FROM AGENT)**
NAME M. Neil Aikenhead, P.E.	NAME
COMPANY AND TITLE Aikenhead & Odom, Inc.	COMPANY AND TITLE
ADDRESS 5730 Bowden Road, Suite 200	ADDRESS
CITY, STATE, ZIP Jacksonville, Florida 32217	CITY, STATE, ZIP
TELEPHONE (904) 636-5432 FAX (904) 636-5433	TELEPHONE ( ) FAX ( )

Name of project, including phase if applicable FDOT District 5, Reedy Creek/US 17/ 92/S R. 600
this application for part of a multi-phase project? ☐ yes ☒ no
Total applicant-owned area contiguous to the project 13HA (34 ac)
Total project area for which a permit is sought 13HA (34 ac)
Impervious area for which a permit is sought 8.55 ac, 3.46 HA
What is the total area (metric equivalent for federally funded projects) of work in, on, or over wetlands or other surface waters?
5.07 acres 220,850 square feet 2.5 hectares 20,520 square meters
Number of new boat slips proposed. 0

Project location (use additional sheets, if needed)
County(ies) Osceola
Section(s) 6 Township 26 S Range 28 E
Section(s) 31, 32 Township 25 S Range 28 E
Land Grant name, if applicable
Tax Parcel Identification Number
Street address, road, or other location State Road 600, West of Intercession City
City, Zip Code if applicable (US 17/9_,

Describe in general terms the proposed project, system, or activity.

Proposed project is the realignment of State Road 600 (US 17/92) at its crossing of Reedy Creek (from metric station 9+80 to metric station 31+50). Proposed construction includes construction of a 683 meter (2240 feet) bridge. Stormwater collection & treatment from end of bridge to end of project will be provided by gutter inlets routed to two stormwater ponds.

If there have been any pre-application meetings, including at the project site, with regulatory staff, please list the date(s), location(s), and names of key staff and project representatives.

July 25, 1995 at SFWMD Orlando with Edward Yaun (SFWMD), Neil Aikenhead (A&O), Ric Locquiao (A&O), John Frazier (Frazier Eng.) and Stuart Bradow (EMS).

Please identify by number any MSSW/Wetland resource/ERP/ACOE Permits pending, issued or denied for projects at the location, and any related enforcement actions.

Agency	Date	No.\Type of Application	Action Taken
SFWMD	11/10/94	4900025-D/Wet Resource	
SFWMD	11/10/94	4900765-S/Conceptual MSSW	
ACOE	1/3/95	199403416 (IP-CC)/Dredge & Fill	

Note:The following information is required only for projects proposed to occur in,on or over wetlands that need a federal dredge and fill permit and/or authorization to use state owned submerged lands and is not necessary when applying solely for an Environmental Resource Permit. Please provide the names, addresses and zip codes of property owners whose property directly adjoins the project (excluding applicant). Please attach a plan view showing the owner's names and adjoining property lines. Attach additional sheets if necessary.

1. Ray & Margaret Clements
   P.O. Box 1412
   Lakeland, Florida 33802

2. Florida Power Corporation
   P.O. Box 14042
   St. Petersburg, Florida

3. Kissimmee Utility Authority
   P.O. Box 423219
   Kissimmee, Florida 34742

4. TIIF/State of Florida
   Fletcher Park - Osceola
   c/o DNR - Douglas Building
   Tallahassee, Florida (see attached sheet "Property Owners")

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Form 0971

By signing this application form, I am applying, or I am applying on behalf of the applicant, for the permit and any proprietary authorizations identified above, according to the supporting data and other incidental information filed with this application. I am familiar with the information contained in this application and represent that such information is true, complete and accurate. I understand this is an application and not a permit, and that work prior to approval is a violation. I understand that this application and any permit issued or proprietary authorization issued pursuant thereto, does not relieve me of any obligation for obtaining any other required federal, state, water management district or local permit prior to commencement of construction. I agree, or I agree on behalf of my corporation, to operate and maintain the permitted system unless the permitting agency authorizes transfer of the permit to a responsible operation entity. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

M. Neil Aikenhead, P.E.
Typed/Printed Name of Applicant (If no Agent is used) or Agent (If one is so authorized below)

Signature of Applicant/Agent — Date: 1/17/96

President, Aikenhead & Odom, Inc.
(Corporate Title if applicable)

AN AGENT MAY SIGN ABOVE ONLY IF THE APPLICANT COMPLETES THE FOLLOWING:

I hereby designate and authorize the agent listed above to act on my behalf, or on behalf of my corporation, as the agent in the processing of this application for the permit and/or proprietary authorization indicated above; and to furnish, on request, supplemental information in support of the application. In addition, I authorize the above-listed agent to bind me, or my corporation, to perform any requirement which may be necessary to procure the permit or authorization indicated above. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

James S. Bassett
Typed/Printed Name of Applicant

Signature of Applicant — Date: 1/19/96

District Environmental Permit Coordinator
(Corporate Title if applicable)

Please note: The applicant's original signature (not a copy) is required above.

PERSON AUTHORIZING ACCESS TO THE PROPERTY MUST COMPLETE THE FOLLOWING:

I either own the property described in this application or I have legal authority to allow access to the property, and I consent, after receiving prior notification, to any site visit on the property by agents or personnel from the Department of Environmental Protection, the Water Management District and the U.S. Army Corps of Engineers necessary for the review and inspection of the proposed project specified in this application. I authorize these agents or personnel to enter the property as many times as may be necessary to make such review and inspection. Further, I agree to provide entry to the project site for such agents or personnel to monitor permitted work if a permit is granted.

James S. Bassett
Typed/Printed Name

Signature — Date: 1/19/96

District Environmental Permit Coordinator
(Corporate Title if applicable)

SECTION A - PROPERTY OWNERS
S.R. 600 @ REEDY CREEK
STATE PROJECT NO. 92010-3520

Bernard Shell II Estate
c/o John R. Adams
260 River Drive
Logan, W.V. 25601

Timothy P. Campbell
P.O. Box 421305
Kissimmee, FL 34742

Jack and Hannah Riley
1305 Overlook Avenue
Orlando, FL 32806

Rosita Kuhn
P.O. Box 420802
Kissimmee, FL 34742

Guiseppe L. and Stephanie Schiano
108 Lake Pointe Center
Kissimmee, FL 34743

Judith Ann Pahmeier
3630 Miriam Drive
Titusville, FL 32796

David E. Hunter
6075 South Orange Blossom Trail
Davenport, FL 33837

Jeff King and Debbie Chesser
P.O. Box 172
Intercession City, FL 33848

Betty S. Kincaid
2176 Washington Blvd.
Huntington, W.V. 24705

John F., Sr. and Edna M. Brainard
6171 South Orange Blossom Trail
Davenport, FL 33836

David L. Kuhn
P.O. Box 420802
Kissimmee, FL 34742

David L. and Rosita R. Kuhn
6146 Old Tampa Hwy.
Davenport, FL 33837

Suzette Lorraine
3316 Flower Tree Drive
Orlando, FL 32812

Suzanne Marcoux
50 Whispering Pines
Cumberland, R.I. 02864

Rosemarie Rao Feldman
4062 Lake Conway Woods Road
Orlando, FL 32812

Robert J. and Inger C. Rao
P.O. Box 421845
Kissimmee, FL 34742

SECTION B
NOT APPLICABLE

Form 0971

SECTION C
Environmental Resource Permit Notice of Receipt of Application

This information is required in addition to that required in other sections of the application. Please submit five copies of this notice of receipt of application and all attachments with the other required information. **PLEASE SUBMIT ALL INFORMATION ON PAPER NO LARGER THAN 2' x 3'.**

Project Name: FDOT District 5, Reedy Creek @ U.S. 17/92 (S.R. 600)
County: Osceola
Owner: Florida Department of Transportation
Applicant:
Applicant's Address: 719 South Woodland Boulevard
Deland, Florida. 32720

1. Indicate the project boundaries on a USGS quadrangle map. Attach a location map showing the boundary of the proposed activity. The map should also contain a north arrow and a graphic scale; show Section(s), Township(s), and Range(s); and must be of sufficient detail to allow a person unfamiliar with the site to find it.
   See Attached.
2. Provide the names of all wetlands, or other surface waters that would be dredged, filled, impounded, diverted, drained, or would receive discharge (either directly or indirectly), or would otherwise be impacted by the proposed activity, and specify if they are in an Outstanding Florida Water or Aquatic Preserve: Reedy Creek swamp, Reedy Creek
3. Attach a depiction (plan and section views), which clearly shows the works or other facilities proposed to be constructed. Use multiple sheets, if necessary. Use a scale sufficient to show the location and type of works.
   See drawings included with application.
4. Briefly describe the proposed project (such as "construct a deck with boatshelter", "replace two existing culverts", "construct surface water management system to serve 150 acre residential development"):
   See Attachment
5. Specify the acreage of wetlands or other surface waters, if any, that are proposed to be disturbed, filled, excavated, or otherwise impacted by the proposed activity: Wetland Impact: 3.06 direct impacts, 2.01 ac. partial impacts (Bridge Only).
6. Provide a brief statement describing any proposed mitigation for impacts to wetlands and other surface waters (attach additional sheets if necessary): Mitigation provided by designation of 81.9 acres of wetlands restoration/enhancement within the three lakes wildlife management area Mitigation site (refer to SFWMD Permit Application #'s 940614-10 & 940614-I-D.

FOR AGENCY USE ONLY

Application Name:
Application Number:
Office where the application can be inspected:

ATTACHMENT TO SECTION C

Environmental Resource Permit
for
FDOT DISTRICT V
REEDY CREEK U.S. 17/92 (S.R. 600)

4. *Briefly describe the proposed project (such as "construct a deck with boatshelter," "replace two existing culverts," "construct surface water management system to serve 150 acre residential development"):*

Reconstruct 2,170m (7,120') of U.S. 17/92 (S.R. 600), including 683m A(2,240') bridge, construct surface water management system for 5 acres of proposed road.

TABLE ONE: PROJECT WETLAND (WL) AND OTHER SURFACE WATER (SW) SUMMARY

WL & SW ID	WL & SW TYPE	WL & SW SIZE	WL & SW NOT IMPACTED	TEMPORARY WL & SW IMPACTS			PERMANENT WL & SW IMPACTS			MITIGATION ID
				WL & SW TYPE	IMPACT SIZE	IMPACT CODE	WL & SW TYPE	IMPACT SIZE	IMPACT CODE	
	R2SB7J	±5118 ac.	±5113 ac.				R2SB7J	2.72 ac.	F	A
	R3SB7J	±5118 ac.	±5113 ac.				R3SB7J	0.35 ac.	F	A
	R2SB7J	±5118 ac.	±5113 ac.				R2SB7J	2.01 ac.	S	A
	R2SB7J	±5118 ac.	±5113 ac.				R2SB7J	5.07 ac.	C	A
PROJECT TOTALS:		±2072 Ha. ±5118 ac.	±2069 Ha. 5113 ac.				2.05 Ha. 5.07 ac.			

Comments:

Codes (multiple entries per cell not allowed):
Wetland Type: from an established wetland classification system
Impact Type: D=dredge; F=fill; H=change hydrology; S=shading; C=clearing; O=other

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Form 0971

TABLE TWO:

PROJECT ON-SITE MITIGATION SUMMARY

MITIGATION ID	CREATION		RESTORATION		ENHANCEMENT		WETLAND PRESERVE		UPLAND PRESERVE		OTHER	
	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TYPE	AREA	TYPE	AREA	TARGET TYPE
PROJECT TOTALS												

COMMENTS:

NOTES (multiple entries per cell not allowed):
Target Type or Type=target or existing habitat type from an established wetland classification system or land use classification for non-wetland mitigation

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Form 0371

TABLE THF · PROJECT OFF-SITE MITIGATION SUMMARY

MITIGATION ID	CREATION		RESTORATION		ENHANCEMENT		WETLAND PRESERVE		UPLAND PRESERVE		OTHER	
	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TYPE	AREA	TYPE	AREA	TARGET TYPE
A			81.9 ac.									
PROJECT TOTALS			33.0 Ha. 81.9 ac.									

COMMENTS:

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

CODES (multiple entries per cell not allowed):
Target Type=target or existing habitat type from an established wetland classification system or land use classification for non-wetland mitigation

Form 0971

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Form 0971

Table 4: IF YOU ARE CONSTRUCTING A DOCKING FACILITY, PLEASE PROVIDE THE FOLLOWING

Structures	Type of Work*	Length**	Width**	Height**	Total Sq. ft. over water	# Proposed Slips	# Existing Slips
Docks/Piers/Number:							
Finger Piers/Number:							
Other Water Structures:							
Total:							

*Type of Work N-New R-Replaced O-Other RR-Removed A-Altered/Modified
**In Feet

Use of Structure _____

_____

Will the docking facility provide:

Livaboard Slips? If yes, Number: _____

Fueling Facilities: If yes, Number: _____

Sewage Pump-out Facilities? If yes, Number: _____

Other Supplies or Services Required for Boating (excluding refreshments, bait and tackle) ____ Yes ____ No

Type of Materials for Docking and Pilings (i.e., CCA, pressure treated wood, plastic, or concrete)

Pilings _____

Docking _____ Proposed Dock Plank Spacing (if applicable) _____

Proposed Size (length and draft), Type, and Number of Boats Expected to Use or Proposed to be Mooring at the facility)

_____

Form 8971

Table 5: **SHORELINE STABILIZATION** IF YOU ARE CONSTRUCTING A SHORELINE STABILIZATION PROJECT, PLEASE PROVIDE THE FOLLOWING:

Stabilization	Linear Ft. New	Linear Ft. Replaced	Linear Ft. Repaired	Linear Ft. Removed	Slope H: V:	Toe Width (Ft.)
Vertical Seawall						
Seawall + Rip Rap						
Rip Rap						
Rip Rap + Vegetation						
Other Shoreline Stabilization Type: _____						

Size of Rip Rap _____

Type of Rip Rap _____

SECTION D
NOT APPLICABLE

Form 0971

SECTION E

INFORMATION FOR STANDARD GENERAL, INDIVIDUAL AND CONCEPTUAL ENVIRONMENTAL RESOURCE PERMITS FOR PROJECTS NOT RELATED TO A SINGLE FAMILY DWELLING UNIT

Please provide the information requested below if the proposed project requires either a standard general, individual, or conceptual approval environmental resource permit and is not related to an individual, single family dwelling unit, duplex or quadraplex. The information listed below represents the level of information that is usually required to evaluate an application. The level of information required for a specific project will vary depending on the nature and location of the site and the activity proposed. Conceptual approvals generally do not require the same level of detail as a construction permit. However, providing a greater level of detail will reduce the need to submit additional information at a later date. If an item does not apply to your project, proceed to the next item. **PLEASE SUBMIT ALL INFORMATION ON PAPER NO LARGER THAN 24" X 36".**

I. Site Information

A. Provide a map(s) of the project area and vicinity delineating USDA/SCS soil types.

B. Provide recent aerials, legible for photointerpretation with a scale of 1" = 400 ft, or more detailed, with project boundaries delineated on the aerial.

C. Identify the seasonal high water or mean high tide elevation and normal pool or mean low tide elevation for each on site wetland or surface water, including receiving waters into which runoff will be discharged. Include dates, datum, and methods used to determine these elevations. See Attachment

D. Identify the wet season high water tables at the locations representative of the entire project site. Include dates, datum, and methods used to determine these elevations.

II. Environmental Considerations

A. Provide results of any wildlife surveys that have been conducted on the site, and provide any comments pertaining to the project from the Florida Game and Fresh Water Fish Commission and the U.S. Fish and Wildlife Service. See Attachment

B. Provide a description of how water quantity, quality, hydroperiod, and habitat will be maintained in on-site wetlands and other surface waters that will be preserved or will

remain undisturbed.

C. Provide a narrative description of any proposed mitigation plans, including purpose, maintenance, monitoring, and construction sequence and techniques, and estimated costs.

D. Describe how boundaries of wetlands or other surface waters were determined. If there has ever been a jurisdictional declaratory statement, a formal wetland determination, a formal determination, a validated informal determination, or a revalidated jurisdictional determination, provide the identifying number.

E. Impact Summary Tables:

1. For all projects, complete Table 1, 2 and 3 as applicable.

2. For docking facilities or other structures constructed over wetlands or other surface waters, provide the information requested in Table 4.

3. For shoreline stabilization projects, provide the information requested in Table 5.

III. Plans

Provide clear, detailed plans for the system including specifications, plan (overhead) views, cross sections (with the locations of the cross sections shown on the corresponding plan view), and profile (longitudinal) views of the proposed project. The plans must be signed and sealed by a an appropriate registered professional as required by law. Plans must include a scale and a north arrow. These plans should show the following:

A. Project area boundary and total land area, including distances and orientation from roads or other land marks;

B. Existing land use and land cover (acreage and percentages), and on-site natural communities, including wetlands and other surface waters, aquatic communities, and uplands. Use the Florida Land Use Cover & Classification System (FLUCCS)(Level 3) for projects proposed in the South Florida Water Management District, the St. Johns River Water Management District, and the Suwannee River Water Management District and use the National Wetlands Inventory (NWI) for projects proposed in the Southwest Florida Water Management District. Also identify each community with a unique identification number which must be consistent in all exhibits.

C. The existing topography extending at least 100 feet off the project area, and including adjacent wetlands and other surface waters. All topography shall include the location and a description of known benchmarks, referenced to NGVD. For systems waterward of the mean high water (MHW) or seasonal high water lines, show water depths, referenced to mean low water (MLW) in tidal areas or seasonal low water in non-tidal areas, and list the range between MHW and MLW. For docking facilities, indicate the distance to, location of, and depths of the nearest navigational channel and access routes to the channel.

D. If the project is in the known flood plain of a stream or other water course, identify the flood plain boundary and approximate flooding elevations; identify the 100-year flood elevation and floodplain boundary of any lake, stream or other water course located on or adjacent to the site;

E. The boundaries of wetlands and other surface waters within the project area. Distinguish those wetlands and other surface waters that have been delineated by any binding jurisdictional determination;

F. Proposed land use, land cover and natural communities (acreage and percentages), including wetlands and other surface waters, undisturbed uplands, aquatic communities, impervious surfaces, and water management areas. Use the same classification system and community identification number used in III (B) above.

G. Proposed impacts to wetlands and other surface waters, and any proposed connections/outfalls to other surface waters or wetlands;

H. Proposed buffer zones;

I. Pre and post-development drainage patterns and basin boundaries showing the direction of flows, including any off-site runoff being routed through or around the system; and connections between wetlands and other surface waters;

J. Location of all water management areas with details of size, side slopes, and designed water depths;

K. Location and details of all water control structures, control elevations, any seasonal water level regulation schedules; and the location and description of benchmarks (minimum of one benchmark per structure);

L. Location, dimensions and elevations of all proposed structures, including docks, seawalls, utility lines, roads, and buildings;

M. Location, size, and design capacity of the internal water management facilities;

N. Rights-of-way and easements for the system, including all on-site and off-site areas to be reserved for water management purposes, and rights-of-way and easements for the existing drainage system, if any;

O. Receiving waters or surface water management systems into which runoff from the developed site will be discharged;

P. Location and details of the erosion, sediment and turbidity control measures to be implemented during each phase of construction and all permanent control measures to be implemented in post-development conditions;

Q. Location, grading, design water levels, and planting details of all mitigation areas;

R. Site grading details, including perimeter site grading;

S. Disposal site for any excavated material, including temporary and permanent disposal sites;

T. Dewatering plan details;

U. For marina facilities, locations of any sewage pumpout facilities, fueling facilities, boat repair and maintenance facilities, and fish cleaning stations;

V. Location and description of any nearby existing offsite features which might be affected by the proposed construction or development such as stormwater management ponds, buildings or other structures, wetlands or other surface waters.

W. For phased projects, provide a master development plan.

IV. **Construction Schedule and Techniques**

Provide a construction schedule, and a description of construction techniques, sequencing and equipment. This information should specifically include the following:

A. Method for installing any pilings or seawall slabs;

B. Schedule of implementation of a temporary or permanent erosion and turbidity control measures;

C. For projects that involve dredging or excavation in wetlands or other surface waters, describe the method of excavation, and the type of material to be excavated;

D. For projects that involve fill in wetlands or other surface waters, describe the source and type of fill material to be used. For shoreline stabilization projects that involve the installation of riprap, state how these materials are to be placed, (i.e., individually or with heavy equipment) and whether the rocks will be underlain with filter cloth;

E. If dewatering is required, detail the dewatering proposal including the methods that are proposed to contain the discharge, methods of isolating dewatering areas, and indicate the period dewatering structures will be in place. **(Note a consumptive use or water use permit may by required);**

F. Methods for transporting equipment and materials to and from the work site. If barges are required for access, provide the low water depths and draft of the fully loaded barge; and

G. Demolition plan for any existing structures to be removed;

H. Identify the schedule and party responsible for completing monitoring, record drawings, and as-built certifications for the project when completed.

V. **Drainage Information**

A. Provide pre-development and post-development drainage calculations, signed and sealed by an appropriate registered professional, as follows:

1. Runoff characteristics, including area, runoff curve number or runoff coefficient, and time of concentration for each drainage basin;

2. Water table elevations (normal and seasonal high) including aerial extent and magnitude of any proposed water table drawdown;

3. Receiving water elevations (normal, wet season, design storm);

4. Design storms used including rainfall depth, duration, frequency, and distribution;

5. Runoff hydrograph(s) for each drainage basin, for all required design storm event(s);

6. Stage-storage computations for any area such as a reservoir, close basin, detention area, or channel, used in storage routing;

7. Stage-discharge computations for any storage areas at a selected control point, such as control structure or natural restriction;

8. Flood routings through on-site conveyance and storage areas;

9. Water surface profiles in the primary drainage system for each required design storm event(s);

10. Runoff peak rates and volumes discharged from the system for each required design storm event(s); and

11. Tail water history and justification (time and elevation);

12. Pump specifications and operating curves for range of possible operating conditions (if used in system).

B. Provide the results of any percolation tests, where appropriate, and soil borings that are representative of the actual site conditions;

C. Provide the acreage, and percentages of the total project, of the following:

1. impervious surfaces, excluding wetlands,

2. pervious surfaces (green areas, not including wetlands),

3. lakes, canals, retention areas, other open water areas,

4. wetlands;

D. Provide an engineering analysis of floodplain storage and conveyance (if applicable), including:

1. Hydraulic calculations for all proposed traversing works;

2. Backwater water surface profiles showing upstream impact of traversing works;

3. Location and volume of encroachment within regulated floodplain(s); and

4. Plan for compensating floodplain storage, if necessary, and calculations required for determining minimum building and road flood elevations.

E. Provide an analysis of the water quality treatment system including:

1. A description of the proposed stormwater treatment methodology that addresses the type of treatment, pollution abatement volumes, and recovery analysis; and

2. Construction plans and calculations that address stage-storage and design elevations, which demonstrate compliance with the appropriate water quality treatment criteria.

F. Provide a description of the engineering methodology, assumptions and references for the parameters listed above, and a copy of all such computations, engineering plans, and specifications used to analyze the system. If a computer program is used for the analysis, provide the name of the program, a description of the program, input and output data, two diskette copies, if available, and justification for model selection.

VI. Operation and Maintenance and Legal Documentation

A. Describe the overall maintenance and operation schedule for the proposed system.

B. Identify the entity that will be responsible for operating and maintaining the system in perpetuity if different than the permittee, a draft document enumerating the enforceable affirmative obligations on the entity to properly operate and maintain the system for its expected life, and documentation of the entity's financial responsibility for long term maintenance. If the proposed operation and maintenance entity is not a property owner's association, provide proof of the existence of an entity, or the future acceptance of the system by an entity which will operate and maintain the system. If a property owner's association is the proposed operation and maintenance entity, provide copies of the articles of incorporation for the association and copies of the declaration, restrictive covenants, deed restrictions, or other operational documents that assign responsibility for the operation and maintenance of the system. Provide information ensuring the continued adequate access to the system for maintenance purposes. Before transfer of the system to the operating entity will be approved, the permittee must document that the transferee will be bound by all terms and conditions of the permit.

C. Provide copies of all proposed conservation easements, storm water management system easements, property owner's association documents, and plats for the property containing the proposed system.

D. Provide indication of how water and waste water service will be supplied. Letters of commitment from off-site suppliers must be included.

E. Provide a copy of the boundary survey and/or legal description and acreage of the total land area of contiguous property owned/controlled the applicant.

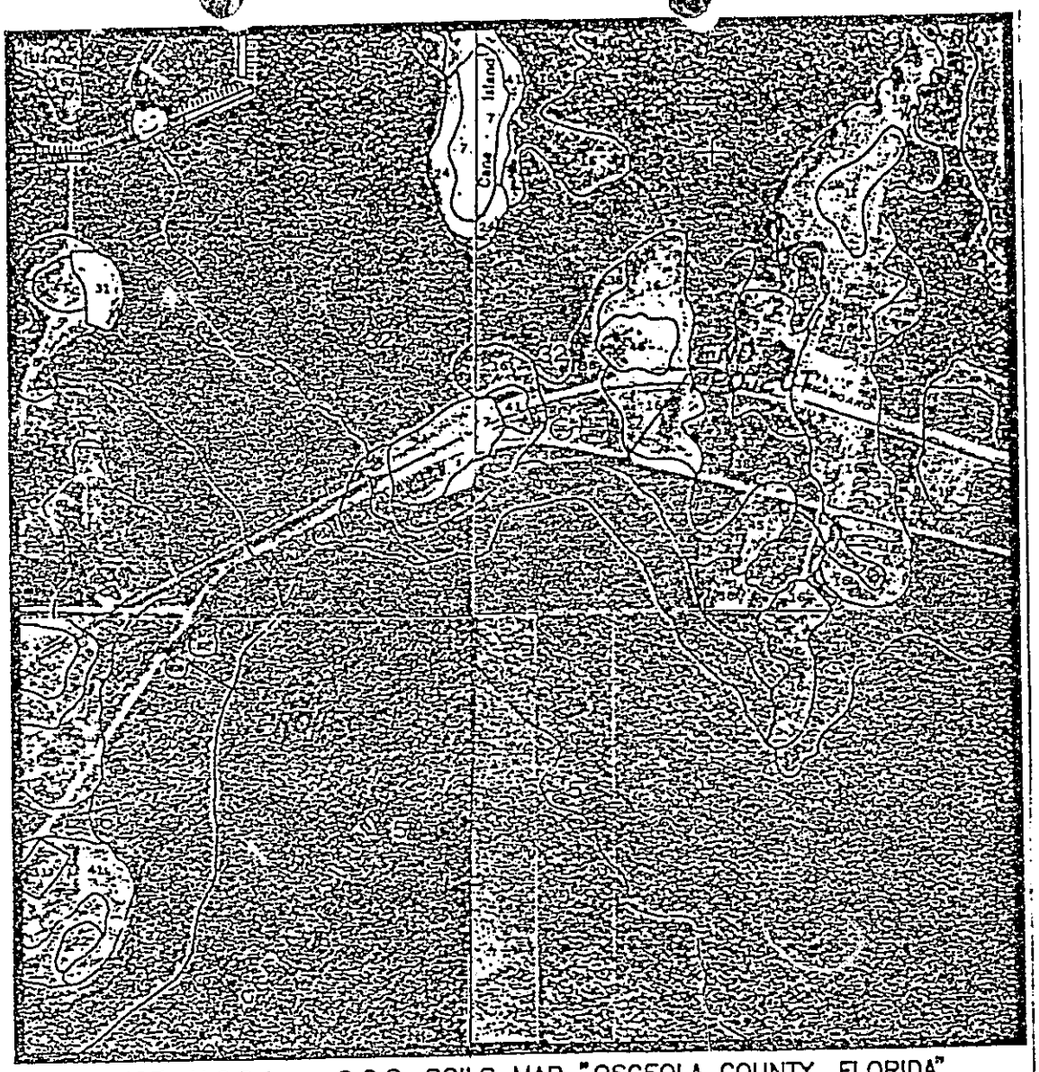
VII. Water Use

A. Will the surface water system be used for water supply, including landscape irrigation, or recreation.

B. If a Consumptive Use or Water Use permit has been issued for the project, state the permit number.

C. If no Consumptive Use or Water Use permit has been issued for the project, indicate if such a permit will be required and when the application for a permit will be submitted.

D. Indicate how any existing wells located within the project site will be utilized or abandoned.



REFERENCE: U.S.D.A. -- S.C.S. SOILS MAP "OSCEOLA COUNTY, FLORIDA"
SECTION: 6 DATED: 1977
TOWNSHIP: 26 SOUTH SCALE: 1"=2000'
RANGE: 28 EAST

SOILS LEGEND

15 HONTOON MUCK
16 IMMOKALEE FINE SAND
25 HITTAW MUCK
27 ONA FINE SAND
37 POMPANO FINE SAND, DEPRESSIONAL
38 RIVIERA FINE SAND
39 RIVIERA FINE SAND, DEPRESSIONAL

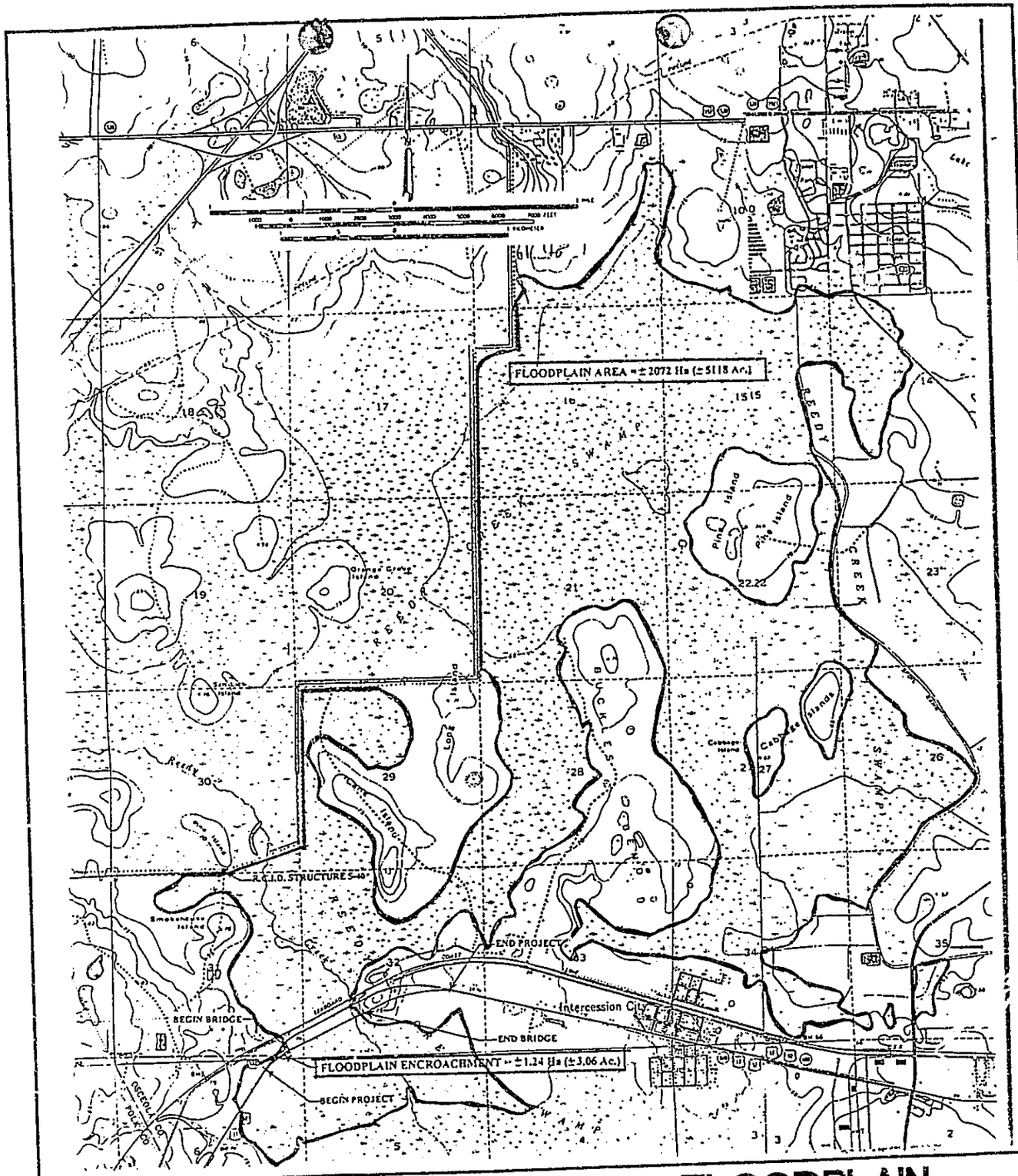
SOIL SURVEY

AIKENHEAD & ODOM inc.
CONSULTING ENGINEERS

FRAZIER ENGINEERING, INC.
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
1852 N. Harbor City Boulevard, Melbourne, Florida 32935
TEL (407)-253-8131, FAX (407)-255-2231

STATE ROAD 600
AT
REEDY CREEK

NOVEMBER 1995



PROJECT-AFFECTED FLOODPLAIN

AIKEN, TEAD & ODOM inc.
CONSULTING ENGINEERS

FRAZIER ENGINEERING, INC.
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
1682 N. Harbor City Boulevard, Melbourne, Florida 32935
TEL (407)-253-8131, FAX (407)-255-2231

STATE ROAD 600
AT
REEDY CREEK

PROJECT NO. 94-005 NOVEMBER 1995

ATTACHMENT TO SECTION E

Environmental Resource Permits for Projects Not Related To a Single Family Dwelling Unit
for
FDOT DISTRICT V
REEDY CREEK U.S. 17/92 (S.R. 600)

I. Site Information:

C. *Identify the seasonal high water or mean high tide elevation and normal pool or mean low tide elevation for each on site wetland or surface water, including receiving waters into which runoff will be discharged. Include dates, datum, and methods used to determine these elevations.*
Gage #02266300 is located approximately 7 miles upstream from the existing S.R. 600 bridge at Reedy Creek. The drainage area at this gauge is reported as 194.24 square kilometers (75 square miles). The datum of Gage #02266500, at 6.10 meters (20 feet) upstream of the bridge, is 19.66 meters (64.49 feet) NGVD 1929. The maximum stage of record is 20.95 meters (68.74 feet) NGVD. The normal high water elevation, measured from the pile water marks, is approximately 20.57 meters (67.5 feet) NGVD. The normal water elevation at the project site is 20.27 meters (66.5 feet) NGVD.

II. Environmental Considerations

A. *Provide results of any wildlife surveys that have been conducted on the site, and provide any comments pertaining to the project from the Florida Game and Fresh Water Fish Commission and the U.S. Fish and Wildlife Service.*
The U.S. Fish and Wildlife Service has classified the surrounding wetlands as being palustrine, forested, deciduous, and semi-permanently flooded.

SECTION F
NOT APPLICABLE

Form 0971

SECTION G
Application for Authorization to use State Owned Submerged Lands

Part I:

Sovereign Submerged Lands title (ownership) information: Please read and answer the applicable questions listed below:

A. I have a sovereign submerged lands title check from the Division of State Lands which indicates that the proposed project is NOT ON sovereign submerged lands (Please attach a copy of the title determination to the application).
Yes ____ No ____

If you answered Yes to Question A and you have attached a copy of the Division of State Lands Title Check to this application, you do not have to answer any other questions under Part I or II of Supplement B.

B. I have a sovereign submerged lands title check from the Division of State Lands which indicates that the proposed project is ON sovereign submerged lands (Please attach a copy of the title determination to the application).
Yes ____ No ____

If you answered yes to question B please provide the information requested in Part II. Your application will be deemed incomplete until the requested information is submitted.

C. I am not sure if the proposed project is on sovereign submerged lands. Please check here ____.

If you have checked this box department staff will request that the Division of State Lands conduct a title check. If the title check indicates that the proposed project or portions of the project are located on sovereign submerged lands you will be required to submit the information requested in Part II of this application. The application will be deemed incomplete until the requested information is submitted.

D. I am not sure if the proposed project is on sovereign submerged lands and I DO NOT WISH to contest the departments findings. Please check here ____.

If you have checked this box refer to Part II of this application and provide the requested information. The application will be deemed incomplete until the requested information is submitted.

E. It is my position that the proposed project is NOT on sovereign submerged lands. Please check here ____.

Form 0971

If you have evidence that indicates that the proposed project is not on sovereign submerged lands please attach the documentation to the application. If the Division of State Lands title check indicates that your proposed project or portion of your proposed project are on sovereign submerged lands you will be required to provide the information requested in Part II of this application.

F. If you wish to contest the findings of the title determination conducted by the Division of State Lands please contact the Department of Environmental Protection's General Council office. Your proposed project will be deemed incomplete until either the information requested in Part II is submitted or a legal ruling indicates that the proposed project is not on sovereign submerged lands.

Form 6171

Part II:

If you were referred to this section by Part I, please provide this additional information. Please note that if your proposed project is on sovereign submerged lands and the below requested information is not provided, your application will be considered incomplete.

A. Provide evidence of title to the subject riparian upland property in the form of the recorded deed, title insurance, legal opinion of title, or a long-term lease which specifically includes riparian rights. Evidence submitted must demonstrate that the applicant has sufficient title interest in the riparian upland property.

B. Provide a detailed statement describing the existing and proposed upland uses and activities. For commercial uses, indicate the specific type of activity, such as marina, ship repair, dry storage (including the number of storage spaces), commercial fishing/ seafood processing, fish camp, hotel, motel resort restaurant, office complex, manufacturing operation, etc.

For rental operations, such as trailer or recreational vehicle parks and apartment complexes, indicate the number of wetslip units/ spaces available for rent or lease and describe operational details (e.g., are spaces rented on a month to month basis or through annual leases).

For multi-family residential developments, such as condominiums, townhomes, or subdivisions, provide the number of living units/ lots and indicate whether or not the common property (including the riparian upland property) is or will be under the control of a homeowners association.

For projects sponsored by a local government, indicate whether or not the facilities will be open to the general public. Provide a breakdown of any fees that will be assessed, and indicate whether or not such fees will generate revenue or will simply cover costs associated with maintaining the facilities.

C. Provide a detailed statement describing the existing and proposed activities located on or over the sovereign submerged lands at the project site. This statement must include a description of docks and piers, types of vessels (e.g., commercial fishing, leveaboards, cruise ships, tour boats), length and draft of vessels, sewage pumpout facilities, fueling facilities, boathoists, boat ramps, travel lifts, railways, and any other structures or activities existing or proposed to be located waterward of the mean high water line/ ordinary high water line. If slips are existing and/or proposed, please indicate the number of powerboat slips and sailboat slips and the percentage of those slips available to the general public on a "first come, first serve" basis. This statement must include a description of channels, borrow sites, bridges, groins, jetties, pipelines or other utility crossings, and any other structures or activities existing or proposed to be located waterward of the mean high water line/ ordinary high water line. For shoreline stabilization activities, this statement must include a description of seawalls, bulkheads, riprap, filling activities, and any other structures

or activities existing or proposed to be located along the shoreline.

D. Provide the linear footage of shoreline at the mean high water line/ ordinary high water line owned by the applicant which borders sovereign submerged lands.

E. Provide a recent aerial photo of the area. A scale of 1" = 200' is preferred. Photos are generally available at minimal cost from your local government property appraiser's office or form district Department of Transportation offices. Indicate on the photo the specific location of your property/ project site.

Form 0971

Proprietary Project Descriptions

Please check the most applicable activity which applies to your project(s):

Leases	Activity Description
_____	Commercial marinas (renting wetslips)/including condos, etc., if 50% or more of their wetslips are available to the general public
_____	Public/Local governments
_____	Yacht Clubs/Country Clubs (when a membership is required)
_____	Multi-family/but upland revenue generating (housing developments, trailer parks, apartments)
_____	Condominiums (requires upland ownership)
_____	Commercial Uplands Activity (Temporary Docking and/or fishing pier associated with upland revenue generating activities (i.e., restaurants, hotels, motels) for use of the customer at no charge
_____	Miscellaneous Commercial Upland Enterprises where there is a charge associated with the use of the overwater structure (Charter Boats, Tour Boats, Fishing Piers)
_____	Ship Building/Boat Repair Service Facilities
_____	Commercial Fishing Related (Offloading, Seafood Processing)
_____	Private Single-family Residential Docking Facilities; Townhome Docking Facilities; Subdivision Docking Facilities (upland lots privately owned)

Public Easements & Use Agreements

_____	Miscellaneous Public Easements and Use Agreements
_____	Bridge Right-of-way (DOT, local government)
_____	Breakwater or Groin
_____	Subaqueous Utility Cable (TV, telephone, electrical)
_____	Subaqueous Outfall or Intake
_____	Subaqueous Utility Water/Sewer
_____	Overhead Utility w/Support Structure on sovereign submerged lands
_____	Spoil Site
_____	Pipeline (gas)
_____	Borrow Site

Private Easements

_____	Miscellaneous Private Easements
_____	Bridge Right-of-way
_____	Breakwater or Groin
_____	Subaqueous Utility Cable (TV, telephone, electrical)
_____	Subaqueous Outfall or Intake
_____	Subaqueous Utility Water/Sewer
_____	Overhead Utility Crossing

Form 0971

_____ Spoil Site
_____ Pipeline (gas)

Consents of Use

_____ Aerial Utility Crossing w/no support structures on sovereign submerged lands
_____ Private Dock
_____ Public Dock
_____ Multi-family Dock
_____ Fishing Pier (Private or Multi-family)
_____ Private Boat Ramp
_____ Sea Wall
_____ Dredge
_____ Maintenance Dredge
_____ Navigation Aids/Markers
_____ Artificial Reef
_____ Riprap
_____ Public Boat Ramp
_____ Public Fishing Pier
_____ Repair/Replace Existing Public Fishing Pier
_____ Repair/Replace Existing Private Dock
_____ Repair/Replace Existing Public Dock
_____ Repair/Replace Existing Multi-family dock
_____ Repair/Replace Existing Fishing Pier (Private or Multi-family)
_____ Repair/Replace Existing Private Boat Ramp
_____ Repair/Replace Existing Sea Wall, Revetments or Bulkheads
_____ Repair/Replace/Modify structures/activities within an existing lease, easement, management agreement or use agreement area or repair/replace existing grandfathered structures
_____ Repair/Replace Existing Public Boat Ramp

Miscellaneous

_____ Biscayne Bay Letters of Consistency/Inconsistency w/258.397, F.S.
_____ Management Agreements - Submerged Lands
_____ Reclamation
_____ Purchase of Filled, Formerly Submerged Lands
_____ Purchase of Reclaimed Lake Bottoms
_____ Treasure Salvage
_____ Insect Control Structures/Swales
_____ Miscellaneous projects which do not fall within the activity codes listed above

SOUTH FLORIDA WATER
MANAGEMENT DISTRICT

BACK-UP
MATERIAL

PERMIT NUMBER:

49-00765-S

APPLICATION NUMBER:

960184-5

FINAL APPROVED BY GB

DEC 1 2 1996

STORMWATER DRAINAGE CALCULATIONS

ORIGINAL SUBMITTAL
JAN 2 4 1996
ORLANDO SERVICE CENTER

STATE ROAD 600 (U.S. 17\92)
REALIGNMENT

January 1996

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 5
DELAND, FLORIDA

PREPARED BY:

1/17/96

FRAZIER ENGINEERING, INC.
CONSULTING ENGINEERS
1682 North Harbor City Boulevard, Melbourne, Florida 32935
TEL. (407) 253-8131, FAX (407) 255-2231

AIKENHEAD & ODOM inc.
CONSULTING ENGINEERS

SUMMARY

UPDATED
11/10/95

SUMMARY

STORMWATER DRAINAGE CALCULATIONS
REALIGNMENT OF STATE ROAD 600(U.S. 92) AT REEDY CREEK
FDOT PROJECT # 92010-3520

PROJECT DESCRIPTION:

The project considered in the following stormwater drainage calculations is the re-alignment of U.S. 17/92, State Road 600, from metric Station 9+80 to metric Station 31+50. The project is located in Sections 6, 31, & 32, Range 28 East and Townships 25 & 26 South (USGS Quadrangle Map "Intercessio City").

The project consists of construction of a new 2-lane rural roadway and new 680 m (2,230') bridge located 40 m (130') south (downstream) of the existing 2-lane rural roadway. This construction will replace the existing 2-lane rural roadway, three bridges, and embankment/causeway within the limits of new construction. The 680 meter (2,230') bridge will span much of the low lying, pristine cypress swamp and the main channel of Reedy Creek. This facility is approximately five-times the length required for the system hydraulics, in accordance with an agreement between SFWMD, FDEP, and FDOT to minimize the impact of this improvement to the surrounding wetlands.

EXISTING STORMWATER MANAGEMENT SYSTEMS:

The watercourse accepting the project runoff is Reedy Creek and its adjacent flood plain and associated wetlands. Runoff from the existing roadway, causeway fill areas, and three small bridges currently discharges directly to Reedy Creek and/or its surrounding wetlands, or, to a lesser extent, to existing roadside ditches that then discharge to Reedy Creek.

PROPOSED STORMWATER MANAGEMENT SYSTEMS:

The total drainage area of the proposed roadway project is 4.457 Hectares (11.105 Acres). The runoff from the basins described below will directly or indirectly discharge to the Reedy Creek basin, which has a total drainage area of 479 square km. (185 square miles) upstream of the project. The project drainage area is 0.0009% of the drainage area of the upstream Reedy Creek Basin. Therefore, pre/post analysis was not considered.

The time-to-peak for the project basin varies between ½ hour and 12 hours (non-attenuated and attenuated basins), whereas the peak of the Reedy Creek basin is 120 hours (5 days). Therefore, the SCS 25 yr/24 hr. storm event was used in the routing analysis rather than the 10 yr/3-day analysis. The SCS 10 yr/24 hr storm routing was used in the stormwater collection system analysis & design. The FDOT critical duration pond routing was also accomplished to verify compliance with FDOT design criteria.

The proposed stormwater management plan divides the project into four drainage basins. Basin No 1 incorporates the area from Begin Project (metric Sta 9+80) to Begin Bridge (metric Sta 16+06). Basin No 2 is the proposed bridge. Basin No 3 is the area from End Bridge (metric Sta 16+06) to metric Sta 25+00 of the proposed road. Basin No 4 is the area from metric Sta 25+00 of the proposed road to End Project (metric Sta 31+50).

The drainage basins and the proposed stormwater management systems are summarized below:

Basin No. 1 This basin is a proposed "causeway" from Begin Project to Begin Bridge. The drainage area of the basin is 1.492 Hectares (3.69 acres). To provide a stormwater treatment system in this area would necessitate impacts to surrounding pristine hardwood wetlands. A stormwater pond location outside wetlands within the median near the intersection of County Road 532 and State Road 600 presents a significant safety hazard to motorists. It was agreed at the SFWMD pre-application meeting that bypassing treatment in this area would be acceptable. To enhance the runoff quality before it reaches the wetlands, shoulders in this area will be specially stabilized and planted (see drawings) to maximize uptake of pollutants.

Basin No. 2 This basin consists of the entire span of the proposed bridge. The drainage area of the basin is 0.965 Hectare (2.39 acres). Runoff from the bridge will discharge to the area beneath the bridge via scuppers. Since the bridge is below the elevation of immediately adjacent uplands within Basin No. 3, it was hydraulically impossible to transport any bridge runoff to Basin No. 3 for treatment (See drawings). By constructing a substantially longer bridge than the existing or than is required for hydraulic capacity, wetland impacts were substantially decreased. Future removal of causeway fills between the three existing bridges and replacement with a single long bridge is also proposed (currently not funded), which will return the existing causeway areas to the surrounding wetlands.

Basin No. 3 This basin is the area of proposed road from the End of Bridge (metric Sta 16+06) to metric Sta 25+00, inclusive of the proposed small treatment pond site. The drainage area of this basin, including the pond, is 0.500 Hectare (1.240 Acres) The impervious surface of the basin is 0.357 Hectare (0.882 Acre). Runoff from this basin is collected through gutter inlets and conveyed to Pond No.1 for treatment. The proposed pond is designed as an "on -line" retention system and will provide the treatment volume required by the basin. The basin runoff is routed to the pond using SCS 25 yr./24 hr and SCS 10 yr./24 hr. storm events as well as the FDOT critical storm event. Results are as follows:

Treatment Volume (required)	= 113.48 $m.^3$ (0.092 acre-feet)
Treatment Volume (provided)	= 172.69 $m.^3$ (0.140 acre- feet)
SCS 25 yr./24 hr. Pond Peak Flow	= 8.65 $m.^3$/min. (5.09 cfs)
SCS 25 yr./24 hr. Pond HWL	= 22.76 m. (74.68 ft.)
SCS 10 yr./24 hr. Pond Peak Flow	= 5.34 $m.^3$/min (3.14 cfs)

SCS 10 yr./24 hr. Pond HWL	= 22.67 m. (74.37 ft.)
Critical Storm (100 yr/1 hr) Flow	= 7.88 m.^{3}/min (4.64 cfs)
Critical Storm (100 yr/1 hr) HWL	= 22.75 m. (74.64 feet)
Pond Berm elevation	= 0 m. (77.10 feet)

Basin No. 4 This basin is the area of proposed road from metric Sta 25+00 to End Project, including the proposed pond site. The drainage area of this basin, including the pond, is 1.50 Hectare (3.695 acre). The impervious surface of the basin (excluding pond water surface) is 1.11 Hectare (2.754 acre). Runoff from this basin is collected through gutter inlets and conveyed to Pond No. 2 for treatment. The proposed pond is designed as a wet detention system and will provide the treatment volume required by the basin. The basin runoff is routed to the pond using SCS 25 yr./24 hr and SCS 10 yr./24 hr. storm event as well as the FDOT critical storm event. Results are as follows:

Treatment Volume (required)	= 707.74 m.^{3} (0.574 acre-feet)
Treatment Volume (provided)	= 774.65 m.^{3} (0.628 acre- feet)
SCS 25 yr./24 hr. Pond Peak Flow	= 17.35 m.^{3}/min. (10.21 cfs)
SCS 25 yr./24 hr. Pond HWL	= 21.10 m. (69.21 ft.)
SCS 10 yr./24 hr. Pond Peak Flow	= 9.24 m.^{3}/min (5.44 cfs)
SCS 10 yr./24 hr. Pond HWL	= 21.02 m. (74.37 ft.)
Critical Storm (100 yr/1 hr) Flow	= 15.00 m.^{3}/min (8.83 cfs)
Critical Storm (100 yr/1 hr) HWL	= 21.075 m. (69.14 feet)
Pond Berm elevation	= 21.50 m. (70.54 feet)

PROPOSED COLLECTION SYSTEM:

The proposed onsite collection systems for Basin No 3 and No 4 will collect and convey the runoff to the proposed ponds.

SUPRA-4 software was used to analyze the piped systems. Output format of SUPRA-4 is similar to the FDOT StormSewer Tabulation Form. Results indicate the hydraulic gradient is less than a foot below the grate elevation at a few inlets. Since minor losses were included in the SUPRA-4 analysis, this is an acceptable hydraulic gradient condition. Although the road is not an interstate facility, the onsite collection system was designed based on a 10 year storm rather than a 3 year storm (requirement for non-interstate facilities) since the road will be used as a two lane, two way road with a design speed of 105 kph (65 mph).

BOX CULVERT:

The existing roadway between Old Tampa Highway and End Project drains directly to the basin of the existing 1200 x 600 (48" x 24") concrete box culvert at metric Sta 29+52. Basin No 4 of the proposed system, including the existing roadway within this basin, will also drain to the existing box culvert upstream basin under the proposed condition. The runoff from Basin No 4 will be collected

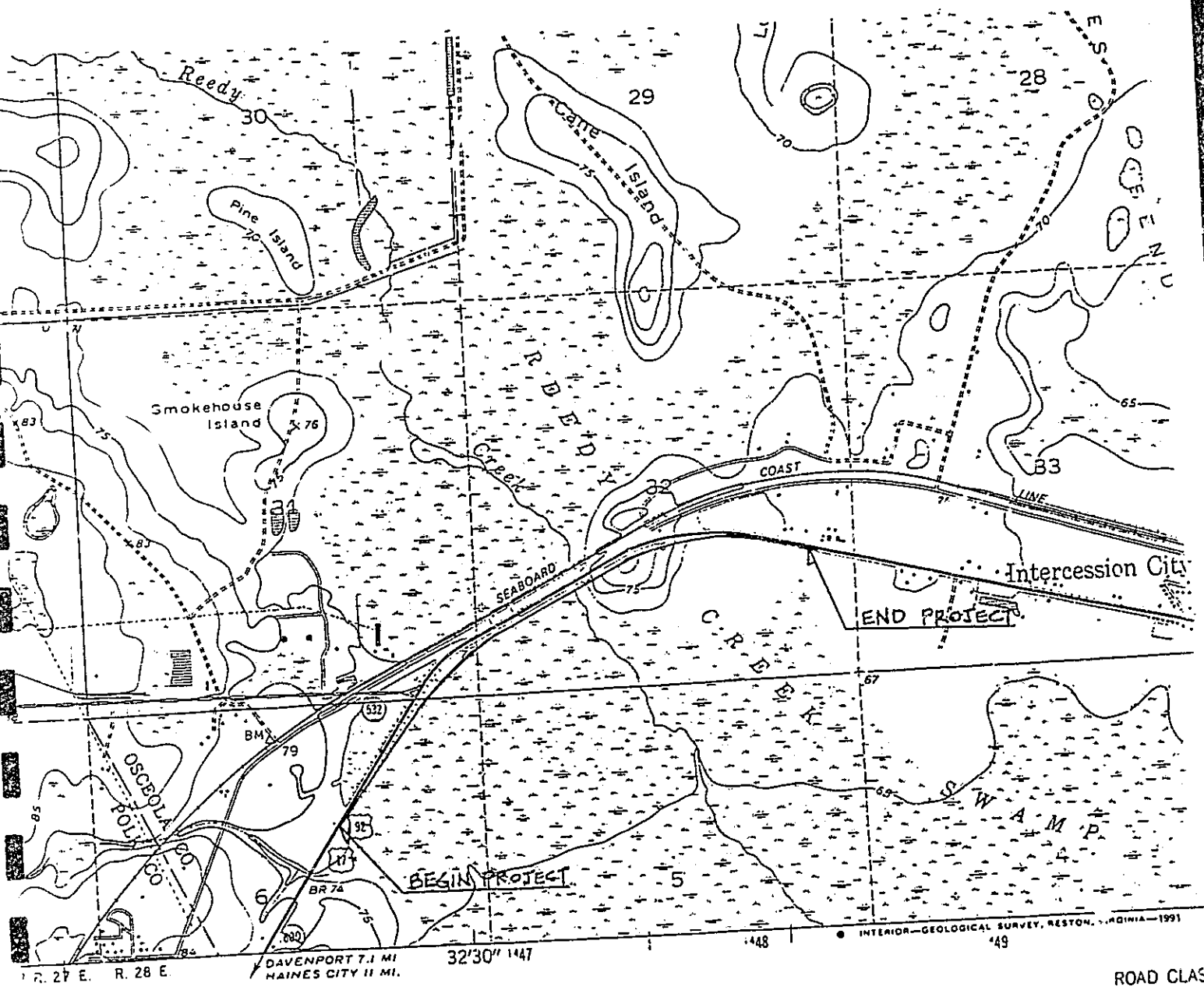
in Pond No 2 before discharge to the box culvert basin. Pond treatment volume capacity and the control structure will provide flow attenuation for the new impervious surface, and the impervious surface of the existing roadway section will be removed. Therefore, it is anticipated there will be a decrease in peak flow rate to the existing box culvert, and the existing box culvert is proposed to remain as is. No extension of the box is required since it currently extends beyond the proposed roadway shoulder based on the information provided by the Surveyor.

PERMITS:

SHORT FORM PERMIT # 49-00025-D, CONCEPTUAL MSSW PERMIT # 49-00765-S

MAPS

LOCATION MAP



ROAD CLAS

Heavy-duty 4 LANE

Medium-duty 4 LANE

Interstate Route

1 MILE

4000 5000 6000 7000 FEET

1 KILOMETER

5 FEET
DATUM OF 1929

MAP ACCURACY STANDARDS
OGICAL SURVEY
ESTON, VIRGINIA 22092
SYMBOLS IS AVAILABLE ON REQUEST

LYONS MAP CO.
618 N.E. 167th Street / N. Miami Beach, FL 33162 / (305) 945-7127
Maps • Globes • Atlases
Agents for all maps published by leading companies

QUADRANGLE LOCATION

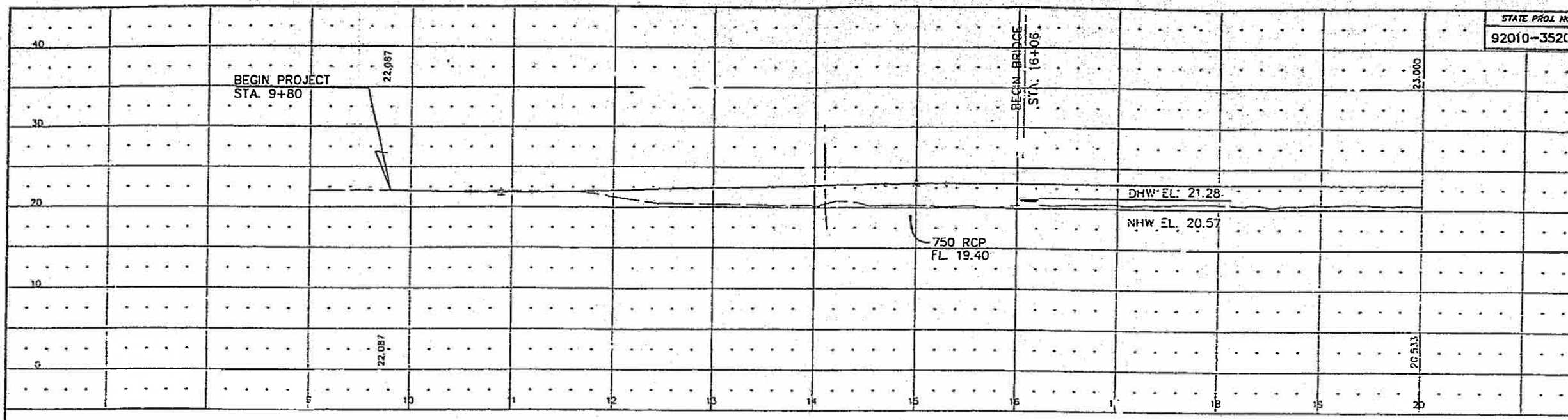
INTERC

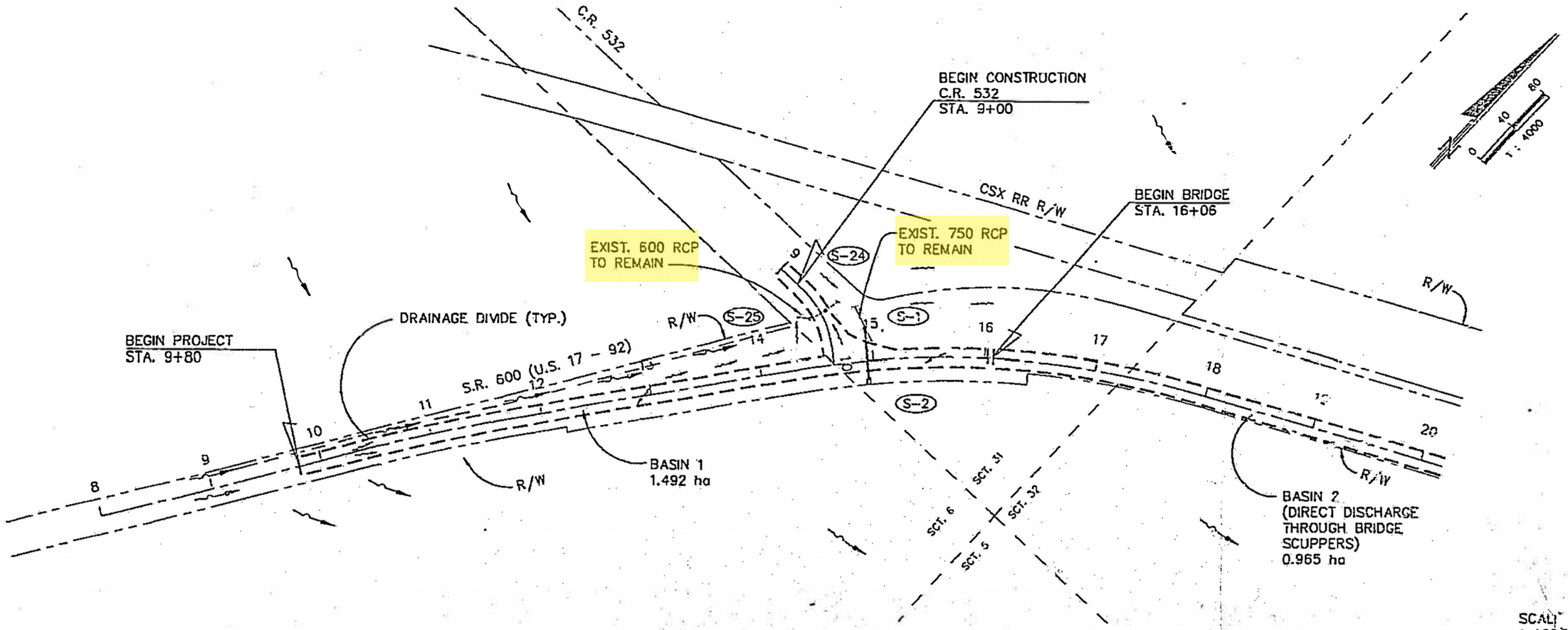
PH

PH
DMA -

6

STATE PROJ NO.
92010-3520





SCALE AS NOTED
1:400 H.
1:500

REVISIONS												
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	

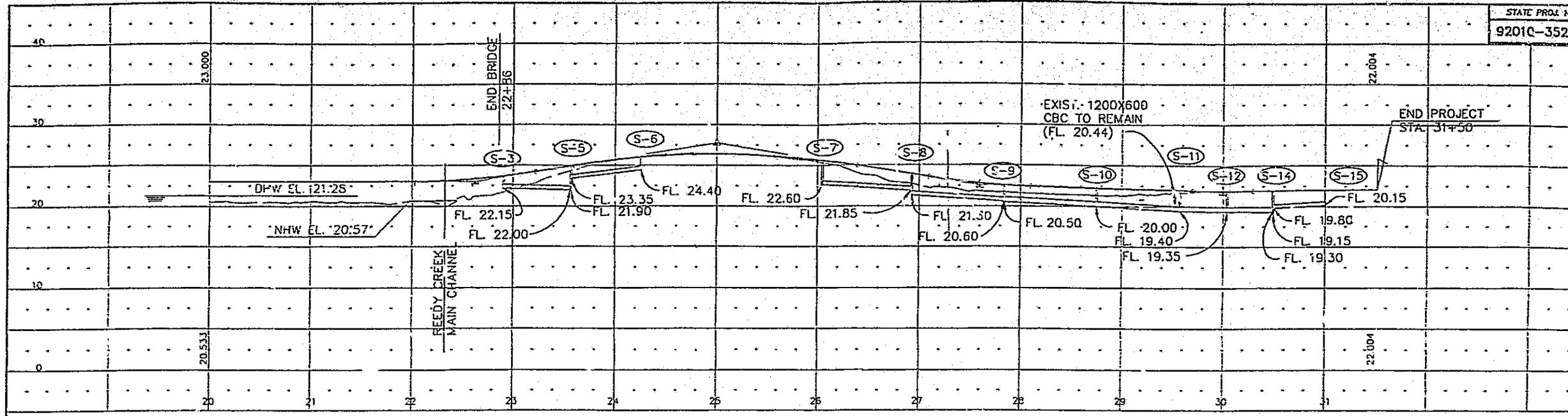
	NAME	DATE		NAME	DATE
DESIGNED BY	RSL	1/27/83	DRAWN BY	DPA	1/27/83
CHECKED BY	MRA	10/19/83	CHECKED BY	SJO	10/19/83
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY :
DATE:

AIKENHEAD & ODOM Inc.
CONSULTING ENGINEERS

DRAINAGE MAP

STATE PROJ. N
92010-352



STRUCT.	AREA (Ha)
S-1	0
S-2	0
S-3	0.103
S-4	0
S-5	0.118
S-6	0.136
S-7	0.192
S-8	0.166
S-9	0.148
S-10	0.133
S-11	0.119
S-12	0.07
S-13	0
S-14	0.145
S-15	0.073
S-16	0
S-17	0
S-18	0
S-19	NOT USED
S-20	0
S-21	0
S-22	0
S-23	0
S-24	0
S-25	0
S-26	0
S-27	0.066

REEDY CREEK HYDRAULIC DESIGN DATA

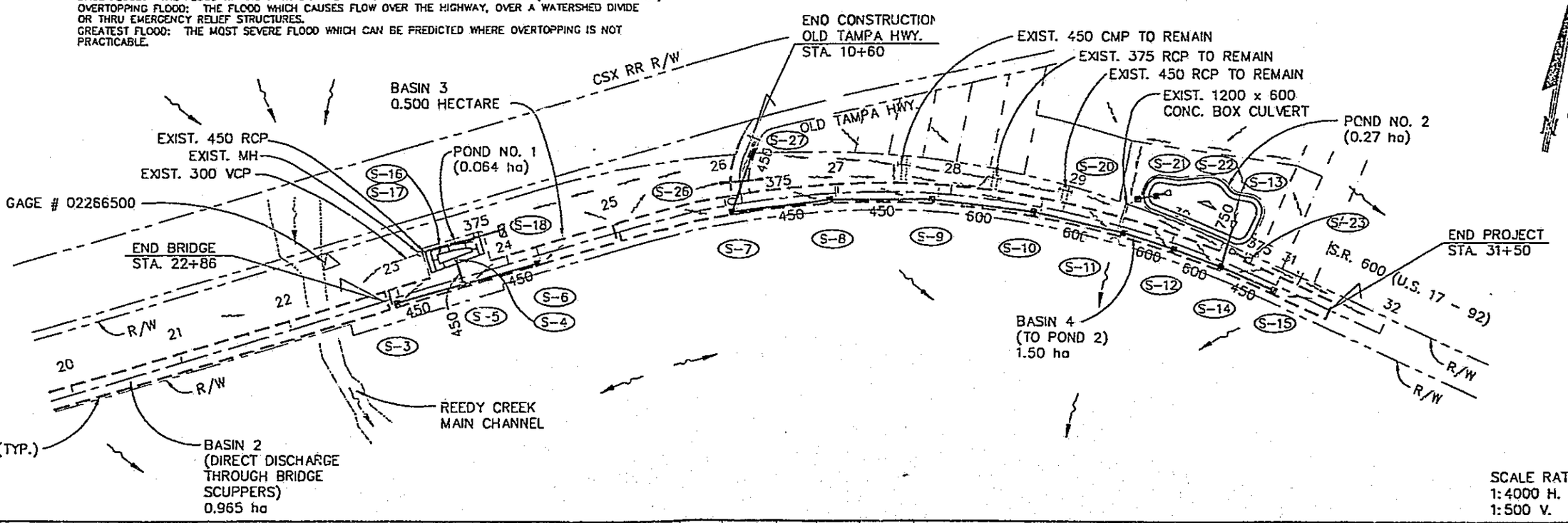
NOTE: THE HYDRAULIC DATA IS SHOWN FOR INFORMATIONAL PURPOSES ONLY TO INDICATE THE FLOOD DISCHARGES AND WATER SURFACE ELEVATIONS WHICH MAY BE ANTICIPATED IN ANY GIVEN YEAR. THIS DATA WAS GENERATED USING HIGHLY VARIABLE FACTORS DETERMINED BY A STUDY OF THE WATERSHED. MANY JUDGEMENTS AND ASSUMPTIONS ARE REQUIRED TO ESTABLISH THESE FACTORS. THE RESULTANT HYDRAULIC DATA IS SENSITIVE TO CHANGES, PARTICULARLY ANTECEDENT CONDITIONS, URBANIZATION, CHANNELIZATION AND LAND USE. USERS OF THIS DATA ARE CAUTIONED AGAINST THE ASSUMPTION OF PRECISION WHICH CANNOT BE OBTAINED.

DEFINITIONS:
DESIGN FLOOD: THE FLOOD UTILIZED TO ASSURE A DESIRED LEVEL OF HYDRAULIC PERFORMANCE.
BASE FLOOD: THE FLOOD HAVING A 1% CHANCE OF BEING EXCEEDED IN ONE YEAR. (100 YEAR FREQUENCY)
OVERTOPPING FLOOD: THE FLOOD WHICH CAUSES FLOW OVER THE HIGHWAY, OVER A WATERSHED DIVIDE OR THRU EMERGENCY RELIEF STRUCTURES.
GREATEST FLOOD: THE MOST SEVERE FLOOD WHICH CAN BE PREDICTED WHERE OVERTOPPING IS NOT PRACTICABLE.

WATER SURFACE ELEVATIONS: N.H.W. (NON-TIDAL) 20.57 M.H.W. N/A M.L.W. N/A

FLOOD DATA:	MAX. EVENT OF RECORD	DESIGN FLOOD	BASE FLOOD	☐OVERTOPPING FLOOD ☒GREATEST FLOOD
STAGE ELEV. NGVD(M)	20.95•	21.28	21.31	21.38
DISCHARGE (CMS)	22.38•	98.77	106.30	123.89
AVERAGE VELOCITY(MPS)	UNKNOWN	0.22	0.23	0.24
EXCEEDANCE PROB. (%)	UNKNOWN	2%	1%	0.2%
FREQUENCY (YR.)	UNKNOWN	50	100	500

• BASED ON GAGE # 02266500 – LOCATION IS APPROXIMATELY AT ±22+75 C/L 53 LT.



SCALE RAT
1:4000 H.
1:500 V.

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	RSL	1/27/93	DRAWN BY	DPA	1/27/93
CHECKED BY	MNA	10/19/93	CHECKED BY	SJC	10/19/93
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY:
DATE:

AIKENHEAD & ODOM, Inc.
CONSULTING ENGINEERS

DRAINAGE MAP

STORMWATER DRAINAGE CALCULATIONS

BASIN NO. 1

STATE ROAD 600 (U.S. 92) REALIGNMENT

October 1995

SEE SUMMARY

STORMWATER DRAINAGE CALCULATIONS

BASIN NO. 2

STATE ROAD 600 (U.S. 92) REALIGNMENT

October 1995

SEE SUMMARY

STORMWATER DRAINAGE CALCULATIONS

BASIN NO. 3

STATE ROAD 600 (U.S. 92) REALIGNMENT

October 1995

AIKENHEAD & ODOM, INC.
5730 Bowden Road, Suite 200
Jacksonville, Florida 32216
Tel.No.:(904) 636-5432
Fax No.:(904) 636-5433

PROJECT: REEDY CREEK - SR 600
PROJ. NO.: 94-005 SHEET:
CALC. BY: MRM DATE: 10/9/95
CHECKED BY: MNA DATE: 10/10/95
FILENAME: F:\USERS\MRM\RDYSUM.XLS

STORMWATER DRAINAGE CALCULATIONS

SUMMARY

BASIN NO. 3

	POST DEVELOPMENT CONDITION Metric Units	English Units
Basin Area	0.500 hectares	1.240 acres
Basin CN	83.85	83.85
Basin Tc	10.000 minutes	10.000 minutes
Basin Discharges into:	Existing 500 VCP	
25 YR-24 HR. SCS Total Rainfall Depth	225 mm.	9.000 inches
25 YR.-24 HR. SCS Storm Peak Flow (Pond Discharge)	8.65 m^3/min.	5.09 cfs
25 YR.-24HR. SCS Storm Peak Elevation	22.76 m.	74.68 feet
10 YR.-24 HR. SCS Storm Peak Elevation	22.67 m.	74.37 feet
CRITICAL STORM (Using Rational Method)		
100 YR - 1 HR. Storm Flow (Pond Discharge)	7.88 m^3/min.	4.64 cfs
F NL (100 yr/ 1 hr)	22.75 m.	74.64 feet
Impervious Surface	0.356 hectares	0.882 acres
Treatment Volume , Required	113.48 m^3	0.092 acre-foot
Treatment Volume, Provided	172.69 m^3	0.140 acre-foot
Pond Berm Elevation	23.50 m.	77.10 feet
Pond Bottom	21.95 m.	71.68 feet
Type of Control Structure	Type "E" Ditch Bottom Inlet -modified	
Weir Bottom Elevation	22.50 m.	73.82 feet
Weir Length	0.61 m.	2.00 feet
Grate Elevation	23.50 m.	77.10 feet
Control Structure Baffle provided	YES	

"ON-LINE" RETENTION POND

STATE PR
92010-

EXISTING PAVT. TO REMAIN
CONTROL STRUCTURE SEE DETAIL - SHEET 34
INV.=21.99
PB-2
+59.882
30,500 LT.
1:50 BERM
+75.000
25,582 LT.
+72.550
23,489 LT.
+72.550
19,909 LT.
CONST. 58 OF 375 RCP
AREA TO BE BACKFILLED TO ELEVATIONS SHOWN
±23.00
22.70
S-18
MES
FL. 22.70
25.25
23.50
1:3
4.50 BERM
TOP ELEV.
23.50
24
A
(SHT. 34)
S-16
S-17
S-4
S-5
PB-1
2.5 R
+42.450
25,550 LT.
+42.450
17,652 LT.
21.85
+40.000
28,000 LT.
4.50 BERM
TOP ELEV.
23.50
BASELINE SURVEY
CONST. 2.5 OF 600 RCP
EXISTING TO REMAIN RCP
BUILDING
FL=21.67
23
C/L CONSTRUCTION
S.R. NO. 600
450 RCP
END BRIDGE
STA. 2.2+86
22.50
23.50
24.00
24.50
25.00
25.50

TREE PROTECTION LEGEND

600 CYP. TREE, SIZE & TYPE NOTE

600 CYP. TREE TO BE PROTECTED SIZE AND TYPE NOTED

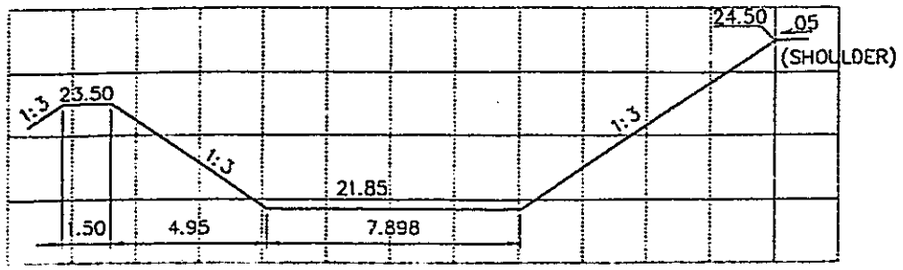
REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
					16						

	NAME	DATE		NAME	DATE
DESIGNED BY	RSL	9/20/95	DRAWN BY	MJH	10/13/95
CHECKED BY	MRH	10/20/95	CHECKED BY	DPA	10/20/95
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY:
DATE:

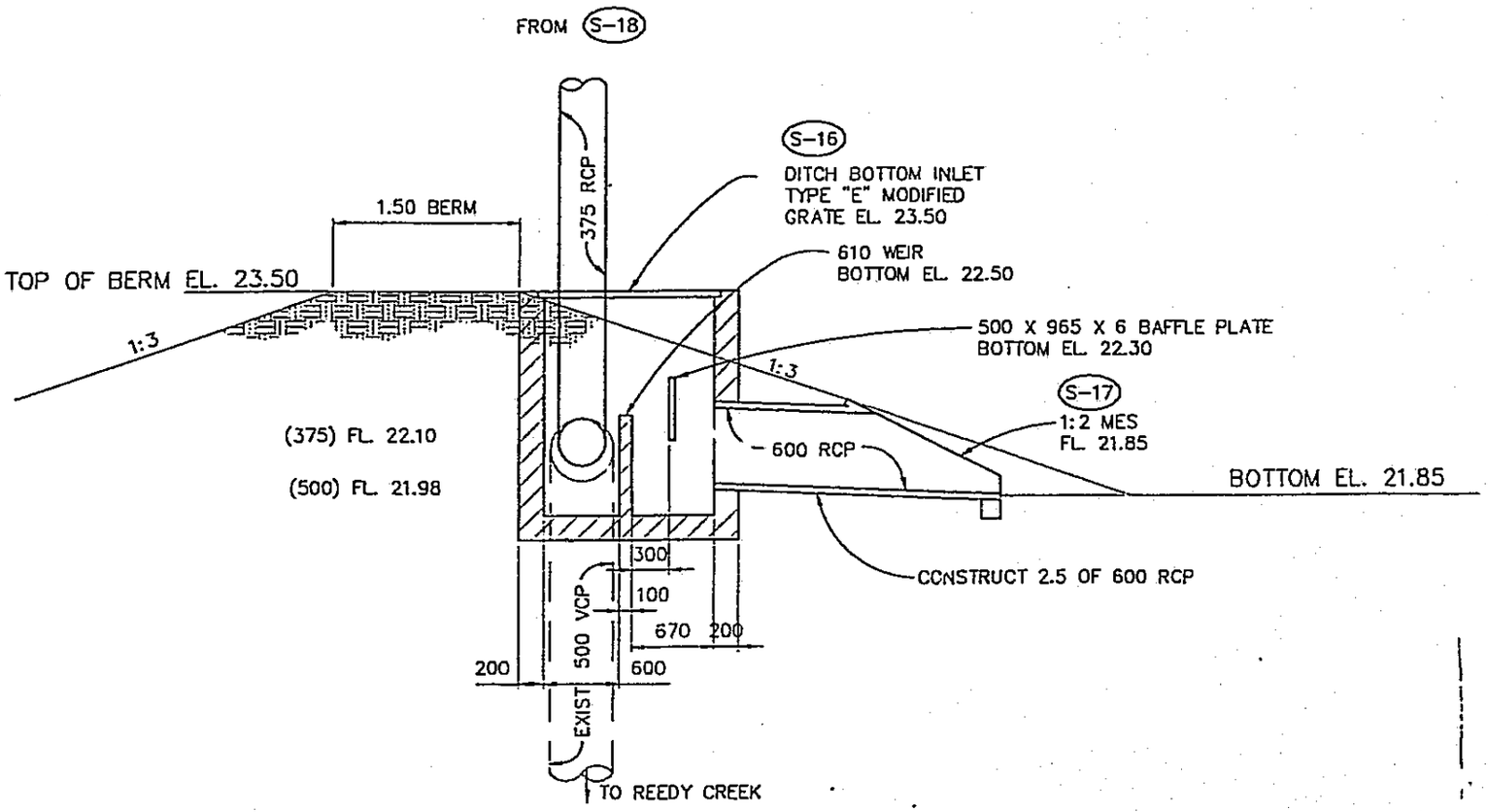
AIKENHEAD & ODOM Inc.
CONSULTING ENGINEERS

GRADING PLAN
POND NO. 1



SECTION A–A (POND 1)

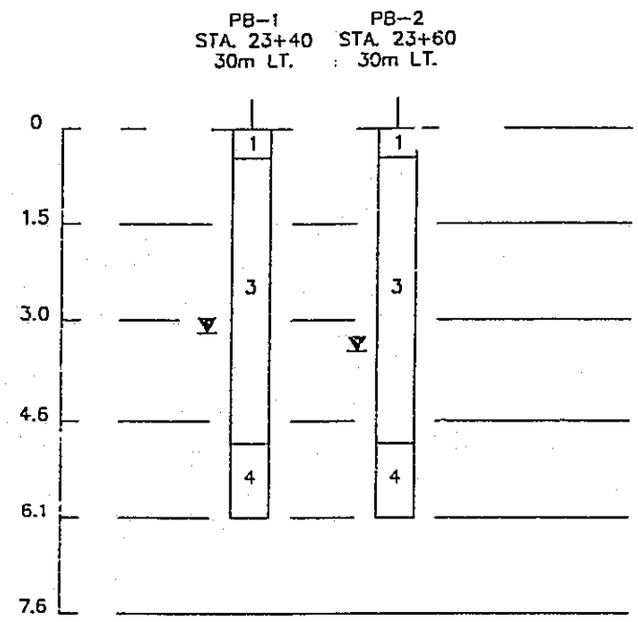
	FLOW	HWL
10 YR. – 24 HR. SCS STORM:	5.33 m3/min.	22.67
25 YR. – 24 HR. SCS STORM:	8.65 m3/min.	22.76
CRITICAL STORM:		
100 YR. – 1 HR. STORM:	7.88 m3/min.	22.75



(S-16) CONTROL STRUCTURE DETAIL

SCALE 1:50

SOIL BORING PROFILE



SOIL PROFILE LEGEND

STRATUM NO.	SOIL DESCRIPTION	AASHTO CLASSIFICATION
1	BROWN TO GRAY FINE SAND TO SLIGHTLY SILTY FINE SAND. TRACE ORGANICS, OCCASIONAL TRACE LIMEROCK	(A-3)(A-2-4
2	GREENISH–GRAY CLAYEY FINE SAND TO SANDY CLAY	(A-2-7)(A-7
3	ORANGE TO BRDWN FINE SAND TO FINE SAND WITH SILT	(A-3)(A-2-4
4	GRAY FINE SAND TO SAND WITH SILT	(A-3)(A-2-4
5	DARK REDDISH–BROWN FINE SAND TO FINE SAND WITH SILT, OCCASIONAL WEAKLY CEMENTED FINE SAND	(A-3)(A-2-4
6	DARK GRAY TO GRAY CLAYEY FINE SAND, TRACE ORGANICS, TRACE LIMEROCK	(A-2-6)(A-2
7	PEAT	(A-8)
8	GRAY CLAY	(A-7)
9	GREEN SILTY FINE SAND, OCCASIONAL PHOSPHATES, OCCASIONAL SHELL	(A-2-4)
10	GREY SILTY FINE SAND, OCCASIONAL SHELL	(A-2-4)
11	ORANGE TO RED SILTY FINE SAND	(A-2-4)
12	LIMESTONE	

(A-2-4) A.A.S.H.T.O. SOIL CLASSIFICATION GROUP SYMBOL

▼ DEPTH TO GROUNDWATER LEVEL IN METERS

STATE PROJ. NO.
92010–3520

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	RSL	9/15/95	DRAWN BY	MJY	10/13/95
CHECKED BY	MRN	10/20/95	CHECKED BY	DPA	10/20/95
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY:
DATE:

AIKENHEAD & ODOM Inc. CONSULTING ENGINEERS

DETAILS
POND NO. 1

AIKENHEAD & ODOM, INC.
5730 Bowden Road, Suite 200
Jacksonville, Florida 32216
Tel.No.:(904) 636-5432
Fax No.:(904) 636-5433

PROJECT: REEDY CREEK -SR 600
PROJ. NO.: 94-005 SHEET: 1
CALC. BY: MRM DATE: 9/27/95
CHECKED BY: MNA DATE: 9/27/95
FILENAME: MRM\RDYRET.WP

STORMWATER DRAINAGE CALCULATIONS
RETENTION POND
BASIN NO. 3

I. WATER QUANTITY

A. Area:

Total Drainage Area =1.240 acres
Pervious Surface (Type "A" Soil) =0.358 acre
Impervious Surface (Proposed Pavement) =0.882 acre

% Impervious = 0.882 / 1.240 x 100 = 71.13%

B. Curve Number:

Pervious Surface (Type "A" Soil)	0.358	CN = 49
Impervious Surface	0.882	CN = 98

CN = ((0.358 x 49) + (0.882 x 98)) / 1.240
CN = 83.85

C. Time of Concentration:

For Developed Areas, use:
Tc = 10 minutes (minimum)

II. WATER QUALITY

A. Treatment Volume:

Treatment Volume Requirements for a Retention Pond:

Option 1: Treat the first inch of runoff from the drainage area.
Vol. = 1.240 x (1/12) = 0.103 acre-foot

Option 2: Treat 2.5 times the % of imperviousness.
Vol. = 2.5 x 0.7133 = 1.78 inches to be treated
Vol. = 1.78 x 1.240 x (1/12) = 0.184 acre-foot

50% of computed Treatment Volume is required for a retention pond,
Vol. = 0.50 x 0.184 = 0.092 acre-foot

Design depth of Treatment Volume = 2.0 feet. Therefore,
Vol. = 0.092 / 2.0 = 0.046 acres

AIKENHEAD & ODOM, INC.
5730 Bowden Road, Suite 200
Jacksonville, Florida 32216
Tel.No.:(904) 636-5432
Fax No.:(904) 636-5433

PROJECT:	REEDY CREEK -SR 600		
PROJ. NO.:	94-005	SHEET:	1
CALC. BY:	MRM	DATE:	9/27/95
CHECKED BY:	MNA	DATE:	9/27/95
FILENAME:	MRM\RDYRET.WP		

STORMWATER DRAINAGE CALCULATIONS
RETENTION POND
BASIN NO. 3

B. Pond Data:

Top of Bank elevation	=23.50 m. (77.10 ft.)
Mean Area elevation	=22.17 m. (72.73 ft.)
Weir elevation	=22.50 m. (73.81 ft.)
Bottom of Pond elevation	=21.85 m. (71.68 ft.)
Critical Storm (100 yr - 1 hour) HWL	=22.75 m. (74.64 ft.)

Pond Area @ Mean Elevation = 0.065 acre > 0.046 acre
Therefore, Treatment Volume is m[illegible].

STAGE (ELEVATION)	SURFACE AREA (ACRES)
77.10	0.158
76.28	0.138
75.46	0.120
74.64	0.102
73.82	0.085
73.00	0.070
72.18	0.055
71.69	0.047

C. Recovery:

Permeabil[illegible] = 25 ft./day x (12/1) x (1/24) = 12.5 inches per hour
Pond Bottom Area = 805 square meters = 2048 square feet
$Q_{percolation}$ = (12.5/12) x (2048) x (1/3600) = 0.592 cfs
Treatment Volume = 0.092 x 43560 = 4007 cubic feet

Time to Recover = 4007/0.592 = 6770 seconds
= 1.88 hours < 36 hours (F.S. = 2)

AIKENHEAD & ODOM, INC.
5730 Bowden Road, Suite 200
Jacksonville, Florida 32216
Tel.No.:(904) 636-5432
Fax No.:(904) 636-5433

PROJECT: REEDY CREEK -SR 600
PROJ. NO.: 94-005 SHEET: 1
CALC. BY: MRM DATE: 10/5/95
CHECKED BY: MNA DATE: 10/5/95
FILENAME: MRM\SSDRET.XLS

STAGE-STORAGE-DISCHARGE RELATIONSHIPS

POND DATA:

	Metric m.	English ft.	
Bot. El.	21.85	71.69	
Control El.	21.85	71.69	
Berm El.	23.50	77.10	
Stage Incr.	0.25		(above Control El.)
Stage Incr.	0.00		(below Control El.)

WEIR DATA:

	Metric m.	English ft.
Type	E"-Modified	
Coefficient	3.13	3.13
Length	0.61	2.00
Bot. El.	22.50	73.82

	STAGE (m.)	STAGE (feet)	AREA (m^2)	AREA (acre)	STORAGE (acre-foot) INCR.	STORAGE (acre-foot) CUMM.	WEIR DISCH.(cfs)
Berm El.	23.50	77.10	637.847	0.158	0.121	0.535	37.22
	23.25	76.28	559.416	0.138	0.106	0.414	24.18
	23.00	75.46	484.519	0.120	0.091	0.308	13.16
	22.75	74.64	413.157	0.102	0.077	0.217	4.65
	22.50	73.82	345.528	0.085	0.064	0.140	0.00
	22.25	73.00	282.281	0.070	0.051	0.076	0.00
	22.00	72.18	223.464	0.055	0.025	0.025	0.00
Control El.	21.85	71.69	190.301	0.047	0.000	0.000	0.00

```
**********************************
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*    SUPRA ENGINEERING SOFTWARE    *
**********************************
```

LICENSED TO: Aikenhead & Odom, Inc.

TITLE: REEDY CREEK - S.R. 600 RETENTION POND 10YR24HR

DATE: 10-12-1995
TIME: 12: 9:56

SIMULATION TIME (hours)	=	24.0
TIME STEP (minutes)	=	5.0
PRINT INTERVAL	=	3
TOTAL RAINFALL DEPTH (inches)	=	7.0
RAINFALL TIME INTERVAL (minutes)	=	30.0
TYPE OF RAINFALL DISTRIBUTION	=	5

1 - USER SPECIFIED
2 - SCS TYPE I , 24-HR STORM
3 - SCS TYPE IA , 24-HR STORM
4 - SCS TYPE II , 24-HR STORM
5 - SCS TYPE IIM, 24-HR STORM
6 - SCS TYPE III, 24-HR STORM

REFERENCE FILES

INPUT DATA : rdyret.sp1

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****
* HYDROGRAPH COMPUTATION *
****

SCS UNIT HYDROGRAPH METHOD

INPUT SUMMARY

SUBBASIN: 3

AREA (acres)	=	1.24
SCS CURVE NUMBER	=	83.8
TIME OF CONCENTRATION (minutes)	=	10.0
PEAK RATE FACTOR	=	484.0

OUTPUT SUMMARY

PEAK FLOW (cfs)	=	4.45
TIME TO PEAK (hours)	=	12.00
RUNOFF DEPTH (inches)	=	5.117
RUNOFF VOLUME (ac-ft)	=	.53

TIME (hrs)	CUMULATIVE RAINFALL	CUMULATIVE RUNOFF	FLOW (cfs)
.00	.00	.000	.00
.25	.02	.000	.00
.50	.04	.000	.00
.75	.06	.000	.00
1.00	.08	.000	.00
1.25	.10	.000	.00
1.50	.13	.000	.00
1.75	.15	.000	.00
2.00	.18	.000	.00
2.25	.20	.000	.00
2.50	.22	.000	.00
2.75	.25	.000	.00
3.00	.27	.000	.00
3.25	.30	.000	.00
3.50	.32	.000	.00
3.75	.35	.000	.00
4.00	.38	.000	.00
4.25	.41	.000	.00
4.50	.43	.001	.00
4.75	.47	.003	.01
5.00	.50	.006	.01
5.25	.53	.010	.02
5.50	.56	.014	.02
5.75	.59	.020	.03
6.00	.62	.026	.03

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TIME (hrs)	CUMULATIVE RAINFALL	CUMULATIVE RUNOFF	FLOW (cfs)
6.25	.66	.033	.04
6.50	.69	.042	.04
6.75	.73	.052	.05
7.00	.77	.063	.06
7.25	.81	.077	.07
7.50	.85	.091	.07
7.75	.90	.108	.08
8.00	.95	.125	.09
8.25	.99	.145	.10
8.50	1.04	.166	.10
8.75	1.10	.190	.12
9.00	1.15	.215	.12
9.25	1.21	.245	.14
9.50	1.27	.275	.15
9.75	1.34	.313	.18
10.00	1.41	.353	.19
10.25	1.49	.404	.25
10.50	1.58	.457	.26
10.75	1.69	.527	.34
11.00	1.81	.601	.36
11.25	1.98	.718	.56
11.50	2.15	.840	.61
11.75	3.20	1.664	3.72
12.00	4.24	2.568	4.45
12.25	4.63	2.919	2.06
12.50	5.03	3.275	1.78
12.75	5.16	3.400	.75
13.00	5.30	3.525	.63
13.25	5.40	3.615	.47
13.50	5.49	3.706	.45
13.75	5.57	3.777	.37
14.00	5.65	3.849	.36
14.25	5.72	3.910	.31
14.50	5.78	3.972	.31
14.75	5.84	4.024	.26
15.00	5.89	4.076	.26
15.25	5.95	4.125	.25
15.50	6.00	4.174	.24
15.75	6.04	4.217	.22
16.00	6.09	4.260	.21
16.25	6.13	4.299	.20
16.50	6.17	4.338	.20
16.75	6.21	4.374	.18
17.00	6.25	4.410	.18
17.25	6.29	4.443	.17

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DATE: 10-12-1995
TIME: 12: 9:56

TIME (hrs)	CUMULATIVE RAINFALL	CUMULATIVE RUNOFF	FLOW (cfs)
17.50	6.32	4.476	.16
17.75	6.36	4.509	.16
18.00	6.39	4.542	.16
18.25	6.42	4.572	.15
18.50	6.45	4.601	.15
18.75	6.49	4.631	.15
19.00	6.52	4.661	.15
19.25	6.54	4.687	.13
19.50	6.57	4.713	.13
19.75	6.60	4.740	.13
20.00	6.63	4.766	.13
20.25	6.66	4.793	.13
20.50	6.68	4.819	.13
20.75	6.71	4.842	.12
21.00	6.73	4.866	.12
21.25	6.76	4.889	.12
21.50	6.78	4.912	.12
21.75	6.81	4.935	.12
22.00	6.83	4.958	.12
22.25	6.86	4.981	.12
22.50	6.88	5.005	.12
22.75	6.90	5.025	.10
23.00	6.92	5.044	.10
23.25	6.94	5.064	.10
23.50	6.96	5.084	.10
23.75	6.98	5.101	.08
24.00	7.00	5.117	.08

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****
* POND ROUTING *
****

ELEV:	71.69	72.18	73.00	73.82	74.64	75.46
STORAGE:	.00	.03	.08	.14	.22	.31
OUTFLOW:	.00	.00	.00	.00	4.65	13.16
ELEV:	76.28	77.10	.00	.00	.00	.00
STORAGE:	.41	.54	.00	.00	.00	.00
OUTFLOW:	24.18	37.22	.00	.00	.00	.00

OUTPUT SUMMARY

PEAK OUTFLOW (cfs)	=	3.14
PEAK ELEVATION (ft)	=	74.37
PEAK STORAGE (ac-ft)	=	.19
TIME TO PEAK (hrs)	=	12.17

TIME	INFLOW	ELEV	STORAGE	OUTFLOW
.00	.00	71.69	.00	.00
.25	.00	71.69	.00	.00
.50	.00	71.69	.00	.00
.75	.00	71.69	.00	.00
1.00	.00	71.69	.00	.00
1.25	.00	71.69	.00	.00
1.50	.00	71.69	.00	.00
1.75	.00	71.69	.00	.00
2.00	.00	71.69	.00	.00
2.25	.00	71.69	.00	.00
2.50	.00	71.69	.00	.00
2.75	00	71.69	.00	.00
3.00	.00	71.69	.00	.00
3.25	.00	71.69	.00	.00
3.50	.00	71.69	.00	.00
3.75	.00	71.69	.00	.00
4.00	.00	71.69	.00	.00
4.25	.00	71.69	.00	.00
4.50	.00	71.69	.00	.00
4.75	.01	71.69	.00	.00
5.00	.01	71.70	.00	.0
5.25	.02	71.70	.00	
5.50	.02	71.71	.00	.0
5.75	.03	71.72	.00	.00
6.00	.03	71.73	.00	.00
6.25	.04	71.74	.00	.00
6.50	.04	71.75	.00	.00
6.75	.05	71.77	.00	.00
7.00	.06	71.79	.01	.00

8.75	.12	71.99	.02	.00
8.50	.10	71.95	.02	.00
8.25	.10	71.91	.01	.00
8.00	.09	71.83	.01	.00

TIME	INFLOW	ELEV	STORAGE	OUTFLOW
9.00	.12	72.03	.02	.00
9.25	.14	72.07	.02	.00
9.50	.15	72.12	.03	.00
9.75	.18	72.18	.03	.00
10.00	.19	72.24	.03	.00
10.25	.25	72.32	.04	.00
10.50	.26	72.41	.04	.00
10.75	.34	72.51	.05	.00
11.00	.36	72.63	.06	.00
11.25	.56	72.79	.07	.00
11.50	.61	72.99	.08	.00
11.75	3.72	73.62	.13	.00
12.00	4.45	74.29	.19	2.66
12.25	2.06	74.33	.19	2.87
12.50	1.78	74.20	.18	2.15
12.75	.75	74.07	.16	1.43
13.00	.63	73.98	.16	.89
13.25	.47	73.93	.15	.63
13.50	.45	73.91	.15	.51
13.75	.37	73.90	.15	.43
14.00	.36	73.89	.15	.38
14.25	.31	73.88	.15	.34
14.50	.31	73.88	.15	.32
14.75	.26	73.87	.15	.29
15.00	.26	73.87	.14	.27
15.25	.25	73.87	.14	.26
15.50	.24	73.86	.14	.25
15.75	.22	73.86	.14	.23
16.00	.21	73.86	.14	.22
16.25	.20	73.86	.14	.21
16.50	.20	73.86	.14	.20
16.75	.18	73.85	.14	.19
17.00	.18	73.85	.14	.18
17.25	.17	73.85	.14	.17
17.50	.16	73.85	.14	.17
17.75	.16	73.85	.14	.16
18.00	.16	73.85	.14	.16
18.25	.15	73.85	.14	.16
18.50	.15	73.85	.14	.15
18.75	.15	73.85	.14	.15
19.00	.15	73.85	.14	.15
19.25	.13	73.84	.14	.14
19.50	.13	73.84	.14	.13
19.75	.13	73.84	.14	.13
20.00	.13	73.84	.14	.13
20.25	.13	73.84	.14	.13
20.50	.13	73.84	.14	.13

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TIME	INFLOW	ELEV	STORAGE	OUTFLOW
20.75	.12	73.84	.14	.13
21.00	.12	73.84	.14	.12
21.25	.12	73.84	.14	.12
21.50	.12	73.84	.14	.12
21.75	.12	73.84	.14	.12
22.00	.12	73.84	.14	.12
22.25	.12	73.84	.14	.12
22.50	.12	73.84	.14	.12
22.75	.10	73.84	.14	.11
23.00	.10	73.84	.14	.10
23.25	.10	73.84	.14	.10
23.50	.10	73.84	.14	.10
23.75	.08	73.84	.14	.09
24.00	.08	73.84	.14	.09

```
**************************************
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LICENSED TO: Aikenhead & Odom, Inc.

TITLE: REEDY CREEK - S.R. 600 RETENTION POND 25YR24HR

DATE: 10-12-1995
TIME: 12:17:17

SIMULATION TIME (hours)	=	24.0
TIME STEP (minutes)	=	5.0
PRINT INTERVAL	=	3
TOTAL RAINFALL DEPTH (inches)	=	9.0
RAINFALL TIME INTERVAL (minutes)	=	30.0
TYPE OF RAINFALL DISTRIBUTION	=	5

1 - USER SPECIFIED
2 - SCS TYPE I , 24-HR STORM
3 - SCS TYPE IA , 24-HR STORM
4 - SCS TYPE II , 24-HR STORM
5 - SCS TYPE IIM, 24-HR STORM
6 - SCS TYPE III, 24-HR STORM

REFERENCE FILES

INPUT DATA : rdyret.25y

SUPRA-1 (HYDROLOGIC ANALYSIS & DESIGN)
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DATE: 10-12-1995
TIME: 12:17:17

****
* HYDROGRAPH COMPUTATION *
****

SCS UNIT HYDROGRAPH METHOD

INPUT SUMMARY

SUBBASIN: 3	=	1.24
AREA (acres)	=	83.8
SCS CURVE NUMBER	=	10.0
TIME OF CONCENTRATION (minutes)	=	484.0
PEAK RATE FACTOR		

OUTPUT SUMMARY

PEAK FLOW (cfs)	=	6.01
TIME TO PEAK (hours)	=	12.00
RUNOFF DEPTH (inches)	=	7.035
RUNOFF VOLUME (ac-ft)	=	.73

TIME (hrs)	CUMULATIVE RAINFALL	CUMULATIVE RUNOFF	FLOW (cfs)
.00	.00	.000	.00
.25	.03	.000	.00
.50	.05	.000	.00
.75	.08	.000	.00
1.00	.11	.000	.00
1.25	.14	.000	.00
1.50	.16	.000	.00
1.75	.19	.000	.00
2.00	.23	.000	.00
2.25	.26	.000	.00
2.50	.29	.000	.00
2.75	.32	.000	.00
3.00	.35	.000	.00
3.25	.38	.000	.00
3.50	.41	.002	.01
3.75	.45	.005	.01
4.00	.49	.009	.02
4.25	.52	.014	.02
4.50	.56	.021	.03
4.75	.60	.029	.04
5.00	.64	.039	.05
5.25	.68	.049	.06
5.50	.72	.061	.06
5.75	.76	.073	
6.00	.80		

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TIME (hrs)	CUMULATIVE RAINFALL	CUMULATIVE RUNOFF	FLOW (cfs)
6.25	.85	.088	.07
6.50	.89	.104	.08
6.75	.94	.123	.09
7.00	.99	.144	.10
7.25	1.04	.167	.11
7.50	1.10	.191	.12
7.75	1.16	.219	.14
8.00	1.21	.248	.14
8.25	1.28	.281	.16
8.50	1.34	.315	.17
8.75	1.41	.353	.19
9.00	1.48	.393	.19
9.25	1.55	.439	.23
9.50	1.63	.486	.24
9.75	1.72	.544	.28
10.00	1.81	.603	.29
10.25	1.92	.679	.37
10.50	2.03	.758	.39
10.75	2.18	.862	.50
11.00	2.32	.968	.53
11.25	2.51	1.137	.80
11.50	2.76	1.310	.86
11.75	4.11	2.450	5.14
12.00	5.45	3.668	6.01
12.25	5.96	4.136	2.76
12.50	6.46	4.609	2.37
12.75	6.64	4.774	1.00
13.00	6.81	4.940	.83
13.25	6.94	5.060	.62
13.50	7.07	5.179	.60
13.75	7.16	5.273	.48
14.00	7.26	5.367	.47
14.25	7.35	5.449	.41
14.50	7.43	5.530	.41
14.75	7.51	5.599	.35
15.00	7.58	5.668	.34
15.25	7.65	5.732	.32
15.50	7.71	5.797	.32
15.75	7.77	5.853	.28
16.00	7.83	5.909	.28
16.25	7.88	5.960	.26
16.50	7.94	6.012	.26
16.75	7.99	6.060	.24
17.00	8.04	6.107	.24
17.25	8.08	6.150	.22

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TIME (hrs)	CUMULATIVE RAINFALL	CUMULATIVE RUNOFF	FLOW (cfs)
17.50	8.13	6.194	.21
17.75	8.17	6.237	.21
18.00	8.22	6.280	.21
18.25	8.26	6.319	.20
18.50	8.30	6.358	.19
18.75	8.34	6.397	.19
19.00	8.38	6.436	.19
19.25	8.42	6.470	.17
19.50	8.45	6.505	.17
19.75	8.49	6.540	.17
20.00	8.52	6.574	.17
20.25	8.56	6.609	.17
20.50	8.60	6.644	.17
20.75	8.63	6.674	.15
21.00	8.66	6.704	.15
21.25	8.69	6.735	.15
21.50	8.72	6.765	.15
21.75	8.75	6.796	.15
22.00	8.78	6.826	.15
22.25	8.82	6.856	.15
22.50	8.85	6.887	.15
22.75	8.87	6.913	.13
23.00	8.90	6.939	.13
23.25	8.93	6.965	.13
23.50	8.96	6.991	.13
23.75	8.98	7.013	.11
24.00	9.00	7.035	.11

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DATE: 10-12-1995
TIME: 12:17:17

****
* POND ROUTING *
****

ELEV:	71.69	72.18	73.00	73.82	74.64	75.46
STORAGE:	.00	.03	.08	.14	.22	.31
OUTFLOW:	.00	.00	.00	.00	4.65	13.16
ELEV:	76.28	77.10	.00	.00	.00	.00
STORAGE:	.41	.54	.00	.00	.00	.00
OUTFLOW:	24.18	37.22	.00	.00	.00	.00

OUTPUT SUMMARY

PEAK OUTFLOW (cfs)	=	5.09
PEAK ELEVATION (ft)	=	74.68
PEAK STORAGE (ac-ft)	=	.22
TIME TO PEAK (hrs)	=	12.08

TIME	INFLOW	ELEV	STORAGE	OUTFLOW
.00	.00	71.69	.00	.00
.25	.00	71.69	.00	.00
.50	.00	71.69	.00	.00
.75	.00	71.69	.00	.00
1.00	.00	71.69	.00	.00
1.25	.00	71.69	.00	.00
1.50	.00	71.69	.00	.00
1.75	.00	71.69	.00	.00
2.00	.00	71.69	.00	.00
2.25	.00	71.69	.00	.00
2.50	.00	71.69	.00	.00
2.75	.00	71.69	.00	.00
3.00	.00	71.69	.00	.00
3.25	.00	71.69	.00	.00
3.50	.00	71.69	.00	.00
3.75	.01	71.69	.00	.00
4.00	.01	71.70	.00	.00
4.25	.02	71.70	.00	.00
4.50	.02	71.71	.00	.00
4.75	.03	71.72	.00	.00
5.00	.04	71.73	.00	.00
5.25	.05	71.75	.00	.00
5.50	.05	71.76	.00	.00
5.75	.06	71.78	.01	.00
6.00	.06	71.80	.01	.00
6.25	.07	71.82	.01	.00
6.50	.08	71.85	.01	.00
6.75	.09	71.88	.01	.00
7.00	.10	71.91	.01	.00

8.00	.14	72.08	.02	.00
8.25	.16	72.13	.03	.00
8.50	.17	72.19	.03	.00
8.75	.19	72.25	.03	.00

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TIME	INFLOW	ELEV	STORAGE	OUTFLOW
9.00	.19	72.31	.04	.00
9.25	.23	72.38	.04	.00
9.50	.24	72.46	.05	.00
9.75	.28	72.55	.05	.00
10.00	.29	72.65	.06	.00
10.25	.37	72.76	.07	.00
10.50	.39	72.89	.07	.00
10.75	.50	73.04	.08	.00
11.00	.53	73.18	.09	.00
11.25	.80	73.37	.11	.00
11.50	.86	73.61	.12	.00
11.75	5.14	74.19	.18	2.09
12.00	6.01	74.64	.22	4.68
12.25	2.76	74.55	.21	4.14
12.50	2.37	74.34	.19	2.95
12.75	1.00	74.16	.17	1.93
13.00	.83	74.03	.16	1.18
13.25	.62	73.97	.15	.84
13.50	.60	73.94	.15	.67
13.75	.48	73.92	.15	.57
14.00	.47	73.91	.15	.50
14.25	.41	73.90	.15	.45
14.50	.41	73.89	.15	.42
14.75	.35	73.89	.15	.38
15.00	.34	73.88	.15	.36
15.25	.32	73.88	.15	.34
15.50	.32	73.88	.15	.33
15.75	.28	73.87	.15	.31
16.00	.28	73.87	.14	.29
16.25	.26	73.87	.14	.27
16.50	.26	73.87	.14	.26
16.75	.24	73.86	.14	.25
17.00	.24	73.86	.14	.24
17.25	.22	73.86	.14	.23
17.50	.21	73.86	.14	.22
17.75	.21	73.86	.14	.22
18.00	.21	73.86	.14	.22
18.25	.20	73.86	.14	.21
18.50	.19	73.85	.14	.20
18.75	.19	73.85	.14	.19
19.00	.19	73.85	.14	.19
19.25	.17	73.85	.14	.19
19.50	.17	73.85	.14	.18
19.75	.17	73.85	.14	.17
20.00	.17	73.85	.14	.17
20.25	.17	73.85	.14	.17
20.50	.17	73.85	.14	.17

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TIME	INFLOW	ELEV	STORAGE	OUTFLOW
20.75	.15	73.85	.14	.16
21.00	.15	73.85	.14	.16
21.25	.15	73.85	.14	.15
21.50	.15	73.85	.14	.15
21.75	.15	73.85	.14	.15
22.00	.15	73.85	.14	.15
22.25	.15	73.85	.14	.15
22.50	.15	73.85	.14	.15
22.75	.13	73.85	.14	.14
23.00	.13	73.84	.14	.13
23.25	.13	73.84	.14	.13
23.50	.13	73.84	.14	.13
23.75	.11	73.84	.14	.12
24.00	.11	73.84	.14	.11

10-12-1995

SUPRA-3 (VERSION 4.00)
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REEDY CREEK - S.R. 600 RETENTION POND CRITICAL

OUTPUT SUMMARY

FREQUENCY	RESULTS	DURATION 1-HR	2-HR	4-HR	8-HR	24-HR
2-YR	Q-pre	5.70	5.70	5.70	5.70	5.70
	Q-post	.74	.29	.13	.00	.00
	E-max	73.95	73.87	73.84	73.61	72.29
5-YR	Q-pre	6.55	6.55	6.55	6.55	6.55
	Q-post	1.78	1.30	.83	.54	.00
	E-max	74.14	74.05	73.97	73.92	72.61
10-YR	Q-pre	6.97	6.97	6.97	6.97	6.97
	Q-post	2.33	1.96	1.18	1.14	.00
	E-max	74.23	74.17	74.03	74.02	72.99
25-YR	Q-pre	7.82	7.82	7.82	7.82	7.82
	Q-post	3.34	2.66	2.02	1.68	.00
	E-max	74.42	74.29	74.18	74.12	73.36
50-YR	Q-pre	8.43	8.43	8.43	8.43	8.43
	Q-post	3.89	3.15	2.25	1.81	.00
	E-max	74.51	74.38	74.22	74.14	73.76
100-YR	Q-pre	9.14	9.14	9.14	9.14	9.14
	Q-post	4.64	3.74	2.49	1.91	.12
	E-max	74.64	74.49	74.26	74.16	73.84

CRITICAL DURATION : **** 1-HOUR,100-YEAR STORM ****

Q-pre (cfs) = 9.14
Q-post (cfs) = 4.64
E-max (ft) = 74.64

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REEDY CREEK - S.R. 600 RETENTION POND CRITICAL

SUMMARY OF CONTROL VOLUME ANALYSIS

FREQUENCY	RESULTS	DURATION 1-HR	2-HR	4-HR	8-HR	24-HR
2-YR	V-pre	.190	.223	.261	.302	.382
	V-post	.190	.223	.261	.302	.382
	V-incr	.000	.000	.000	.000	.000
	V-retain	.176	.213	.253	.302	.382
	V-diff	.176	.213	.253	.302	.382
5-YR	V-pre	.232	.272	.320	.383	.490
	V-post	.232	.272	.320	.383	.490
	V-incr	.000	.000	.000	.000	.000
	V-retain	.182	.219	.263	.339	.490
	V-diff	.182	.219	.263	.339	.490
10-YR	V-pre	.256	.308	.368	.440	.584
	V-post	.256	.308	.368	.440	.584
	V-incr	.000	.000	.000	.000	.000
	V-retain	.185	.223	.270	.346	.584
	V-diff	.185	.223	.270	.346	.584
25-YR	V-pre	.294	.358	.424	.515	.679
	V-post	.294	.358	.424	.515	.679
	V-incr	.000	.000	.000	.000	.000
	V-retain	.189	.228	.278	.360	.679
	V-diff	.189	.228	.278	.360	.679
50-YR	V-pre	.320	.393	.471	.578	.773
	V-post	.320	.393	.471	.578	.773
	V-incr	.000	.000	.000	.000	.000
	V-retain	.191	.232	.282	.379	.773
	V-diff	.191	.232	.282	.379	.773
100-YR	V-pre	.356	.435	.521	.628	.833
	V-post	.356	.435	.521	.628	.833
	V-incr	.000	.000	.000	.000	.000
	V-retain	.194	.235	.287	.393	.813
	V-diff	.194	.235	.287	.393	.813

10-12-1995

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REEDY CREEK - S.R. 600 RETENTION POND CRITICAL

***** WEIR STRUCTURE *****

NUMBER OF WEIRS	= 1
WEIR COEFFICIENT	= 3.1
EXPONENTIAL CONSTANT	= 1.5
WEIR ELEVATION (ft)	= 73.82
WEIR LENGTH (ft)	= 2.00

PERCOLATION RATE (in/hr) = 6.25

**** STAGE/STORAGE/DISCHARGE DATA ****

STAGE (ft)	AREA (acres)	STORAGE (ac-ft)	PERCOLATION FLOW	CONNECTED OUTFLOW	TOTAL OUTFLOW
71.69	.047	.000	.00	.00	.00
72.18	.055	.025	.35	.00	.35
73.00	.070	.076	.44	.00	.44
73.82	.085	.140	.54	.00	.54
74.64	.102	.216	.64	4.60	5.25
75.46	.120	.307	.76	13.02	13.78
76.28	.138	.413	.87	23.92	24.79
77.10	.158	.535	1.00	36.83	37.83

10-12-1995

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REEDY CREEK - S.R. 600 RETENTION POND CRITICAL

**** 1-HOUR,100-YEAR STORM ****

PRE-DEVELOPMENT CONDITION:

DRAINAGE AREA (acres)	=	1.24
CURVE NUMBER	=	.0
RUNOFF COEFFICIENT	=	.760
TIME OF CONCENTRATION (min.)	=	10.0
RAINFALL INTENSITY (in/hr)	=	9.70
PEAK FLOW RATE (cfs)	=	9.14

POST-DEVELOPMENT CONDITION:

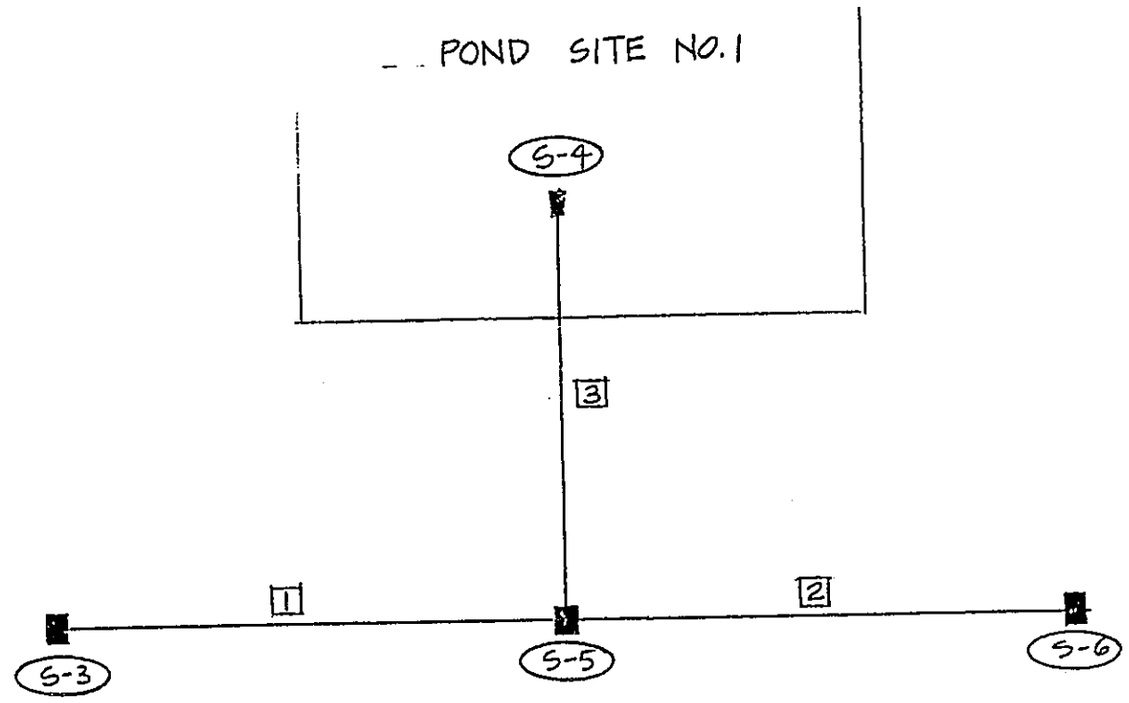
DRAINAGE AREA (acres)	=	1.24
CURVE NUMBER	=	.0
RUNOFF COEFFICIENT	=	.760
RAINFALL ZONE NUMBER	=	7
TOTAL RAINFALL DEPTH (inches)	=	4.53

TIME (hrs)	I/Ptotal RATIO	INFLOW (cfs)	STAGE (ft)	TOTAL OUTFLOW	PERCOLATION FLOW	CONNECTED OUTFLOW
.0	.000	.00	71.69	.00	.00	.00
.1	.200	.85	71.76	.05	.05	.00
.2	.600	2.56	72.01	.23	.23	.00
.3	1.200	5.12	72.51	.38	.38	.00
.4	2.100	8.97	73.31	.48	.48	.00
.5	2.150	9.18	74.09	2.06	.57	1.49
.6	1.800	7.68	74.53	4.64	.63	4.01
.7	1.100	4.70	74.64	5.28	.64	4.64
.8	.700	2.99	74.54	4.69	.63	4.06
.9	.100	.43	74.33	3.48	.60	2.88
1.0	.000	.00	74.10	2.16	.57	1.59

OUTPUT SUMMARY

PEAK FLOW (cfs)	=	4.64
PEAK STAGE (ft)	=	74.64
PEAK STORAGE (ac-ft)	=	.217
TIME TO PEAK (hrs)	=	.70

COLLECTION SYSTEM



SCHEMATIC - BASIN 3 COLLECTION SYSTEM

```
**********************************
*     SUPRA-4  (VERSION 3.00)    *
*  STORM SEWER DESIGN & ANALYSIS *
*    FOR PRESSURE FLOW SYSTEMS   *
*     BY KATO T. DEE, P.E.       *
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LICENSED TO: Aikenhead & Odom, Inc.

PROJECT NAME : REEDY CREEK COLLECTION SYSTEM BASIN #3
PROJECT NUMBER : 94-005
DESIGNED BY : MRM
DATE : 10-12-1995

DESIGN CRITERIA:

MINIMUM VELOCITY (ft/sec)	=	2.5
MINIMUM COVER (ft)	=	1.0
MINIMUM PIPE DIAMETER (inches)	=	15
MINIMUM CLEARANCE BETWEEN INLET AND HYDRAULIC GRADE ELEVATIONS (ft)	=	.0

RAINFALL INTENSITY IS COMPUTED FROM IDF CURVE.
RAINFALL ZONE = 7
DESIGN FREQUENCY = 10

REFERENCE FILES
===============

INPUT FILE FOR EVALUATION MODE	:	
IDF CURVE DATA	:	ZONE7-10.IDF
OUTPUT FILE	:	REEDY10UT.SP4

*** STORM SEWER DESIGN AND ANALYSIS ***
(C) Copyright 1988, Kato T. Dee, P.E.

DATE: 10-12-1995
PROJECT #: 94-005
DESIGNED BY: HRM
SUBSYSTEM #: 1

COMPANY: Aikenhead & Odom, Inc.
TITLE: REEDY CREEK COLLECTION SYSTEM BASIN #3
ZONE: 7
FREQUENCY: 10
OF PIPES: 3

STRUCTURE			L	DRAINAGE AREA (ac.) C1 = .95 C2 = .00 C3 = .00		SUB-TOTAL (CA)	TIME OF CONC Tc	TIME OF FLOW IN PIPE	RAIN FALL (I)	TOTAL (CA)	TOTAL Q (CIA)	INLET ELEV	ELEV. OF HYD. GRAD. CROWN ELEVATION / FLOWLINE ELEVATION			PIPE SIZE (in.) SHAPE	SLOPE (%)	FLOW VEL. IN PIPE	PIPE CAP.
STATION	TYPE		ft.	INC.	SUB-TOT		min.	min.			(cfs)	(ft)	UP-END	LOW-END	FALL	"n"		fps	(cfs)
22+97	SI			.25	.25	.24	10.0	3.3	7.50	.24	1.8	76.60	74.83	74.78	.05	18	.02	1.0	1.8
			197	.00	.00	.00							75.48	73.67		CIRC			
S3	S5	1 M		.00	.00	.00							73.98	72.17	1.81	.012	.92	6.2	10.9
24+25	SI			.34	.34	.32	10.0	.6	7.50	.32	2.4	84.05	80.47	77.02	3.45	18	1.55	6.0	2.4
			223	.00	.00	.00							81.55	78.10		CIRC			
S6	S5	2 M		.00	.00	.00							80.05	76.60	3.45	.012	1.55	8.0	14.1
23+57	SI			.29	.88	.84	13.3	.5	6.78	.84	5.7	80.67	74.65	74.37	.28	18	.29	3.5	5.7
			97	.00	.00	.00							73.34	73.18		CIRC			
S5	S4	3 M		.00	.00	.00	LOSS COEF.= .7			JUNC. LOSS = .13			71.84	71.68	.16	.012	.16	2.6	4.6

WD POND

AIKENHEAD & ODOM, INC.
5730 Bowden Road, Suite 200
Jacksonville, Florida 32216
Tel.No.:(904) 636-5432
Fax No.:(904) 636-5433

PROJECT: Reedy Creek - S.R. 600
PROJ. NO.: 94-005 SHEET: 1
CALC. BY: MRM / RSL DATE: 9/27/95
CHECKED BY: MNA DATE:
FILENAME: rsl\reedy\bas2conv.xls

STORMWATER DRAINAGE CALCULATIONS

STRUCTURES DRAINAGE AREA
(METRIC TO ENGLISH CONVERSION)

STRUCT. NO.	TYPE	STATION (Metric)	DRAINAGE AREA IMPERVIOUS SURFACE m^2	acre	PERVIOUS SURFACE m^2	acre
S-3	GI	22+97	1029.083	0.254	0	0.000
S-5	GI	23+57	1178.045	0.291	0	0.000
S-6	GI	24+25	1365.000	0.337	0	0.000

STR.BAS

AIKENHEAD & ODOM, INC.
5730 Bowden Road, Suite 200
Jacksonville, Florida 32216
Tel.No.:(904) 636-5432
Fax No.:(904) 636-5433

PROJECT: Reedy Creek - S.R. 600
PROJ. NO.: 94-005 SHEET: 1
CALC. BY: MRM DATE: 10/06/95
CHECKED BY: MNA DATE: 10/07/95
FILENAME: rsl\reedy\basin3a.xls

STORMWATER DRAINAGE CALCULATIONS
POST-DEVELOPMENT CONDITIONS
BASIN NO. 4

1. STRUCTURE NO. S-3 GI STATION 22+97 RT.

A. Drainage Area:
Drainage area, A = **0.254 acre**
Soil Name: Roadway Fill Soil Group: A

B. Onsite:
Pervious Surface
Area, A1 = 0 acre CN1 = C1 =
Land use/Soil Cover: Utility Corr./Grass
Impervious Surface:
Area, A2= 0.254 acre CN2 = 98 C2 = 0.95
Land use/Soil Cover: Road/Pavt.

C. Offsite:
Area, A3= 0 acre CN3 = C3 =
Land use/Soil Cover: Open spaces/Grass

D. Runoff Coefficient:
C = ((A1 * C1) + (A2 * C2) + (A3 * C3)) / A
C = 0.950

E. Curve Number:
CN = ((A1 * CN1) + (A2 * CN2) + (A3 * CN3)) / A
CN = 98.000

2. STRUCTURE NO. S-5 GI STATION 23+57 RT.

A. Drainage Area:
Drainage area, A = **0.291 acre**
Soil Name: Aquic Roadway Fill Soil Group: A

B. Onsite:
Pervious Surface
Area, A1 = 0 acre CN1 = C1 =
Land use/Soil Cover: Utility Corr./Grass
Impervious Surface:
Area, A2= 0.291 acre CN2 = 98 C2 = 0.95
Land use/Soil Cover: Road/Pavt.

C. Offsite:
Area, A3= 0 acre CN3 = C3 =
Land use/Soil Cover: Open spaces/Grass

D. Runoff Coefficient:
C = ((A1 * C1) + (A2 * C2) + (A3 * C3)) / A
C = 0.950

E. Curve Number:
CN = ((A1 * CN1) + (A2 * CN2) + (A3 * CN3)) / A
CN = 98.000

AIKENHEAD & ODOM, INC.
5730 Bowden Road, Suite 200
Jacksonville, Florida 32216
Tel.No.:(904) 636-5432
Fax No.:(904) 636-5433

PROJECT: Reedy Creek - S.R. 600
PROJ. NO.: 94-005 SHEET: 2
CALC. BY: MRM DATE: 10/06/95
CHECKED BY: MNA DATE: 10/07/95
FILENAME: rsl\reedy\basin3a.xls

STORMWATER DRAINAGE CALCULATIONS
POST-DEVELOPMENT CONDITIONS
BASIN NO. 4

3. STRUCTURE NO. S-6 GI **STATION** 24+25 RT.

A. Drainage Area:
Drainage area, A = **0.337 acre**
Soil Name: Roadway Fill Soil Group: A

B. Onsite:
Pervious Surface
Area, A1 = 0 acre CN1 = C1 =
Land use/Soil Cover: Utility Corr./Grass
Impervious Surface:
Area, A2= 0.337 acre CN2 = 98 C2 = 0.95
Land use/Soil Cover: Road/Pavt.

C. Offsite:
Area, A3= 0 acre CN3 = C3 =
Land use/Soil Cover: Open spaces/Grass

D. Runoff Coefficient:
C = ((A1 * C1) + (A2 * C2) + (A3 * C3)) / A
C = 0.950

E. Curve Number:
CN = ((A1 * CN1) + (A2 * CN2) + (A3 * CN3)) / A
CN = 98.000

STORMWATER DRAINAGE CALCULATIONS

BASIN NO. 4

STATE ROAD 600 (U.S. 92) REALIGNMENT

October 1995

BASSUM

AIKENHEAD & ODOM, INC.
5730 Bowden Road, Suite 200
Jacksonville, Florida 32216
Tel.No.:(904) 636-5432
Fax No.:(904) 636-5433

PROJECT: Reedy Creek - S.R. 600
PROJ. NO.: 94-005 SHEET: 1
CALC. BY: RSL DATE: 10/06/95
CHECKED BY: MNA DATE: 10/07/95
FILENAME: rsl\reedy\basin4a.xls

STORMWATER DRAINAGE CALCULATIONS

SUMMARY

BASIN NO. 4

		POST DEVELOPMENT CONDITION	
		Metric Units	English Units
Basin Area		1.50 hectares	3.695 acres
Basin CN		90.22	90.22
Basin Tc		15.000 minutes	15.000 minutes
Pond Basin Discharges into:		Existing ditch that discharges to Reedy Creek	
25 YR-24 HR. SCS Total Rainfall Depth		225 mm.	9.000 inches
25 YR.-24 HR. SCS Storm Peak Flow (Pond discharge)		17.35 m^3/min.	10.21 cfs
25 YR.-24HR. SCS Storm Peak Elevation		21.10 m.	69.21 feet
10 YR-24 HR. SCS Total Rainfall Depth		175 mm.	7.00 inches
10 YR.-24 HR. SCS Storm Peak Flow (Pond discharge)		9.24 m^3/min.	5.44 cfs
10 YR.-24HR. SCS Storm Peak Elevation		21.02 m.	68.95 feet
CRITICAL STORM:(Using Rational Method)			
100 YR - 1 HR. Storm Flow (Pond Discharge)		15.00 m^3/min.	8.83 cfs
HWL (100 yr/ 1 hr)		21.07 m.	69.14 feet
Impervious Surface		1.11 hectares	2.754 acres
Treatment Volume , Required		707.74 m^3	0.574 acre-foot
Treatment Volume, Provided		774.65 m^3	0.628 acre-foot
Diameter of Bleed Down Device	Type: orifice	50 mm	2.00 inches
Pond Berm Elevation		21.50 m.	70.54 feet
Control Elevation		20.45 m.	67.09 feet
Pond Bottom		17.50 m.	57.41 feet
		Type "D" Ditch Bottom Inlet -modified	
Type of Control Structure		20.85 m.	68.40 feet
Weir Bottom Elevation		1.25 m.	4.08 feet
Weir Length		21.30 m.	69.88 feet
Grate Elevation		-	Yes
Control Structure Baffle provided			

WET DETENTION POND

EXISTING 4.50 DRAINAGE EASEMENT
PROPERTY LINE (POND SITE)
JURISDICTIONAL WETLAND LINE
7.60 UNDISTURBED BUFFER (NO CONSTRUCTION ACTIVITY PERMITTED)
CONSTRUCT TYPE "A" FENCE SEE INDEX 451
FRAME BLDG.
WOOD FRAME MOBILE HOME
SEPTIC TANK
TOE OF SLOPE
PB-3
PB-4
PB-5
PB-6
PB-7
+76.689 38.806 LT.
+90.605 48.855 LT.
+76.142 34.050 LT.
+36.645 69.252 LT.
+18.537 15.931 LT.
+51.517 49.835 LT.
+51.041 30.640 LT.
S-20 MES FL. 20.43
S-21 CONTROL STRUCTURE SEE SHT. 36
S-22 F.E.S. FL. 19.45
S-23
S-13
S-14
CONSTRUCT 3.50 OF 750 RCP
CONSTRUCT 17.5 OF 610 X 960 ERCP
4.50 MAINTENANCE BERM (EL. 21.50)
4.5 BERM TOP ELEV. 21.50
FDOT 4X4 CM BM10
C/L DITCH
C/L CONSTRUCTION
R/W LINE (SHT. 36)
3.65 DOUBLE SWING GATE TYPE "A" FENCE SEE INDEX 451
LIMIT OF AC PAVT. CONST. 10 OF 375 RCP
FL. 20.66
FL. 20.60
C/L 4.50 DRIVEWAY
DIRT DRIVE
750 RCP
600 RCP
450 RCP
30
31

CURVE DATA – C/L CONST.
PI STA. = 28+04.992
DELTA = 40°35'09" RT.
T = 295.817
L = 566.686
R = 800.000
PC STA. = 25+09.175
PT STA. = 30+75.861
e = 0.07

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	RSL	1/27/95	DRAWN BY	DPA	1/27/95
CHECKED BY	MNA	10/19/95	CHECKED BY	SJG	10/19/95
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY:
DATE:

AIFENHEAD & ODOM Inc.
CONSULTING ENGINEERS

GRADING PLAN POND NO. 2

STATE PROJ. NO.
92010-3520

SOIL PROFILE LEGEND

STRATUM NO.	SOIL DESCRIPTION	AASHTO CLASSIFICATION
1	BROWN TO GRAY FINE SAND TO SLIGHTLY SILTY FINE SAND. TRACE ORGANICS, OCCASIONAL TRACE LIMEROCK	(A-3)(A-2-4)
2	GREENISH-GRAY CLAYEY FINE SAND TO SANDY CLAY	(A-2-7)(A-7-5)
3	ORANGE TO BROWN FINE SAND TO FINE SAND WITH SILT	(A-3)(A-2-4)
4	GRAY FINE SAND TO SAND WITH SILT	(A-3)(A-2-4)
5	DARK REDDISH-BROWN FINE SAND TO FINE SAND WITH SILT, OCCASIONAL WEAKLY CEMENTED FINE SAND	(A-3)(A-2-4)
6	DARK GRAY TO GRAY CLAYEY FINE SAND, TRACE ORGANICS, TRACE LIMEROCK	(A-2-6)(A-2-7)
7	PEAT	(A-8)
8	GRAY CLAY	(A-7)
9	GREEN SILTY FINE SAND, OCCASIONAL PHOSPHATES, OCCASIONAL SHELL	(A-2-4)
10	GRAY SILTY FINE SAND, OCCASIONAL SHELL	(A-2-4)
11	ORANGE TO RED SILTY FINE SAND	(A-2-4)
12	LIMESTONE	

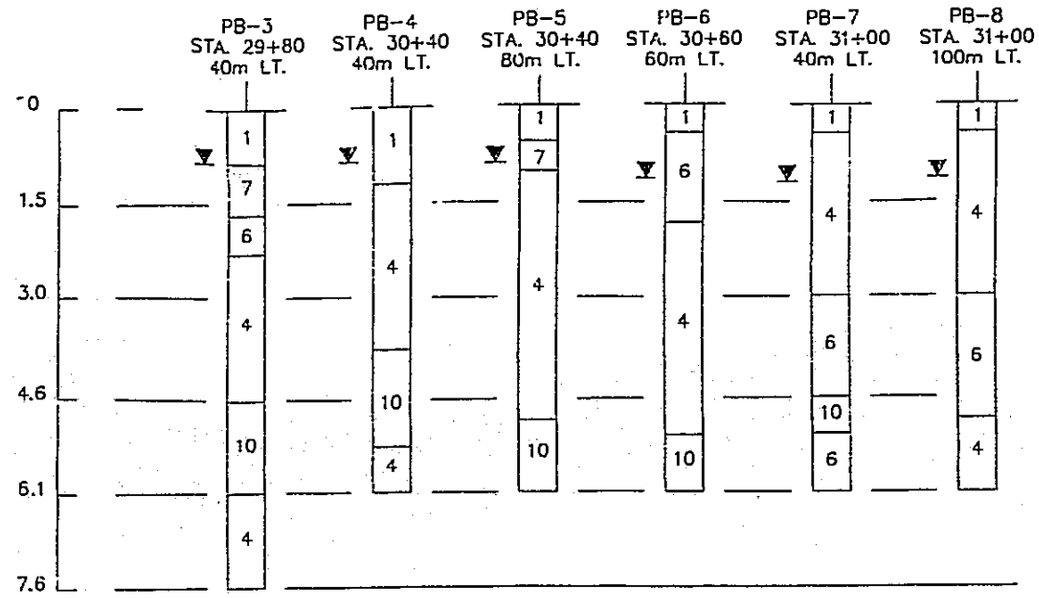
(A-2-4) A.A.S.H.T.O. SOIL CLASSIFICATION GROUP SYMBOL

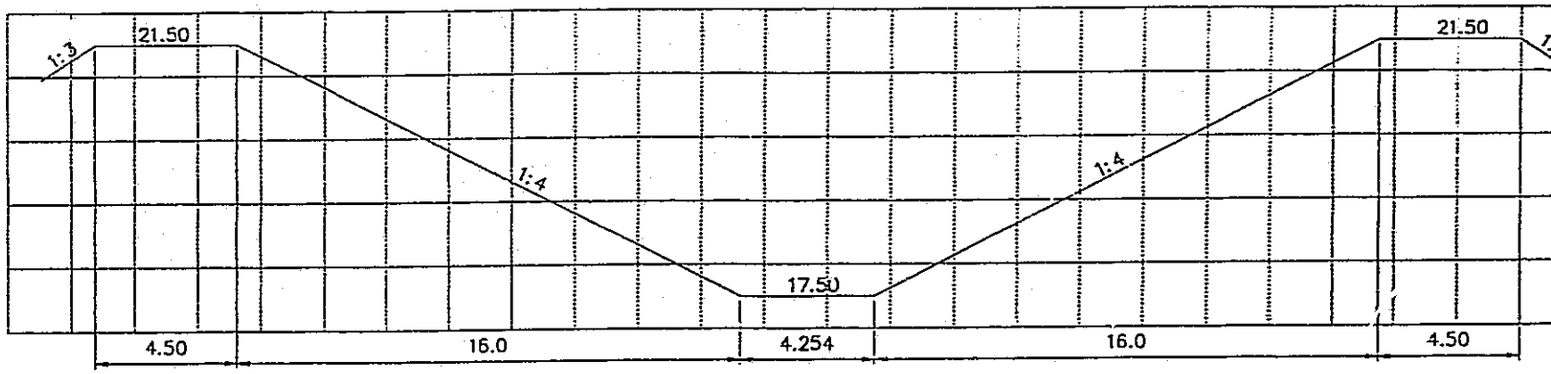
▼ DEPTH TO GROUNDWATER LEVEL IN METERS

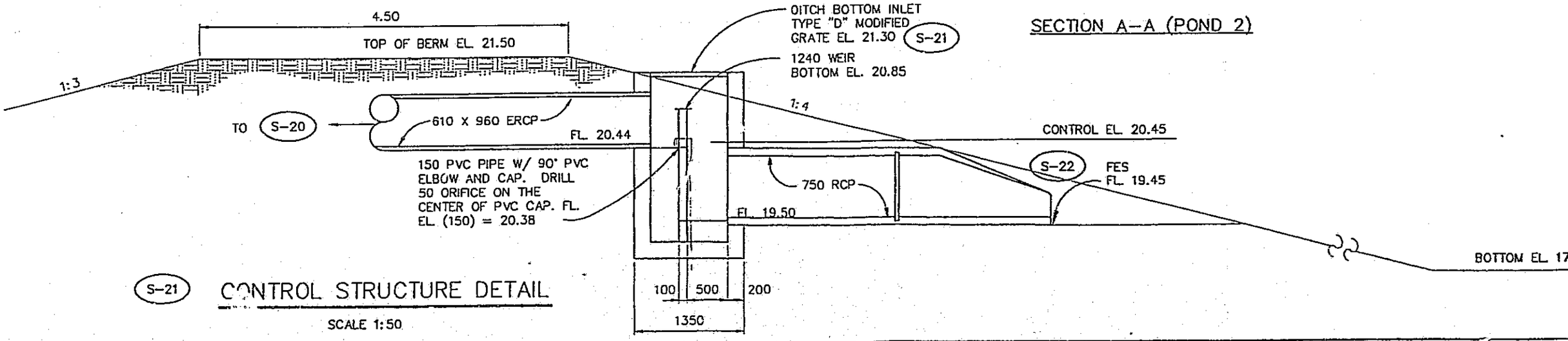
	FLOW	HWL
10 YR. – 24 HR. SCS STORM:	9.24 m3/min.	21.02
25 YR. – 24 HR. SCS STORM:	17.35 m3/min.	21.10

CRITICAL STORM:
100 YR. – 1 HR. STORM: 15.00 m3/min. 21.07

SOIL BORING PROFILE







S-21 CONTROL STRUCTURE DETAIL

SCALE 1:50

SECTION A-A (POND 2)

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	RSL	9/20/95	DRAWN BY	MJY	10/13/95
CHECKED BY	MRH	10/20/95	CHECKED BY	DPA	10/20/95
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY:
DATE:

AIKENHEAD & ODOM Inc. CONSULTING ENGINEERS

DETAILS
POND NO. 2

AIKENHEAD & ODOM, INC.
5730 Bowden Road, Suite 200
Jacksonville, Florida 32216
Tel.No.:(904) 636-5432
Fax No.:(904) 636-5433

PROJECT: Reedy Creek - S.R. 600
PROJ. NO.: 94-005 SHEET: 1
CALC. BY: RSL DATE: 10/06/95
CHECKED BY: MNA DATE: 10/07/95
FILENAME: rsl\reedy\basin4a.xls

STORMWATER DRAINAGE CALCULATIONS
POST-DEVELOPMENT CONDITIONS
BASIN NO. 4

1. WATER QUANTITY:

A). AREA:
System Drainage Area (from POSTSYS file) = 2.754 acres
Pond Site (Area draining to pond only-pond w.s. included) = 0.941 acres
Basin Area, A = 3.695 acres

B.) CURVE NUMBER:
a). Pond:
from POSTSYS file;
Pond total Area, Ap = 0.941 acres
Pond Site CN, CNp = 67.46

b). System Drainage Area:
Total Area (including offsite), As = 2.754 acres
System CN, CNs = 98.00
Impervious Surface (excluding W.S.) = 2.754 acres

Therefore, Basin Curve Number is,
CN = ((Ap * CNp) + (As * CNs)) / A
CN = 90.22

C). TIME OF CONCENTRATION:
From results of System 1 Analysis using Supra 4 Program;
Tc = 17.800 minutes
use **Tc= 15.000 minutes**

D). SUMMARY:
Post Development Conditions
Area = 3.695 acres
CN = 90.22
Tc = 15.000 minutes
Impervious Surface = 2.754 acres

E.) RESULTS OF HYDROGRAPH COMPUTATIONS AND POND ROUTING
25 yr.-24 hr. SCS storm Rainfall Depth = 9.000 inches
25 yr.-24 hr. SCS storm Peak Flow (routed)= 10.210 cfs
25 yr.-24 hr SCS storm Peak W.S. El. (NGVD) = 69.210 feet
10 yr.-24 hr. SCS storm Rainfall Depth = 7.000 inches
10 yr.-24 hr. SCS storm Peak Flow (routed)= 5.44 cfs
10 yr.-24 hr SCS storm Peak W.S. El. (NGVD) = 68.95 feet
CRITICAL STORM: (Using Rational Method)
100 yr.- 1 hour storm flow (routed)= 8.83 cfs
HWL (100 yr/1 hr.) = 69.14 feet

AIKENHEAD & ODOM, INC.
5730 Bowden Road, Suite 200
Jacksonville, Florida 32216
Tel.No.:(904) 636-5432
Fax No.:(904) 636-5433

PROJECT: REEDY CREEK -SR 600
PROJ. NO.: 94-005 SHEET: 1
CALC. BY: RSL DATE: 10/4/95
CHECKED BY: MNA DATE: 10/4/96
FILENAME: rsl\reedy\basin4a.xls

STAGE-STORAGE-DISCHARGE RELATIONSHIPS

POND DATA:

	Metric m.	English ft.	
Bot. El.	17.50	57.41	
Control El.	20.45	67.09	
Berm El.	21.50	70.54	
Stage Incr.	0.25		(above Control El.)
Stage Incr.	0.50		(below Control El.)

WEIR DATA:

	Metric m.	English ft.
Type		
Coefficient	3.13	3.13
Length	1.245	4.08
Bot. El.	20.85	68.40

	STAGE (m)	STAGE (feet)	AREA (m^2)	AREA (acre)	STORAGE (acre-foot) INCR.	STORAGE (acre-foot) CUMM.	WEIR DISCH.(cfs)
	21.50	70.54	2696.990	0.666	0.523	1.896	39.81
	21.25	69.72	2467.284	0.610	0.477	1.372	19.22
	21.00	68.90	2243.860	0.554	0.265	0.895	4.41
	20.85	68.40	2113.575	0.522	0.168	0.630	0.00
	20.75	68.08	2026.718	0.501	0.389	0.462	0.00
	20.50	67.26	1815.857	0.449	0.073	0.073	0.00
Control El.	20.45	67.09	1774.941	0.439	0.000	0.000	0.00
	20.25	66.44	1611.279	0.398	0.215	0.275	
	20.00	65.62	1412.983	0.349	0.306	0.581	
	19.50	63.98	1035.478	0.256	0.496	1.077	
	19.00	62.34	688.648	0.170	0.349	1.427	
	18.50	60.69	401.124	0.099	0.221	1.648	
	18.00	59.05	182.023	0.045	0.118		
	17.50	57.41	33.930	0.008	0.044		

```
**********************************
*    SUPRA-1   (VERSION 3.12)    *
*  HYDROLOGIC ANALYSIS & DESIGN  *
*       BY KATO T. DEE, P.E.     *
*        COPYRIGHT (C) 1987      *
*   SUPRA ENGINEERING SOFTWARE   *
**********************************
```

LICENSED TO: Aikenhead & Odom, Inc.

TITLE: REEDY CREEK SR600 BASIN 4 - 10 YR. - 24 HR. STORM

DATE: 10- 9-1995
TIME: 14:18:58

SIMULATION TIME (hours)	=	24.0
TIME STEP (minutes)	=	5.0
PRINT INTERVAL	=	3
TOTAL RAINFALL DEPTH (inches)	=	7.0
RAINFALL TIME INTERVAL (minutes)	=	30.0
TYPE OF RAINFALL DISTRIBUTION	=	5

1 - USER SPECIFIED
2 - SCS TYPE I , 24-HR STORM
3 - SCS TYPE IA , 24-HR STORM
4 - SCS TYPE II , 24-HR STORM
5 - SCS TYPE IIM, 24-HR STORM
6 - SCS TYPE III, 24-HR STORM

REFERENCE FILES

INPUT DATA : RC2a10.sp1

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DATE: 10- 9-1995
TIME: 14:18:58

****
* HYDROGRAPH COMPUTATION *
****

SCS UNIT HYDROGRAPH METHOD

INPUT SUMMARY

SUBBASIN: 24

AREA (acres)	=	3.70
SCS CURVE NUMBER	=	90.2
TIME OF CONCENTRATION (minutes)	=	15.0
PEAK RATE FACTOR	=	484.0

OUTPUT SUMMARY

PEAK FLOW (cfs)	=	14.09
TIME TO PEAK (hours)	=	12.00
RUNOFF DEPTH (inches)	=	5.849
RUNOFF VOLUME (ac-ft)	=	1.80

TIME (hrs)	CUMULATIVE RAINFALL	CUMULATIVE RUNOFF	FLOW (cfs)
.00	.00	.000	.00
.25	.02	.000	.00
.50	.04	.000	.00
.75	.06	.000	.00
1.00	.08	.000	.00
1.25	.10	.000	.00
1.50	.13	.000	.00
1.75	.15	.000	.00
2.00	.18	.000	.00
2.25	.20	.000	.00
2.50	.22	.000	.00
2.75	.25	.001	.01
3.00	.27	.003	.02
3.25	.30	.006	.04
3.50	.32	.009	.05
3.75	.35	.015	.07
4.00	.38	.021	.09
4.25	.41	.028	.10
4.50	.43	.036	.12
4.75	.47	.046	.14
5.00	.50	.058	.16
5.25	.53	.070	.17
5.50	.56	.083	.19
5.75	.59	.096	.20
6.00	.62	.111	.21

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DATE: 10- 9-1995
TIME: 14:18:58

TIME (hrs)	CUMULATIVE RAINFALL	CUMULATIVE RUNOFF	FLOW (cfs)
6.25	.66	.128	.24
6.50	.69	.145	.26
6.75	.73	.166	.29
7.00	.77	.187	.31
7.25	.81	.211	.34
7.50	.85	.236	.36
7.75	.90	.264	.40
8.00	.95	.293	.42
8.25	.99	.325	.46
8.50	1.04	.357	.48
8.75	1.10	.393	.52
9.00	1.15	.430	.54
9.25	1.21	.473	.61
9.50	1.27	.517	.64
9.75	1.34	.569	.74
10.00	1.41	.623	.79
10.25	1.49	.691	.95
10.50	1.58	.761	1.02
10.75	1.69	.852	1.26
11.00	1.81	.945	1.36
11.25	1.98	1.090	1.93
11.50	2.15	1.238	2.16
11.75	3.20	2.184	10.67
12.00	4.24	3.171	14.09
12.25	4.63	3.547	8.07
12.50	5.03	3.925	5.89
12.75	5.16	4.057	3.00
13.00	5.30	4.189	2.08
13.25	5.40	4.284	1.57
13.50	5.49	4.379	1.43
13.75	5.57	4.454	1.19
14.00	5.65	4.529	1.12
14.25	5.72	4.593	1.00
14.50	5.78	4.658	.96
14.75	5.84	4.712	.85
15.00	5.89	4.767	.81
15.25	5.95	4.818	.77
15.50	6.00	4.869	.76
15.75	6.04	4.914	.69
16.00	6.09	4.958	.66
16.25	6.13	4.999	.62
16.50	6.17	5.040	.61
16.75	6.21	5.078	.57
17.0(	6.25	5.115	.56
17.25	6.29	5.149	.52

SUPRA-1 (HYDROLOGIC ANALYSIS & DESIGN) DATE: 10- 9-1995
(C) Copyright 1987, Kato T. Dee, P.E. TIME: 14:18:58
LICENSED TO: Aikenhead & Odom, Inc.

TIME (hrs)	CUMULATIVE RAINFALL	CUMULATIVE RUNOFF	FLOW (cfs)
17.50	6.32	5.184	.51
17.75	6.36	5.218	.51
18.00	6.39	5.252	.51
18.25	6.42	5.283	.47
18.50	6.45	5.314	.46
18.75	6.49	5.344	.46
19.00	6.52	5.375	.46
19.25	6.54	5.403	.42
19.50	6.57	5.430	.41
19.75	6.60	5.458	.41
20.00	6.63	5.485	.41
20.25	6.66	5.512	.41
20.50	6.68	5.540	.41
20.75	6.71	5.564	.37
21.00	6.73	5.588	.36
21.25	6.76	5.612	.36
21.50	6.78	5.636	.36
21.75	6.81	5.660	.36
22.00	6.83	5.684	.36
22.25	6.86	5.708	.36
22.50	6.88	5.732	.36
22.75	6.90	5.752	.32
23.00	6.92	5.773	.31
23.25	6.94	5.794	.31
23.50	6.96	5.814	.31
23 75	6.98	5.831	.27
24.00	7.00	5.849	.26

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LICENSED TO: Aikenhead & Odom, Inc.

DATE: 10- 9-1995
TIME: 14:18:58

****
* POND ROUTING *
****

ELEV:	67.09	67.26	68.08	68.40	68.90	69.72
STORAGE:	.00	.08	.46	.63	.90	1.37
OUTFLOW:	.00	.00	.00	.00	4.52	19.37
ELEV:	70.54	.00	.00	.00	.00	.00
STORAGE:	1.90	.00	.00	.00	.00	.00
OUTFLOW:	39.98	.00	.00	.00	.00	.00

OUTPUT SUMMARY

PEAK OUTFLOW (cfs)	=	5.44
PEAK ELEVATION (ft)	=	68.95
PEAK STORAGE (ac-ft)	=	.93
TIME TO PEAK (hrs)	=	12.58

TIME	INFLOW	ELEV	STORAGE	OUTFLOW
.00	.00	67.09	.00	.00
.25	.00	67.09	.00	.00
.50	.00	67.09	.00	.00
.75	.00	67.09	.00	.00
1.00	.00	67.09	.00	.00
1.25	.00	67.09	.00	.00
1.50	.00	67.09	.00	.00
1.75	.00	67.09	.00	.00
2.00	.00	67.09	.00	.00
2.25	.00	67.09	.00	.00
2.50	.00	67.09	.00	.00
2.75	.01	67.09	.00	.00
3.00	.02	67.09	.00	.00
3.25	.04	67.09	.00	.00
3.50	.05	67.09	.00	.00
3.75	.07	67.10	.00	.00
4.00	.09	67.10	.00	.00
4.25	.10	67.10	.01	.00
4.50	.12	67.11	.01	.00
4.75	.14	67.11	.01	.00
5.00	.16	67.12	.01	.00
5.25	.17	67.13	.02	.00
5.50	.19	67.14	.02	.00
5.75	.20	67.15	.03	.00
6.00	.21	67.15	.03	.00
6.25	.24	67.16	.03	.00
6.50	.26	67.18	.04	.00
6.75	.29	67.19	.05	.00
7.00	.31	67.20	.05	.00

8.00	.42	67.27	.08	.00
8.25	.46	67.28	.09	.00
8.50	.48	67.31	.10	.00
8.75	.52	67.33	.11	.00

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TIME	INFLOW	ELEV	STORAGE	OUTFLOW
9.00	.54	67.35	.12	.00
9.25	.61	67.38	.13	.00
9.50	.64	67.41	.15	.00
9.75	.74	67.44	.16	.00
10.00	.79	67.47	.18	.00
10.25	.95	67.51	.19	.00
10.50	1.02	67.55	.22	.00
10.75	1.26	67.60	.24	.00
11.00	1.36	67.66	.27	.00
11.25	1.93	67.73	.30	.00
11.50	2.16	67.83	.34	.00
11.75	10.67	68.08	.46	.00
12.00	14.09	68.57	.72	1.51
12.25	8.07	68.89	.89	4.43
12.50	5.89	68.95	.93	5.41
12.75	3.00	68.92	.91	4.95
13.00	2.08	68.85	.87	4.05
13.25	1.57	68.78	.83	3.40
13.50	1.43	68.71	.80	2.83
13.75	1.19	68.66	.77	2.39
14.00	1.12	68.62	.75	2.03
14.25	1.00	68.59	.73	1.74
14.50	.96	68.57	.72	1.52
14.75	.85	68.55	.71	1.34
15.00	.81	68.53	.70	1.19
15.25	.77	68.52	.69	1.07
15.50	.76	68.51	.69	.98
15.75	.69	68.50	.68	.91
16.00	.66	68.49	.68	.84
16.25	.62	68.49	.68	.78
16.50	.61	68.48	.67	.73
16.75	.57	68.48	.67	.69
17.00	.56	68.47	.67	.65
17.25	.52	68.47	.67	.62
17.50	.51	68.47	.67	.59
17.75	.51	68.46	.66	.57
18.00	.51	68.46	.66	.55
18.25	.47	68.46	.66	.53
18.50	.46	68.46	.66	.51
18.75	.46	68.45	.66	.50
19.00	.46	68.45	.66	.48
19.25	.42	68.45	.66	.47
19.50	.41	68.45	.66	.45
19.75	.41	68.45	.66	.44
20.00	.41	68.45	.66	.43
20.25	.41	68.45	.66	.42
20.50	.41	68.45	.65	.42

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TIME	INFLOW	ELEV	STORAGE	OUTFLOW
20.75	.37	68.45	.65	.41
21.00	.36	68.44	.65	.40
21.25	.36	68.44	.65	.38
21.50	.36	68.44	.65	.38
21.75	.36	68.44	.65	.37
22.00	.36	68.44	.65	.37
22.25	.36	68.44	.65	.36
22.50	.36	68.44	.65	.36
22.75	.32	68.44	.65	.35
23.00	.31	68.44	.65	.34
23.25	.31	68.44	.65	.33
23.50	.31	68.44	.65	.32
23.75	.27	68.43	.65	.31
24.00	.26	68.43	.65	.30

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**********************************
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TITLE: REEDY CREEK SR600 BASIN 4 25 YR.-24 HR. STORM

DATE: 10- 9-1995
TIME: 14:36:16

SIMULATION TIME (hours)	=	24.0
TIME STEP (minutes)	=	5.0
PRINT INTERVAL	=	3
TOTAL RAINFALL DEPTH (inches)	=	9.0
RAINFALL TIME INTERVAL (minutes)	=	30.0
TYPE OF RAINFALL DISTRIBUTION	=	5

1 - USER SPECIFIED
2 - SCS TYPE I , 24-HR STORM
3 - SCS TYPE IA , 24-HR STORM
4 - SCS TYPE II , 24-HR STORM
5 - SCS TYPE IIM, 24-HR STORM
6 - SCS TYPE III, 24-HR STORM

REFERENCE FILES

INPUT DATA : RC2a25.sp1

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****
* HYDROGRAPH COMPUTATION *
****

SCS UNIT HYDROGRAPH METHOD

INPUT SUMMARY

SUBBASIN: 24
AREA (acres) = 3.70
SCS CURVE NUMBER = 90.2
TIME OF CONCENTRATION (minutes) = 15.0
PEAK RATE FACTOR = 484.0

OUTPUT SUMMARY

PEAK FLOW (cfs) = 18.55
TIME TO PEAK (hours) = 12.00
RUNOFF DEPTH (inches) = 7.818
RUNOFF VOLUME (ac-ft) = 2.41

TIME (hrs)	CUMULATIVE RAINFALL	CUMULATIVE RUNOFF	FLOW (cfs)
.00	.00	.000	.00
.25	.03	.000	.00
.50	.05	.000	.00
.75	.08	.000	.00
1.00	.11	.000	.00
1.25	.14	.000	.00
1.50	.16	.000	.00
1.75	.19	.000	.00
2.00	.23	.000	.00
2.25	.26	.001	.01
2.50	.29	.004	.04
2.75	.32	.009	.06
3.00	.35	.015	.08
3.25	.38	.022	.10
3.50	.41	.030	.12
3.75	.45	.041	.15
4.00	.49	.054	.17
4.25	.52	.067	.19
4.50	.56	.082	.21
4.75	.60	.099	.25
5.00	.64	.118	.27
5.25	.68	.138	.29
5.50	.72	.160	.31
5.75	.76	.182	.32
6.00	.80	.205	.34

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TIME (hrs)	CUMULATIVE RAINFALL	CUMULATIVE RUNOFF	FLOW (cfs)
6.25	.85	.231	.38
6.50	.89	.259	.40
6.75	.94	.290	.45
7.00	.99	.322	.47
7.25	1.04	.358	.52
7.50	1.10	.395	.54
7.75	1.16	.436	.59
8.00	1.21	.479	.62
8.25	1.28	.525	.67
8.50	1.34	.572	.70
8.75	1.41	.624	.75
9.00	1.48	.677	.77
9.25	1.55	.737	.86
9.50	1.63	.799	.91
9.75	1.72	.873	1.04
10.00	1.81	.947	1.10
10.25	1.92	1.042	1.32
10.50	2.03	1.138	1.41
10.75	2.18	1.263	1.73
11.00	2.32	1.390	1.86
11.25	2.54	1.586	2.62
11.50	2.76	1.786	2.91
11.75	4.11	3.044	14.22
12.00	5.45	4.339	18.55
12.25	5.96	4.829	10.56
12.50	6.46	5.322	7.68
12.75	6.64	5.493	3.91
13.00	6.81	5.665	2.70
13.25	6.94	5.789	2.05
13.50	7.07	5.912	1.86
13.75	7.16	6.009	1.55
14.00	7.26	6.107	1.45
14.25	7.35	6.191	1.30
14.50	7.43	6.275	1.25
14.75	7.51	6.346	1.11
15.00	7.58	6.416	1.06
15.25	7.65	6.483	1.00
15.50	7.71	6.549	.99
15.75	7.77	6.607	.89
16.00	7.83	6.664	.86
16.25	7.88	6.717	.81
16.50	7.94	6.771	.79
16.75	7.99	6.819	.74
17.00	8.04	6.868	.73
17.25	8.08	6.912	.68

TIME (hrs)	CUMULATIVE RAINFALL	CUMULATIVE RUNOFF	FLOW (cfs)
17.50	8.13	6.957	.66
17.75	8.17	7.001	.66
18.00	8.22	7.046	.66
18.25	8.26	7.085	.61
18.50	8.30	7.125	.59
18.75	8.34	7.165	.59
19.00	8.38	7.205	.59
19.25	8.42	7.241	.54
19.50	8.45	7.276	.53
19.75	8.49	7.312	.53
20.00	8.52	7.347	.53
20.25	8.56	7.383	.53
20.50	8.60	7.418	.53
20.75	8.63	7.449	.48
21.00	8.66	7.481	.46
21.25	8.69	7.512	.46
21.50	8.72	7.543	.46
21.75	8.75	7.574	.46
22.00	8.78	7.605	.46
22.25	8.82	7.636	.46
22.50	8.85	7.667	.46
22.75	8.87	7.694	.41
23.00	8.90	7.720	.40
23.25	8.93	7.747	.40
23.50	8.96	7.774	.40
23.75	8.98	7.796	.35
24.00	9.00	7.818	.33

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****
* POND ROUTING *
****

ELEV:	67.09	67.26	68.08	68.40	68.90	69.72
STORAGE:	.00	.08	.46	.63	.90	1.37
OUTFLOW:	.00	.00	.00	.00	4.52	19.37
ELEV:	70.54	.00	.00	.00	.00	.00
STORAGE:	1.90	.00	.00	.00	.00	.00
OUTFLOW:	39.98	.00	.00	.00	.00	.00

OUTPUT SUMMARY

PEAK OUTFLOW (cfs)	=	10.21
PEAK ELEVATION (ft)	=	69.21
PEAK STORAGE (ac-ft)	=	1.08
TIME TO PEAK (hrs)	=	12.25

TIME	INFLOW	ELEV	STORAGE	OUTFLOW
.00	.00	67.09	.00	.00
.25	.00	67.09	.00	.00
.50	.00	67.09	.00	.00
.75	.00	67.09	.00	.00
1.00	.00	67.09	.00	.00
1.25	.00	67.09	.00	.00
1.50	.00	67.09	.00	.00
1.75	.00	67.09	.00	.00
2.00	.00	67.09	.00	.00
2.25	.01	67.09	.00	.00
2.50	.04	67.09	.00	.00
2.75	.06	67.09	.00	.00
3.00	.08	67.10	.00	.00
3.25	.10	67.10	.00	.00
3.50	.12	67.11	.01	.00
3.75	.15	67.11	.01	.00
4.00	.17	67.12	.01	.00
4.25	.19	67.13	.02	.00
4.50	.21	67.14	.02	.00
4.75	.25	67.15	.03	.00
5.00	.27	67.16	.03	.00
5.25	.29	67.17	.04	.00
5.50	.31	67.18	.04	.00
5.75	.32	67.20	.05	.00
6.00	.34	67.21	.06	.00
6.25	.38	67.23	.06	.00
6.50	.40	67.24	.07	.00
6.75	.45	67.26	.08	.00
7.00	.47	67.28	.09	.00
7.25	.52	67.30	.10	.00

8.25	.67	67.41	.15	.00
8.50	.70	67.44	.16	.00
8.75	.75	67.47	.18	.00

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TIME	INFLOW	ELEV	STORAGE	OUTFLOW
9.00	.77	67.51	.19	.00
9.25	.86	67.54	.21	.00
9.50	.91	67.58	.23	.00
9.75	1.04	67.62	.25	.00
10.00	1.10	67.67	.27	.00
10.25	1.32	67.73	.30	.00
10.50	1.41	67.79	.32	.00
10.75	1.73	67.86	.36	.00
11.00	1.86	67.94	.39	.00
11.25	2.62	68.03	.44	.00
11.50	2.91	68.15	.50	.00
11.75	14.22	68.45	.65	.41
12.00	18.55	68.98	.94	5.89
12.25	10.56	69.21	1.08	10.21
12.50	7.68	69.17	1.06	9.42
12.75	3.91	69.07	1.00	7.68
13.00	2.70	68.95	.93	5.47
13.25	2.05	68.87	.88	4.21
13.50	1.86	68.79	.84	3.54
13.75	1.55	68.73	.81	3.01
14.00	1.45	68.68	.79	2.56
14.25	1.30	68.65	.76	2.22
14.50	1.25	68.61	.75	1.94
14.75	1.11	68.59	.73	1.72
15.00	1.06	68.57	.72	1.53
15.25	1.00	68.55	.71	1.38
15.50	.99	68.54	.71	1.27
15.75	.89	68.53	.70	1.17
16.00	.86	68.52	.69	1.08
16.25	.81	68.51	.69	1.01
16.50	.79	68.50	.69	.95
16.75	.74	68.50	.68	.90
17.00	.73	68.49	.68	.85
17.25	.68	68.49	.68	.80
17.50	.69	68.48	.68	.76
17.75	.66	68.48	.67	.73
18.00	.66	68.48	.67	.71
18.25	.61	68.48	.67	.69
18.50	.59	68.47	.67	.66
18.75	.59	68.47	.67	.64
19.00	.59	68.47	.67	.63
19.25	.54	68.47	.67	.61
19.50	.53	68.47	.67	.59
19.75	.53	68.46	.66	.57
20.00	.53	68.46	.66	.56
20.25	.53	68.46	.66	.55
20.50	.53	68.46	.66	.54

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TIME	INFLOW	ELEV	STORAGE	OUTFLOW
20.75	.48	68.46	.66	.53
21.00	.46	68.46	.66	.51
21.25	.46	68.46	.66	.50
21.50	.46	68.45	.66	.49
21.75	.46	68.45	.66	.48
22.00	.46	68.45	.66	.47
22.25	.46	68.45	.66	.47
22.50	.46	68.45	.66	.47
22.75	.41	68.45	.66	.46
23.00	.40	68.45	.66	.44
23.25	.40	68.45	.66	.43
23.50	.40	68.45	.66	.42
23.75	.35	68.44	.65	.41
24.00	.33	68.44	.65	.39

10- 6-1995

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REEDY CREEK - S.R. 600 WET DETENTION POND

OUTPUT SUMMARY

FREQUENCY	RESULTS	DURATION 1-HR	2-HR	4-HR	8-HR	24-HR
2-YR	Q-pre	16.86	16.86	16.86	16.86	16.86
	Q-post	.37	1.22	1.95	1.38	1.15
	E-max	68.44	68.54	68.62	68.55	68.53
5-YR	Q-pre	19.43	19.43	19.43	19.43	19.43
	Q-post	2.21	2.32	3.20	3.36	1.72
	E-max	68.65	68.66	68.76	68.78	68.59
10-YR	Q-pre	21.04	21.04	21.04	21.04	21.04
	Q-post	3.21	3.25	4.23	4.43	2.08
	E-max	68.76	68.76	68.87	68.90	68.63
25-YR	Q-pre	23.71	23.71	23.71	23.71	23.71
	Q-post	4.79	4.64	5.83	5.73	2.43
	E-max	68.92	68.91	68.98	68.97	68.67
50-YR	Q-pre	25.69	25.69	25.69	25.69	25.69
	Q-post	6.56	5.04	6.68	6.83	2.78
	E-max	69.02	68.99	69.02	69.03	68.71
100-YR	Q-pre	27.99	27.99	27.99	27.99	27.99
	Q-post	8.83	7.88	7.59	7.71	3.00
	E-max	69.14	69.09	69.07	69.08	68.74

CRITICAL DURATION : **** 1-HOUR,100-YEAR STORM ****

Q-pre (cfs) = 27.99
Q-post (cfs) = 8.83
E-max (ft) = 69.14

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REEDY CREEK - S.R. 600 WET DETENTION POND

SUMMARY OF CONTROL VOLUME ANALYSIS

FREQUENCY	RESULTS	DURATION 1-HR	2-HR	4-HR	8-HR	24-HR
2-YR	V-pre	.664	.779	.911	1.054	1.336
	V-post	.664	.779	.911	1.054	1.336
	V-incr	.000	.000	.000	.000	.000
	V-retain	.638	.651	.654	.721	.653
	V-diff	.638	.651	.654	721	.653
5-YR	V-pre	.810	.949	1.120	1.339	1.712
	V-post	.810	.949	1.120	1.339	1.712
	V-incr	.000	.000	.000	.000	.000
	V-retain	.643	.656	.660	.746	.660
	V-diff	.643	.656	.660	.746	.660
10-YR	V-pre	.895	1.076	1.284	1.537	2.042
	V-post	.895	1.076	1.284	1.537	2.042
	V-incr	.000	.000	.000	.000	.000
	V-retain	.646	.659	.665	.763	.666
	V-diff	.646	.659	.665	.763	.666
25-YR	V-pre	1.029	1.251	1.482	1.800	2.371
	V-post	1.029	1.251	1.482	1.800	2.371
	V-incr	.000	.000	.000	.000	.000
	V-retain	.650	.664	.670	.786	.672
	V-diff	.650	.664	.670	.786	.672
50-YR	V-pre	1.120	1.372	1.646	2.020	2.700
	V-post	1.120	1.372	1.646	2.020	2.700
	V-incr	.000	.000	.000	.000	.000
	V-retain	.652	.668	.675	.806	.678
	V-diff	.652	.668	.675	.806	.678
100-YR	V-pre	1.243	1.520	1.822	2.195	2.912
	V-post	1.243	1.520	1.822	2.195	2.912
	V-incr	.000	.000	.000	.000	.000
	V-retain	.655	.672	.680	.821	.682
	V-diff	.655	.672	.680	.821	682

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REEDY CREEK - S.R. 600 WET DETENTION POND

***** WEIR STRUCTURE *****

NUMBER OF WEIRS	= 1
WEIR COEFFICIENT	= 3.1
EXPONENTIAL CONSTANT	= 1.5
WEIR ELEVATION (ft)	= 68.40
WEIR LENGTH (ft)	= 4.08

PERCOLATION RATE (in/hr) = .00

**** STAGE/STORAGE/DISCHARGE DATA ****

STAGE (ft)	AREA (acres)	STORAGE (ac-ft)	PERCOLATION FLOW	CONNECTED OUTFLOW	TOTAL OUTFLOW
67.09	.439	.000	.00	.00	.00
67.26	.449	.075	.00	.00	.00
68.08	.501	.465	.00	.00	.00
68.40	.522	.629	.00	.00	.00
68.90	.554	.898	.00	4.47	4.47
69.72	.610	1.375	.00	19.18	19.18
70.54	.666	1.898	.00	39.60	39.60

10- 6-1995

SUPRA-3 (VERSION 4.00)
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LICENSED TO: Aikenhead & Odom, Inc.

REEDY CREEK - S.R. 600 WET DETENTION POND

**** 1-HOUR,100-YEAR STORM ****

PRE-DEVELOPMENT CONDITION:

DRAINAGE AREA (acres)	= 3.70
CURVE NUMBER	= .0
RUNOFF COEFFICIENT	= .890
TIME OF CONCENTRATION (min.)	= 15.0
RAINFALL INTENSITY (in/hr)	= 8.50
PEAK FLOW RATE (cfs)	= 27.99

POST-DEVELOPMENT CONDITION:

DRAINAGE AREA (acres)	= 3.70
CURVE NUMBER	= .0
RUNOFF COEFFICIENT	= .890
RAINFALL ZONE NUMBER	= 7
TOTAL RAINFALL DEPTH (inches)	= 4.53

TIME (hrs)	I/Ptotal RATIO	INFLOW (cfs)	STAGE (ft)	TOTAL OUTFLOW	PERCOLATION FLOW	CONNECTED OUTFLOW
.0	.000	.00	67.09	.00	.00	.00
.1	.200	2.98	67.12	.00	.00	.00
.2	.600	8.95	67.23	.00	.00	.00
.3	1.200	17.90	67.46	.00	.00	.00
.4	2.100	31.33	67.89	.00	.00	.00
.5	2.150	32.07	68.42	.15	.00	.15
.6	1.800	26.85	68.84	3.91	.00	3.91
.7	1.100	16.41	69.07	7.49	.00	7.49
.8	.700	10.44	69.14	8.83	.00	8.83
.9	.100	1.49	69.11	8.19	.00	8.19
1.0	.000	.00	69.01	6.51	.00	6.51

OUTPUT SUMMARY

PEAK FLOW (cfs)	= 8.83
PEAK STAGE (ft)	= 69.14
PEAK STORAGE (ac-ft)	= 1.039
TIME TO PEAK (hrs)	= .80

AIKENHEAD & ODOM, INC.
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Fax No.:(904) 636-5433

PROJECT: Reedy Creek - S.R. 600
PROJ. NO.: 94-005 SHEET: 1
CALC. BY: RSL DATE: 10/06/95
CHECKED BY: MNA DATE: 10/07/95
FILENAME: rsl\reedy\basin4a.xls

STORMWATER DRAINAGE CALCULATIONS
POST-DEVELOPMENT CONDITIONS

BASIN NO. 4

2. WATER QUALITY:

A). AREAS:

System Drainage Area (from POSTSYS file)	=	2.754 acres
Pond Site (from POSTSYS file) - area draining to pond only	=	0.941 acre
Project Drainage Area, A =		**3.695 acres**

Water surface area (@ Pond Control El.-from POSTSYS file), Aw = 0.439 acre
Impervious Surface (excluding Pond W.S., from POSTSYS file), Ai = 2.754 acre

B). TREATMENT VOLUME:

Type of Stormwater Treatment Facility - Wet Detention Pond

Treatment Volume Requirements - SFWMD

Wet detention volume shall be provided for the first inch of runoff from the developed project, or the total runoff of 2.5 inches times the percentage of imperviousness, whichever is greater.

Option 1: Treat first one inch of runoff from the drainage area.
Drain. area = Proj. Drain Area - Pond W.S. area
D.A. = 3.256 acres
Volume = D.A. * (1" / 12) 0.271 acre-foot

Option 2: Treat the total runoff of 2.5 inches times the percentage of imperviousness.
% Imperviousness = (Ai / D.A) * 100%
% = 84.58

Therefore:

Baffle plate/skimmer is required at the pond control structure.

Runoff to be treated = 2.5 " * Imperviousness
= 2.115 inches to be treated
Volume = Runoff (inches to be treated) * D.A.
Volume = 0.574 acre-foot

Therefore,

Treatment Volume (required) = 0.574 acre-foot

From WD POND file,

Storage(between weir bot.and control el.) 0.628 acre-foot

Hence,

Treatment Volume (available) = 0.628 acre-foot

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PROJECT: Reedy Creek - S.R. 600
PROJ. NO.: 94-005 SHEET: 2
CALC. BY: RSL DATE: 10/06/95
CHECKED BY: MNA DATE: 10/07/95
FILENAME: rsl\reedy\basin4a.xls

STORMWATER DRAINAGE CALCULATIONS
POST-DEVELOPMENT CONDITIONS

BASIN NO. 4

2. Treatment Volume:

Requirements - SFWMD

Gravity control devices shall normally be sized based on a design discharge of one half inch of the detention volume in first day. the devices should incorporate dimensions no smaller than 6 square inches of cross sectional area, two inches minimum dimension, and 20 degrees for "V" notch.

Volume to be discharged in the first 24 hours is 0.5 inch of the required detention.

Vol. = 0.5 inch * (Proj. Drain. Area - Pond W.S. Area)
= 0.136 acre-foot

Design head:

weir crest elevation =	20.85 m.	68.40 ft.
control elevation =	20.45 m.	67.09 ft.

h= weir crest elevation - control elevation
= 1.31 ft.

$Q = Cd \times Ao \times (2 \times g \times h)^{0.50}$

Where,

Cd = coefficient of discharge for an orifice
= 0.60

Ao = Area of an orifice (bleed down device)

g = 32.2 ft./sec^2

h = 1.31 ft.

Treatment Volume Discharge Rate is,

Qt = 0.137*43560/(24*3600)
= 0.068 cfs

$Ao = (Q / (0.60 * (2 * g * h)^{0.5}$
= 0.012 s.f.

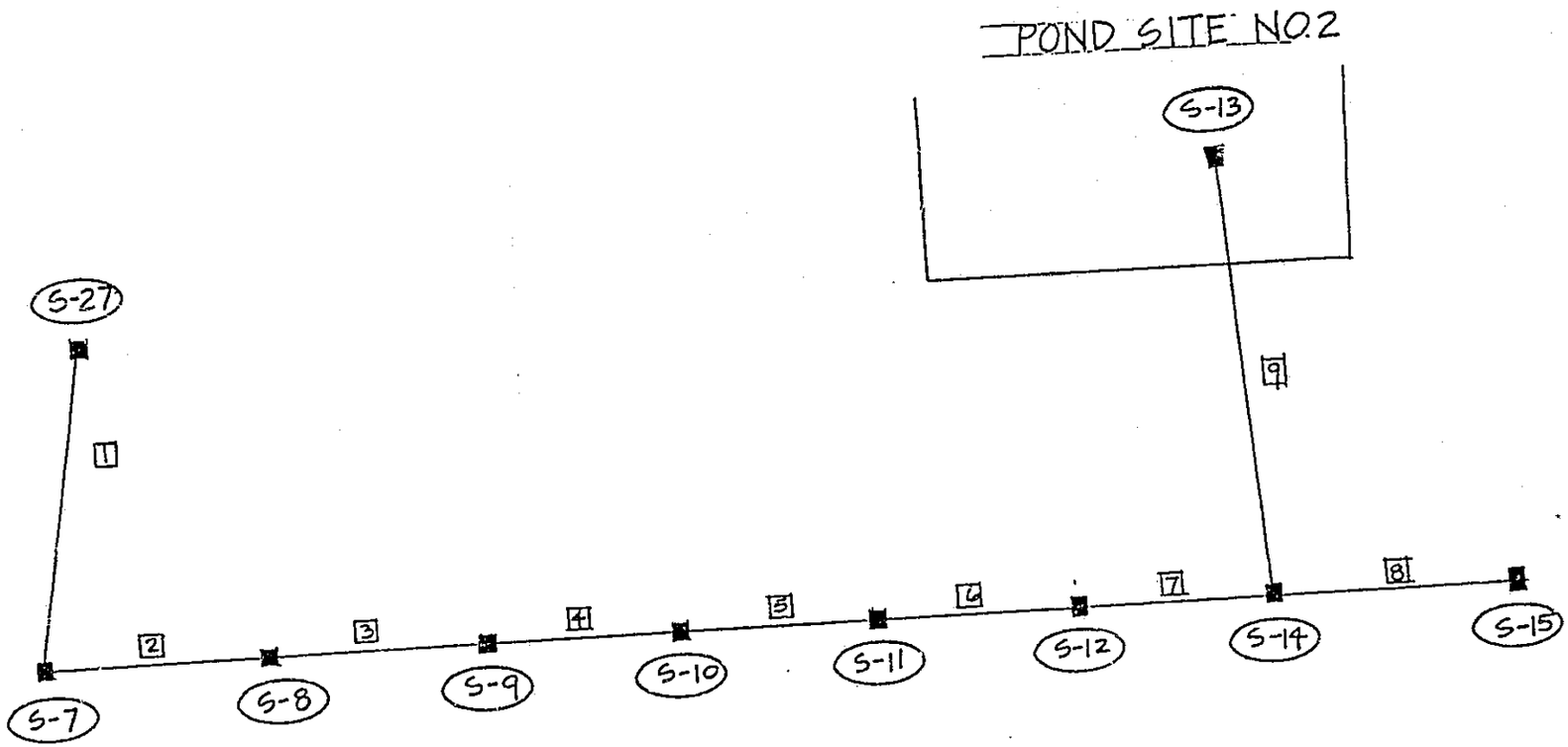
$Do = ((4 * Ao) / 3.1416)^{0.5}$
= 0.126 ft.
= 1.508 inches

Diameter orifice = 1.51 inches

Therefore:

Dia. of orifice to be used = 2 inches minimum

COLLECTION SYSTEM



SCHEMATIC - BASIN 4 COLLECTION SYSTEM

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**********************************
*     SUPRA-4  (VERSION 3.00)    *
*  STORM SEWER DESIGN & ANALYSIS *
*    FOR PRESSURE FLOW SYSTEMS   *
*      BY KATO T. DEE, P.E.      *
*      COPYRIGHT (C)  1988-93    *
*    SUPRA ENGINEERING SOFTWARE  *
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LICENSED TO: Aikenhead & Odom, Inc.

PROJECT NAME : REEDY CREEK SR 600 - SYSTEM 2
PROJECT NUMBER : 94-005
DESIGNED BY : RSL
DATE : 10- 9-1995

DESIGN CRITERIA:

MINIMUM VELOCITY (ft/sec)	=	2.5
MINIMUM COVER (ft)	=	1.0
MINIMUM PIPE DIAMETER (inches)	=	15
MINIMUM CLEARANCE BETWEEN INLET AND HYDRAULIC GRADE ELEVATIONS (ft)	=	.0

RAINFALL INTENSITY IS COMPUTED FROM IDF CURVE.
RAINFALL ZONE = 7
DESIGN FREQUENCY = 10

REFERENCE FILES
===============

INPUT FILE FOR EVALUATION MODE	:	
IDF CURVE DATA	:	ZONE7-10.IDF
OUTPUT FILE	:	RCSS2A-0.SP4

*** STORM SEWER DESIGN AND ANALYSIS ***
(C) Copyright 1988, Kato T. Dee, P.E.

DATE: 10- 9-1995
PROJECT #: 94-005
DESIGNED BY: R[illegible]
SUBSYSTEM #:

COMPANY: Aikenhead & Odom, Inc.
TITLE: PEEDY CREEK SR 600 - SYSTEM 2
ZONE: 7
FREQUENCY: 10
OF PIPES: 9

STRUCTURE			DRAINAGE AREA (ac.) C1 = .95 C2 = .00 C3 = .00			TIME OF CONC Tc (min.)	TIME OF FLOW IN PIPE (min.)	RAIN FALL (I)	TOTAL (CA)	TOTAL Q (CIA) (cfs)	INLET ELEV (ft)	ELEV. OF HYD. GRAD. CROWN ELEVATION / FLOWLINE ELEVATION			PIPE SIZE (in.) SHAPE	SLOPE (%) "n"	FLOW VEL. IN PIPE fps	PIPE CAP. (cfs)
STATION	TYPE	L ft.	INC.	SUB-TOT	SUB-TOTAL (CA)							UP-END	LOW-END	FALL				
FROM	TO	LN	TOL															
O. TAMPA		SI		.16	.16	.15	10.0	1.4	7.50	.15	1.1	79.42	76.29	75.80	.49	18	.23	2.4	1.1
		210		.00	.00	.00							76.30	75.81		CIRC			
S27	S7	1	M		.00	.00	.00						74.80	74.31	.49	.012	.23	3.1	5.5
26+05		SI		.47	.63	.60	11.4	.9	7.19	.60	4.3	81.79	75.41	72.95	2.46	18	.85	5.6	4.3
		289		.00	.00	.00							75.64	73.18		CIRC			
S7	S8	2	M		.00	.00	.00	LOSS COEF. = .8		JUNC. LOSS = .39			74.14	71.68	2.46	.012	.85	5.9	10.5
26+93		SI		.41	1.04	.99	12.3	1.3	7.00	.99	6.9	76.40	72.70	71.60	1.10	18	.37	3.9	6.9
		298		.00	.00	.00							71.38	69.08		CIRC			
S8	S9	3	M		.00	.00	.00	LOSS COEF. = .5		JUNC. LOSS = .25			69.88	67.58	2.30	.012	.77	5.7	10.0
27+84		SI		.37	1.41	1.34	13.6	1.7	6.72	1.34	9.0	72.21	71.49	71.07	.41	24	.14	2.9	9.0
		293		.00	.00	.00							69.25	67.61		CIRC			
S9	S10	4	M		.00	.00	.00	LOSS COEF. = .5		JUNC. LOSS = .12			67.25	65.61	1.64	.012	.55	5.8	18.2
28+75		SI		.33	1.74	1.65	15.3	1.3	6.37	1.65	10.5	71.19	70.98	70.44	.54	24	.20	3.5	10.5
		269		.00	.00	.00							67.61	65.65		CIRC			
S10	S11	5	M		.00	.00	.00	LOSS COEF. = .5		JUNC. LOSS = .09			65.61	63.65	1.96	.012	.73	6.7	20.9
29+57		SI		.30	2.04	1.94	16.5	.6	6.23	1.94	12.1	70.40	70.32	69.91	.40	24	.26	4.0	12.1
		154		.00	.00	.00							65.65	65.48		CIRC			
S11	S12	6	M		.00	.00	.00	LOSS COEF. = .5		JUNC. LOSS = .12			63.65	63.48	.17	.012	.11	2.6	8.1
30+04		SI		.17	2.21	2.10	17.2	.6	6.17	2.10	12.9	69.97	69.77	69.33	.44	24	.30	4.3	12.9
		146		.00	.00	.00							65.48	65.32		CIRC			
S12	S14	7	M		.00	.00	.00	LOSS COEF. = .5		JUNC. LOSS = .14			63.48	63.32	.16	.012	.11	2.6	8.1
31+00		SI		.18	.18	.17	10.0	3.8	7.50	.17	1.3	70.79	69.35	69.33	.02	18	.01	.7	1.3
		167		.00	.00	.00							67.60	66.45		CIRC			
S15	S14	8	M		.00	.00	.00						66.10	64.95	1.15	.012	.69	5.3	9.4
30+49		SI		.35	2.75	2.61	17.8	.7	6.10	2.61	15.9	69.65	69.14	68.95	.19	30	.14	3.4	15.9
		135		.00	.00	.00							65.32	64.83		CIRC			
S14	S13	9	M		.00	.00	.00	LOSS COEF. = .7		JUNC. LOSS = .20			62.82	62.33	.49	.012	.36	5.4	26.7

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PROJECT: Reedy Creek - S.R. 600
PROJ. NO.: 94-005 SHEET: 1
CALC. BY: MRM / RSL DATE: 9/27/95
CHECKED BY: MNA DATE:
FILENAME: rsl\reedy\bas2conv.xls

STORMWATER DRAINAGE CALCULATIONS

STRUCTURES DRAINAGE AREA
(METRIC TO ENGLISH CONVERSION)

STRUCT. NO.	TYPE	STATION (Metric)	DRAINAGE AREA IMPERVIOUS SURFACE m^2	IMPERVIOUS SURFACE acre	PERVIOUS SURFACE m^2	PERVIOUS SURFACE acre
S-27	GI		657.999	0.163	0	0.000
S-7	GI	26 + 05	1916.466	0.474	0	0.000
S-8	GI	26 + 93	1661.575	0.411	0	0.000
S-9	GI	27 + 84	1485.189	0.367	0	0.000
S-10	GI	28 + 75	1334.818	0.330	0	0.000
S-11	GI	29 + 57	1195.927	0.296	0	0.000
S-12	GI	30 + 04	707.500	0.175	0	0.000
S-14	GI	30 + 49	1447.500	0.358	0	0.000
S-13	FES		0.000	0.000	0	0.000
S-15	GI	31 + 00	730.000	0.180		

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PROJECT: Reedy Creek - S.R. 600
PROJ. NO.: 94-005 SHEET: 1
CALC. BY: RSL DATE: 10/06/95
CHECKED BY: MNA DATE: 10/07/95
FILENAME: rsl\reedy\basin4a.xls

STORMWATER DRAINAGE CALCULATIONS

SUMMARY

BASIN NO. 4

STRUCTURES' DRAINAGE AREAS, RUNOFF COEFFICIENTS, AND CURVE NUMBERS

POND SITE:

TOTAL AREA = **0.941 acres**
Pervious Surface = 0.502 acre CN = 39 C = 0.30
W.S.E. (@ Control El.) = 0.439 acre CN = 100 C = 1.00
Pond CN = 67.458 **Pond C = 0.627**

COLLECTION SYSTEM (Excluding Pond Site)

Drainage Areas in acres (including offsite drain areas):
Total = 2.754 Pervious = 0.000 Impervious = 2.754
Composite Runoff Coefficient, C = 0.950
Composite Curve Number, CN = 98.000

STRUCT. NO.	OFFSITE DRAIN. AREA	ONSITE PERV. SURFACE	ONSITE IMPERV SURFACE	TOTAL DRAIN. AREA	COMP. R. COEF. C	C*A	COMP. CURVE NO. CN	CN*A
S-27	0.000	0.000	0.163	0.163	0.950	0.155	98.000	15.974
S-7	0.000	0.000	0.474	0.474	0.950	0.450	98.000	46.452
S-8	0.000	0.000	0.411	0.411	0.950	0.390	98.000	40.278
S-9	0.000	0.000	0.367	0.367	0.950	0.349	98.000	35.966
S-10	0.000	0.000	0.330	0.330	0.950	0.314	98.000	32.340
S-11	0.000	0.000	0.296	0.296	0.950	0.281	98.000	29.008
S-12	0.000	0.000	0.175	0.175	0.950	0.166	98.000	17.150
S-14	0.000	0.000	0.358	0.358	0.950	0.340	98.000	35.084
S-13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S-15	0.000	0.000	0.180	0.180	0.950	0.171	98.000	17.640
TOTAL	**0.000**	**0.000**	**2.754**	**2.754**		**2.616**		**269.892**

STR.BAS

AIKENHEAD & ODOM, INC.
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Tel.No.:(904) 636-5432
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PROJECT: Reedy Creek - S.R. 600
PROJ. NO.: 94-005 SHEET: 1
CALC. BY: RSL DATE: 10/06/95
CHECKED BY: MNA DATE: 10/07/95
FILENAME: rsl\reedy\basin4a.xls

STORMWATER DRAINAGE CALCULATIONS
POST-DEVELOPMENT CONDITIONS
BASIN NO. 4

1. STRUCTURE NO. S-27 GI STATION LT.

A. Drainage Area:
Drainage area, A = **0.163 acre**
Soil Name: Roadway Fill Soil Group: A

B. Onsite:
Pervious Surface
Area, A1 = 0 acre
Land use/Soil Cover: Utility Corr./Grass CN1 = 39 C1 = 0.30
Impervious Surface:
Area, A2= 0.163 acre
Land use/Soil Cover: Road/Pavt. CN2 = 98 C2 = 0.95

C. Offsite:
Area, A3= 0 acre
Land use/Soil Cover: Open spaces/Grass CN3 = 59 C3 = 0.45

D. Runoff Coefficient:
C = ((A1 * C1) + (A2 * C2) + (A3 * C3)) / A
C = 0.950

E. Curve Number:
CN = ((A1 * CN1) + (A2 * CN2) + (A3 * CN3)) / A
CN = 98.000

2. STRUCTURE NO. S-7 GI STATION 26+05 m. RT.

A. Drainage Area:
Drainage area, A = **0.474 acre**
Soil Name: Aquic Roadway Fill Soil Group: A

B. Onsite:
Pervious Surface
Area, A1 = 0 acre
Land use/Soil Cover: Utility Corr./Grass CN1 = 39 C1 = 0.30
Impervious Surface:
Area, A2= 0.474 acre
Land use/Soil Cover: Road/Pavt. CN2 = 98 C2 = 0.95

C. Offsite:
Area, A3= 0 acre
Land use/Soil Cover: Open spaces/Grass CN3 = 59 C3 = 0.45

D. Runoff Coefficient:
C = ((A1 * C1) + (A2 * C2) + (A3 * C3)) / A
C = 0.950

E. Curve Number:
CN = ((A1 * CN1) + (A2 * CN2) + (A3 * CN3)) / A
CN = 98.000

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PROJECT: Reedy Creek - S.R. 600
PROJ. NO.: 94-005 SHEET: 2
CALC. BY: RSL DATE: 10/06/95
CHECKED BY: MNA DATE: 10/07/95
FILENAME: rsl\reedy\basin4a.xls

STORMWATER DRAINAGE CALCULATIONS
POST-DEVELOPMENT CONDITIONS
BASIN NO. 4

3. STRUCTURE NO. S-8 GI **STATION** 26+93 m. RT.

A. Drainage Area:
Drainage area, A = **0.411 acre**
Soil Name: Roadway Fill Soil Group: A
B. Onsite:
Pervious Surface
Area, A1 = 0 acre
Land use/Soil Cover: Utility Corr./Grass CN1 = 39 C1 = 0.30
Impervious Surface:
Area, A2= 0.411 acre
Land use/Soil Cover: Road/Pavt. CN2 = 98 C2 = 0.95
C. Offsite:
Area, A3= 0 acre
Land use/Soil Cover: Open spaces/Grass CN3 = 59 C3 = 0.45
D. Runoff Coefficient:

$$C = ((A1 * C1) + (A2 * C2) + (A3 * C3)) / A$$

C = 0.950

E. Curve Number:

$$CN = ((A1 * CN1) + (A2 * CN2) + (A3 * CN3)) / A$$

CN = 98.000

4. STRUCTURE NO. S-9 GI **STATION** 27+84 m. RT.

A. Drainage Area:
Drainage area, A = **0.367 acre**
Soil Name: Aquic Roadway Fill Soil Group: A
B. Onsite:
Pervious Surface
Area, A1 = 0 acre
Land use/Soil Cover: Utility Corr./Grass CN1 = 39 C1 = 0.30
Impervious Surface.
Area, A2= 0.367 acre
Land use/Soil Cover: Road/Pavt. CN2 = 98 C2 = 0.95
C. Offsite:
Area, A3= 0.000 acre
Land use/Soil Cover: Open spaces/Grass CN3 = 59 C3 = 0.45
D. Runoff Coefficient:

$$C = ((A1 * C1) + (A2 * C2) + (A3 * C3)) / A$$

C = 0.950

E. Curve Number:

$$CN = ((A1 * CN1) + (A2 * CN2) + (A3 * CN3)) / A$$

CN = 98.000

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PROJECT: Reedy Creek - S.R. 600
PROJ. NO.: 94-005 SHEET: 3
CALC. BY: RSL DATE: 10/06/95
CHECKED BY: MNA DATE: 10/07/95
FILENAME: rsl\reedy\basin4a.xls

STORMWATER DRAINAGE CALCULATIONS
POST-DEVELOPMENT CONDITIONS
BASIN NO. 4

5. STRUCTURE NO. S-10 GI **STATION** 28+75 m. RT.

A. Drainage Area:
Drainage area, A = **0.330 acre**
Soil Name: Roadway Fill Soil Group: A
B. Onsite:
Pervious Surface
Area, A1 = 0 acre
Land use/Soil Cover: Utility Corr./Grass CN1 = 39 C1 = 0.30
Impervious Surface:
Area, A2= 0.33 acre
Land use/Soil Cover: Road/Pavt. CN2 = 98 C2 = 0.95
C. Offsite:
Area, A3= 0.000 acre
Land use/Soil Cover: Open spaces/Grass CN3 = 59 C3 = 0.45
D. Runoff Coefficient:
C = ((A1 * C1) + (A2 * C2) + (A3 * C3)) / A
C = 0.950
E. Curve Number:
CN = ((A1 * CN1) + (A2 * CN2) + (A3 * CN3)) / A
CN = 98.000

6. STRUCTURE NO. S-11 GI **STATION** 29+57 m. RT.

A. Drainage Area:
Drainage area, A = **0.296 acre**
Soil Name: Roadway Fill Soil Group: A
B. Onsite:
Pervious Surface
Area, A1 = 0 acre
Land use/Soil Cover: Utility Corr./Grass CN1 = 39 C1 = 0.30
Impervious Surface:
Area, A2= 0.296 acre
Land use/Soil Cover: Road/Pavt. CN2 = 98 C2 = 0.95
C. Offsite:
Area, A3= 0.000 acre
Land use/Soil Cover: Open spaces/Grass CN3 = 59 C3 = 0.45
D. Runoff Coefficient:
C = ((A1 * C1) + (A2 * C2) + (A3 * C3)) / A
C = 0.950
E. Curve Number:
CN = ((A1 * CN1) + (A2 * CN2) + (A3 * CN3)) / A
CN = 98.000

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PROJECT: Reedy Creek - S.R. 600
PROJ. NO.: 94-005 SHEET: 4
CALC. BY: RSL DATE: 10/06/95
CHECKED BY: MNA DATE: 10/07/95
FILENAME: rsl\reedy\basin4a.xls

STORMWATER DRAINAGE CALCULATIONS
POST-DEVELOPMENT CONDITIONS
BASIN NO. 4

7. STRUCTURE NO. S-12 GI **STATION** 30+04 m. RT.

A. Drainage Area:
Drainage area, A = **0.175 acre**
Soil Name: Roadway Fill Soil Group: A

B. Onsite:
Pervious Surface
Area, A1 = 0 acre
Land use/Soil Cover: Utility Corr./Grass CN1 = 39 C1 = 0.30
Impervious Surface:
Area, A2= 0.175 acre
Land use/Soil Cover: Road/Pavt. CN2 = 98 C2 = 0.95

C. Offsite:
Area, A3= 0.000 acre
Land use/Soil Cover: Open spaces/Grass CN3 = 59 C3 = 0.45

D. Runoff Coefficient:
C = ((A1 * C1) + (A2 * C2) + (A3 * C3)) / A
C = 0.950

E. Curve Number:
CN = ((A1 * CN1) + (A2 * CN2) + (A3 * CN3)) / A
CN = 98.000

8. STRUCTURE NO. S-14 GI **STATION** 30+49 m. RT.

A. Drainage Area:
Drainage area, A = **0.358 acre**
Soil Name: Roadway Fill Soil Group: A

B. Onsite:
Pervious Surface
Area, A1 = 0 acre
Land use/Soil Cover: Utility Corr./Grass CN1 = 39 C1 = 0.30
Impervious Surface:
Area, A2= 0.358 acre
Land use/Soil Cover: Road/Pavt. CN2 = 98 C2 = 0.95

C. Offsite:
Area, A3= 0.000 acre
Land use/Soil Cover: Open spaces/Grass CN3 = 59 C3 = 0.45

D. Runoff Coefficient:
C = ((A1 * C1) + (A2 * C2) + (A3 * C3)) / A
C = 0.950

E. Curve Number:
CN = ((A1 * CN1) + (A2 * CN2) + (A3 * CN3)) / A
CN = 98.000

AIKENHEAD & ODOM, INC.
5730 Bowden Road, Suite 200
Jacksonville, Florida 32216
Tel.No.:(904) 636-5432
Fax No.:(904) 636-5433

PROJECT: Reedy Creek - S.R. 600
PROJ. NO.: 94-005 SHEET: 5
CALC. BY: RSL DATE: 10/06/95
CHECKED BY: MNA DATE: 10/07/95
FILENAME: rsl\reedy\basin4a.xls

STORMWATER DRAINAGE CALCULATIONS
POST-DEVELOPMENT CONDITIONS
BASIN NO. 4

9. STRUCTURE NO. S-13 FES **STATION** 31+00 m. RT.

A. Drainage Area: **0.000 acre**
Drainage area, A =
Soil Name: Roadway Fill Soil Group: A

B. Onsite:
Pervious Surface 0 acre
Area, A1 = CN1 = 39 C1 = 0.30
Land use/Soil Cover: Utility Corr./Grass
Impervious Surface: 0 acre
Area, A2= CN2 = 98 C2 = 0.95
Land use/Soil Cover: Road/Pavt.

C. Offsite: 0.000 acre
Area, A3= CN3 = 59 C3 = 0.45
Land use/Soil Cover: Open spaces/Grass

D. Runoff Coefficient:
C = ((A1 * C1) + (A2 * C2) + (A3 * C3)) / A
C = 0.000

E. Curve Number:
CN = ((A1 * CN1) + (A2 * CN2) + (A3 * CN3)) / A
CN = 0.000

10. STRUCTURE NO. S-15 GI **STATION** 31+00 m. RT.

A. Drainage Area: **0.180 acre**
Drainage area, A =
Soil Name: Roadway Fill Soil Group: A

B. Onsite:
Pervious Surface 0 acre
Area, A1 = CN1 = 39 C1 = 0.30
Land use/Soil Cover: Utility Corr./Grass
Impervious Surface: 0.18 acre
Area, A2= CN2 = 98 C2 = 0.95
Land use/Soil Cover: Road/Pavt.

C. Offsite: 0.000 acre
Area, A3= CN3 = 59 C3 = 0.45
Land use/Soil Cover: Open spaces/Grass

D. Runoff Coefficient:
C = ((A1 * C1) + (A2 * C2) + (A3 * C3)) / A
C = 0.950

E. Curve Number:
CN = ((A1 * CN1) + (A2 * CN2) + (A3 * CN3)) / A
CN = 98.000

AIKENHEAD
& ODOM inc.
CONSULTING ENGINEERS

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

MAPS FOR

PERMIT NUMBER:

49-00765-S

APPLICATION NUMBER:

960124-5

THIS CONTRACT PLAN SET INCLUDES

SPWD SUBMITTAL SET - SEPTEMBER 13, 1996

A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH COMPONENT SET OF PLANS

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2 - 4	DRAINAGE MAP
5 - 6	TYPICAL SECTIONS
12 - 25	PLAN AND PROFILE - S.R. 600
26	INTERSECTION LAYOUT - C.R. 532
27	INTERSECTION LAYOUT - OLD TAMPA HIGHWAY
28	PROFILE - C.R. 532
29	PROFILE - OLD TAMPA HIGHWAY
38	GRADING PLAN - POND NO.1
39	DETAILS - POND NO.1
40	GRADING PLAN - POND NO.2
41	DETAILS - POND NO.2
42	SPECIAL DETAILS
97	FLOOD MAP
98	WETLAND IMPACTS

BRIDGE COMPONENT SET

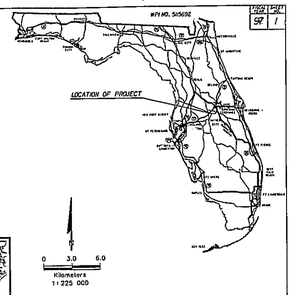
5 SHEETS

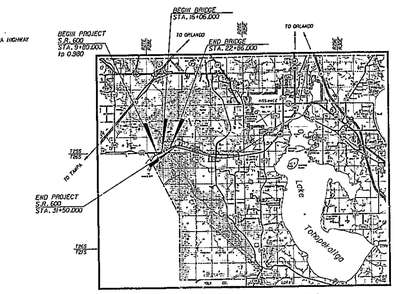
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY

STATE PROJECT NO. 92010-3520 (FEDERAL FUNDS)
OSCEOLA COUNTY

STATE ROAD NO. 600





NOTE: LENGTH OF PROJECT IS BASED ON CENTERLINE OF CONSTRUCTION.

LENGTH OF PROJECT	METERS
ROADWAY	950.000
BRIDGES	680.000
NET LENGTH OF PROJ.	270.000
EXCEPTIONS	-0-
GROSS LENGTH OF PROJ.	270.000

REVISIONS		
DATE	BY	DESCRIPTION

PHASE III SUBMITTAL
MAY, 1996

ROADWAY PLANS
ENGINEER OF RECORD
W. REID AKERHEAD P.E. NO. 14056

PLANS PREPARED BY
AKERHEAD & ODOM, INC., CONSULTING ENGINEERS
9730 DONDER RD., SUITE 200
JACKSONVILLE, FL. 32216

ADDITIONAL INFORMATION

SEP 18 1996

ORLANDO SERVICE CENTER

ATTENTION IS DIRECT'D TO THE FACT THAT THESE PLANS ARE NOT ACCEPTED OR APPROVED FOR CONSTRUCTION UNLESS CONSIDERED WITH O.R. HAND SIGNED DATA.

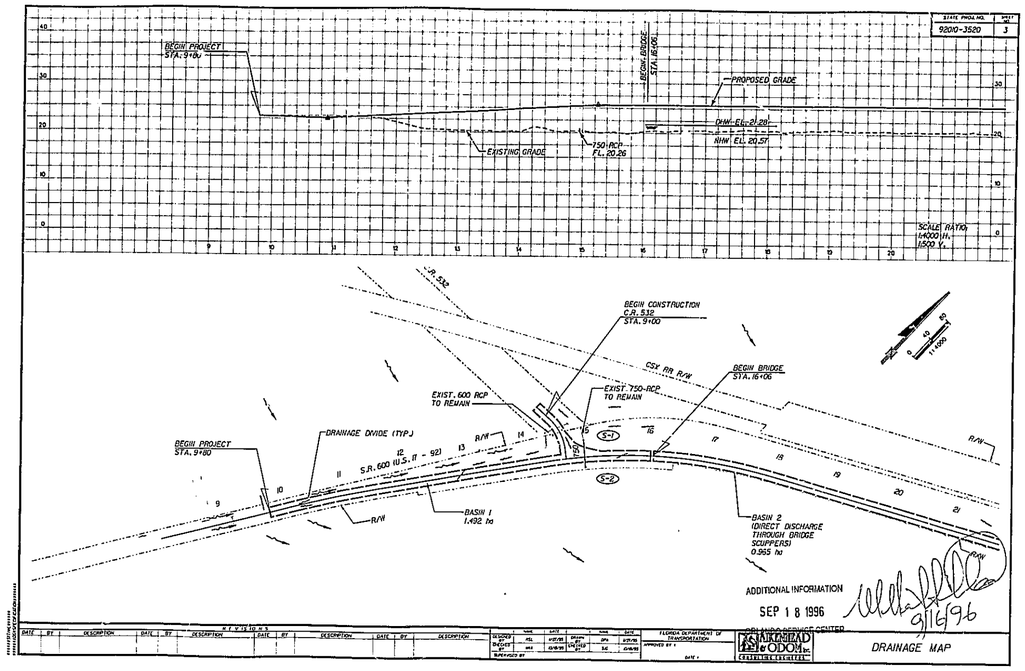
GOVERNING SPECIFICATIONS: STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", DATED 1991, SUPPLEMENTS AND SPECIAL PROVISIONS THERETO IF NOTED IN THE CONTRACT SPECIFICATIONS FOR THIS PROJECT.

ROADWAY PLANS APPROVED ON THIS DATE: 9/11/96

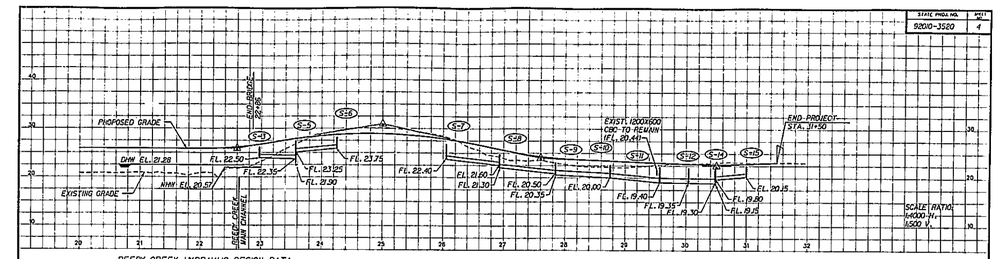
P.E. NO.: 14056

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE CONFORMED TO THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION, "MANUAL OF TRAFFIC DESIGN STANDARDS BOOKLET" DATED JANUARY, 1995.

FDOT PROJECT MANAGER: DAVID COOKE


STATE PROJ. NO.
92010-3520
SHEET NO.
3
BEGIN PROJECT
STA. 9+00
BEGIN BRIDGE
STA. 16+06
PROPOSED GRADE
DHWL EL. 21.29
HHW EL. 20.07
EXISTING GRADE
750 RCP
FL. 20.26
SCALE RATIO
1:1000 H.
1:500 V.
C.R. 532
BEGIN CONSTRUCTION
C.R. 532
STA. 9+00
CSX RR R/W
BEGIN BRIDGE
STA. 16+06
EXIST. 600 RCP
TO REMAIN
EXIST. 750 RCP
TO REMAIN
DRAINAGE DIVIDE (TYP.)
BEGIN PROJECT
STA. 9+00
S.R. 600 (U.S. 17 - 92)
R/W
BASIN 1
1.492 ha
BASIN 2
(DIRECT DISCHARGE
THROUGH BRIDGE
SCUPPERS)
0.955 ha
S-1
S-2
ADDITIONAL INFORMATION
SEP 18 1996
9/16/96
DRAINAGE MAP

STATE PROJ NO.	SHEET
92010-3520	4



REEDY CREEK HYDRAULIC DESIGN DATA

STRUCT.	AREA (Ha)
S-1	0
S-2	0
S-3	0.83
S-4	0
S-5	0.16
S-6	0.135
S-7	0.152
S-8	0.66
S-9	0.148
S-10	0.133
S-11	0.93
S-12	0.07
S-13	0
S-14	0.13
S-15	0.872
S-16	0
S-17	0
S-18	0
S-19	NOT USED
S-20	0
S-21	0
S-22	0
S-23	0
S-24	0
S-25	0
S-26	0
S-27	0.066

NOTE: THE HYDRAULIC DATA IS SHOWN FOR INFORMATIONAL PURPOSES ONLY TO INDICATE THE FLOOD DISCHARGES AND WATER SURFACE ELEVATIONS WHEN MAY BE ANTICIPATED IN ANY GIVEN YEAR. THIS DATA WAS GENERATED USING HIGHLY VARIABLE FACTORS DETERMINED AS A RESULT OF THE WATERSHED MAP, ASSUMPTIONS AND ASSUMPTIONS ARE REQUIRED TO ESTABLISH THESE FACTORS. THE RESULTANT HYDRAULIC DATA IS SENSITIVE TO CHANGES, PARTICULARLY ANTECEDENT CONDITIONS, URBANIZATION, CHANNELIZATION AND LAND USE. USERS OF THIS DATA ARE CAUTIONED AGAINST THE ASSUMPTION OF PRECISION WHICH CANNOT BE OBTAINED.

DEFINITIONS:

DESIGN FLOOD: THE FLOOD SELECTED BY THE FOOT TO BE UTILIZED TO ASSURE A STANDARD LEVEL OF HYDRAULIC PERFORMANCE.

BASE FLOOD: THE FLOOD HAVING A 1% CHANCE OF BEING EXCEEDED IN ANY YEAR. (100 YEAR FREQUENCY)

OVERTOPPING FLOOD: THE FLOOD WHICH FLOW OCCURS OVER THE HIGHWAY, OVER A WATERWAYS OPENING, OR THRU EMERGENCY RELIEF STRUCTURES.

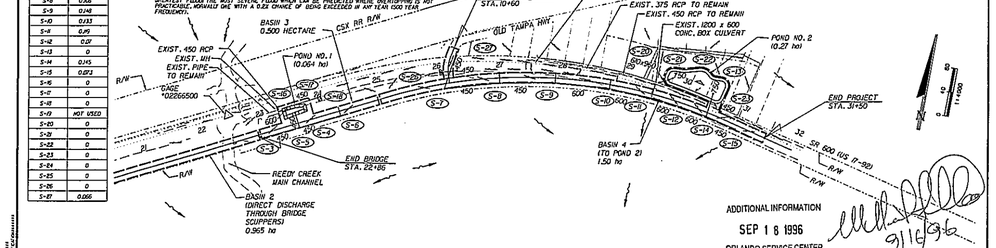
GREATEST FLOOD: THE MOST SEVERE FLOOD WHICH CAN BE PREDICTED WHERE OVERTOPPING IS NOT PRACTICABLE. NORMALLY ONE WITH A 0.2% CHANCE OF BEING EXCEEDED IN ANY YEAR. (500 YEAR FREQUENCY).

WATER SURFACE ELEVATIONS, H.W. (HIGH TIDE) 20.57 M.H.W. N/A M.L.W. N/A

FLOOD DATA:	MAX. EVENT OF RECORD	DESIGN FLOOD	BASE FLOOD
STAGE ELEV. (NGVD'29)	20.45	19.43	19.43
DISCHARGE (CMS)	13.0 CMS	10.7 CMS	10.7 CMS
RETURN YEAR (OVERTOPPED)	5 YEARS	25 YEARS	25 YEARS
RETURN YEAR (NOT OVERTOPPED)	5 YEARS	25 YEARS	25 YEARS
FREQUENCY (%)	20	4	4
	20 YEARS	100 YEARS	100 YEARS

☐ OVERTOPPING FLOOD
☒ GREATEST FLOOD

BASED ON GAGE # 02266500 - LOCATION IS APPROXIMATELY AT X32+75 C/L 53 LT.



ADDITIONAL INFORMATION
SEP 1 8 1996
ORLANDO SERVICE CENTER
9/16/96

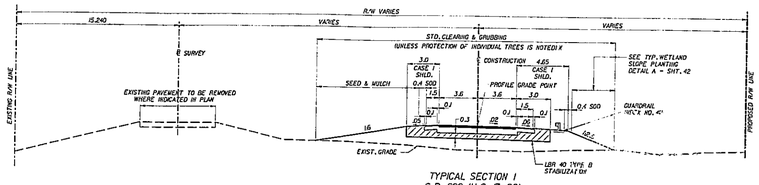
REVISIONS			DESIGNED	RL	6/1/96	CHECKED	JPA	6/21/96
DATE	BY	DESCRIPTION	DRAWN	MA	6/1/96	QUANTITIES	SG	6/26/96
			SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION
DRAWING NOT TO SCALE

ARTAIZAD & ODOM INC.
CONSULTING ENGINEERS

DRAINAGE MAP

PROJECT NUMBER	SHT.
9090-3520	5



TYPICAL SECTION 1
S.R. 600 (U.S. 17-92)
STA. 9+80 TO STA. 15+00 (BEGIN APPR. SLAB)

TRAFFIC DATA

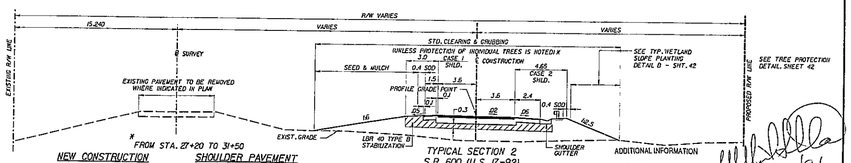
CURRENT YEAR ESTIMATE - 1995 ADT - 11,689
OPENING YEAR ESTIMATE - 2000 ADT - 15,310
DESIGN YEAR ESTIMATE - 2020 ADT - 32,800
K - 9.5% D - 54.3% T - 10.5% (24 HR.)
DESIGN SPEED - 105 km/h

NEW CONSTRUCTION

OPTIONAL BASE GROUP 12 WITH
TYPE S STRUCTURAL COURSE (110 mm)
AND FRICTION COURSE FC2 (15 mm) (RUBBER)

SHOULDER PAVEMENT

OPTIONAL BASE GROUP 01 WITH
TYPE S STRUCTURAL COURSE (30 mm)
AND FRICTION COURSE FC2 (15 mm) (RUBBER)



* FROM STA. 27+20 TO 31+50

NEW CONSTRUCTION
OPTIONAL BASE GROUP 12
USING ABC-3

SHOULDER PAVEMENT
OPTIONAL BASE GROUP 01
USING ABC-3

TYPICAL SECTION 2
S.R. 600 (U.S. 17-92)
STA. 22+92 (END APPR. SLAB) TO STA. 31+50
FOR PAVEMENT DESIGN SEE TYPICAL SECTION NO. 1 *

ADDITIONAL INFORMATION

SEP 1 8 1996

ORLANDO SERVICE CENTER

9/16/96

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
		P.E. # 51548 U.S.						

DESIGNED	CGE	3/96	CHKD	MS	3/96		
DRAWN	MS	3/96	CHKD	MS	3/96		
QUANTITIES	MS	3/96	CHKD	MS	3/96	APPROVED	

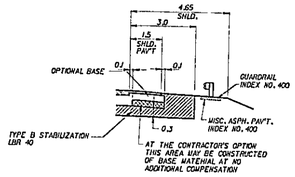
FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT FIVE

ARCHBOLD BIOLOGICAL STATION
LAKE PLACID, FLORIDA

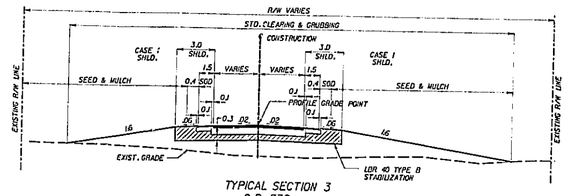
ODOM INC.
ORLANDO, FLORIDA

TYPICAL SECTIONS

PROJECT NUMBER	SHEET
92010-3520	6



CASE 1
SHOULDER PAVEMENT DETAIL



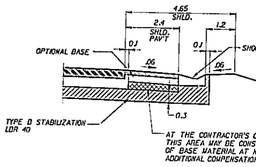
TYPICAL SECTION 3
C.R. 532
STA. 9+00 TO STA. 10+00

NEW CONSTRUCTION

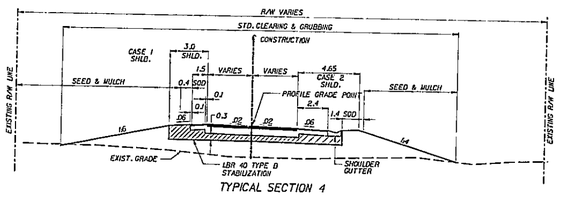
OPTIONAL BASE GROUP 12 WITH
TYPE S STRUCTURAL COURSE (110 mm)
AND FRICTION COURSE FC2 (15 mm) (RUBBER)

SHOULDER PAVEMENT

OPTIONAL BASE GROUP 01 WITH
TYPE S STRUCTURAL COURSE (30 mm)
AND FRICTION COURSE FC2 (15 mm) (RUBBER)



CASE 2
SHOULDER PAVEMENT DETAIL



TYPICAL SECTION 4
OLD TAMPA HWY.
STA. 10+00 TO STA. 10+60

NEW CONSTRUCTION

OPTIONAL BASE GROUP 12 WITH
TYPE S STRUCTURAL COURSE (110 mm)
AND FRICTION COURSE FC2 (15 mm) (RUBBER)

SHOULDER PAVEMENT

OPTIONAL BASE GROUP 01 WITH
TYPE S STRUCTURAL COURSE (30 mm)
AND FRICTION COURSE FC2 (15 mm) (RUBBER)

SEP 18 1996
ORLANDO SERVICE CENTER

3/16/96

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
		REVISIONS									

DESIGNED AF 3/5/96 | CHECKED AF 3/5/96 | QUANTITIES AF 3/5/96 | CHECKED AB 3/5/96

ACCEPTABLE TRANSPORTER SIGNATURE

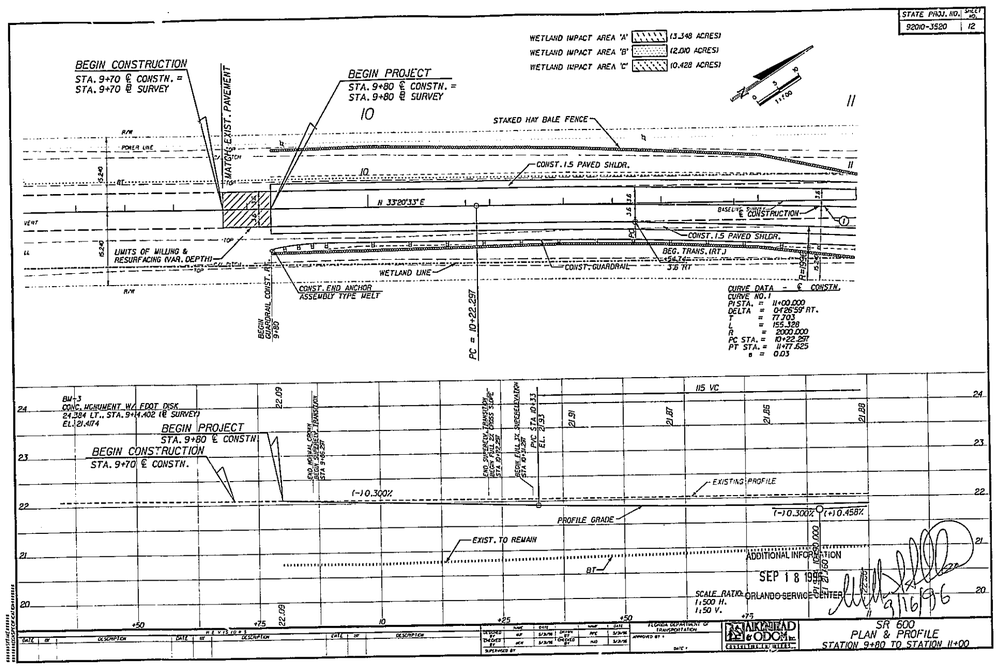
APPROVED BY

DATE

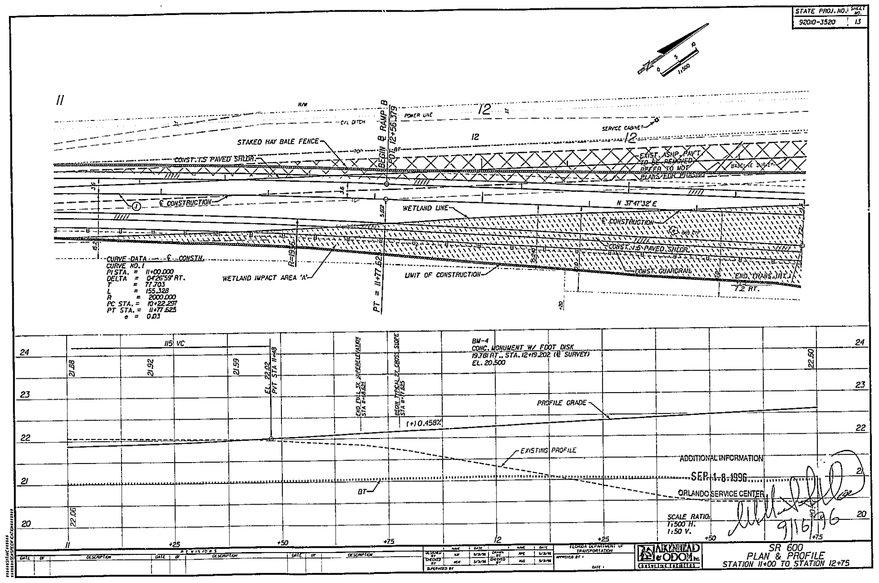
TALKINGTAD & ODOM, INC.
CERTIFICATE OF AUTHORIZATION

TYPICAL SECTIONS

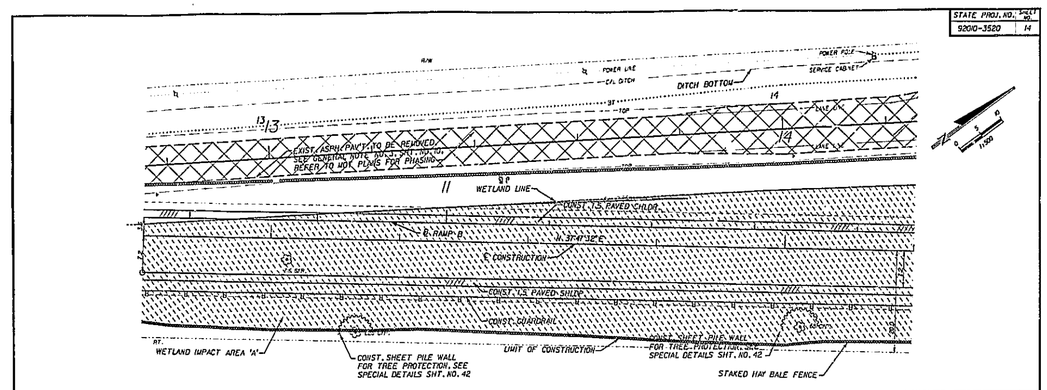
STATE PROJ. NO.	SHEET NO.
92010-3520	12

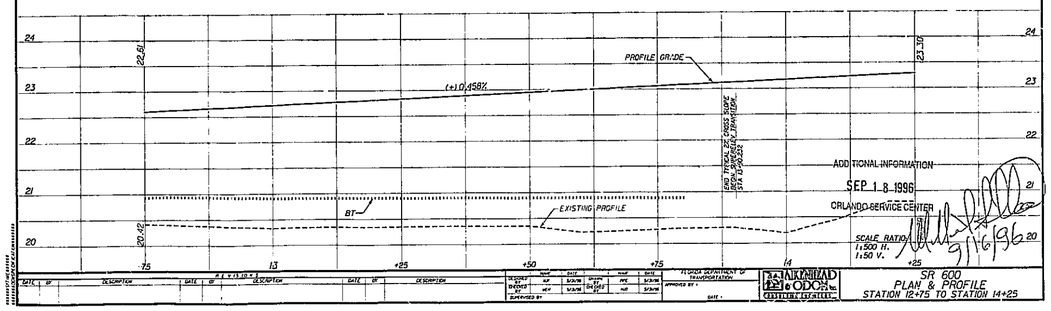


STATE PROJ. NO.: 75211-3520 | SHT. NO.: 15



STATE PROJ. NO.	SHEET NO.
9200-3520	14





ADDITIONAL INFORMATION

SEP 1 8 1996

ORLANDO SERVICE CENTER

SCALE RATIO
1:500 H.
1:50 V.

9/16/96

NO.	BY	DATE	DESCRIPTION
			R / W 15.00 ±

DESIGNED	KF	3/3/96
DRAWN BY	MW	3/3/96
CHECKED BY	MW	3/3/96
QUANTITIES BY		

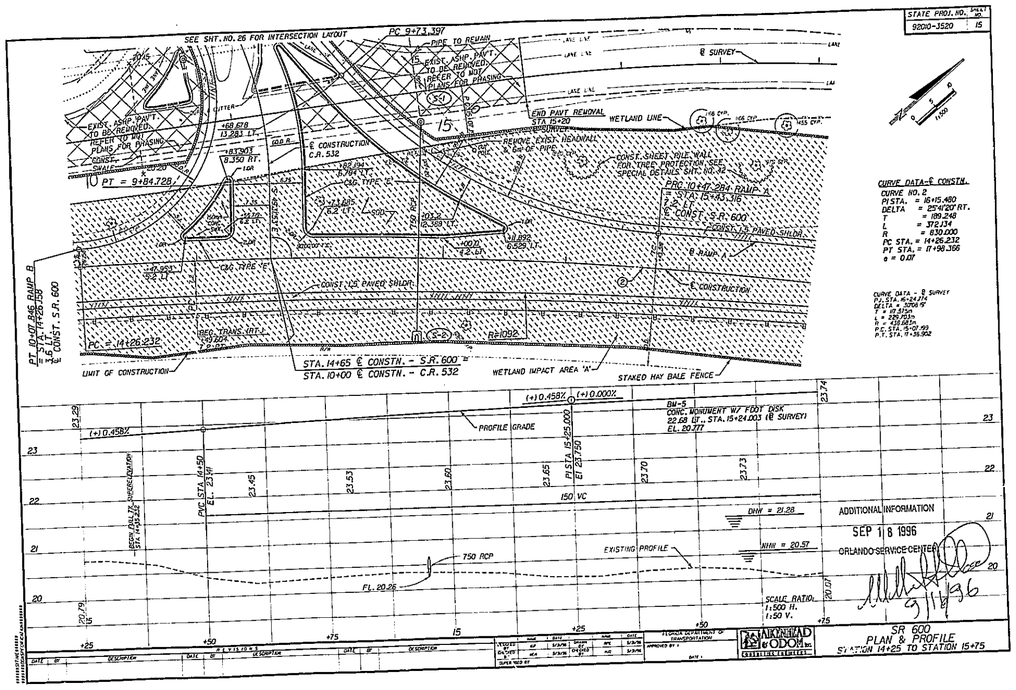
QUALITY CONTROL BY	MP	3/3/96
DIRECTOR OF PROJECTS	MP	3/3/96

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY
DATE

TALKY TUCKER HEAD & ODOM, P.A. CONSULTING ENGINEERS

SR 600
PLAN & PROFILE
STATION 12+75 TO STATION 14+25

STATE PROJ. NO.	SHEET NO.
92010-3520	15



ADDITIONAL INFORMATION

SEP 18 1996

ORLANDO SERVICE CENTER

9/17/96

DATE	BY	DESCRIPTION
DATE	BY	DESCRIPTION
DATE	BY	DESCRIPTION

DESIGNED	KM	DATE 3/3/96
DRAWN	KM	DATE 3/3/96
CHECKED	MG	DATE 3/3/96
QUANTITIES BY	KM	DATE 3/3/96

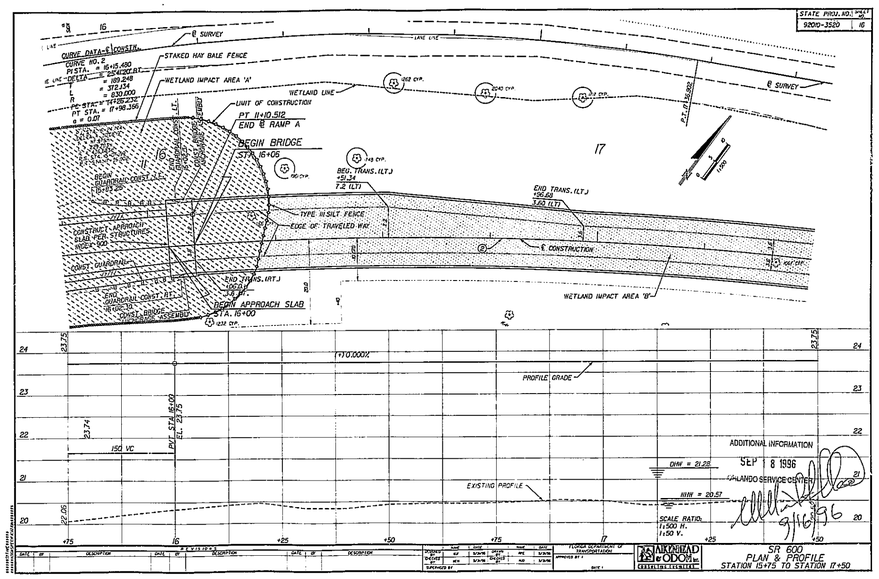
FLORIDA DEPARTMENT OF TRANSPORTATION

APPROVED BY:

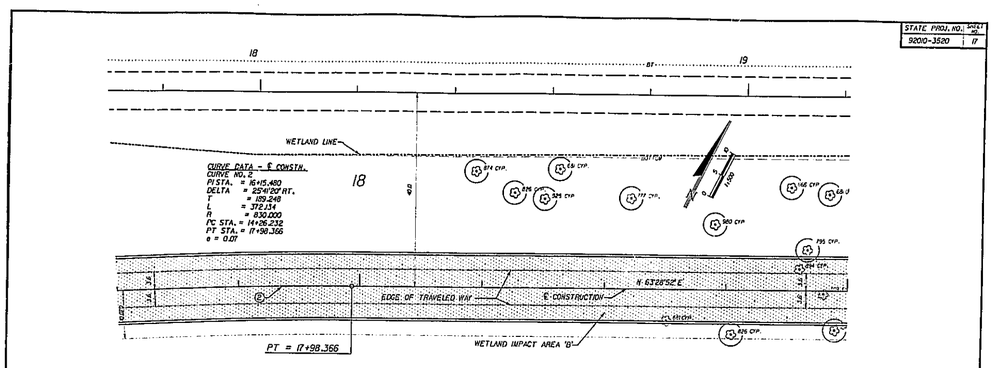
DATE:

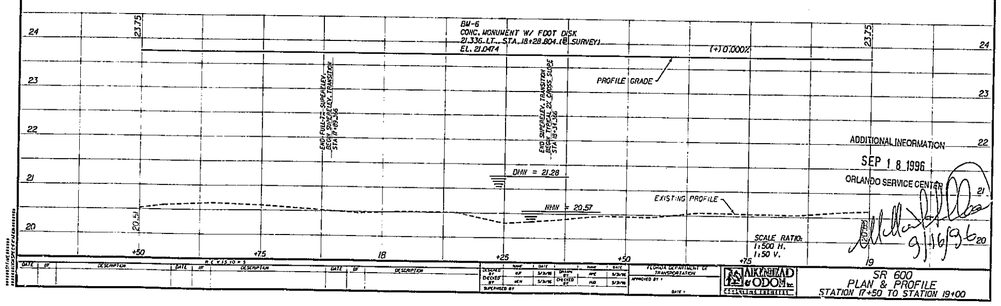
ARCHER WODOM INC. CONSULTING ENGINEERS

SR 600
PLAN & PROFILE
STATION 14+25 TO STATION 15+75

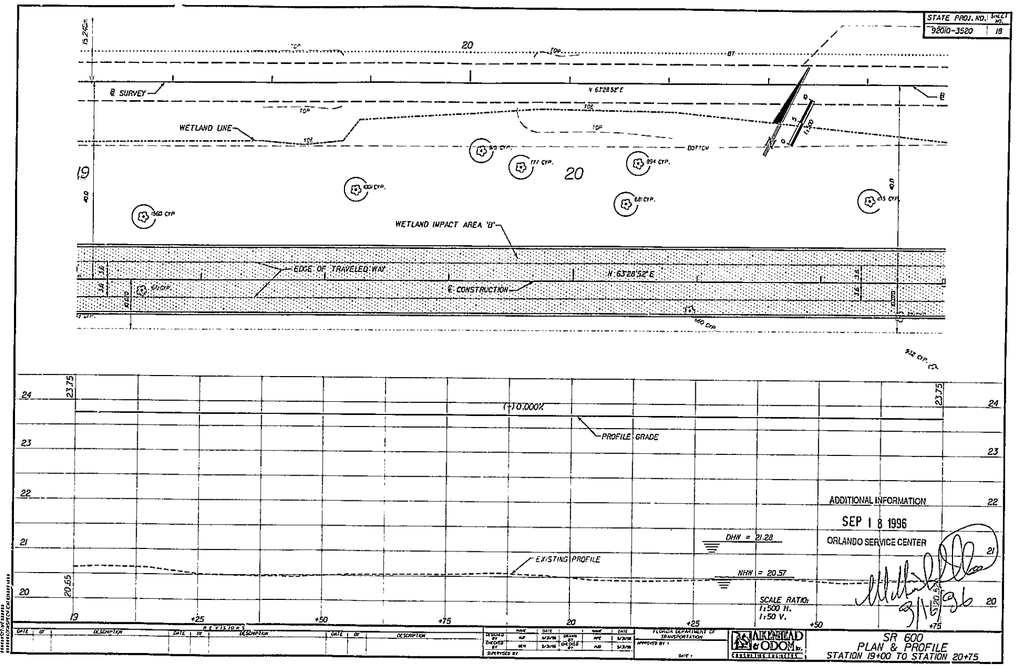

STATE PROJ. NO.
9200-3520
16
17
18
℄ SURVEY
LANE LINE
CURVE DATA-℄ CONSTR.
CURVE NO. 2
PI STA. = 15+15.490
DELTA = 5°04'06" RT
D = 1°08.248
R = 372.434
T = 330.000
L = 659.200
PC STA.= 11+70.206
PT STA.= 11+98.306
E = 0.07
STAKED HAY BALE FENCE
WETLAND IMPACT AREA 'A'
WETLAND LINE
LIMIT OF CONSTRUCTION
PT 11+10.512
END ℄ RAMP A
BEGIN BRIDGE
STA. 15+06
BEGIN GUARDRAIL CONST. (LT.)
STA. 15+00
CONSTRUCT APPROACH SLAB PER STRUCTURES INDEX 400
CONST. GUARDRAIL
END GUARDRAIL CONST. (LT.)
STA. 15+75
BEGIN APPROACH SLAB
STA. 15+00
END TRANS. (LT.)
STA. 15+75
BEG. TRANS. (LT.)
STA. 15+34
T=2.5 (LT.)
END TRANS. (LT.)
STA. 17+10
T=2.5 (LT.)
TYPE III SILT FENCE
EDGE OF TRAVELED WAY
℄ CONSTRUCTION
WETLAND IMPACT AREA 'B'
PROFILE GRADE
EXISTING PROFILE
150 VC
PVT STA. 15+00
EL. 23.75
23.74
23.05
1+10.000X
23.75
DHW = 21.22
MHW = 20.57
ADDITIONAL INFORMATION
SEP 8 1996
ORLANDO SERVICE CENTER
9/6/96
SCALE RATIO:
1:50 H.
1:50 V.
+75
15
+25
+50
+75
17
+25
+50
DESIGNED BY
DRAWN BY
CHECKED BY
DATE
SUBMITTED
APPROVED BY
DATE
FLORIDA DEPARTMENT OF TRANSPORTATION
ARCADIS GEC ODOM INC.
SR 600
PLAN & PROFILE
STATION 15+75 TO STATION 17+50

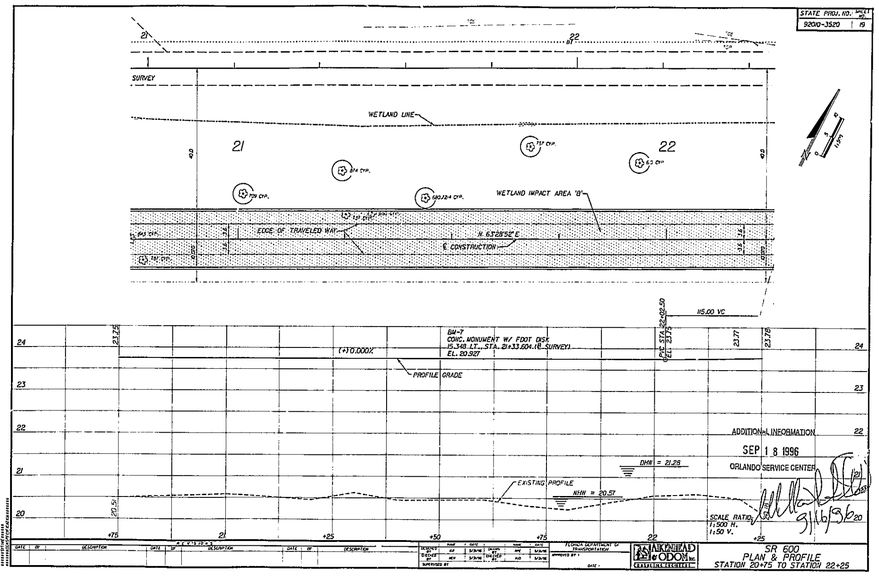
STATE PROJ. NO.	SHEET NO.
9200-3520	17

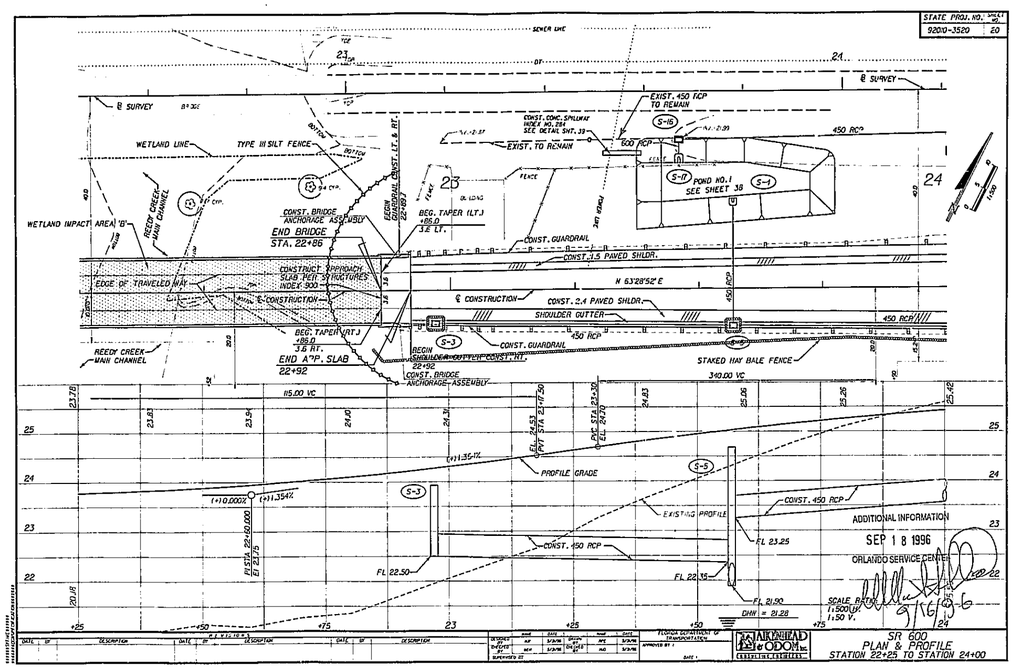




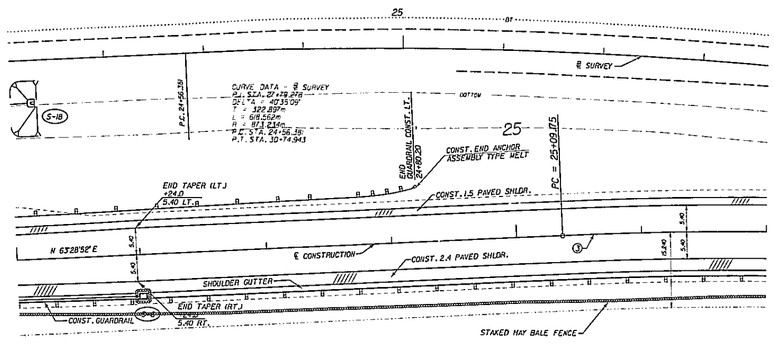
STATE PROJ. NO. | SHEET NO.
9200-3520 | 18

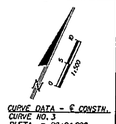


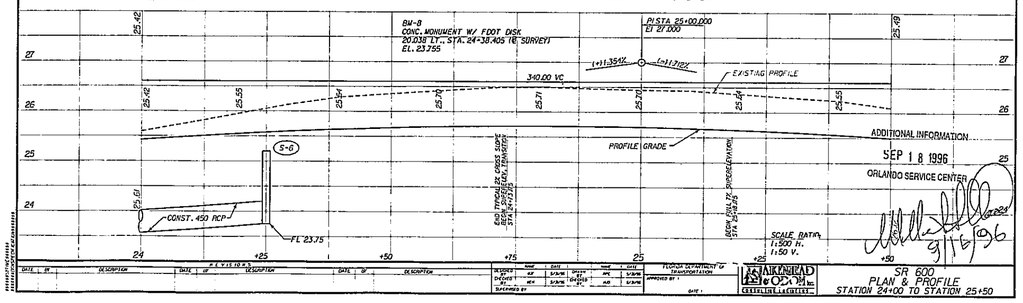

STATE PROJ. NO.
9200-3520
SURVEY
WETLAND LINE
21
22
WETLAND IMPACT AREA 'B'
EDGE OF TRAVELED WAY
℄ CONSTRUCTION
N 67°35'52" E
115.00' VC
SW-7
CONC. MONUMENT W/ FDOT DISK
(5.348 LT. STA. 21+33.204 (E. SURVEY)
EL. 20.927
(+) 0.000'/'
PROFILE GRADE
EXISTING PROFILE
NRW = 20.51
DHW = 21.26
ADDITIONAL INFORMATION
SEP 18 1996
ORLANDO SERVICE CENTER
SCALE RATIO
1:500 H.
1:50 V.
SR 600
PLAN & PROFILE
STATION 20+75 TO STATION 22+25


STATE PROJ. NO. 9200-3520
SHEET NO. 20
SURVEY
WETLAND LINE
TYPE III SILT FENCE
REEDY CREEK MAIN CHANNEL
WETLAND IMPACT AREA 'B'
CONST. BRIDGE ANCHORAGE ASSEMBLY
END BRIDGE STA. 22+86
BEG. TAPER (LT.) +86.0 32 LT.
CONSTRUCT APPROACH SLAB PER STRUCTURES INDEX 900
EDGE OF TRAVELED WAY
℄ CONSTRUCTION
BEG. TAPER (RT.) +86.0 36 RT.
END APP. SLAB 22+92
CONST. BRIDGE ANCHORAGE ASSEMBLY
CONST. GUARDRAIL
EXIST. 450 RCP TO REMAIN
CONST. CONC. SPILLWAY INDEX NO. 284 SEE DETAIL SHT. 19
EXIST. TO REMAIN
600 RCP
450 RCP
POND NO. 1 SEE SHEET 38
CONST. 2.5 PAVED SHLDR.
N 63°28'52" E
CONST. 2.4 PAVED SHLDR.
SHOULDER GUTTER
STAKED HAY BALE FENCE
340.00 VC
115.00 VC
PROFILE GRADE
EXISTING PROFILE
CONST. 450 RCP
FL 22.50
FL 23.25
FL 22.15
FL 21.90
DHW = 21.28
ADDITIONAL INFORMATION
SEP 1 8 1996
ORLANDO SERVICE CENTER
SCALE: HOR. 1:500
VERT. 1:50
SR 600
PLAN & PROFILE
STATION 22+25 TO STATION 24+00

STATE PROJ. NO.	SHEET NO.
9200-3520	21







ADDITIONAL INFORMATION

SEP 18 1996

ORLANDO SERVICE CENTER

9/16/96

SCALE RATIO
1:500 H.
1:50 V.

DATE	BY	DESCRIPTION

DATE	BY	DESCRIPTION

DATE	BY	DESCRIPTION

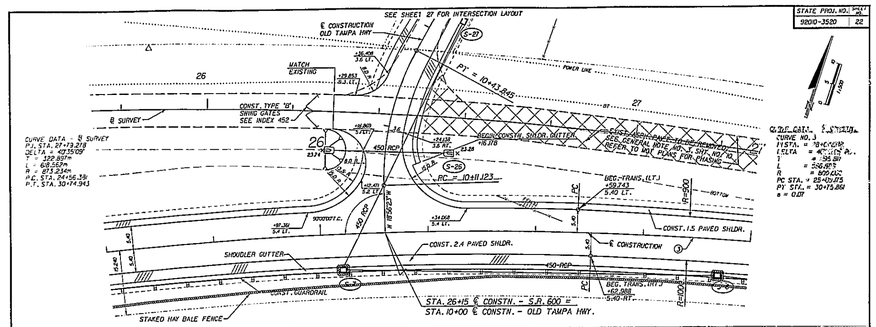
DESIGNED BY: RCP 5/3/96
DRAWN BY: RCP 5/3/96
CHECKED BY: RCP 5/3/96
QUANTITIES BY: MC 5/3/96
CHECKED BY: MB 5/3/96
APPROVED BY:
DATE:

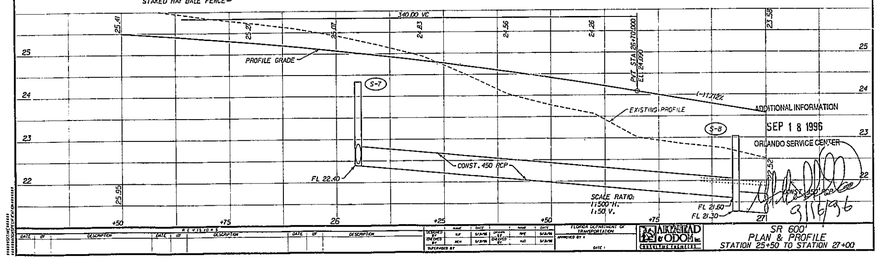
FLORIDA DEPARTMENT OF TRANSPORTATION

ALKHAREAD ENGINEERING INC. CERTIFICATE OF AUTHORIZATION

SR 600
PLAN & PROFILE
STATION 24+00 TO STATION 25+50

STATE PROJ. NO. | FED. AID PROJ. NO.
10800-3520 | 22





ADDITIONAL INFORMATION
SEP 1 8 1996
ORLANDO SERVICE CENTER
9/16/96

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

REVISIONS BY

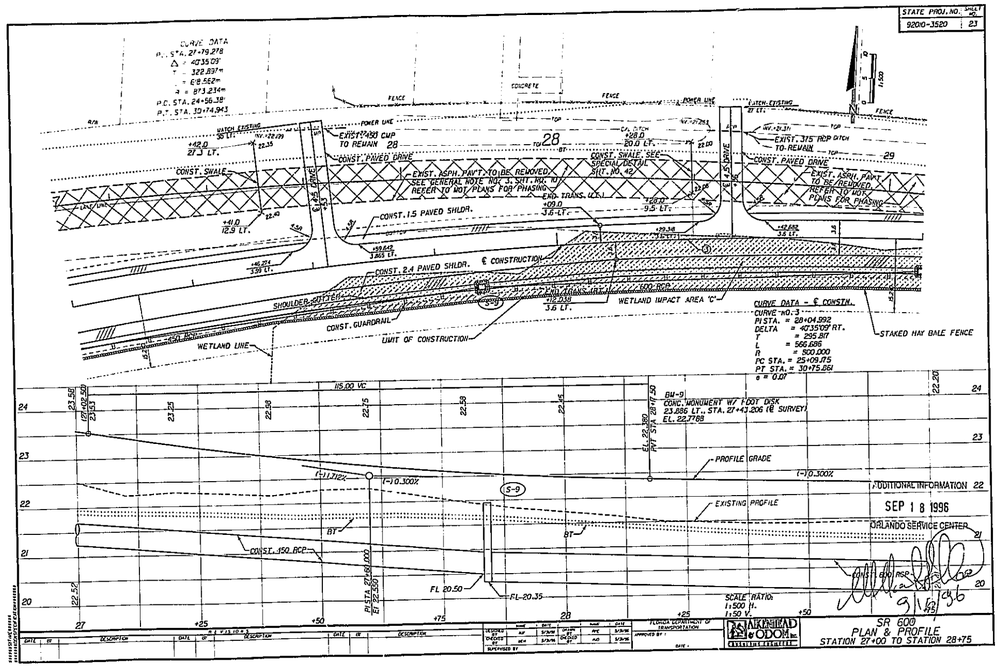
DESIGNED	DRAWN	CHECKED	QUANTITIES
M.P.C.	M.P.C.	M.P.C.	

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY DATE

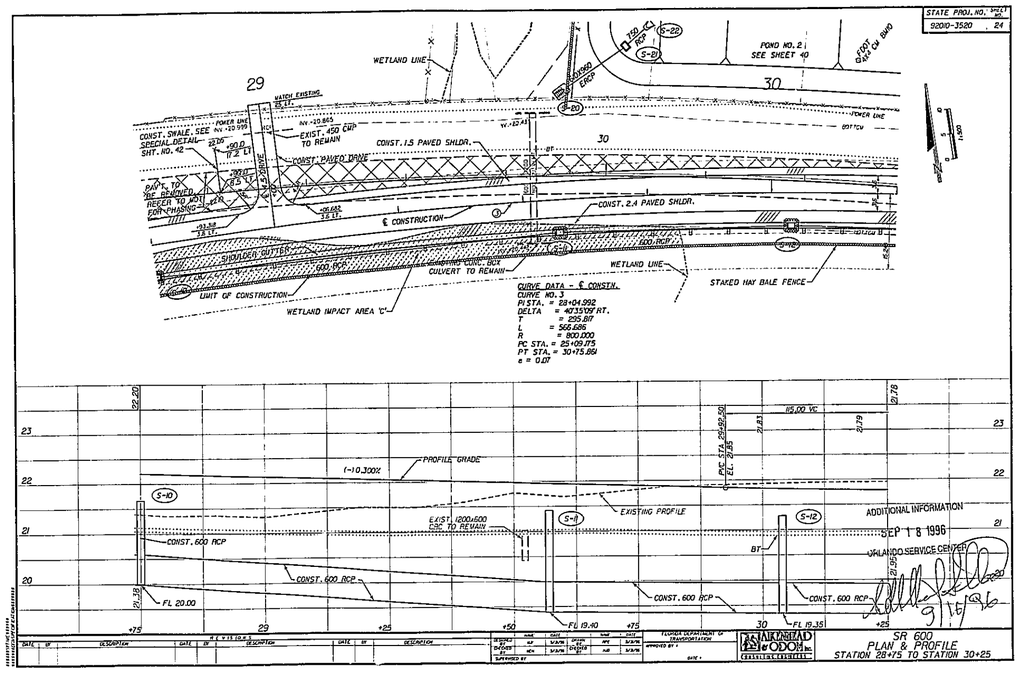
ARMAD DAVIDSON INC.
ENGINEERS PLANNERS SURVEYORS

SR 600
PLAN & PROFILE
STATION 25+50 TO STATION 27+00

STATE PROJ. NO. | SHEET NO.
9200-3520 | 23



STATE PROJ. NO.	SHEET NO.
92010-3520	24



ADDITIONAL INFORMATION

SEP 1 8 1996

ORLANDO SERVICE CENTER

9/16/96

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DESIGNED BY	DATE	DRAWN BY	DATE	CHECKED BY	DATE
DAVIS	5/3/96	DAVIS	5/3/96	MPC	5/3/96
APPROVED BY				MJB	5/3/96
MPC	5/3/96				

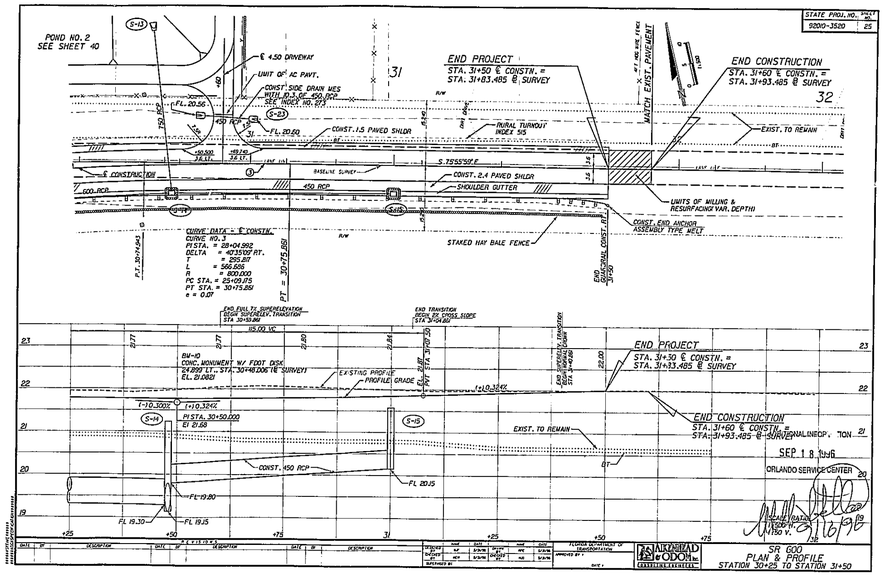
FLORIDA DEPARTMENT OF TRANSPORTATION

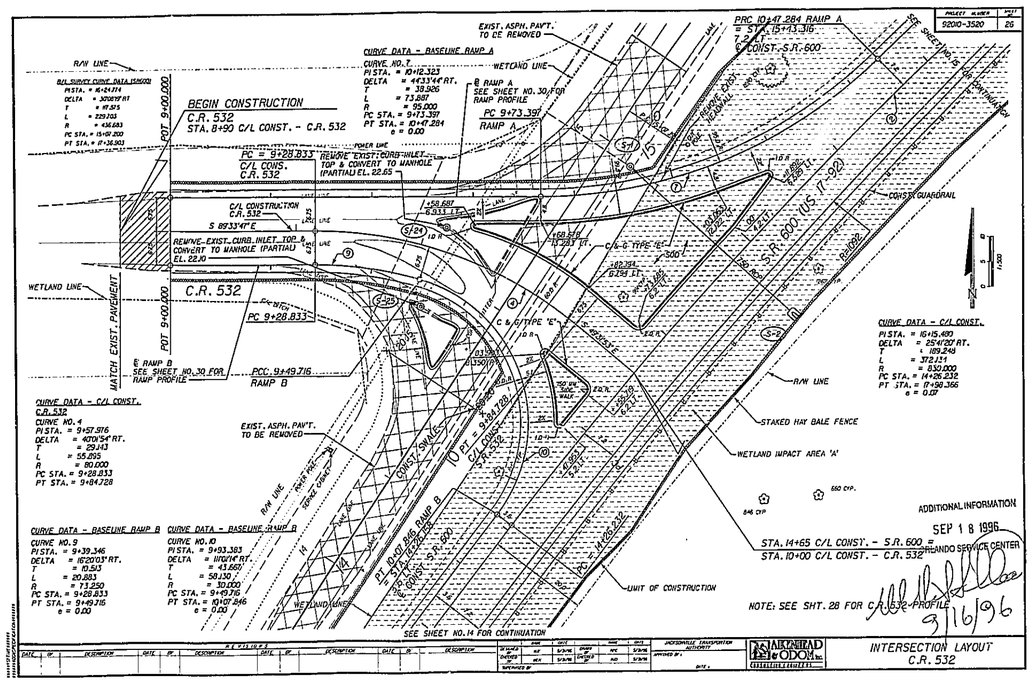
APPROVED BY

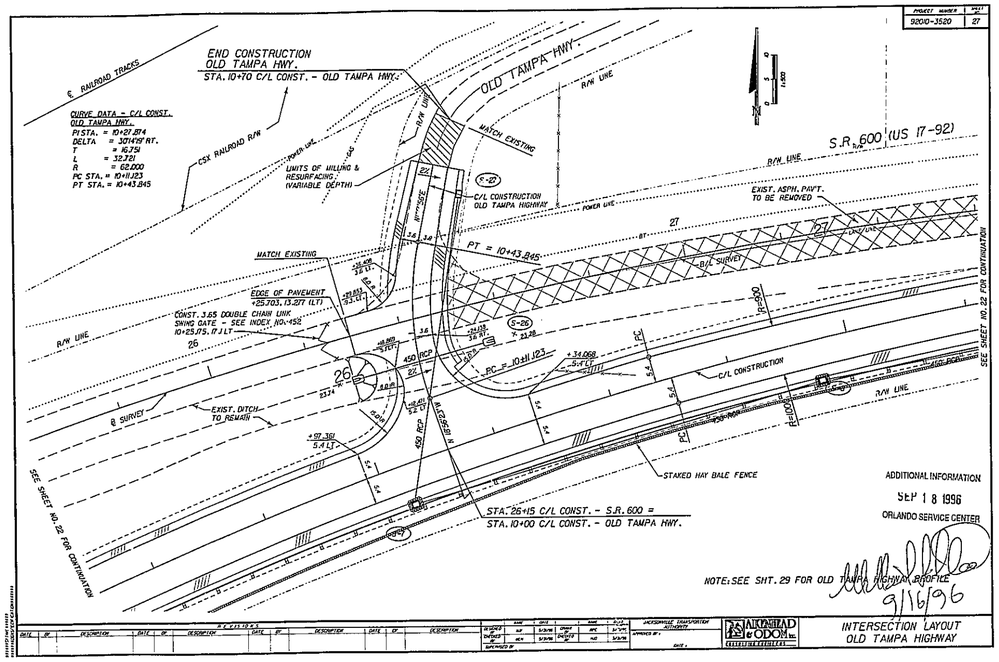
DATE

ALKON HEAD MOODY & DOM, INC.
CONSULTING ENGINEERS

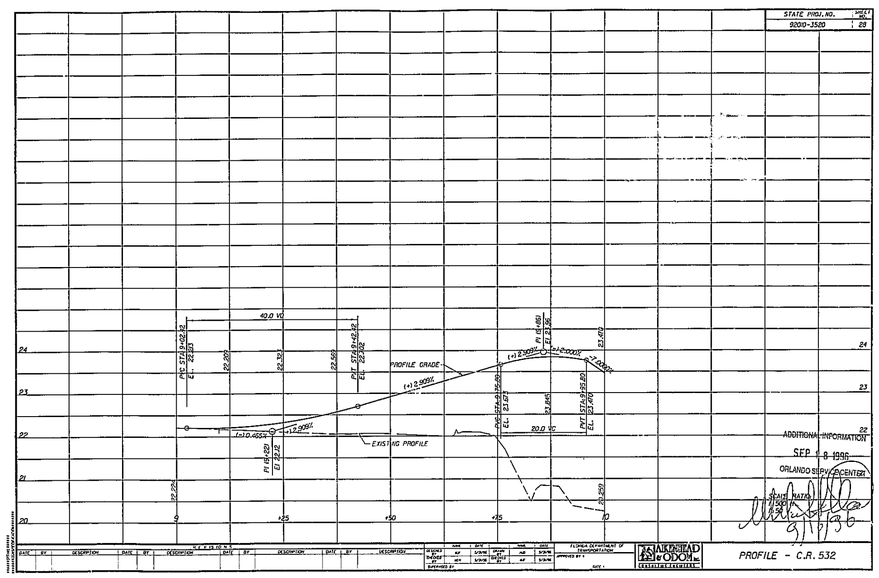
SR 600
PLAN & PROFILE
STATION 28+75 TO STATION 30+25


STATE PROJ. NO.
9200-3520
SHT. NO.
25
POND NO. 2
SEE SHEET 40
S-43
℄ 450 DRIVEWAY
UNIT OF AC PAVT.
CONST. SIDE DRAIN MES WITH 0.3 SF 450 RCP
SEE INDEX NO. 870
FL. 20.56
450 RCP
S-23
FL. 20.60
CONST. 15 PAVED SHLDR
RURAL TURNOUT INDEX 515
℄ CONSTRUCTION
600 RCP
450 RCP
BASELINE SURVEY
S 75°55'50" E
CONST. 24 PAVED SHLDR
SHOULDER GUTTER
S-42
S-41
LIMITS OF MILLING & RESURFACING VAR. DEPTH
CONST. END ANCHOR ASSEMBLY TYPE 'ARCT'
STAKED HAY BALE FENCE
END PROJECT
STA. 31+50 ℄ CONSTN. =
STA. 31+83.485 ℄ SURVEY
MATCH EXIST. PAVEMENT
END CONSTRUCTION
STA. 31+60 ℄ CONSTN. =
STA. 31+93.485 ℄ SURVEY
EXIST. TO REMAIN
CURVE DATA - ℄ CONSTN.
CURVE NO. 3
PI STA. = 28+04.992
DELTA = 40°35'05" RT.
T = 295.87
L = 566.606
R = 800.000
PC STA. = 25+09.175
PT STA. = 30+75.859
e = 0.07
P.T. 30+74.54
P.C. 25+09.17
P.T. 30+75.859
END FULL SUPERELEVATION
BEGIN SUPERELEV. TRANSITION
STA 30+53.86
END TRANSITION
BEGIN FL CROSS SLOPE
STA 31+24.80
115.00 VC
BM#10
CONC. MONUMENT W/ FOOT DISK
24,898 LT., STA. 30+48.006 (℄ SURVEY)
EL. 21.0601
EXISTING PROFILE
PROFILE GRADE
EXIST. TRANSITION SLOPE
END TRANSITION STA. 31+60.00
END PROJECT
STA. 31+30 ℄ CONSTN. =
STA. 31+33.485 ℄ SURVEY
END CONSTRUCTION
STA. 31+60 ℄ CONSTN. =
STA. 31+93.485 ℄ SURVEY
T=10.3002
I=10.3242
PI STA. 30+50.000
EL 21.58
S-44
S-45
CONST. 450 RCP
FL 20.15
FL 19.80
FL 19.30
FL 19.15
EXIST. TO REMAIN
℄
+25
+50
+75
31
+25
+50
+75
23
22
21
20
19
SEP 18 1996
ORLANDO SERVICE CENTER
DESIGNED
DRAWN
CHECKED
QUANTITIES
CHECKED
DATE
SUBMITTED
DESCRIPTION
DATE
BY
DESCRIPTION
DATE
BY
DESCRIPTION
FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT
SECTION
SUBSECTION
JOB NUMBER
CONTRACT NUMBER
APPROVED BY
DATE
ALVAREZ ENGINEERS, INC.
SR 600
PLAN & PROFILE
STATION 30+25 TO STATION 31+50


PROJECT NUMBER 920D-3520
SHT. NO. 26
PRC 10+47.284 RAMP A = STA. 15+13.316 ℄ CONST. S.R. 600
SEE SHEET NO. 3 FOR CONTINUATION
EXIST. ASPH. PAV'T. TO BE REMOVED
CURVE DATA - BASELINE RAMP A
CURVE NO. 7
PI STA. = 10+12.323
DELTA = 44°33'47" RT.
T = 39.926
L = 73.887
R = 95.000
PC STA. = 9+73.397
PT STA. = 10+47.284
e = 0.00
℄ RAMP A SEE SHEET NO. 30 FOR RAMP PROFILE
PC 9+73.397 RAMP A
WETLAND LINE
R/W LINE
CURVE DATA - C/L CONST. C.R. 532
CURVE NO. 5
PI STA. = 10+24.374
DELTA = 30°08'19" RT.
T = 97.875
L = 229.103
R = 436.683
PC STA. = 9+01.200
PT STA. = 11+30.303
BEGIN CONSTRUCTION C.R. 532 STA. 8+90 C/L CONST. - C.R. 532
POWER LINE
PC = 9+28.833 C/L CONS. C.R. 532
REMOVE EXIST. CURB INLET, TOP & CONVERT TO MANHOLE (PARTIAL) EL. 22.55
+58.687 5.333 LT.
C/L CONSTRUCTION C.R. 532
S 89°33'41" E
REMOVE EXIST. CURB INLET, TOP & CONVERT TO MANHOLE (PARTIAL) EL. 22.0
150.284 13.661 LT.
149.384 13.581 LT.
C & G TYPE 'E'
C.R. 532
PC 9+28.833
PCC 9+49.716 RAMP B
℄ RAMP B SEE SHEET NO. 30 FOR RAMP PROFILE
MATCH EXIST. PAVEMENT
POT 9+00.000
CURVE DATA - C/L CONST. C.R. 532
CURVE NO. 4
PI STA. = 9+57.516
DELTA = 40°01'54" RT.
T = 29.143
L = 55.055
R = 80.000
PC STA. = 9+28.833
PT STA. = 9+84.728
EXIST. ASPH. PAV'T. TO BE REMOVED
RAMP B
CONST. SWALE
10 PC = 9+40.728
℄ CONST. S.R. 600
10 PT OF 846 RAMP B STA. 9+76.600
℄ CONST. S.R. 600
CURVE DATA - BASELINE RAMP B
CURVE NO. 9
PI STA. = 9+39.346
DELTA = 162°01'51" RT.
T = 10.501
L = 20.883
R = 7.250
PC STA. = 9+28.833
PT STA. = 9+49.716
e = 0.00
CURVE DATA - BASELINE RAMP B
CURVE NO. 10
PI STA. = 9+93.383
DELTA = 110°01'4" RT.
T = 43.650
L = 58.130
R = 30.000
PC STA. = 9+49.716
PT STA. = 10+07.846
e = 0.00
WETLAND LINE
SEE SHEET NO. 14 FOR CONTINUATION
S.R. 600 (U.S. 17-92)
CONST. GUARDRAIL
C & G TYPE 'E'
CURVE DATA - C/L CONST.
PI STA. = 16+15.499
DELTA = 25°41'20" RT.
T = 189.248
L = 372.131
R = 830.000
PC STA. = 14+26.232
PT STA. = 17+58.366
e = 0.07
R/W LINE
STAKED HAY BALE FENCE
WETLAND IMPACT AREA 'A'
660 CYP.
846 CYP.
UNIT OF CONSTRUCTION
ADDITIONAL INFORMATION
SEP 1 8 1996
ORLANDO SERVICE CENTER
STA. 14+65 C/L CONST. - S.R. 600 = STA. 10+00 C/L CONST. - C.R. 532
NOTE: SEE SHT. 28 FOR C.R. 532 PROFILE
9/16/96
DATE | BY | DESCRIPTION
DESIGNED BY
DRAWN BY
CHECKED BY
QUANTITIES BY
APPROVED BY
DATE
ALEXANDER GORDON INC.
INTERSECTION LAYOUT C.R. 532


PROJECT NUMBER
92010-3520
SHT. NO.
27
END CONSTRUCTION
OLD TAMPA HWY.
STA. 10+70 C/L CONST. - OLD TAMPA HWY.
OLD TAMPA HWY.
℄ RAILROAD TRACKS
CSX RAILROAD R/W
CURVE DATA - C/L CONST. OLD TAMPA HWY.
PI STA. = 10+27.874
DELTA = 30°41'59" RT.
T = 16.754
L = 32.791
R = 62.000
PC STA. = 10+11.123
PT STA. = 10+43.845
R/W LINE
MATCH EXISTING
UNITS OF MILLING & RESURFACING (VARIABLE DEPTH)
S-32
C/L CONSTRUCTION OLD TAMPA HIGHWAY
POWER LINE
EXIST. ASPH. PAVT. TO BE REMOVED
S.R. 600 (US 17-92)
PT = 10+43.845
B/C SURVEY
EDGE OF PAVEMENT +25.703, 13.277 (LT)
CONST. 3.65 DOUBLE CHAIN LINK SWING GATE - SEE INDEX NO.+52
10+23.75, 17 LT
S-28
PC = 10+11.123
+34.068
C/L CONSTRUCTION
EXIST. DITCH TO REMAIN
+57.30 54 LT
STAKED HAY BALE FENCE
SEE SHEET NO. 22 FOR CONTINUATION
STA. 26+15 C/L CONST. - S.R. 600 =
STA. 10+00 C/L CONST. - OLD TAMPA HWY.
NOTE: SEE SHT. 29 FOR OLD TAMPA HIGHWAY PROFILE
ADDITIONAL INFORMATION
SEP 18 1996
ORLANDO SERVICE CENTER
9/16/96
INTERSECTION LAYOUT
OLD TAMPA HIGHWAY
ALFRED BENESCH & COMPANY
ALFRAD & ODOM INC.

STATE PROJ. NO.	SHEET NO.
9200-1520	28



ADDITIONAL INFORMATION

SEP 18 1996

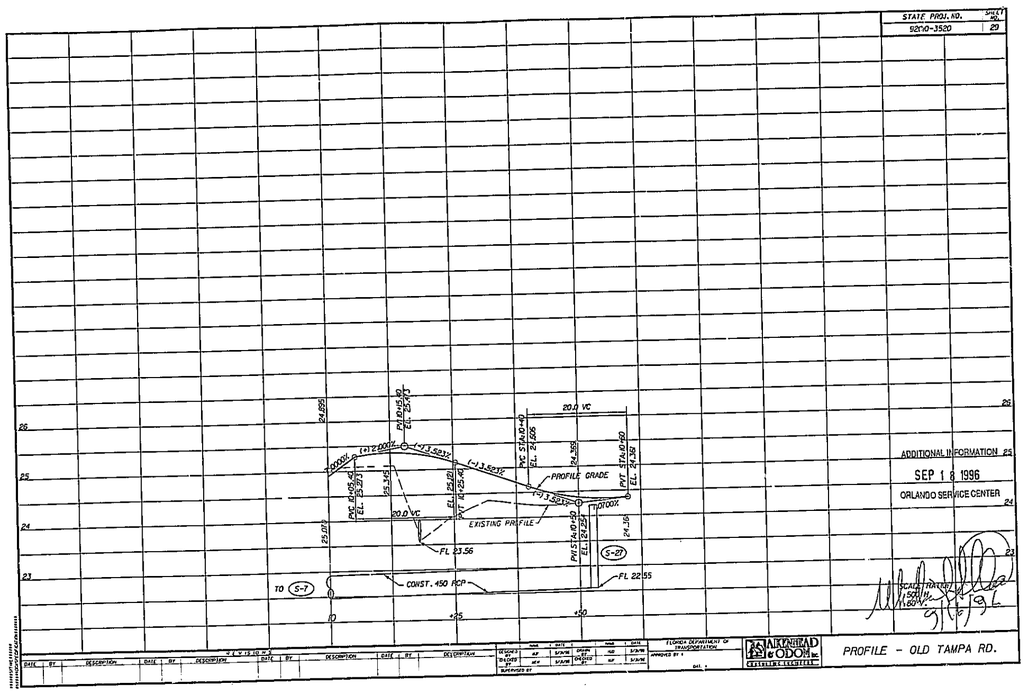
ORLANDO SERVICE CENTER

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
9/15/96

REVISIONS	DATE	BY	DESIGNED	DATE	BY	FLORIDA DEPARTMENT OF TRANSPORTATION	PREPARED BY: PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.	PROFILE - C.R. 532
			CHECKED					
			APPROVED BY:					

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

STATE PROJ. NO.	SHEET NO.
9210-3520	29



ADDITIONAL INFORMATION

SEP 16 1996

ORLANDO SERVICE CENTER

CALCULATED BY: [illegible]
CHECKED BY: [illegible]
DATE: 9/16/96

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DESIGNED	NAME	DATE	DRAWN	NAME	DATE
	AF	5/24/96		GD	5/24/96
CHECKED	NAME	DATE	QUANTITIES	NAME	DATE
	AF	5/24/96		AF	5/24/96
SUPERVISED BY					

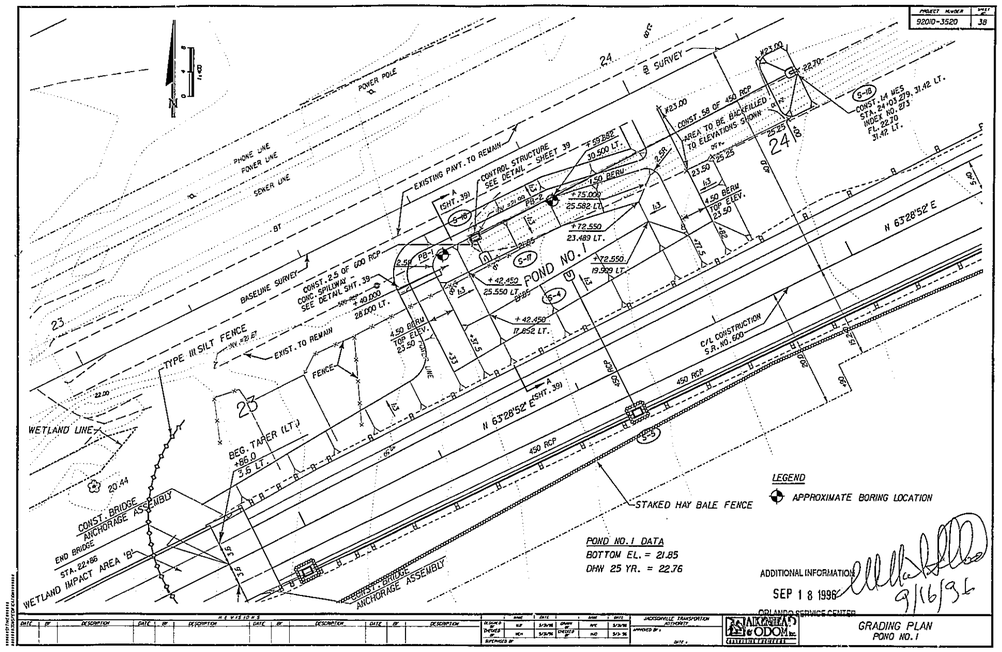
FLORIDA DEPARTMENT OF TRANSPORTATION

APPROVED BY

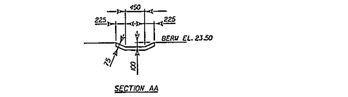
DATE

ARKWRIGHT & ODOM INC. CONSULTING ENGINEERS

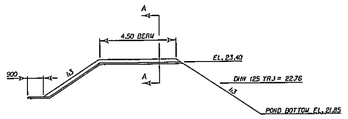
PROFILE - OLD TAMPA RD.


PROJECT NUMBER 9200-3520
SHEET 38
POND NO. 1
EXISTING PAVT. TO REMAIN
CONTROL STRUCTURE SEE DETAIL - SHEET 39
CONST. 2.5 OF 600 RCP CONC. SHLDW SEE DETAIL SHT. 39
TYPE III SILT FENCE
EXIST. TO REMAIN
FENCE
WETLAND LINE
BEG. TAPER (LT.)
CONST. BRIDGE ANCHORAGE ASSEMBLY
END BRIDGE STA. 22+86
WETLAND IMPACT AREA "B"
CONST. 58 OF 450 RCP
AREA TO BE BACKFILLED TO ELEVATIONS SHOWN
CONST. 14 WES 5TA. 2 NO. 213 INDEX 22-10 FL. 22.10 37.42 LT.
450 RCP
C/L CONSTRUCTION S.R. NO. 600
STAKED HAY BALE FENCE
LEGEND
APPROXIMATE BORING LOCATION
POND NO. 1 DATA
BOTTOM EL. = 21.85
DHW 25 YR. = 22.76
ADDITIONAL INFORMATION
SEP 18 1998
ORLANDO SERVICE CENTER
9/16/98
GRADING PLAN
POND NO. 1

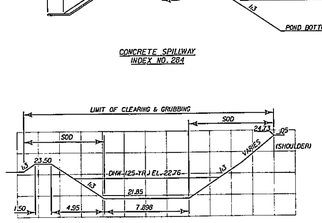
PROJECT NUMBER	SHT
92000-3520	39



SECTION AA

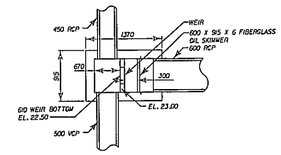


CONCRETE SPILLWAY
INDEX NO. 224

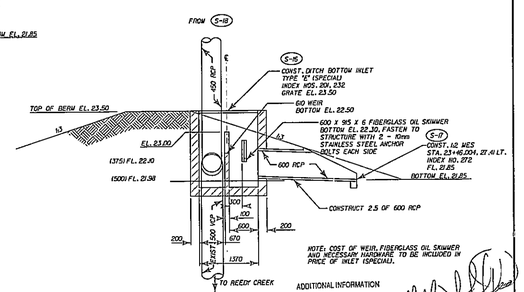


SECTION A-A (POND 1)

	FLOW	HWL
10 YR. - 24 HR. SCS STORM:	5.33 m3/min.	22.87
25 YR. - 24 HR. SCS STORM:	8.63 m3/min.	22.76
CRITICAL STORM:		
100 YR. - 1HR. STORM:	7.88 m3/min.	22.75



PLAN VIEW



NOTE: COST OF WEIR, FIBERGLASS OIL SKIMMER AND NECESSARY HARDWARE TO BE INCLUDED IN PRICE OF INLET (SPECIAL).

S-16 CONTROL STRUCTURE DETAIL
STA. 23+46.002, 30.19 LT.
SCALE 1:50

ADDITIONAL INFORMATION

SEP 18 1996

ORLANDO SERVICE CENTER

3/16/96

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

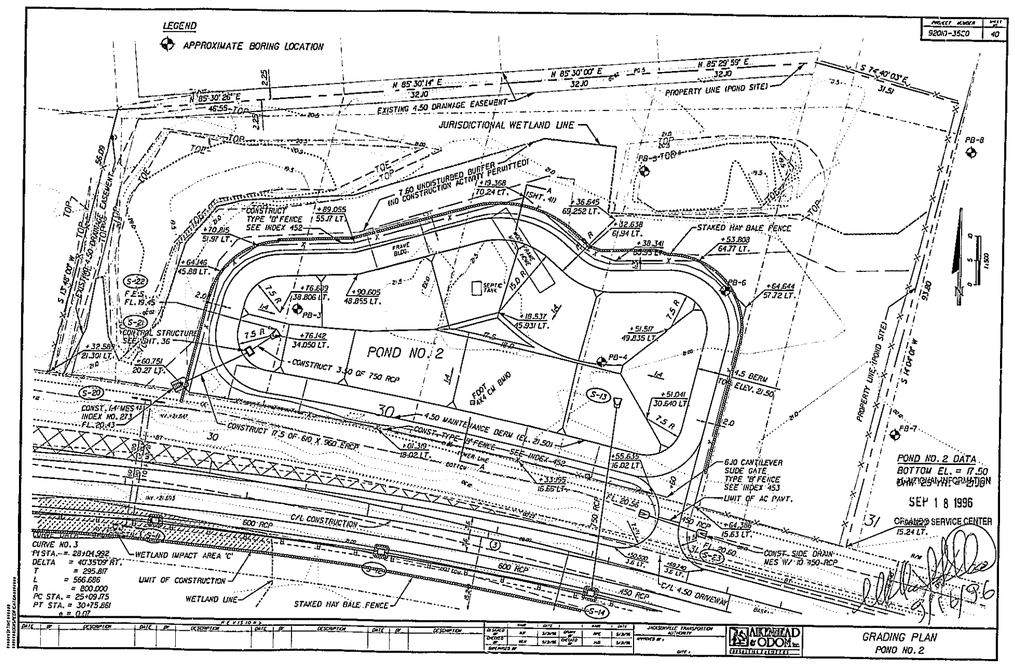
R.E.V.I.S.I.O.N.S

DESIGNED											
DRAWN											
CHECKED											
QUANTITIES											
APPROVED											

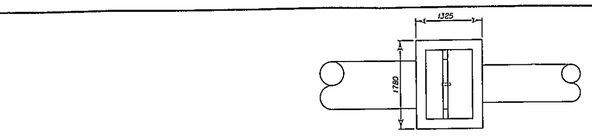
APPROVED BY: _____ DATE: _____

STARKHEAD & ODOM INC.

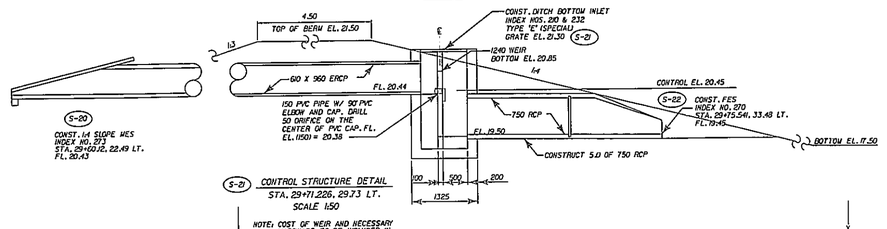
DETAILS
POND NO. 1


LEGEND
APPROXIMATE BORING LOCATION
PROJECT NUMBER 9200-3520
SHEET NO. 40
N 85°30'26" E
N 85°30'14" E
32.10
N 85°30'00" E
32.20
N 85°29'59" E
32.20
S 74°40'03" E
31.51
EXISTING 4.50 DRAINAGE EASEMENT
PROPERTY LINE (POND SITE)
JURISDICTIONAL WETLAND LINE
PB-8
PB-5
PB-6
PB-7
PB-3
PB-4
PB-2
PB-1
50' UNDISTURBED BUFFER NO CONSTRUCTION ACTIVITY PERMITTED
CONSTRUCT TYPE "D" FENCE SEE INDEX 453
STAKED HAY BALE FENCE
POND NO. 2
CONSTRUCT 3-10' OF 750 RCP
CONSTRUCT 17.5' OF 60" X 38" ERER
4.50 MAINTENANCE BERM EL. 21.50
CONST. CONTROL STRUCTURE SEE INDEX 36
CONST. INLET SEE INDEX 273
C/L CONSTRUCTION
600 RCP
450 RCP
CONST. SIDE DRAIN W/ 15" 90° RCP
6.10 CANTILEVER SIDE GATE TYPE "B" FENCE SEE INDEX 453
UNIT OF AC PAVT.
4.5' BERM ELEV. 21.50
POND NO. 2 DATA
BOTTOM EL. = 17.50
NORMAL WATER ELEVATION
SEP 18 1996
ORANGE SERVICE CENTER
CURVE NO. 3
PI STA.= 8+29+01.392
DELTA = 40°35'09" RT.
T = 295.817
L = 566.686
R = 800.000
PC STA.= 25+09.275
PT STA.= 30+75.961
e = 0.02
WETLAND IMPACT AREA 'C'
UNIT OF CONSTRUCTION
WETLAND LINE
STAKED HAY BALE FENCE
DESCRIPTION
DATE
BY
HARLOW & ODOM INC.
GRADING PLAN
POND NO. 2

PROJECT NUMBER	SHEET NO.
92010-3520	41

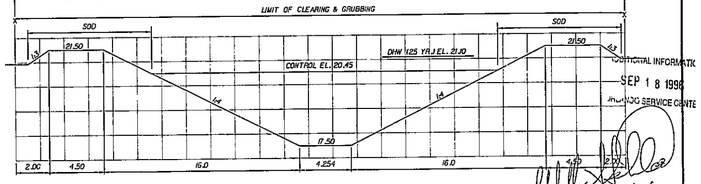


PLAN VIEW



S-21 CONTROL STRUCTURE DETAIL
STA. 29+71.226, 29.73 LT.
SCALE 1:50

NOTE: COST OF WEIR AND NECESSARY HARDWARE TO BE INCLUDED IN PRICE OF INLET (SPECIAL).



SECTION A-A (POND 2)

	FLOW	HWL
10 YR. - 24 HR. SCS STORM:	9.24 m3/min.	21.02
25 YR. - 24 HR. SCS STORM:	17.35 m3/min.	21.10
CRITICAL STORM:		
100 YR. - 1 HR. STORM:	15.00 m3/min.	21.07

ADDITIONAL INFORMATION
SEP 1 8 1996
SJRWMD SERVICE CENTER

9/16/96

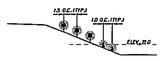
P.E. #'S/DATE'S									
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE
DESIGNED	RGL	8/30/96
DRAWN	MPM	8/30/96
CHECKED	TW/DLB	8/30/96
SUPERVISED BY		
QUANTITIES BY	RJP	8/30/96
CHECKED BY	DLB	8/30/96
JACKSONVILLE TRANSPORTATION AUTHORITY APPROVED BY		
DATE		

ALVAREZ-STEAD & ODOM INC
CONSULTING ENGINEERS

DETAILS
POND NO. 2

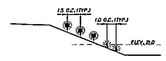
PROJECT NUMBER	SHEET NO.
92010-1520	42



1:2.5 SLOPES SHALL BE PLANTED AS DETAILED ABOVE WHERE INDICATED IN THE PLANS. SPARTINA BAKERIS, TO BE PLANTED BELOW THE R.O.S ELEVATION AT A NOMINAL SPACING OF 1.0 LONGITUDINALLY AND TRANSVERSELY. SERENOA REPTENS IS TO BE PLANTED ABOVE THE R.O.S ELEVATION AT A NOMINAL SPACING OF 1.5 LONGITUDINALLY AND TRANSVERSELY.

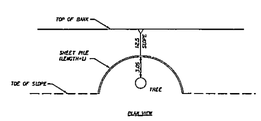
SLOPE PLANTING DETAIL A

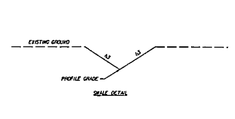
NOTE: USE JUTE MESH & FABRIC SOIL STABILIZATION FOR ALL SLOPES STEEPER THAN 1:2.5 UNLESS TOLD.

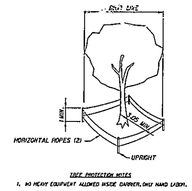


1:2.5 SLOPES SHALL BE PLANTED AS DETAILED ABOVE WHERE INDICATED IN THE PLANS. SPARTINA BAKERIS, TO BE PLANTED BELOW THE R.O.S ELEVATION AT A NOMINAL SPACING OF 1.0 LONGITUDINALLY AND TRANSVERSELY. SERENOA REPTENS IS TO BE PLANTED ABOVE THE R.O.S ELEVATION AT A NOMINAL SPACING OF 1.5 LONGITUDINALLY AND TRANSVERSELY.

SLOPE PLANTING DETAIL B







SHEET PILE TABLE

LOCATION	OFFSET	SIDE	EL1	EL2	EL3	EL4	L
13+01	11.0	RT.	11.2	10.2	8.2	4.2	7.2
14+03	11.0	RT.	12.2	11.2	9.7	5.2	11.2
15+21	11.0	LT.	13.2	12.2	9.2	5.2	15.2
15+50	12.5	LT.	12.2	11.2	9.2	5.2	11.2

TREE PROTECTION NOTES

1. NO HEAVY EQUIPMENT ALLOWED INSIDE BARRIER, ONLY HAND LABOR.
2. NO CONSTRUCTION MATERIALS OR TEMPORARY SOIL DEPOSITS ALLOWED INSIDE THIS AREA.
3. RIPRAP BACKS TO BE PROTECTED IS ENTIRE ORIFICE ON PROJECT SIDE OF TREE. HAND EXCESS PLACEMENT OF PROTECTION WITHIN WETLANDS OR SOCESS MIXT FROM PROJECT.
4. UPRIGHTS SHALL BE A MINIMUM OF 10m IN HEIGHT.
5. UPRIGHTS - THE EQUIVALENT OF 2"x 4" LUMBER ON 2.0m MAXIMUM CENTERS.
6. HORIZONTAL - THE EQUIVALENT OF TWO COURSES OF 12mm (1/2") ROPING WITH YELLOW PLASTIC TAPE FLAGGING.
7. BARRIERS TO BE ERECTED AROUND TREES TO AVOID ANY ADDITIONAL INFORMATION CONSTRUCTION OR NEARBY TREES ARE REMOVED.
8. BARRIERS TO REMAIN IN PLACE UNTIL ALL PAVING, CONSTRUCTION & HEAVY EQUIPMENT IS OUT OF AREA.

SEP 1996

ORLANDO SERVICE CENTER

TREE PROTECTION DETAIL

NOTE:
APPLIES TO CAUSEWAY FILL AREAS; NOT REQUIRED AT BRIDGE-ONLY WORK. PROTECTED TREES MIXED TO REMAIN IN BRIDGE AREAS SHALL BE ENCIRCLED WITH YELLOW OR ORANGE FLAGGING OR 0.3 m INTERVALS (1ft BELOW) AT CONTRACTOR'S OPTION. DURING CONSTRUCTION, CONTRACTOR SHALL USE CAUTION WITH ALL EQUIPMENT TO AVOID DAMAGE TO PROTECTED TREES.

8/16/96

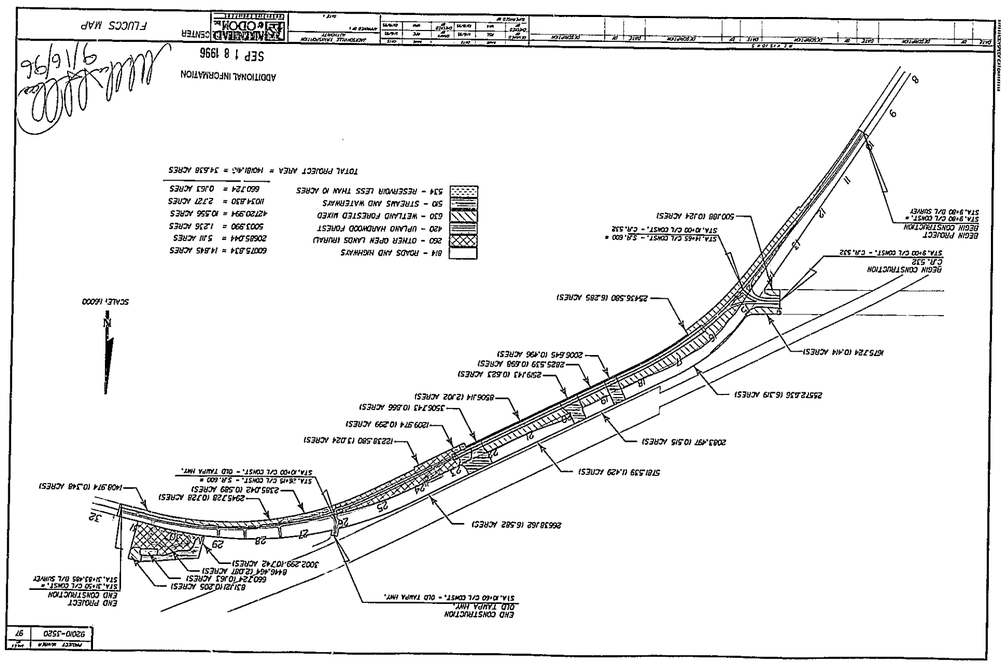
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

APPROVED AS NOTED	MAP	9/30/96	PLANS	APP	9/30/96		
APPROVED AS CORRECTED	DES	9/30/96	TRACINGS	AS	9/30/96		

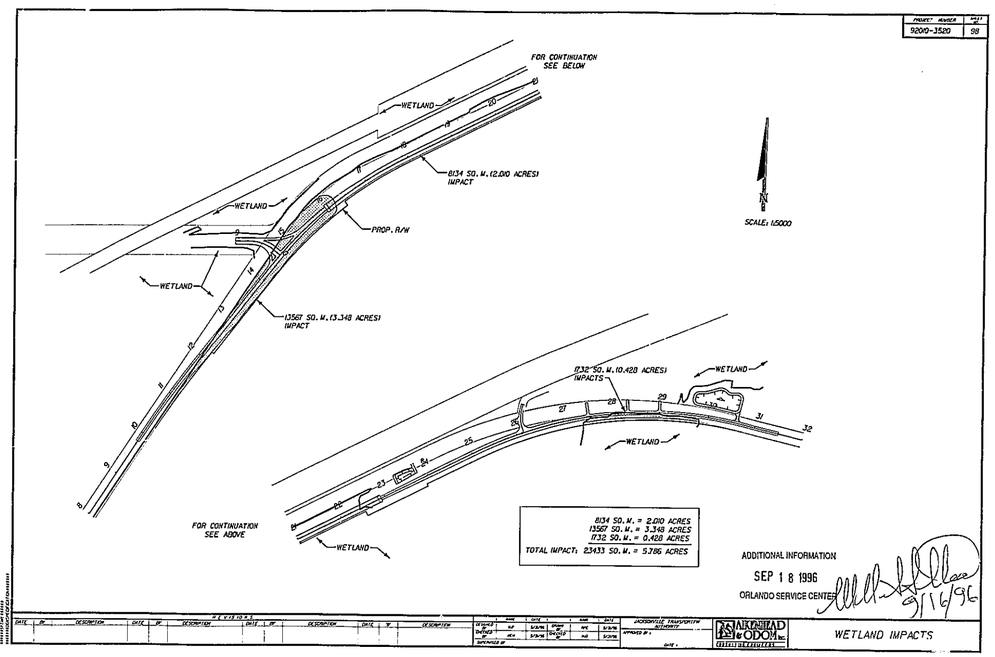
HISTORICAL TRANSPORTATION ACCURACY	
APPROVED BY:	
DIST.	

JACKSONVILLE ELLERBE ODOM INC.

SPECIAL DETAILS


FLUCCS MAP
ADDITIONAL INFORMATION
SEP 1 8 1996
9/16/96
TOTAL PROJECT AREA = HOBI.AC.= 34.538 ACRES
614 - ROADS AND HIGHWAYS 6078.834 = 14.845 ACRES
260 - OTHER OPEN LANDS (RURAL) 2058.044 = 5.111 ACRES
420 - UPLAND HARDWOOD FOREST 5003.590 = 12.356 ACRES
630 - WETLAND FORESTED MIXED 42120.994 = 10.556 ACRES
510 - STREAMS AND WATERWAYS 1034.830 = 2.727 ACRES
534 - RESERVOIR LESS THAN 10 ACRES 660.724 = 0.163 ACRES
SCALE: 1&000
N
BEGIN PROJECT
BEGIN CONSTRUCTION
STA. 9+00 C/L CONST. - C.R. 532
STA. 14+55 C/L CONST. - S.R. 600 =
STA. 11+00 C/L CONST. - C.R. 532
STA. 9+00 C/L CONST. =
STA. 9+00 B/L SURVEY
500.188 10.124 ACRES)
25436.580 (6.285 ACRES)
NTS.724 (0.144 ACRES)
2006.845 (0.496 ACRES)
2025.339 (0.498 ACRES)
259.743 (0.623 ACRES)
8506.144 (2.102 ACRES)
1506.743 (0.986 ACRES)
1209.574 (0.299 ACRES)
12238.580 (3.024 ACRES)
2883.487 (0.515 ACRES)
25572.836 (6.319 ACRES)
5161.339 (1.429 ACRES)
2868.182 (0.582 ACRES)
END CONSTRUCTION
OLD TAMPA INT.
STA. 8+40 C/L CONST. - OLD TAMPA INT.
STA. 8+00 C/L CONST. = STA. 8+00 B/L SURVEY
2945.728 (0.728 ACRES)
2385.042 (0.589 ACRES)
STA. 2+15 C/L CONST. = STA. 1+00 B/L SURVEY
STA. 0+00 C/L CONST. - OLD TAMPA INT.
1408.574 (0.348 ACRES)
END PROJECT
END CONSTRUCTION
STA. 3+30 C/L CONST. =
STA. 3+30 B/L SURVEY
631.00 (0.255 ACRES)
660.724 (0.163 ACRES)
8446.464 (2.087 ACRES)
3002.295-107.42 ACRES)
PROJECT NUMBER
9200-1520
SHT.
97

PROJECT NUMBER	SHEET
9200-3520	58



834 SQ. M. = 2.010 ACRES
1356? SQ. M. = 3.348 ACRES
1732 SQ. M. = 0.428 ACRES
TOTAL IMPACT: 23433 SQ. M. = 5.786 ACRES

ADDITIONAL INFORMATION

SEP 1 8 1996

ORLANDO SERVICE CENTER

9/16/96

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ISSUED / SUBMITTED	BY	DATE
INITIAL	AF	5/2/96
— 2ND	AF	5/2/96

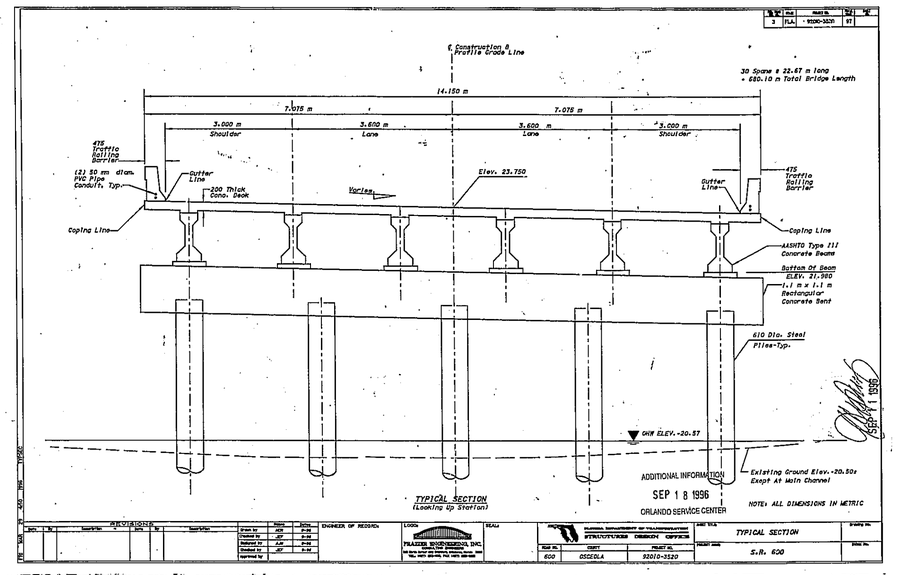
ISSUED / SUBMITTED	BY	DATE
100%	MC	5/2/96
100%	MC	5/2/96

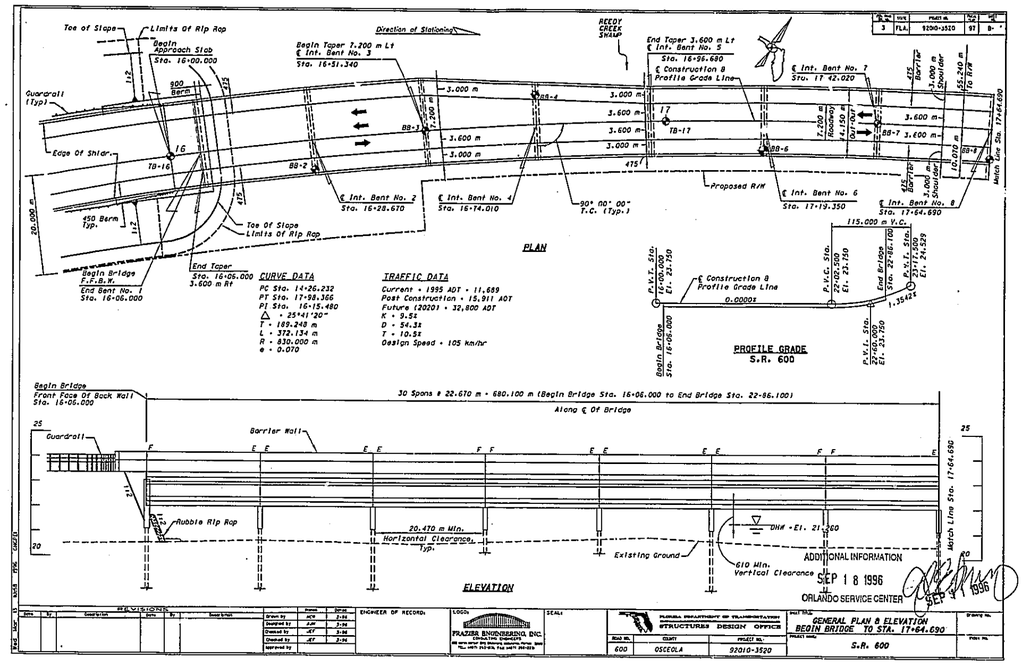
JACKSONVILLE TRANSPORTATION AUTHORITY

APPROVED BY: _____ DATE: _____

PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.

WETLAND IMPACTS


℄ Construction & Profile Grade Line
30 Spans @ 22.67 m long = 680.10 m Total Bridge Length
14.150 m
7.075 m
7.075 m
3.000 m Shoulder
3.650 m Lane
3.600 m Lane
3.000 m Shoulder
475 Traffic Railing Barrier
121.90 mm diam. PVC Pipe Conduit, Typ.
Gutter Line
200 Thick Conc. Deck
Varies
Elev. 23.750
Gutter Line
475 Traffic Railing Barrier
Coping Line
Coping Line
AASHTO Type III Concrete Beams
Bottom Of Seam ELEV. 21.980
1.1 m x 1.1 m Rectangular Concrete Bent
610 Dia. Steel Piles-Typ.
CHN ELEV. -20.57
Existing Ground Elev. -20.50± Except At Main Channel
NOTE: ALL DIMENSIONS IN METRIC
TYPICAL SECTION
(Looking Up Station)
ADDITIONAL INFORMATION
SEP 1 8 1996
ORLANDO SERVICE CENTER
SEPT 1996
REVISIONS
ENGINEER OF RECORD
LOGO
SEAL
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
TYPICAL SECTION
S.R. 600
ROAD NO. 600
COUNTY OSCEOLA
PROJECT NO. 92010-3520



Sheet No.	Dist.	Item No.	Project No.	Sheet No.
3	FLA.	92060-3520	97	B- *

ADDITIONAL INFORMATION

SEP 18 1996

ORLANDO SERVICE CENTER

SEP 17 1996

REVISIONS					
Date	By	Description	Date	By	Description

Drawn By	MCH	2-96	
Designed By	AJM	2-96	
Checked By	JKT	2-96	
Checked By	JKT	2-96	
Approved By			

ENGINEER OF RECORD:

LOGO: FRAZIER ENGINEERING, INC. CONSULTING ENGINEERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN OFFICE

State Rd. No.	County	Project No.
600	OSCEOLA	92010-3520

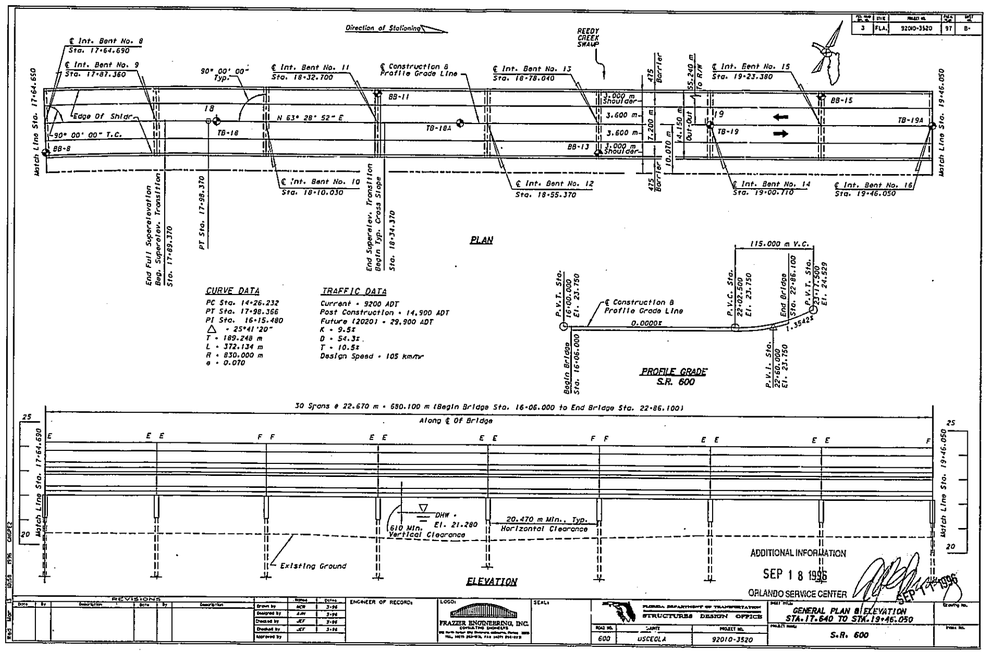
Sheet Title: GENERAL PLAN & ELEVATION BEGIN BRIDGE TO STA. 17+64.690

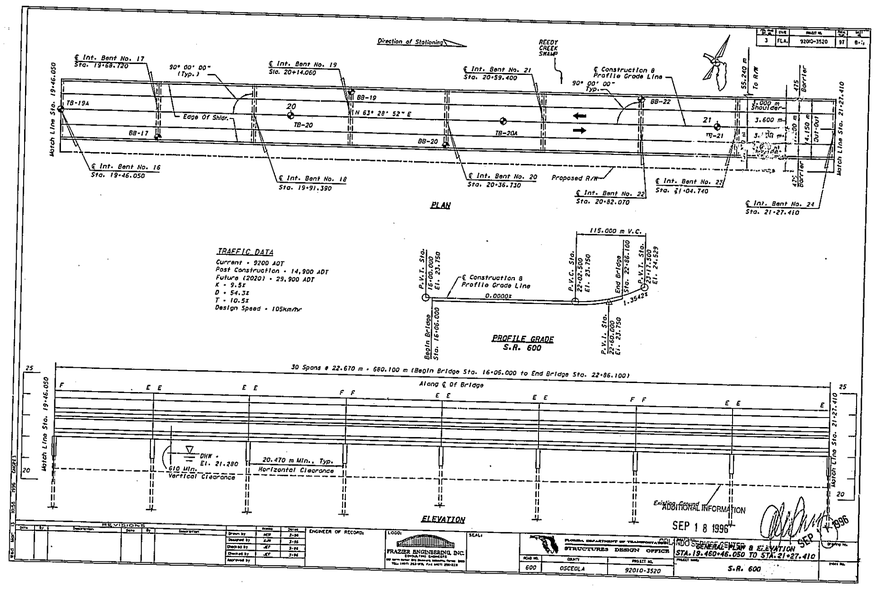
Project Name: S.R. 600

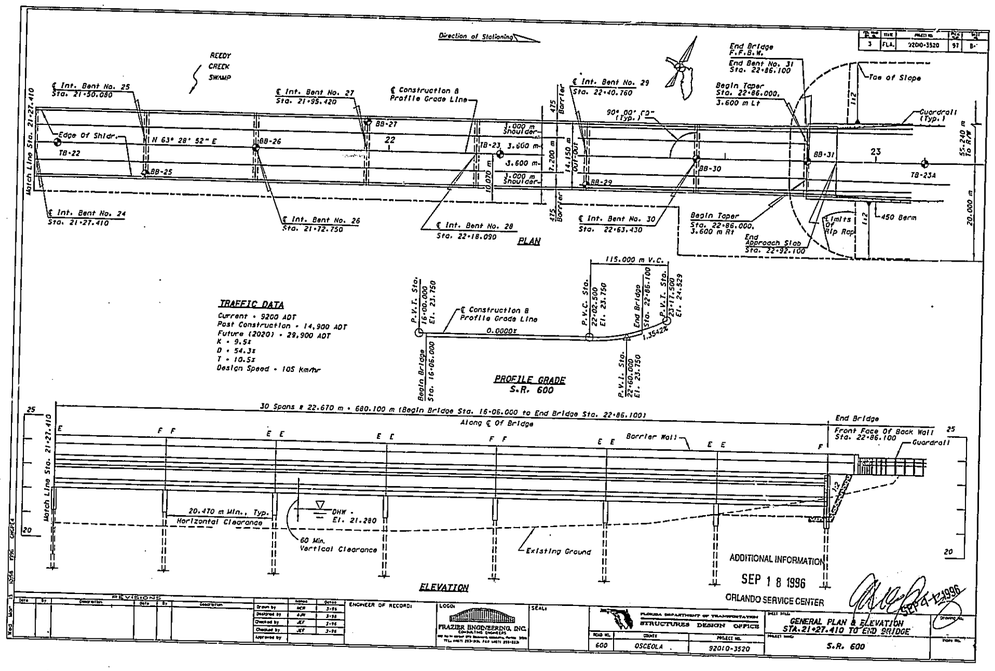
Drawing No.

Print No.

Dist.	Co. No.	Sec.	Road No.	Sheet No.	Total Sheets	Sht. No.
3	FLA.	9290-3520	97	8-		

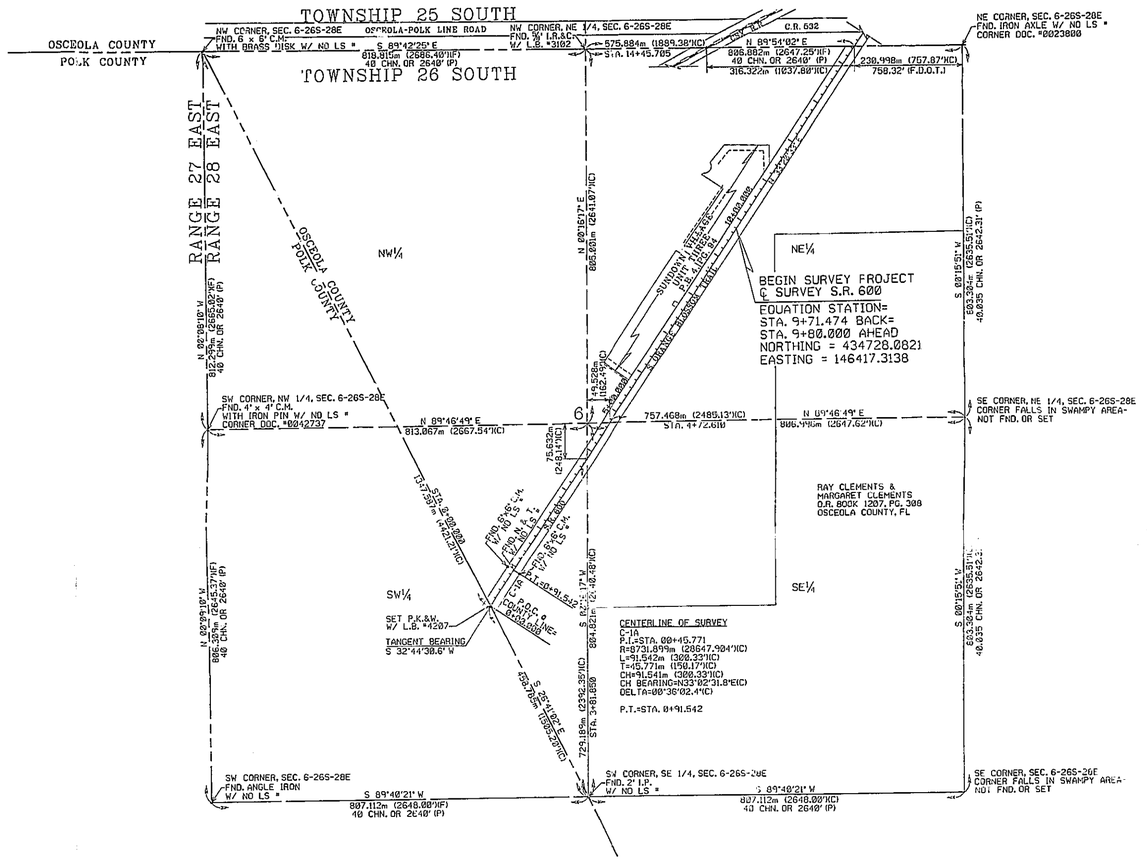

Direction of Stationing
℄ Int. Bent No. 8 Sta. 17+64.650
℄ Int. Bent No. 9 Sta. 17+87.380
90° 00' 00" Typ.
℄ Int. Bent No. 11 Sta. 18+32.700
℄ Construction & Profile Grade Line
℄ Int. Bent No. 13 Sta. 18+78.040
PEDDY CREEK SWAMP
Match Line Sta. 17+64.650
Edge Of Shldr.
90° 00' 00" T.C.
BB-8
TB-18
N 63° 28' 52" E
BB-11
TB-18A
BB-12
3.000 m Shoulder
3.600 m
3.600 m
1.000 m Shoulder
7.200 m
42.00 m
42.00 m
42.00


Direction of Stationing
℄ Int. Bent No. 17 Sta. 19+69.720
90° 00' 00" (Typ.)
℄ Int. Bent No. 19 Sta. 20+14.060
℄ Int. Bent No. 21 Sta. 20+59.400
REEDY CREEK SWAMP
℄ Construction & Profile Grade Line
90° 00' 00" Typ.
55.520 m to ℄ Brg.
Match Line Sta. 19+46.050
B8-19
B8-22
78-19A
Edge Of Slab
20
N 63° 28' 52" E
21
T8-20
T8-20A
T8-21
B8-17
B8-20
1.000 m Shoulder
3.600 m
3.150 m
14.150 m
Out-Out
Match Line Sta. 21+27.410
℄ Int. Bent No. 16 Sta. 19+46.050
℄ Int. Bent No. 18 Sta. 19+91.390
℄ Int. Bent No. 20 Sta. 20+36.730
Proposed R/W
℄ Int. Bent No. 22 Sta. 21+04.740
℄ Int. Bent No. 23 Sta. 20+82.070
℄ Int. Bent No. 24 Sta. 21+27.410
PLAN
TRAFFIC DATA
Current - 9200 ADT
Post Construction - 14,900 ADT
Future (2020) - 29,900 ADT
K - 9.5%
D - 54.3%
T - 10.5%
Design Speed - 105km/hr
115.000 m V.C.
P.V.C. Sta. 20+00.000 El. 33.750
℄ Construction & Profile Grade Line
0.000%
P.V.I. Sta. 21+15.000 El. 34.425
P.V.T. Sta. 21+30.000 El. 34.350
Begin Bridge Sta. 16+06.000
End Bridge Sta. 22+86.100
PROFILE GRADE
S.R. 600
30 Spans @ 22.670 m = 680.100 m (Begin Bridge Sta. 16+06.000 to End Bridge Sta. 22+86.100)
Along ℄ Of Bridge
E E
F F
DW = El. 21.280
6.10 Min. Vertical Clearance
20.470 m Min., Typ. Horizontal Clearance
Match Line Sta. 19+46.050
Match Line Sta. 21+27.410
ELEVATION
Exhibit "A"
ADDITIONAL INFORMATION
SEP 18 1999
SEP 1 8 1999
DESIGNED - KSP
DRAWN - KSP
CHECKED - JWH
QUANTITY CHECK - KSP
DATE - 7-99
SUBMITTED FOR PROJECT NO. 92010-3520
DATE - 7-99
ENGINEER OF RECORD
FRAZIER ENGINEERING, INC.
LOGO
SEAL
FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT FIVE
ORLANDO, FLORIDA
DESIGN OFFICE
ROAD NO. 600
COUNTY OSCEOLA
PROJECT NO. 92010-3520
S.R. 600
GENERAL PLAN & ELEVATION
STA. 19+46.050 TO STA. 21+27.410
SHEET NO. 3
FINAL NO.
3 FLA 92010-3520 97 61


Direction of Stationing
REEDY CREEK SWAMP
℄ Int. Bent No. 25 Sta. 21+50.050
℄ Int. Bent No. 27 Sta. 21+95.420
℄ Construction & Profile Grade Line
℄ Int. Bent No. 29 Sta. 22+40.760
End Bridge P.T.O.W. End Bent No. 31 Sta. 22+86.100
Begin Taper Sta. 22+86.000, 3.600 m Lt
Toe of Slope
Guardrail (Typ.)
Match Line Sta. 21+27.410
Edge Of Shldr.
TB-22
N.H. 63° 28' 52" E
BB-26
BB-25
BB-27
22
1.000 m Shoulder
TB-23
3.600 m
14.150 m Roadway
1.700 m Shldr.
BB-29
90° 00' 00" (Typ.)
BB-31
BB-30
23
TB-23A
55.240 m R/W
20.000 m
℄ Int. Bent No. 24 Sta. 21+27.410
℄ Int. Bent No. 26 Sta. 21+72.750
℄ Int. Bent No. 28 Sta. 22+18.090
℄ Int. Bent No. 30 Sta. 22+63.430
Begin Taper Sta. 22+86.000, 3.600 m Rt
End Approach Slab Sta. 22+92.100
Limits Of Rip Rap
450 Berm
PLAN
TRAFFIC DATA
Current - 9200 ADT
Post Construction - 14,900 ADT
Future (2020) - 29,900 ADT
K - 9.5%
D - 54.3%
T - 10.5%
Design Speed - 105 Km/hr
115.000 m V.C.
P.V.I. Sta. 16+00.000 El. 21.150
℄ Construction & Profile Grade Line
0.0000%
P.V.C. Sta. 22+00.350 El. 21.150
P.V.I. Sta. 22+86.100 El. 21.150
End Bridge Sta. 22+86.100
-1.3512%
P.V.I. Sta. 16+86.000 El. 21.150
PROFILE GRADE S.R. 600
30 Spans @ 22.670 m = 680.100 m (Begin Bridge Sta. 16+05.000 to End Bridge Sta. 22+86.100)
Along ℄ Of Bridge
End Bridge Front Face Of Back Wall Sta. 22+86.100
Barrier Wall
Guardrail
Match Line Sta. 21+27.410
20.470 m Min., Typ. Horizontal Clearance
60 Min. Vertical Clearance
OHW El. 21.280
Existing Ground
ELEVATION
ADDITIONAL INFORMATION
SEP 18 1996
ORLANDO SERVICE CENTER
Drawn by KJR 7-95
Designed by KJR 7-95
Checked by AF 7-95
Checked by JAT 7-95
Approved by
ENGINEER OF RECORD:
LOGO
FRAZIER ENGINEERING, INC.
SEAL
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
ROAD NO. 600
COUNTY OSCEOLA
PROJECT NO. 92010-3520
DESCRIPTION GENERAL PLAN & ELEVATION STA.21+27.410 TO END BRIDGE
PROJECT NAME S.R. 600
SHEET NO. 3
FED. ROAD NO. FLA.
PROJECT NO. 92010-3520
SHEET NO. 91
SHEET NO. B-

FINAL APPROVAL
DEC 12 1996
WPB

(SEE SHEET 3 FOR SECTIONS 31 & 32)



GRAPHIC SCALE
(IN METERS)
0 100 150 200 300 400 500
1 : 5000

TOWNSHIP 26 SOUTH, RANGE 28 EAST

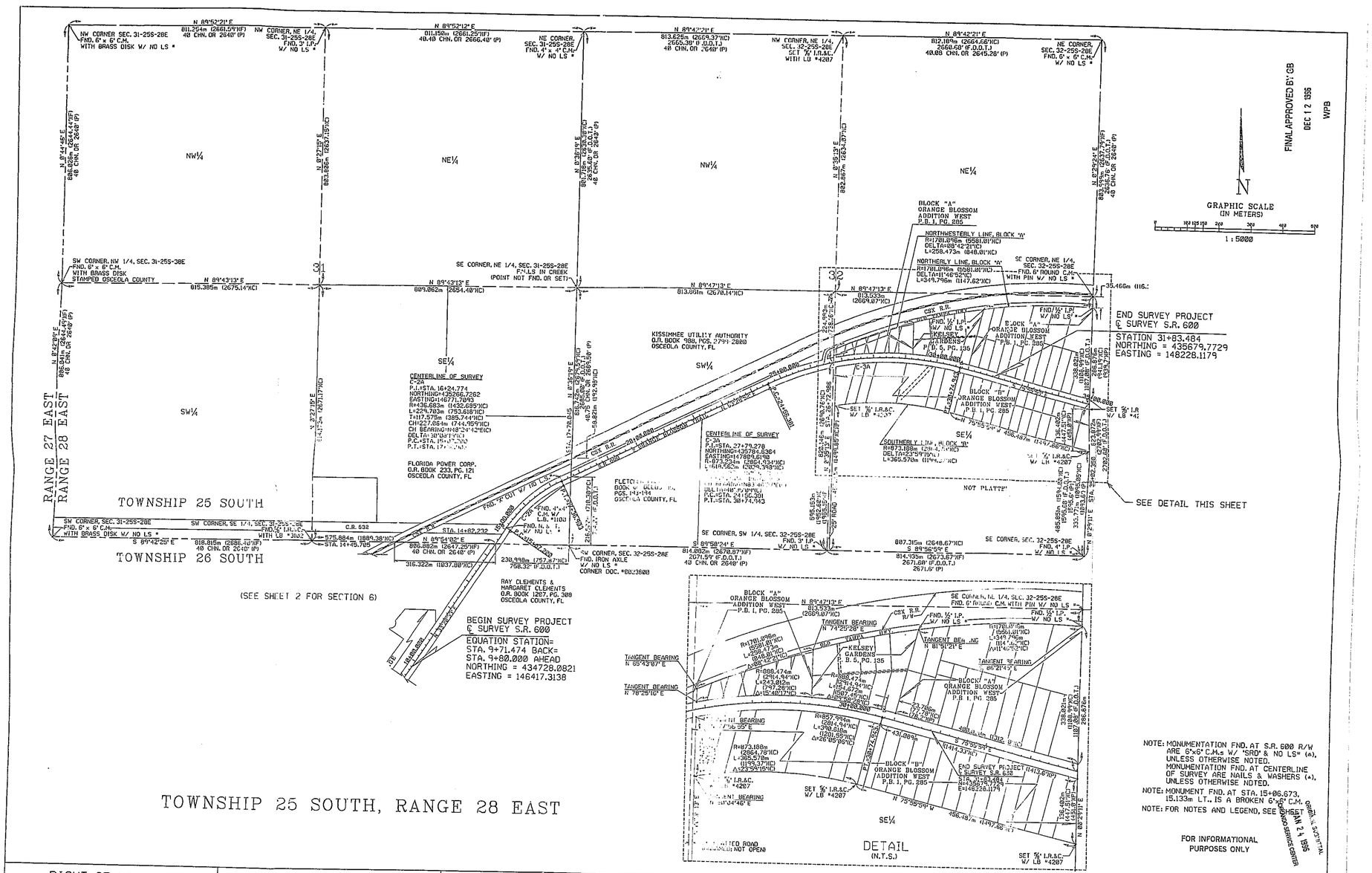
ORIGINAL SUBMITTAL
JAN 24 1996
ORLANDO SERVICE CENTER

NOTE:
FOR NOTES AND LEGEND, SEE SHEET 1

FOR INFORMATIONAL PURPOSES ONLY

RIGHT OF WAY MAP KEY MAP	FLORIDA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAPPING	APPROVED BY DISTRICT SECRETARY	DATE	REVISION	BY	DATE	REVISION	BY	DATE	PRELIM	L. Knutsen	10/25/95	STATE ROAD NO. 600-REEDY CREEK BRIDGES OSCEOLA COUNTY	MAPS PREPARED BY: WIDEMAN SURVEYING AND MAPPING, P.A.	FIELD BOOK NO.'S: 2005215, 2005215A, 2005217, 2005219		
										FINAL	Cummings	10/25/95	F.A. PROJECT NO. ----------	W.P.I. NO. 5115692	SCALE: 1:5000		
										CHECKED	F. Provo	10/25/95		SECTION 92010-2520	SHEET 2 OF 12		

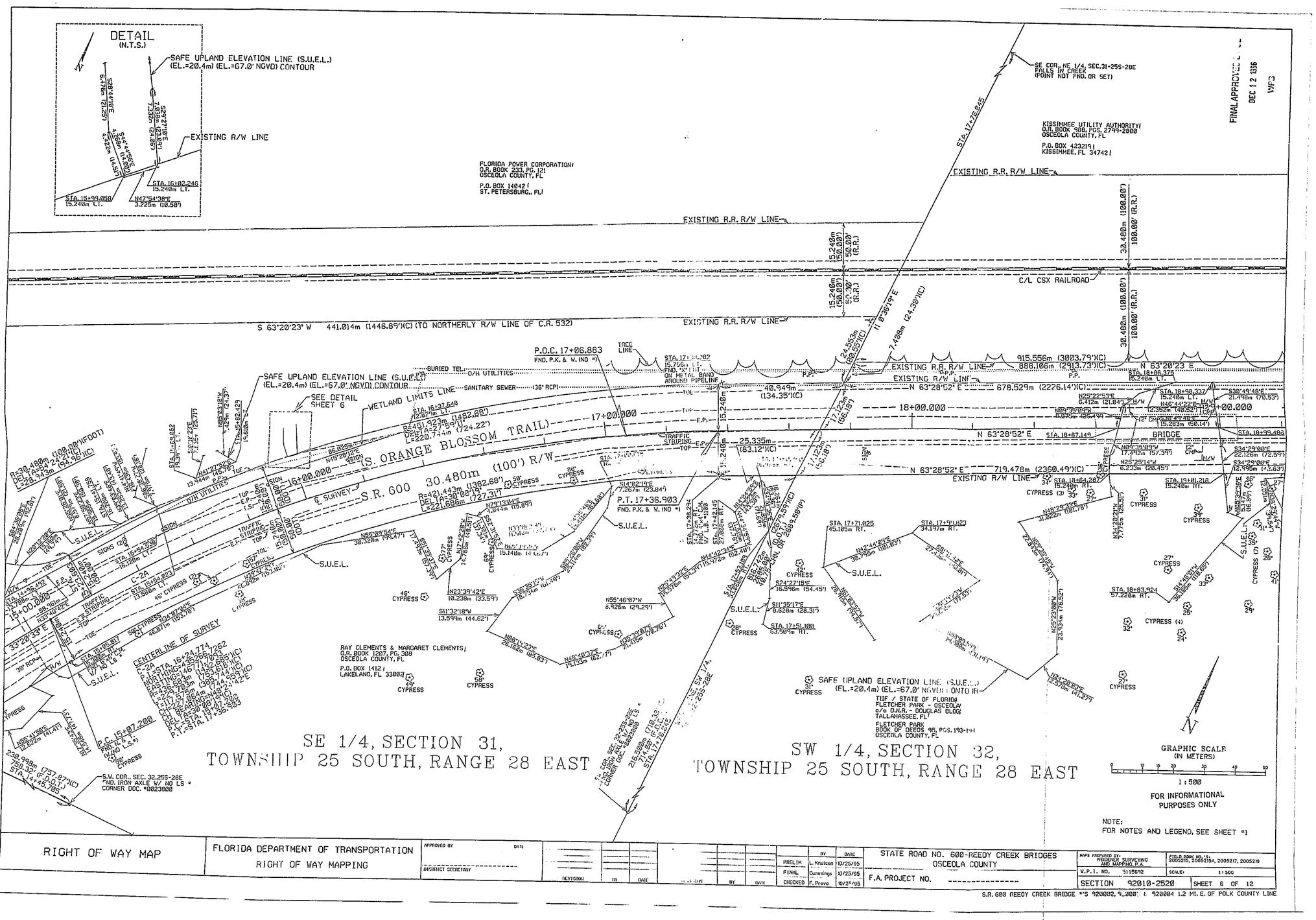
S.R. 600 REEDY CREEK BRIDGE #'S 920002, 920003 & 920004 1.2 MI. E. OF POLK COUNTY LINE



RIGHT OF WAY MAP KEY MAP	FLORIDA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAPPING	APPROVED BY DISTRICT SECRETARY	DATE	REVISION	BY	DATE		BY	DATE	PRC.LN	L. Knutson	10/25/95	STATE ROAD NO. 600-REEDY CREEK BRIDGES OSCEOLA COUNTY
										FINAL	Cummings	10/25/95	F.A. PROJECT NO. ----------
										CHECKED	F. Preve	10/25/95	

MAPS PREPARED BY: WEDEMEYER SURVEYING AND MAPPING, P.A.	FIELD BOOK NO.'S: 2005215, 2005215A, 2005217, 2005219
W.P.I. NO. 5115692	SCALE: 1:5000
SECTION 92010-2520	SHEET 3 OF 12

S.R. 600 REEDY CREEK BRIDGE #'S 920002, 920003 & 920004 1.2 MI. E. OF POLK COUNTY LINE



RIGHT OF WAY MAP

FLORIDA DEPARTMENT OF TRANSPORTATION
RIGHT OF WAY MAPPING

APPROVED BY _____ DATE _____
DISTRICT SECRETARY

REVISION	BY	DATE

	BY	DATE
PRELIM	L. Knutsen	10/25/95
FINAL	Cummings	10/25/95
CHECKED	F. Preve	10/25/95

STATE ROAD NO. 600-REEDY CREEK BRIDGES
OSCEOLA COUNTY
F.A. PROJECT NO. ----------

MAPS PREPARED BY: WEIDENER SURVEYING AND MAPPING, P.A.
FIELD BOOK NO.'S: 2005215, 2005215A, 2005217, 2005219
W.P.I. NO. 5115692
SCALE: 1" = 500'
SECTION 92010-2520
SHEET 6 OF 12

S.R. 600 REEDY CREEK BRIDGE #'S 920002, 9_200', & 920004 1.2 MI. E. OF POLK COUNTY LINE

KISSIMMEE UTILITY AUTHORITY/
O.R. BOOK 988, PGS. 2799-2800
OSCEOLA COUNTY, FL

P.O. BOX 423219/
KISSIMMEE, FL 34742/

FINAL APPROVED BY GB
DEC 12 1995
WPB

EXISTING R.R. R/W LINE

C/L CSX RAILROAD

30.480m (100.00')
100.00' (R.R.)

EXISTING R/W LINE

N 63°28'52" E ..... 678.529m (2226.14')(C)

915.556m (3003.79')(C)
N 63°20'23 E
888.106m (2913.73')(C)

(S. ORANGE BLOSSOM TRAIL)
S.R. 600 30.480m (100') R/W

N 63°28'52" E 719.478m

(2360.49')(C)

EXISTING R/W LINE

FINAL APPROVED BY GB
DEC 12 1995
WPB

FLETCHER PARK/
BOOK OF DEEDS 95, PGS. 193-194
OSCEOLA COUNTY, FL

TIIF / STATE OF FLORIDA/
FLETCHER PARK - OSCEOLA/
c/o D.N.R. - DOUGLAS BLDG/
TALLAHASSEE, FL/

UPLAND ELEVATION LINE (S.U.E.L.)
(EL.=67.1m) (EL.=67.0' NGVD) CONTOUR

SW 1/4, SECTION 32,
TOWNSHIP 25 SOUTH, RANGE 28 EAST

NOTE:
FOR NOTES AND LEGEND, SEE SHEET #1

GRAPHIC SCALE
(IN METERS)
0 10 15 20 30 40 50
1 10
FOR INFORMATIONAL PURPOSES ONLY

| | | |

ORIGINAL SURVEY
JAN 24 1995
GRAHAM ENGINEERING CENTER

FINAL APPROVED BY CB
DEC 12 1995
WPB

GRAPHIC SCALE
(IN METERS)
10 0 10 20 30 40 50
1 : 500

KISSIMMEE UTILITY AUTHORITY
O.R. BOOK 988, PGS. 2799-2800
OSCEOLA COUNTY, FL

P.O. BOX 423219
KISSIMMEE, FL 34742

EXISTING R.R. R/W LINE

30.480m (100.00')
100.00' (R.R.)

TOE

C/L CSX RAILROAD

30.480m (100.00')
100.00' (R.R.)

TOE

TOP

P.P. (2)

915.556m (3003.79')(C)

EXISTING R.R. R/W LINE — N 63°20'23 E 888.106m (2913.73')(C)

BURIED TEL.
O/H UTILITIES

EXISTING R/W LINE

SEWER VALVE

N 63°28'52" E 678.529m (2226.14')(C)

GAS LINE (PVC)

SANITARY SEWER (36" RCP)

(S. ORANGE BLOSSOM TRAIL)

23+00.000

24+00.000

25+00.000

26+00.000

27+00.000

15.240m (50.00') (TOT)

E.P.

℄ SURVEY

N 63°28'52" E

S.R. 600 30.480m (100') R/W

18" RCP
INV= 21.492m

18" CMP
INV= 21.669m

N 63°28'52" E 719.478m (2360.49')(C)

H/W FENCE

EXISTING R/W LINE

STA. 24+56.551
15.206m RT.
FND. 6"x6" C.M.
W/ NO LS *

P.C. 24+56.381
FND. P.K. & W. (NO *)

STA. 22+97.498
12.198m RT.
5.992m
S63°28'47"W

STA. 23+93.411
13.164m RT.

5.060m
N63°16'27"E

STA. 22+98.792
15.240m RT.
9.474m
N63°21'45"E

BLDG. (VACANT)

FND. 4x4 C.M.
W/ RLS *938
0.886m N
0.54m E

P.P.S 65°43'07" W
7.843m
(25.73')(C)

EXISTING R/W LINE
(MAINTAINED)

OLD TAMPA HWY.
(OLD STATE ROAD)

R=19.277m
(63.24')(C)
DELTA=56°30'41"(C)
L=19.013m
(62.38')(C)
CH=18.252m
(59.88')(C)

TANGENT BEARING
N 65°43'07" E(C)

R=1701.096m (5581.01')(C)
DELTA=08°42'21"(C)
L=258.473m (848.01')(C)

TANGENT BEARING
N 65°43'07" E(C)

SET ⅝" I.R.&C.
W/ LB *4287

N 89°16'27" E
13.380m
(43.89')(C)

N 01°35'13" E
26.380m
(86.58')(C)

N 01°35'13" E
28.268m
(92.75')(C)

LOT 20

BLOCK "A"
ORANGE BLOSSOM
ADDITION "WEST"
P.B. 1, PG. 285

(25')(P)

EXISTING R/W LINE
R=888.474m (2914.934')
DELTA=01°19'47"(C)
L=20.621m (67.65')(C)

TANGENT BEARING
N 78°35'18" E

TANGENT BEARING
N 77°55'29" E

FND. ⅝" I.R.
W/ NO LS *
0.42m N
0.45m E

STA 25+88.734
15.206m RT.
(51.17')(C)

STA 25+72.986
15.621m RT.
(51.27')(C)

25' PLATTED
UNNAMED ROAD
NOT OPEN

TANGENT BEARING
N 78°25'18" E

R=888.474m (2914.934')
DELTA=15°42'18"(C)
L=243.012m (797.28')(C)

(74.2')(P)

SET ⅝" I.R.&C.
W/ LB *4287

℄ SURVEY

R=873.234m (2864.935')(C)

27+00.000

DETAIL
(N.T.S.)

CENTERLINE OF SURVEY
P.I.-STA. 27+79.278
NORTHING=435784.6364
EASTING=147809.6190
R=873.234m (2864.934')(C)
L=616.562m (2029.398')(C)
T=322.897m (1059.371')(C)
CH=605.710m (1987.235')(C)
CH. BEARING=N83°46'27"E
DELTA=40°35'09"(C) 40°34'(F.D.O.T.)
P.C.-STA. 24+56.381
P.T.-STA. 30+74.543
D=2°(F)

R=34.517m (113.24')(C)
DELTA=34°00'43"(C)
L=20.490m (67.22')(C)
CH=20.191m (66.24')(C)
CBHN 26°12'48" E (C)

R=888.474m (2914.934')(C)
DELTA=01°19'47"(C)
L=20.621m (67.65')(C)

P.O.C. STA. 60.325
(NO P.R.M.'S V. (NO *)

P.P.

SET ⅝" I.R.&C.
W/ LB *4287

N 89°12'26" E
19.812m
(65.00')(C)

SET ⅝" I.R.&C.
W/ LB *4287

SIGN

27.456m
(90.06')(C)

15.157m
(49.73')(C)

TO NW COR. SE 1/4
SEC. 32-25S-28E

TANGENT
BEARING
N65°43'07"E

20

(25')(P)

234.933m
(758.18')(C)
S 26°13'
(86.27')(C)

S 26°13'
(86.27')(C)

(74.2')(P)

(SEE SHEET 9)

TANGENT BEARING
N 77°58'55" E

(200.0')(P)

BERNARD SHELL III ESTATE
O.R. BOOK 1487, PG. 63-65
OSCEOLA COUNTY, FL
C/O JOHN R. ADAMS
268 RIVER DRIVE
LOGAN, W.V. 25601

BETTY S. KINCAID
O.R. BOOK 1487, PG. 1823
OSCEOLA COUNTY, FL
2176 WASHINGTON BLVD.
HUNTINGTON, W.V. 24705

(435.0')(P)

SEE DETAIL
THIS SHEET

TRAFFIC STRIPING

E.P.

C-3A

R=857.934m (2814.934')
L=209.335m (686.79')(C)

STA. 26+41.915
15.240m RT.
(50.00')

STA. 26+27.146
15.240m RT.
(50.00')

STA. 26+27.146
15.240m RT.
(50.00')

STA. 26+41.915
15.240m RT.
(50.00')

(SEE SHEET 9)

FND. 4x4 C.M.
W/ RLS *938
0.334m N
0.334m E

STA. 26+99.734
15.240m RT.
(50.00')

N 01°35'13" E

SET ⅝" I.R.&C.
W/ LB *4287

STA. 26+99.734
15.240m RT.
(50.00')

FND. 4x4 C.M.
W/ RLS *938
0.334m N
0.334m E

N 01°35'13" E

FND. 4x4 C.M.
W/ RLS *938
0.334m N
0.334m E

N 01°35'13" E

STA. 27+72.986
15.621m RT.
(51.27')(C)

STA. 27+88.734
15.206m RT.
(51.17')(C)

FND. 4x4 C.M.
W/ RLS *938
0.334m N
0.334m E

N 01°35'13" E

STA. 26+99.734
15.240m RT.
(50.00')

SET ⅝" I.R.&C.
W/ LB *4287

STA. 26+99.734
15.240m RT.
(50.00')

FND. 4x4 C.M.
W/ RLS *938
0.334m N
0.334m E

N 01°35'13" E

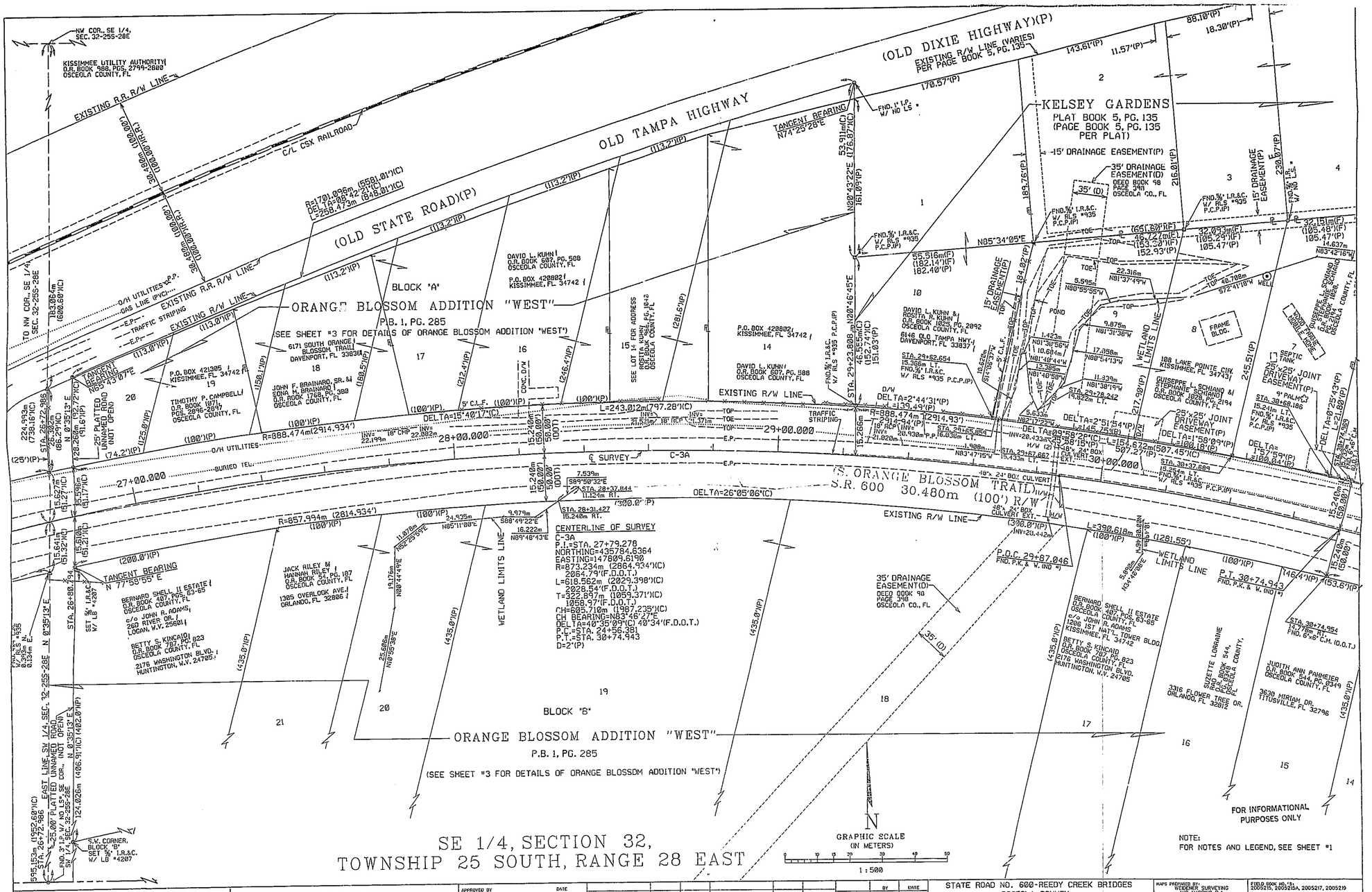
STA. 26+99.734
15.240m RT.
(50.00')

SET ⅝" I.R.&C.
W/ LB *4287

STA. 26+99.734
15.240m RT.
(50.00')

FND. 4x4 C.M.
W/ RLS *938
0.334m N
0.334m E

N 01°35'13" E



RIGHT OF WAY MAP

FLORIDA DEPARTMENT OF TRANSPORTATION
RIGHT OF WAY MAPPING

APPROVED BY _____ DATE _____
DISTRICT SECRETARY

REVISION	BY	DATE	REVISION	BY	DATE

	BY	DATE
PRELIM	L. Knutsen	10/25/95
FINAL	Cummings	10/25/95
CHECKED	F. Preva	10/25/95

STATE ROAD NO. 600-REEDY CREEK BRIDGES
OSCEOLA COUNTY

F.A. PROJECT NO. ----------

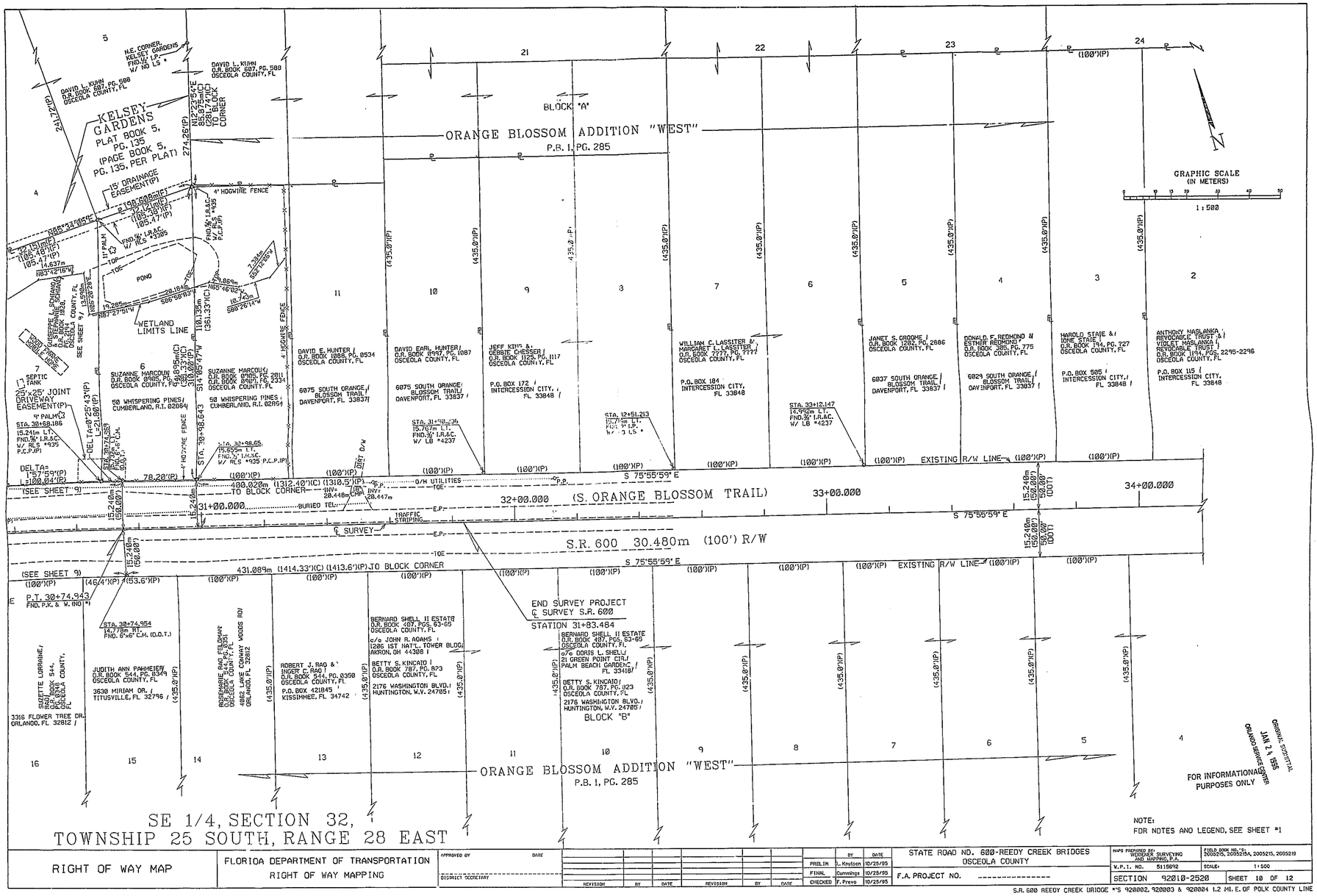
MAPS PREPARED BY: WEDEMEYER SURVEYING AND MAPPING, P.A.

FIELD BOOK NO.'S: 2005215, 2005216A, 2005217, 2005219

W.P.I. NO. 5115642 | SCALE: 1 : 500

SECTION 92010-2520 | SHEET 9 OF 12

S.R. 600 REEDY CREEK BRIDGE #'S 920002, 920003 & 920004 1.2 MI. E. OF POLK COUNTY LINE



RIGHT OF WAY MAP

FLORIDA DEPARTMENT OF TRANSPORTATION
RIGHT OF WAY MAPPING

APPROVED BY _____ DATE _____
DISTRICT SECRETARY

REVISION	BY	DATE	REVISION	BY	DATE

	BY	DATE
PRELIM	L. Knutsen	10/25/95
FINAL	Cummings	10/25/95
CHECKED	F. Prevo	10/25/95

STATE ROAD NO. 600-REEDY CREEK BRIDGES
OSCEOLA COUNTY

F.A. PROJECT NO. ----------

MAPS PREPARED BY: RIDSDALE SURVEYING AND MAPPING, P.A.

FIELD BOOK NO.'S: 2005215, 2005215A, 2005215, 2005219

V.P.I. NO. 5115892

SCALE: 1"=500

SECTION 92010-2520

SHEET 10 OF 12

S.R. 600 REEDY CREEK BRIDGE #'S 920002, 920003 & 920004 1.2 MI. E. OF POLK COUNTY LINE

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

CONSTRUCTION COMPLETION/CERTIFICATION

PERMIT NUMBER:

49-00765-S

APPLICATION NUMBER:

960124-5

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

ORLANDO SERVICE CENTER 1707 Orlando Central Parkway, Suite 200, Orlando, FL 32809
(407) 858-6100 • FL WATS 1-800-250-4250 • Suncom 358-6100 • Fax (407) 858-6121 •
www.sfwmd.gov/org/exo/orlsc/index.html

CON 24-05

ENVIRONMENTAL RESOURCE REGULATION

June 10, 2003

FLORIDA DEPARTMENT OF TRANSPORTATION
719 SOUTH WOODLAND BLVD
DELAND, FL 32720

Dear Mr. Bassett:

Subject: Acceptance of Construction Completion Certification & Conversion to Operation Phase
Permit No. 49-00765-S, Application No. 960124-5
SR 600 RELOCATION & REEDY CREEK BRIDGE REPLACEMENT
Osceola County, S6/T26S/R28E
S31,32/T25S/R28E

This letter is to acknowledge receipt of your consulting engineer's construction completion certification pertaining to the subject parcel's surface water management system. The submitted information has been **accepted** and incorporated into the permit file.

By accepting the engineer's certification, District staff considers the surface water management system permitted under the above listed application number(s) to be constructed in substantial conformance with the plans and specifications approved by the District. This satisfies your permit conditions regarding submittal of an engineer's certification for construction completion of the permitted drainage facilities and the above referenced permit is hereby **converted from the construction phase to the operation phase.**

Please call the undersigned at (407) 858-6100 ext. 3811 if you have any questions.

Sincerely,

Jared R. Justesen, Staff Regulatory Professional
Environmental Resource Compliance
Orlando Service Center
South Florida Water Management District

/jj
c: Neil Aikenhead, Edwards & Kelcey

JCTGIS
062763

GOVERNING BOARD

Nicolás J. Gutiérrez, Jr., Esq., *Chair*
Pamela Brooks-Thomas, *Vice-Chair*
Irela M. Bagué
Michael Collins
Hugh A. English
Lennart E. Lindahl, P.E.
Kevin McCarty
Harkley R. Thornton
Trudi K. Williams, P.E.

EXECUTIVE OFFICE

Henry Dean, *Executive Director*

Mr. Bassett
Subject: Construction Completion Certification
June 10, 2003

bc: Vault File - Permit No. 49-00765-S7 App. No. 960124-5
Reader File

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
SWM/ERP PROJECT FINAL OBSERVATION REPORT
ENVIRONMENTAL RESOURCE COMPLIANCE DIVISION

Project Name: SR 600 RELOCATION & REEDY CREEK BRIDGE REPLACEMENT

Permit No: 49-00765-S **App No:** 960124-5

Section: 6 **Twp:** 26 **Rge:** 28
31,32 25 28

Project Engineer: **Engineer Telephone:**

Observer: JARED R JUSTESEN **Inspection Date:** 10-JUN-2003

Insp Time: 1 HR

In Compliance: Y

Compliance Status:

Action Taken For Non Compliance Issues:

Engineer Contacted:

Engineer Comment:

Comments: The submitted engineers certification cinforms to lesign. The Dot will operate and maintain the system.

Florida Department of Transportation

JEB BUSH
GOVERNOR

133 South Semoran Blvd.
Orlando, Florida 32807

JOSE ABREU
SECRETARY

May 28, 2003

Original Submitted on 3/17/03 Est Revision

Mr. Jared Justensen
South Florida Water Management District
Orlando Service Center
Environmental Resource Compliance Division
7335 Lake Ellenor Drive
Orlando, FL 32809

Sub: SR600 RELOCATION AND REEDY CREEK BRIDGE REPLACEMENT
FN: 239635-52-01
SFWMD Permit No: 49-00765-S
Application #: 960124-5
Osceola County

Re: ENVIRONMENTAL RESOURCE/SURFACE WATER MANAGEMENT PERMIT
CONSTRUCTION COMPLETION/CONSTRUCTION CERTIFICATION
(REVISED TO INCLUDE ENGLISH CONVERSIONS)

Dear Mr. Justensen

Please find the enclosed Construction Completion/Certification for the above referenced project. Thank you and please contact me at (407) 482-7810 with any questions.

Sincerely,

Calvin W. Landers
Resident Engineer

Xc: Mike Hill, District Five Permit Coordinator (w/ attachments)
Project File (w/ attachments)

RECEIVED
MAY 30 2003
ORLANDO SERVICE CENTER

OK to Final out

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Environmental Resource/Surface Water Management Permit Construction Completion/Construction Certification

FORM 0881
08/95

TO: SOUTH FLORIDA WATER MANAGEMENT DISTRICT
Environmental Resource Compliance Division *Please see page 2 of 2

SUBJECT:
PERMIT NO. 49-00755-S
PROJECT NAME: STATE RD #600 BRIDGE REPLACEMENT
LOCATION: COUNTY OSCEOLA

APPLICATION NO. 960124-5
PHASE: 1
SEC / TWP / RGE 6,31,32/T25S/R28E

The subject surface water management system has been designed, constructed and completed as follows: (us additional sheets if needed):
Completion Date: Month 11 Day 26 Year 2001

		PERMITTED		EXISTING	
Discharge Structure:					
Weir	Width ____	Crest ____	Width ____	Crest ____	
Bleeder	Dimensions ____	Invert ____	Dimensions ____	Invert ____	
Type ____	SEE ATTACHED PLAN SHEET 38 AND 40				

Retention/Detention Area: (if applicable)					
ID	POND #1	ID	POND#2	ID ____	ID ____
Size	____	Size	____	Size ____	Size ____
Side Slopes	3:1 (H:V)	Side Slopes	4:1 (H:V)	Side Slopes ____ (H:V)	Side Slopes ____ (H:V)

Please indicate the location of the appropriate bench mark(s) used to determine the above information on the record drawings (Reference 40E-4.381(1)(f), Florida Administrative Code). All elevations should be according to National Geodetic Vertical Datum (NGVD) (Reference 2.9 of the *Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District*). **BM#8 WAS USED (SEE ATTACHED PLAN SHEET #20)**

I HEREBY NOTIFY THE DISTRICT OF THE COMPLETION OF CONSTRUCTION OF ALL THE COMPONENTS OF THE SURFACE WATER MANAGEMENT FACILITIES FOR THE ABOVE REFERENCED PROJECT AND CERTIFY THAT THEY HAVE BEEN CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE PLANS AND SPECIFICATIONS PERMITTED BY THE DISTRICT. [A COPY OF TH APPROVED PERMIT DRAWINGS IS ATTACHED WITH DEVIATIONS NOTED, IF APPLICABLE]. I HEREB AFFIX MY SEAL THIS ____ DAY OF ____

MAY 30 2003

ORLANDO SERVICE CENTER

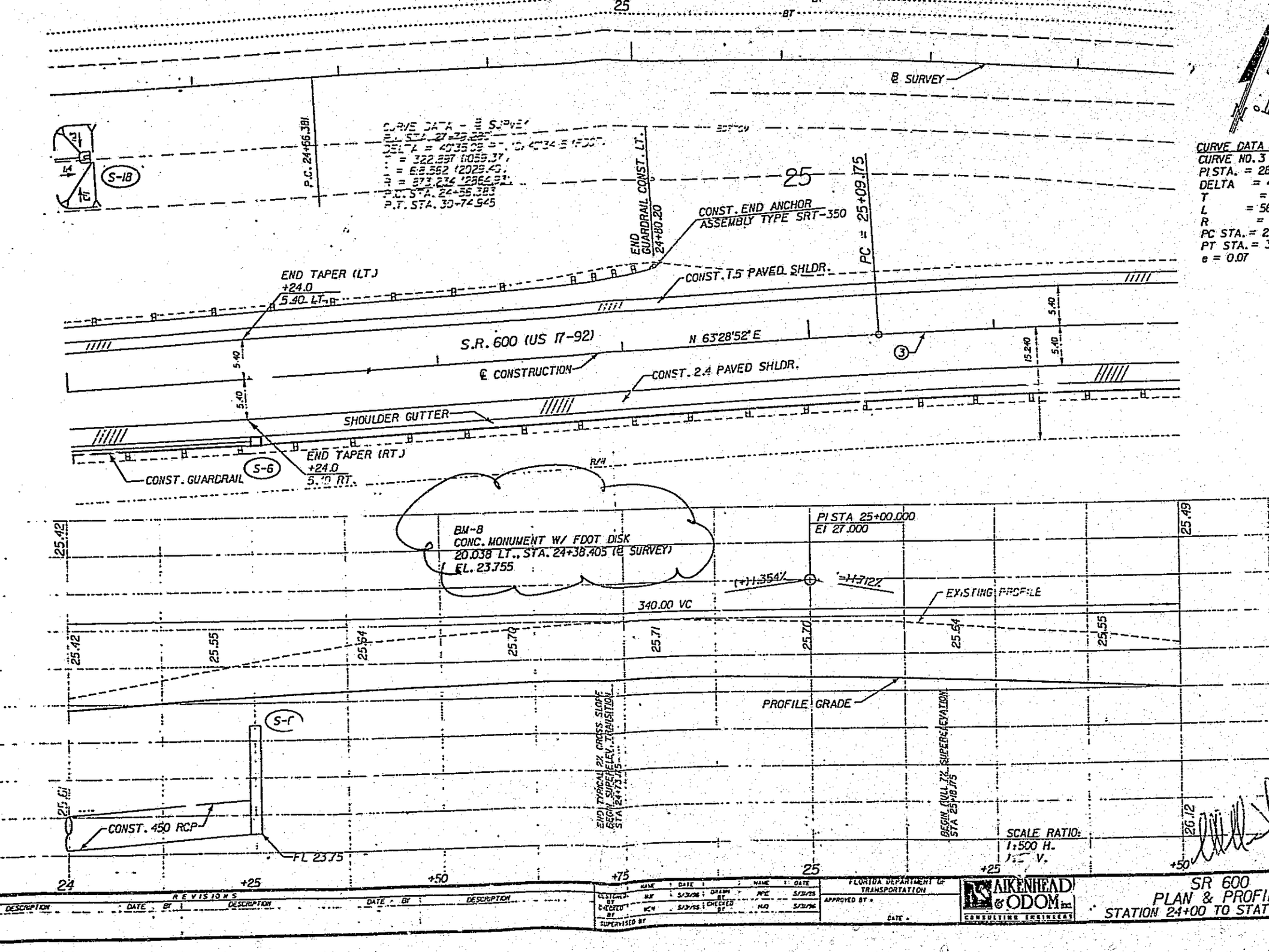
Engineer's Signature and Seal

3/5/03

CALVIN W. LANDERS, PE#48935
Name (Please Print) FLA. Registration No.

PE# 48935

Revised to include metric to english Conversions
5/27/03



REVISIONS							
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	

	NAME	DATE		NAME	DATE
DESIGNED BY	MJF	5/31/96	DRAWN BY	RPC	5/31/96
CHECKED BY	WCH	5/31/96	CHECKED BY	MJO	5/31/96
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY
DATE

AIKENHEAD & ODOM inc.
CONSULTING ENGINEERS

SR 600
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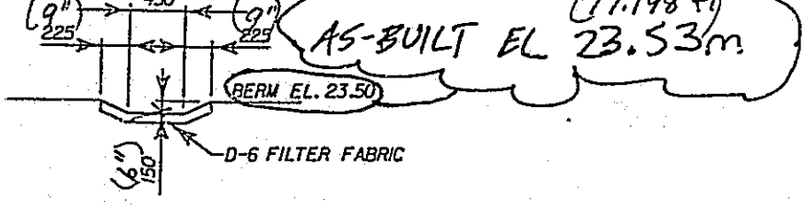
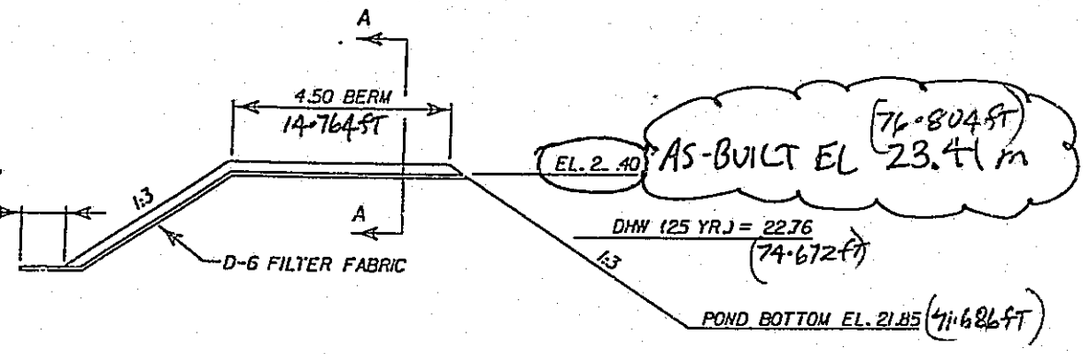
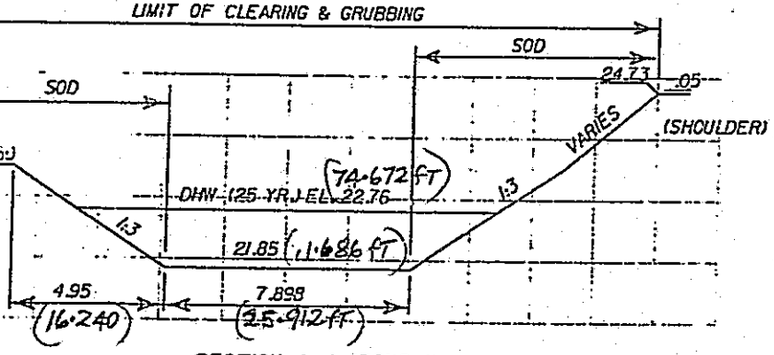
STATION 24+00 TO STAT



SECTION AA



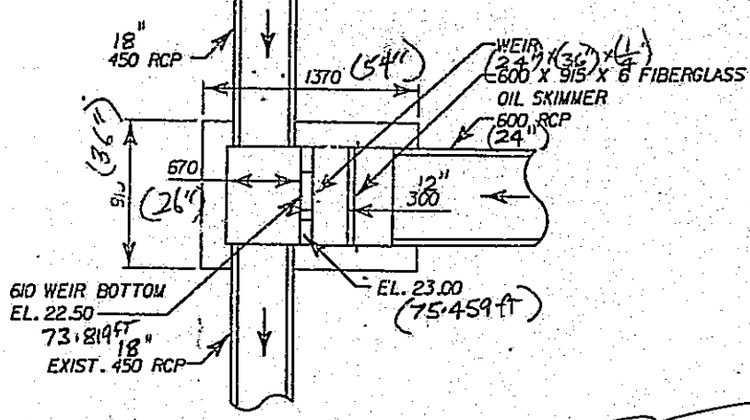
CONCRETE SPILLWAY
INDEX NO. 281



SECTION A-A (POND 1)

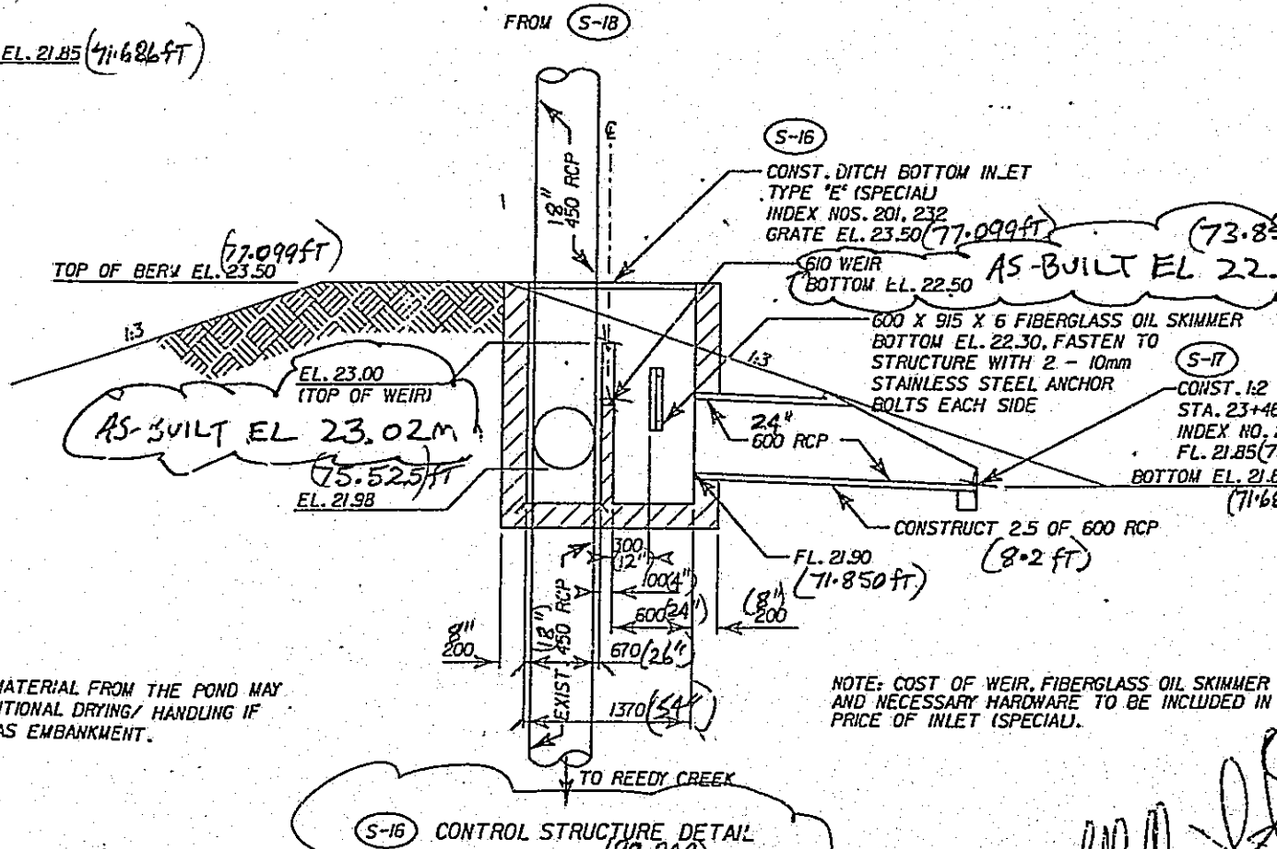
	FLOW	HWL
10 YR. - 24 HR. SCS STORM:	5.33 m3/min.	22.67 (74.377FT)
25 YR. - 24 HR. SCS STORM:	8.65 m3/min.	22.76 (74.672FT)
CRITICAL STORM:		
100 YR. - 1 HR. STORM:	7.88 m3/min.	22.75 (74.639).

NOTE:
EXCAVATED MATERIAL FROM THE POND MAY REQUIRE ADDITIONAL DRYING/ HANDLING IF BEING USED AS EMBANKMENT.



PLAN VIEW

AS-BUILT SLOPES 1



S-16 CONTROL STRUCTURE DETAIL (99.049)
STA. 23+46, 30.19 LT.
SCALE 1:50

NOTE: COST OF WEIR, FIBERGLASS OIL SKIMMER AND NECESSARY HARDWARE TO BE INCLUDED IN PRICE OF INLET (SPECIAL).

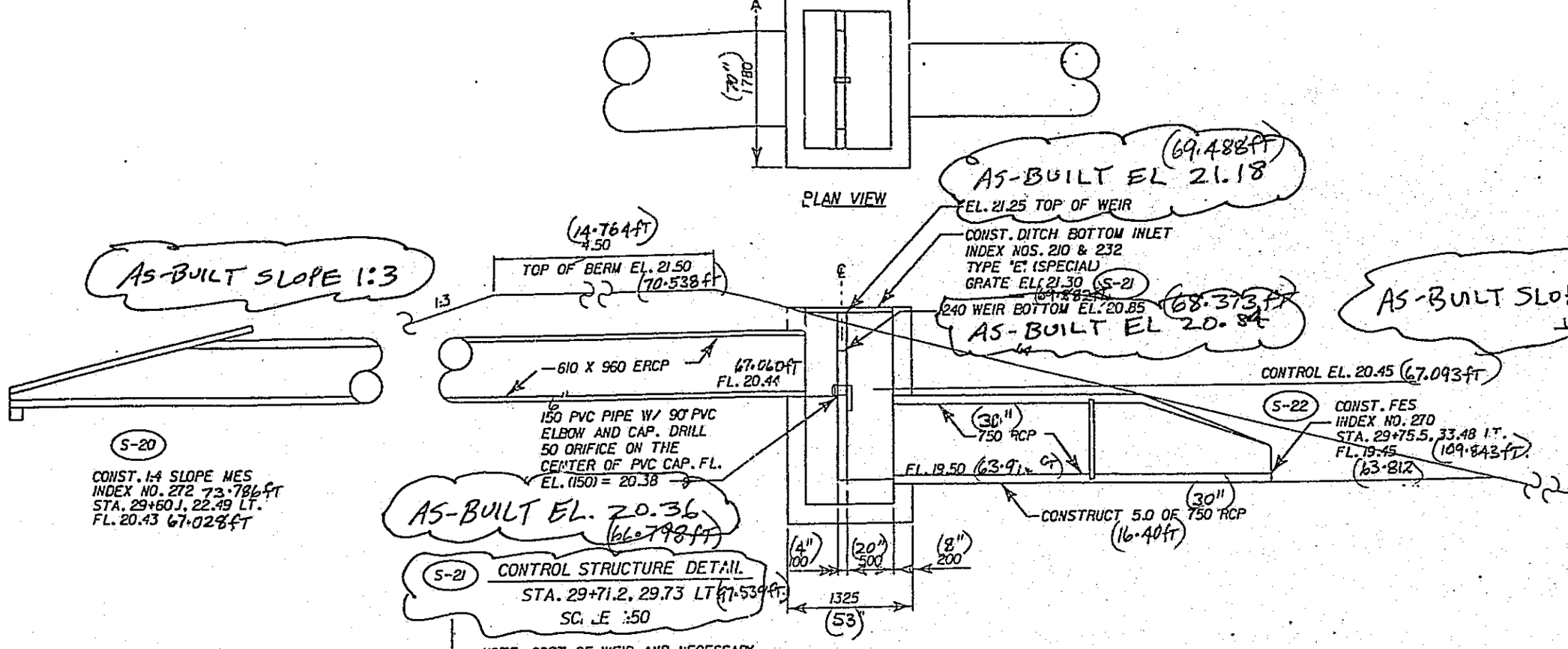
REVISIONS								
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	MJF	5/31/96	DRAWN BY	MPE	5/31/96
CHECKED BY	WEH	5/31/96	CHECKED BY	H.D	5/31/96
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY
DATE

AIKENHEAD & ODOM Inc.
CONSULTING ENGINEERS

DETAILS
POND NO. 1



NOTE:
EXCAVATED MATERIAL FROM THE POND MAY REQUIRE ADDITIONAL DRYING/ HANDLING IF BEING USED AS EMBANKMENT.

	FLOW	HWL
10 YR. - 24 HR. SCS STORM:	9.24 m3/min.	21.02 (68.963ft)
25 YR. - 24 HR. SCS STORM:	17.35 m3/min.	21.10 (69.226ft)
CRITICAL STORM:		
100 YR. - 1 HR. STORM:	15.. m3/min.	21.07 (69.127ft)

REVISIONS							
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE BY DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	B.P.	5/31/96	DRAWN BY	R.C.	5/31/96
CHECKED BY	W.E.N.	5/31/96	CHECKED BY	M.D.	5/31/96
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY
DATE

AIKENHEAD & ODOM Inc.
CONSULTING ENGINEERS

DETA
POND

Florida Department of Transportation

JEB BUSH
GOVERNOR

THOMAS F. BARRY, JR.
SECRETARY

March 5, 2003

Mr. Jared Justensen
South Florida Water Management District
Orlando Service Center
Environmental Resource Compliance Division
7335 Lake Ellenor Drive
Orlando, FL 32809

Sub: SR600 RELOCATION AND REEDY CREEK BRIDGE REPLACEMENT
FN: 239635-52-01
SFWMD Permit No: 49-00765-S
Application #: 960124-5
Osceola County

Re: ENVIRONMENTAL RESOURCE/SURFACE WATER MANAGEMENT PERMIT
CONSTRUCTION COMPLETION/CONSTRUCTION CERTIFICATION

Dear Mr. Justensen

Please find the enclosed Construction Completion/Certification for the above referenced project. Thank you and please contact me at (407) 482-7810 with any questions.

Sincerely,

Calvin W. Landers
Resident Engineer

Xc: Mike Hill, District Five Permit Coordinator (w/ attachments)
Project File (w/ attachments)

RECEIVED
MAR 17 2003
ORLANDO SERVICE CENTER

RECEIVED
MAR 17 2003
ORLANDO SERVICE CENTER

RECYCLED PAPER

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Environmental Resource/Surface Water Management Permit Construction Completion/Construction Certification

FORM 0881
08/95

TO: SOUTH FLORIDA WATER MANAGEMENT DISTRICT
Environmental Resource Compliance Division *Please see page 2 of 2

SUBJECT:

PERMIT NO.	49-00765-S	APPLICATION NO.	960124-5
PROJECT NAME:	STATE RD #600 BRIDGE REPLACEMENT	PHASE:	1
LOCATION: COUNTY	OSCEOLA	SEC / TWP / RGE	6,31,32/T25S/R28E

The subject surface water management system has been designed, constructed and completed as follows: (us additional sheets if needed):

Completion Date: Month 11 Day 26 Year 2001

Discharge Structure:		PERMITTED		EXISTING	
Weir	Width ____	Crest ____	Width ____	Crest ____	
Bleeder	Dimensions ____	Invert ____	Dimensions ____	Invert ____	
Type	--- SEE ATTACHED PLAN SHEET 38 AND 40				

Retention/Detention Area: (if applicable)

ID	POND #1	ID	POND#2	ID	____	ID	____
Size	____	Size	____	Size	____	Size	____
Side Slopes	3:1 (H:V)	Side Slopes	4:1 (H:V)	Side Slopes	____ (H:V)	Side Slopes	____ (H:V)

Please indicate the location of the appropriate bench mark(s) used to determine the above information on the record drawings (Reference 40E-4.381(1)(f), Florida Administrative Code). All elevations should be according to Nationa Geodetic Vertical Datum (NGVD) (Reference 2.9 of the *Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District*). **BM#8 WAS USED (SEE ATTACHED PLAN SHEET #20)**

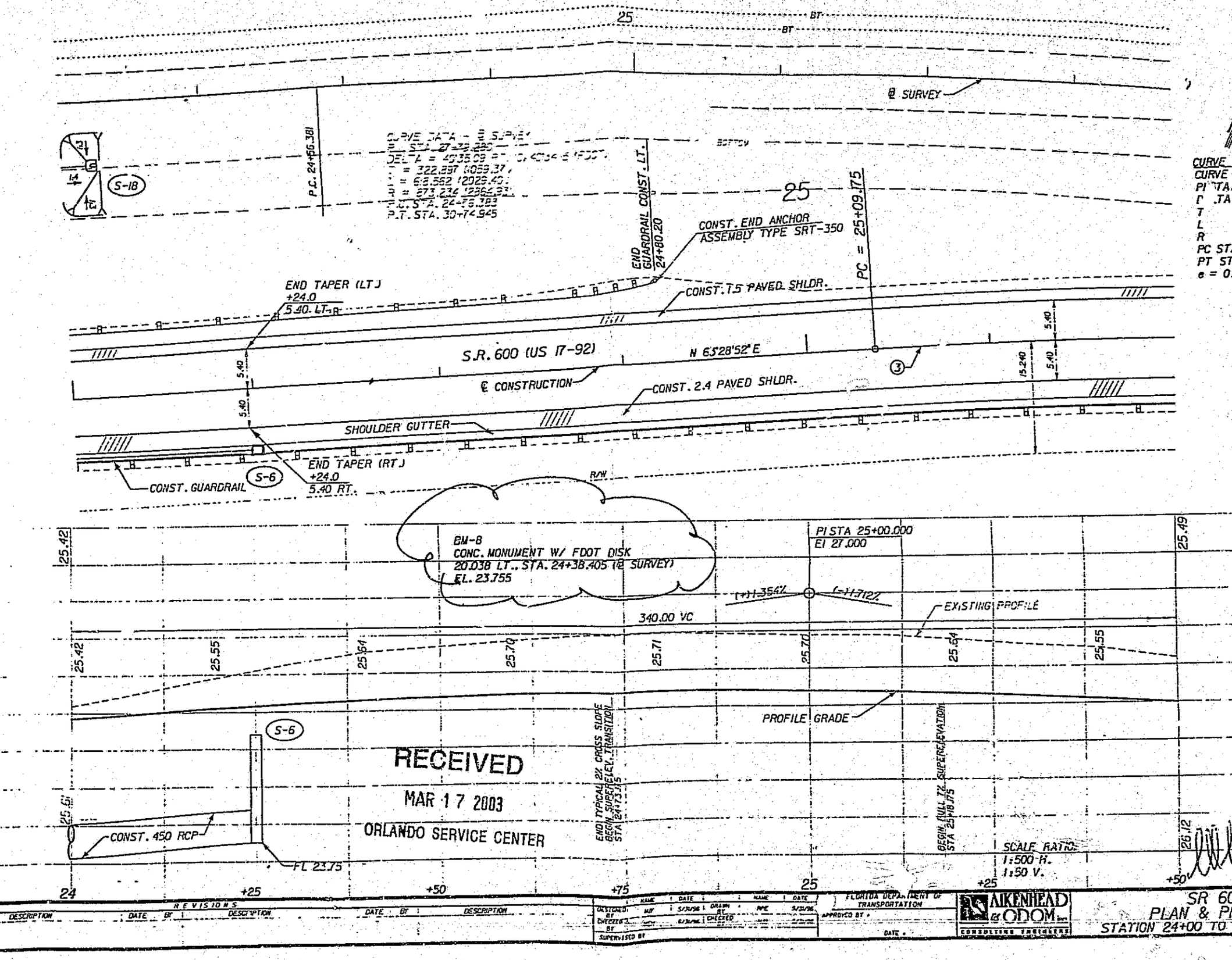
I HEREBY NOTIFY THE DISTRICT OF THE COMPLETION OF CONSTRUCTION OF ALL THE COMPONENTS OF THE SURFACE WATER MANAGEMENT FACILITIES FOR THE ABOVE REFERENCED PROJECT AND CERTIFY THAT THEY HAVE BEEN CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE PLANS AND SPECIFICATIONS PERMITTED BY THE DISTRICT. [A COPY OF THE APPROVED PERMIT DRAWINGS IS ATTACHED WITH DEVIATIONS NOTED, IF APPLICABLE]. I HEREBY AFFIX MY SEAL THIS ____DAY OF____

Engineer's Signature and Seal

3/5/03

CALVIN W. LANDERS, PE#48935 PE# 48935
Name (Please Print) FLA. Registration No.

RECEIVED
MAR 17 2003
ORLANDO SERVICE CENTER



RECEIVED
MAR 17 2003
ORLANDO SERVICE CENTER

REVISIONS						
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DESIGNED BY	NAME	DATE	DRAWN BY	NAME	DATE
	MJF	5/31/96	RPE		5/31/96
CHECKED BY			CHECKED		
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY
DATE

AIKENHEAD & ODOM
CONSULTING ENGINEERS

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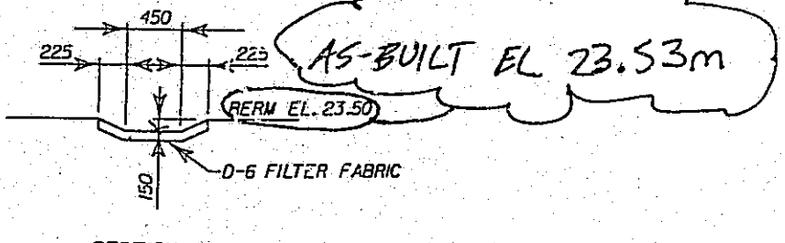
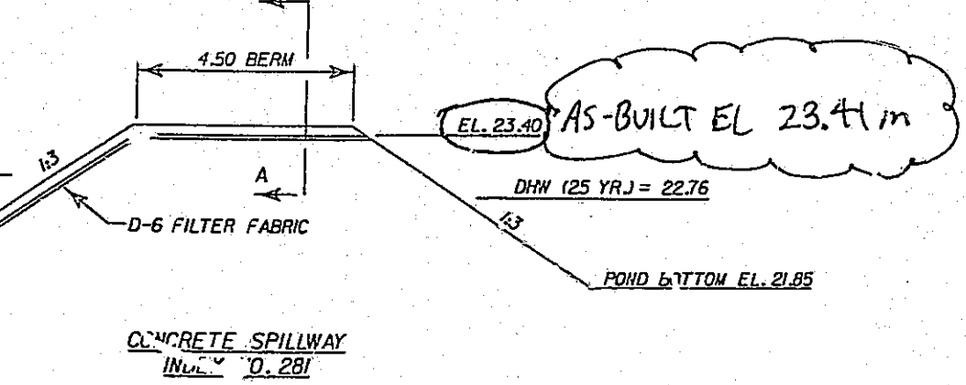
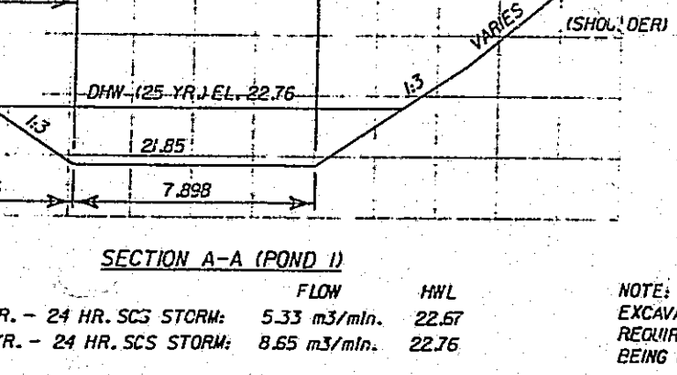


SECTION AA

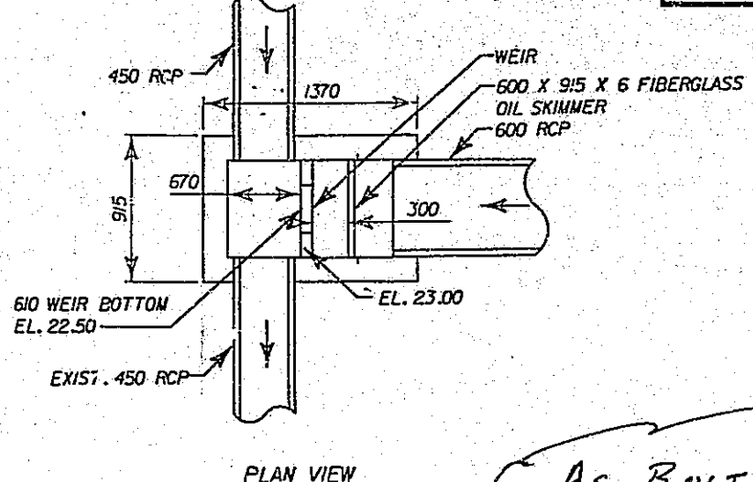


CONCRETE SPILLWAY
INDEX NO. 281



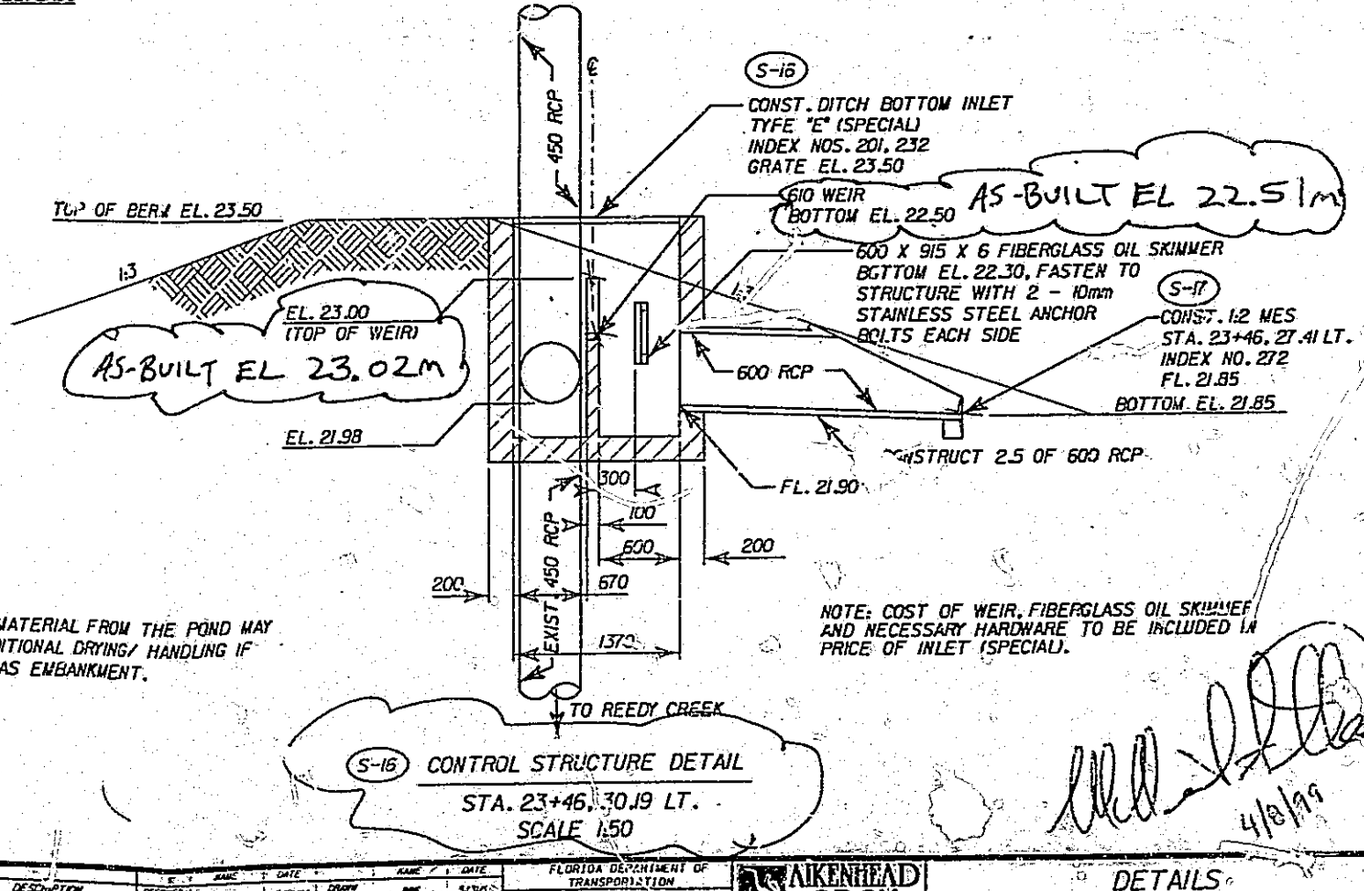
SECTION A-A (POND 1)

	FLOW	HWL
R. - 24 HR. SCS STORM:	5.33 m3/min.	22.67
R. - 24 HR. SCS STORM:	8.65 m3/min.	22.76
ICAL STORM:		
R. - 1 HR. STORM:	7.88 m3/min.	22.75



PLAN VIEW

AS-BUILT SLOPES 1:3



NOTE:
EXCAVATED MATERIAL FROM THE POND MAY REQUIRE ADDITIONAL DRYING/ HANDLING IF BEING USED AS EMBANKMENT.

NOTE: COST OF WEIR, FIBERGLASS OIL SKIMMER AND NECESSARY HARDWARE TO BE INCLUDED IN PRICE OF INLET (SPECIAL).

S-16 CONTROL STRUCTURE DETAIL
STA. 23+46. 30.19 LT.
SCALE 1:50

4/8/99

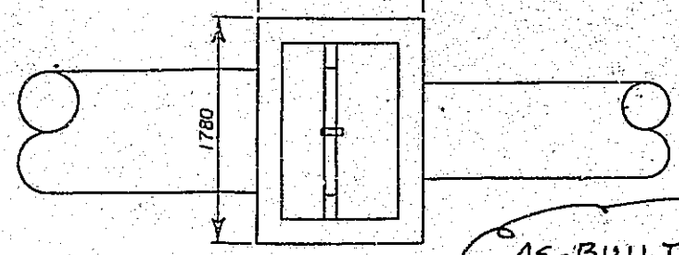
REVISIONS									
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	

	NAME	DATE		NAME	DATE
DESIGNED BY	WJF	5/31/96	DRAWN BY	RPE	5/31/96
CHECKED BY	WEH	5/31/96	CHECKED BY	HJD	5/31/96
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY
DATE

AIKENHEAD & ODOM Inc.
CONSULTING ENGINEERS

DETAILS
POND NO. 1



PLAN VIEW

AS-BUILT EL 21.18

EL. 21.25 TOP OF WEIR

CONST. DITCH BOTTOM INLET
INDEX NOS. 210 & 232
TYPE 'E' (SPECIAL)
GRATE EL. 21.30 (S-21)

240 WEIR BOTTOM EL. 20.85

AS-BUILT EL 20.84

AS-BUILT SLOPE 1:3

AS-BUILT SLOPE 1:4

4.50
TOP OF BERM EL. 21.50

1:3

610 X 960 ERCP

FL. 20.44

CONTROL EL. 20.45

(S-22) CONST. FES
INDEX NO. 270
STA. 29+75.5, 33.48 LT.
FL. 19.45

750 RCP

FL. 19.50

BOTTOM EL.

CONSTRUCT 5.0 OF 750 RCP

150 PVC PIPE W/ 90° PVC ELBOW AND CAP. DRILL 50 ORIFICE ON THE CENTER OF PVC CAP. FL. EL. (150) = 20.38

AS-BUILT EL. 20.36

(S-20) CONST. 1:4 SLOPE MES
INDEX NO. 272
STA. 29+60.1, 22.49 LT.
FL. 20.43

(S-21) CONTROL STRUCTURE DETAIL
STA. 29+71.2, 29.73 LT.
SCALE 1:50

100 500 200

1325

NOTE: COST OF WEIR AND NECESSARY HARDWARE TO BE INCLUDED IN PRICE OF INLET (SPECIAL).

LIMIT OF CLEARING & GRUBBING

SOD

SOD

21.50

1:3

1:3

DHW (125 YR.) EL. 21.10

CONTROL EL. 20.45

1:4

1:4

17.50

2.00 4.50 16.0 4.254 16.0 4.50 2.00

SECTION A-A (POND 2)

ATED MATERIAL FROM THE POND MAY
E ADDITIONAL DRYING/ HANDLING IF
USED AS EMBANKMENT.

	FLOW	HWL
. - 24 HR. SCS STORM:	9.24 m3/min.	21.02
R. - 24 HR. SCS STORM:	17.35 m3/min.	21.10
CAL STORM:		
R. - 1 HR. STORM:	15.00 m3/min.	21.07

4/6/16

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DESIGNED BY: WJF 5/31/16
DRAWN BY: RPE 5/31/16
CHECKED BY: MCH 5/31/16
CHECKED BY: HJD 5/31/16
SUPERVISED BY:
APPROVED BY:
DATE:

FLORIDA DEPARTMENT OF TRANSPORTATION

AIKENHEAD & DODOM Inc. CONSULTING ENGINEERS

DETAILS
POND NO. 2

Field Rep

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Form #0113
Rev 08/95

SURFACE WATER MANAGEMENT PERMIT NO. 49-00765-S

DATE ISSUED: DECEMBER 12, 1996

PERMITTEE: FLORIDA DEPT. OF TRANSPORTTION
(SR 600 RELOCATION & REEDY CREEK BRIDGE REPLACEMENT)
719 SOUTH WOODLAND BLVD.
DELAND, FL 32720

PROJECT DESCRIPTION: AUTHORIZATION FOR THE CONSTRUCTION AND OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM TO SERVE A 34.0 ACRE HIGHWAY PROJECT, DISCHARGING TO REEDY CREEK VIA REEDY CREEK SWAMP.
(NOTE: ORIGINAL PERMIT WAS ISSUED AS A CONCEPTUAL PERMIT DATED NOVEMBER 10, 1994)

PROJECT LOCATION: OSCEOLA COUNTY, SECTION 6,31,32 TWP 25,26S RGE 28E

This Permit is issued pursuant to Application No. 960124-5 dated January 19, 1996. Permittee agrees to hold and save the South Florida Water Management District and its successors harmless from any and all damages, claims or liabilities which may arise by reason of the construction, operation, maintenance or use of activities authorized by this Permit. This Permit is issued under the provisions of Subsections 373.414(11)-(16), Florida Statutes (F.S), and the Operating Agreement Concerning Regulation Under Part IV, Chapter 373 F.S., between South Florida Water Management District and the Department of Environmental Protection. Issuance of this Permit constitutes certification of compliance with state water quality standards where necessary pursuant to Section 401, Public Law 92-500, 33 USC Section 1341, unless this Permit is issued pursuant to the net improvement provisions of Subsections 373.414 (1) (b), F.S., or as otherwise stated herein.

This Permit may be transferred pursuant to the appropriate provisions of Chapter 373, F.S. and Sections 40E-1.6107(1) and (2), and 40E-4.351(1), (2), and (4), Florida Administrative Code (F.A.C).

This Permit may be revoked, suspended, or modified at any time pursuant to the appropriate provisions of Chapter 373, F.S., and Sections 40E-4.351(1), (2), and (4), F.A.C.

This Permit shall be subject to the General Conditions set forth in Rule 40E-4.381, F.A.C., unless waived or modified by the Governing Board. The Application, and the Surface Water Management Staff Review Summary of the Application, including all conditions, and all plans and specifications incorporated by reference, are a part of this Permit. All activities authorized by this Permit shall be implemented as set forth in the plans, specifications, and performance criteria as set forth and incorporated in the Surface Water Management Staff Review Summary. Within 30 days after completion of construction of the permitted activity, the Permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual, pursuant to the appropriate provisions of Chapter 373, F.S. and Sections 40E-4.361 and 40E-4.381, F.A.C.

In the event the property is sold or otherwise conveyed, the Permittee will remain liable for compliance with this Permit until transfer is approved by the District pursuant to Rule 40E-1.6107, F.A.C.

LIMITING AND SPECIAL CONDITIONS ARE AS FOLLOWS:

SEE PAGES 2-3 OF 6-10 SPECIAL CONDITIONS.
SEE PAGES 4-6 OF 6-19 LIMITING CONDITIONS.

FILED WITH THE CLERK OF THE
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

ON Original signed by: Vern Kaiser

BY _____
DEPUTY CLERK

SOUTH FLORIDA WATER
MANAGEMENT DISTRICT, BY ITS
GOVERNING BOARD

Original Signed by
TONY BURNS

BY _____
ASSISTANT SECRETARY

SPECIAL CONDITIONS

1 DISCHARGE FACILITIES:

BASIN: BASIN 3:

1-2' WIDE SHARP CRESTED WEIR WITH CREST AT ELEV. 73.82' NGVD.
190 LF OF 1.5' DIA. RCP CULVERT.

RECEIVING BODY : REEDY CREEK SWAMP

CONTROL ELEV : 70 FEET NGVD. /70 FEET NGVD DRY SEASON.

BASIN: BASIN 4:

1-4.1' WIDE SHARP CRESTED WEIR WITH CREST AT ELEV. 68.4' NGVD.
1-.25' DIA. CIRCULAR ORIFICE WITH INVERT AT ELEV. 67.09' NGVD.
58 LF OF 3.2' WIDE X 2' HIGH ELLIPTICAL CULVERT.

RECEIVING BODY : REEDY CREEK SWAMP

CONTROL ELEV : 67.09 FEET NGVD. /67.09 FEET NGVD DRY SEASON.

2 . LAKE SIDE SLOPES SHALL BE NO STEEPER THAN 4:1 (HORIZONTAL:VERTICAL) TO A DEPTH OF TWO FEET BELOW THE CONTROL ELEVATION. SIDE SLOPES SHALL BE NURTURED OR PLANTED FROM 2 FEET BELOW TO 1 FOOT ABOVE CONTROL ELEVATION TO INSURE VEGETATIVE GROWTH.

3 . FACILITIES OTHER THAN THOSE STATED HEREIN SHALL NOT BE CONSTRUCTED WITHOUT AN APPROVED MODIFICATION OF THIS PERMIT.

4 . ALL SPECIAL CONDITIONS PREVIOUSLY STIPULATED BY PERMIT NUMBER 49-00765-S REMAIN IN EFFECT UNLESS OTHERWISE REVISED AND SHALL APPLY TO THIS MODIFICATION.

5 . OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM SHALL BE THE RESPONSIBILITY OF FLORIDA DEPARTMENT OF TRANSPORTATION.

6 SILT SCREENS, HAY BALES OR OTHER SUCH SEDIMENT CONTROL MEASURES SHALL BE UTILIZED DURING CONSTRUCTION. THE SELECTED SEDIMENT CONTROL MEASURES SHALL BE INSTALLED LANDWARD OF THE UPLAND BUFFER ZONES AROUND ALL PROTECTED WETLANDS. ALL AREAS SHALL BE STABILIZED AND VEGETATED IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION INTO THE WETLANDS AND UPLAND BUFFER ZONES.

7 . THE SFWMD RESERVES THE RIGHT TO REQUIRE REMEDIAL MEASURES TO BE TAKEN BY THE PERMITTEE IF WETLAND AND/OR UPLAND MONITORING OR OTHER INFORMATION DEMONSTRATES THAT ADVERSE IMPACTS TO PROTECTED, CONSERVED, INCORPORATED OR MITIGATED WETLANDS OR UPLANDS HAVE OCCURRED DUE TO PROJECT RELATED ACTIVITIES.

8 . ANY FUTURE CHANGES IN LAND USE OR TREATMENT OF WETLANDS AND/OR UPLAND

BUFFER/COMPENSATION AREAS MAY REQUIRE A SURFACE WATER MANAGEMENT PERMIT MODIFICATION AND ADDITIONAL ENVIRONMENTAL REVIEW BY DISTRICT STAFF. PRIOR TO THE PERMITTEE INSTITUTING ANY FUTURE CHANGES NOT AUTHORIZED BY THIS PERMIT, THE PERMITTEE SHALL NOTIFY THE SFWMD OF SUCH INTENTIONS FOR A DETERMINATION OF ANY NECESSARY PERMIT MODIFICATIONS.

9. MITIGATION SHALL BE PROVIDED BY DESIGNATION OF 95.7 ACRES OF WETLAND RESTORATION/ENHANCEMENT WITHIN THE 534.9-ACRE THREE LAKES WILDLIFE MANAGEMENT AREA (TLWMA) MITIGATION SITE (PREVIOUSLY AUTHORIZED BY SFWMD PERMIT APPLICATION NUMBERS 940614-10 AND 940614-1-D). THIS MITIGATION ACREAGE WILL BE SUBTRACTED FROM THE 500.9 ACRES THAT CURRENTLY REMAIN AVAILABLE, LEAVING A BALANCE OF 405.2 ACRES OF MITIGATION AVAILABLE TO OFFSET OTHER FDOT DISTRICT 5 ROADWAY PROJECTS (SEE EXHIBIT NO. 13).

10. ALL PROVISIONS OF THE TLWMA PERMIT APPLICATION NUMBER 940614-10 CONCERNING CONSTRUCTION, MONITORING AND MAINTENANCE OF THE MITIGATION SITE ARE INCORPORATED BY REFERENCE INTO THIS PERMIT.

LIMITING CONDITIONS

1. THE PERMITTEE SHALL IMPLEMENT THE WORK AUTHORIZED IN A MANNER SO AS TO MINIMIZE ANY ADVERSE IMPACT OF THE WORKS ON FISH, WILDLIFE, NATURAL ENVIRONMENTAL VALUES, AND WATER QUALITY. THE PERMITTEE SHALL INSTITUTE NECESSARY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING FULL COMPACTION OF ANY FILL MATERIAL PLACED AROUND NEWLY INSTALLED STRUCTURES, TO REDUCE EROSION, TURBIDITY, NUTRIENT LOADING AND SEDIMENTATION IN THE RECEIVING WATERS.

2. WATER QUALITY DATA FOR THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY OR INTO SURFACE WATERS OF THE STATE WILL BE SUBMITTED TO THE DISTRICT AS REQUIRED BY SECTION 5.9, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994." PARAMETERS TO BE MONITORED MAY INCLUDE THOSE LISTED IN CHAPTER 62-302, F.A.C. IF WATER QUALITY DATA IS REQUIRED, THE PERMITTEE SHALL PROVIDE DATA ON VOLUMES OF WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE DAYS OF SAMPLING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY OR INTO SURFACE WATERS OF THE STATE.

3. THIS PERMIT SHALL NOT RELIEVE THE PERMITTEE OF ANY OBLIGATION TO OBTAIN NECESSARY FEDERAL, STATE, LOCAL OR SPECIAL DISTRICT APPROVALS.

4. THE OPERATION PHASE OF THIS PERMIT WILL NOT BECOME EFFECTIVE UNTIL THE DISTRICT'S ACCEPTANCE OF CERTIFICATION OF THE COMPLETED SURFACE WATER WATER MANAGEMENT SYSTEM. THE PERMITTEE SHALL REQUEST TRANSFER OF THE PERMIT TO THE RESPONSIBLE OPERATIONAL ENTITY ACCEPTED BY THE DISTRICT, IF DIFFERENT FROM THE PERMITTEE. THE TRANSFER REQUEST CAN BE SUBMITTED CONCURRENTLY WITH THE CONSTRUCTION COMPLETION CERTIFICATION.

5. ALL ROAD ELEVATIONS SHALL BE SET IN ACCORDANCE WITH THE CRITERIA SET FORTH IN SECTION 6.5, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994."

6. ALL BUILDING FLOOR ELEVATIONS SHALL BE SET IN ACCORDANCE WITH THE CRITERIA SET FORTH IN SECTION 6.4, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994."

7. OFF-SITE DISCHARGES DURING CONSTRUCTION AND DEVELOPMENT WILL BE MADE ONLY THROUGH THE FACILITIES AUTHORIZED BY THIS PERMIT.

8. A PERMIT TRANSFER TO THE OPERATION PHASE SHALL NOT OCCUR UNTIL A RESPONSIBLE ENTITY MEETING THE REQUIREMENT IN SECTION 9.0, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994," HAS BEEN ESTABLISHED TO OPERATE AND MAINTAIN THE SYSTEM. THE ENTITY MUST BE PROVIDED WITH SUFFICIENT OWNERSHIP OR LEGAL INTEREST SO THAT IT HAS CONTROL OVER ALL WATER MANAGEMENT FACILITIES AUTHORIZED HEREIN.

9. THE PERMIT DOES NOT CONVEY TO THE PERMITTEE ANY PROPERTY RIGHT NOR ANY

RIGHTS OR PRIVILEGES OTHER THAN THOSE SPECIFIED IN THE PERMIT AND CHAPTER 40E-4, FAC.

10. THE PERMITTEE SHALL HOLD AND SAVE THE DISTRICT HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS, OR LIABILITIES WHICH MAY ARISE BY REASON OF THE CONSTRUCTION, OPERATION, MAINTENANCE OR USE OF ANY FACILITY AUTHORIZED BY THE PERMIT.

11. THIS PERMIT IS ISSUED BASED ON THE APPLICANT'S SUBMITTED INFORMATION WHICH REASONABLY DEMONSTRATES THAT ADVERSE WATER RESOURCE RELATED IMPACTS WILL NOT BE CAUSED BY THE COMPLETED PERMIT ACTIVITY. SHOULD ANY ADVERSE IMPACTS CAUSED BY THE COMPLETED SURFACE WATER MANAGEMENT SYSTEM OCCUR, THE DISTRICT WILL REQUIRE THE PERMITTEE TO PROVIDE APPROPRIATE MITIGATION TO THE DISTRICT OR OTHER IMPACTED PARTY. THE DISTRICT WILL REQUIRE THE PERMITTEE TO MODIFY THE SURFACE WATER MANAGEMENT SYSTEM, IF NECESSARY, TO ELIMINATE THE CAUSE OF THE ADVERSE IMPACTS.

12. WITHIN 30 DAYS OF ISSUANCE OF THIS PERMIT, THE PERMITTEE OR AUTHORIZED AGENT SHALL NOTIFY THE DISTRICT (VIA THE SUPPLIED CONSTRUCTION COMMENCEMENT NOTICE OR EQUIVALENT) OF THE ACTUAL OR ANTICIPATED CONSTRUCTION START DATE AND THE EXPECTED COMPLETION DATE.

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14. WITHIN 30 DAYS AFTER COMPLETION OF CONSTRUCTION OF THE SURFACE WATER MANAGEMENT SYSTEM, THE PERMITTEE OR AUTHORIZED AGENT SHALL FILE A WRITTEN STATEMENT OF COMPLETION AND CERTIFICATION BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER. THESE STATEMENTS MUST SPECIFY THE ACTUAL DATE OF CONSTRUCTION COMPLETION AND MUST CERTIFY THAT ALL FACILITIES HAVE BEEN CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE PLANS AND SPECIFICATIONS APPROVED BY THE DISTRICT (VIA THE SUPPLIED CONSTRUCTION COMPLETION/ CONSTRUCTION CERTIFICATION OR EQUIVALENT). THE CONSTRUCTION COMPLETION CERTIFICATION MUST INCLUDE, AT A MINIMUM, EXISTING ELEVATIONS, LOCATIONS AND DIMENSIONS OF THE COMPONENTS OF THE WATER MANAGEMENT FACILITIES. ADDITIONALLY, IF DEVIATIONS FROM THE APPROVED DRAWING ARE DISCOVERED DURING THE CERTIFICATION PROCESS, THE CERTIFICATION MUST BE ACCOMPANIED BY A COPY OF THE APPROVED PERMIT DRAWINGS WITH DEVIATIONS NOTED.

15. WITHIN 30 DAYS OF ANY SALE, CONVEYANCE OR OTHER TRANSFER OF ANY OF THE LAND WHICH IS PROPOSED FOR DEVELOPMENT UNDER THE AUTHORIZATION OF THIS PERMIT, THE PERMITTEE SHALL NOTIFY THE DISTRICT OF SUCH TRANSFER IN WRITING VIA EITHER FORM 0483, REQUEST FOR PERMIT TRANSFER; OR FORM 0920, REQUEST FOR TRANSFER OF SURFACE WATER MANAGEMENT CONSTRUCTION PHASE TO OPERATION PHASE (TO BE COMPLETED AND SUBMITTED BY THE OPERATING ENTITY), IN ACCORDANCE WITH SECTIONS 40E-1.6105 AND 40E-4.351, F.A.C.

16. A PRORATED SHARE OF SURFACE WATER MANAGEMENT RETENTION/DETENTION AREAS, SUFFICIENT TO PROVIDE THE REQUIRED FLOOD PROTECTION AND WATER QUALITY TREATMENT, MUST BE PROVIDED PRIOR TO OCCUPANCY OF ANY BUILDING OR RESIDENCE.

17. A STABLE, PERMANENT AND ACCESSIBLE ELEVATION REFERENCE SHALL BE ESTABLISHED ON OR WITHIN ONE HUNDRED (100) FEET OF ALL PERMITTED DISCHARGE STRUCTURES NO LATER THAN THE SUBMISSION OF THE CERTIFICATION REPORT. THE LOCATION OF THE ELEVATION REFERENCE MUST BE NOTED ON OR WITH THE CERTIFICATION REPORT.

18. IT IS THE RESPONSIBILITY OF THE PERMITTEE TO INSURE THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS DO NOT OCCUR DURING CONSTRUCTION.

19. THE PERMITTEE MUST OBTAIN A WATER USE PERMIT PRIOR TO CONSTRUCTION DEWATERING, UNLESS THE WORK QUALIFIES FOR A GENERAL PERMIT PURSUANT TO SUBSECTION 40E-20.302(4), F.A.C.

DRAFT
Subject to Governing Board Approval

Addendum to Staff Report
SR 600 RELOCATION & REEDY CREEK BRIDGE REPLACEMENT

Application No. 960124-5

Orange County, S6/T26S/R28E & S31,32/T25S/R28E

The purpose of this addendum is to correct the following:

Page 8, the Save Our Rivers section, delete and replace with the following:

A portion of the project site falls within an area that has been acquired in conjunction with the Save Our Rivers program. The District is currently negotiating the purchase of additional lands and some of these lands are located within the project site. The District's Land Management Department has been previously notified of the proposed project during the Conceptual Approval process and during the review of this application and will continue to work with the Florida Department of Transportation to effectuate real estate transactions.

Page 2, Proposed Facilities, first paragraph, second sentence, delete and replace with the following:

The old road bed and three bridges will be removed upon completion of this phase, the fill embankments will be removed when this section of roadway is expanded to four lanes.

All other terms and conditions to remain unchanged.

SURFACE WATER MANAGEMENT DIVISION APPROVAL

Anthony M. Waterhouse, P.E. — DATE 12/4/96

NATURAL RESOURCE MANAGEMENT DIVISION APPROVAL

Robert G. Robbins — DATE 12/9/96

STAFF REPORT DISTRIBUTION LIST

PROJECT: SR 600 RELOCATION & REEDY CREEK BRIDGE REPLACEMENT
APPLICATION NUMBER: 960124-5
PERMIT MODIFICATION NUMBER: 49-00765-S

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Ms. Miriam Singer
Mr. Frank Williamson, Jr.

DEPT. OF ENVIRONMENTAL PROTECTION

EXTERNAL DISTRIBUTION

X Applicant:
FLORIDA DEPARTMENT OF TRANSPORTATION

X Applicant's Consultant:
AIKENHEAD & ODOM, INC.

X Engineer, County of:
OSCEOLA

Engineer, City of:

Local Drainage District:

COUNTY

BUILDING AND ZONING

OTHER
X Div of Recreation and Park - District 6
X F.G.F.W.F.C.
X Florida Audubon - Charles Lee
X Sierra Club - Central Florida Group

EXHIBIT 14

LAST DATE FOR GOVERNING BOARD ACTION:
DECEMBER 12, 1996

DRAFT
Subject to Governing Board Approval

SURFACE WATER MANAGEMENT STAFF REVIEW SUMMARY

I. ADMINISTRATIVE

APPLICATION NUMBER: 960124-5

PERMIT NUMBER: 49-00765-S

PROJECT NAME: SR 600 RELOCATION & REEDY CREEK BRIDGE REPLACEMENT

LOCATION: OSCEOLA COUNTY, S6/T26S/R28E
S31,32/T25S/R28E

APPLICANT'S NAME: FLORIDA DEPARTMENT OF TRANSPORTATION

OWNERS NAME AND ADDRESS: FLORIDA DEPARTMENT OF TRANSPORTATION
719 SOUTH WOODLAND BLVD
DELAND, FL 32720

ENGINEER: AIKENHEAD & ODOM, INC.

II. PROJECT DESCRIPTION

PROJECT AREA: 34.00 acres DRAINAGE AREA: 4.94 acres

DISTRICT DRAINAGE BASIN: REEDY CREEK

RECEIVING BODY: REEDY CREEK SWAMP

CLASSIFICATION: CLASS III

PURPOSE:

The purpose of this application is to authorize construction and operation of the surface water management system to serve the 34.0 acre SR 600 (US 17-92) road widening and bridge over Reedy Creek replacement project. The water management system will consist of one dry and one wet detention pond draining to Reedy Creek Swamp. Staff's recommendation is for approval.

BACKGROUND:

This project received conceptual approval from the Governing Board on November 10, 1994. This is the first phase of the project.

EXISTING FACILITIES:

Existing are a two lane highway and three bridges over Reedy Creek. Runoff discharges to Reedy Creek Swamp via sheet flow.

PROPOSED FACILITIES:

The first phase of the project consists of relocating the roadway to the south of the existing road, and construction of a single bridge spanning the Reedy Creek flood plain. The old road bed fill embankments and three bridges will be removed upon completion of this phase. This methodology will not result in any encroachment into the 100 year floodplain. The removal of the existing embankments will remove existing encroachment.

The project is divided into four basins. Basin 1 (the western approach) and Basin 2 (the bridge), consisting of 6.08 acres, will continue to drain by sheet flow or scupper drains, to Reedy Creek swamp. This was done to avoid additional wetland impacts that would be caused by construction of a pond in the area. Basins 3 and 4, consisting of 4.94 acres, will drain to one dry retention pond and one wet detention pond which discharge to Reedy Creek swamp. Pond 3, the retention pond, does not have a bleeder structure it recovers via percolation. The balance of the project acreage consists of embankment slopes which can not be drained to the detention ponds. Basins 3 and 4 do provide some excess water quality treatment to make up for the portion of Basin 1 (western approach) that is not being treated. There is no change in the way Basin 2 (the bridge) drains, via scupper drains, from the existing conditions due to its flat grade.

BASIN INFORMATION:

Basin	Area Acres	WSWT Elev (ft, NGVD)	Normal/Dry Ctrl Elev (ft, NGVD)	Method of Determination
BASIN 3	1.24	63.00	70/70	WET SEASON SOIL BORINGS
BASIN 4	3.70	67.00	67.09/67.09	WET SEASON SOIL BORINGS

DISCHARGE STRUCTURE INFORMATION:

Water Quality Structures:

Basin	Str. #	Bleeder Type	Dimensions	Invert Elev. (ft, NGVD)
BASIN 4	1	CIRCULAR ORIFICE	.25' dia.	67.09

Major Discharge Structures:

Basin	Str. #	Description	Crest Elev. (ft, NGVD)
BASIN 3	1	2' wide SHARP CRESTED weir	73.82
BASIN 4	1	4.1' wide SHARP CRESTED weir	68.40

Discharge Culverts:

Basin	Str. #	Description
BASIN 3	1	190' long, 1.5' dia. RCP
BASIN 4	1	58' long, 3.2' wide X 2' high ELLIPTIC

Receiving Body:

Basin	Str. #	Receiving Body
BASIN 3	1	REEDY CREEK SWAMP
BASIN 4	1	REEDY CREEK SWAMP

III. PROJECT EVALUATION

Discharge Rate:

As shown in the table below, the proposed project discharge is within the allowable limit for the area.

Design Storm Frequency: 10 YR 72 HR Design Rainfall: 9.50 inches

Basin	Allow Disch (cfs)	Method of Determination	Design Disch (cfs)	Design Stage (ft, NGVD)
BASIN 3	6	EXISTING CONDITIONS	5.1	74.7

Basin	Allow Disch (cfs)	Method of Determination	Design Disch (cfs)	Design Stage (ft, NGVD)
BASIN 4	10.5	EXISTING CONDITIONS	10.2	69.2

WATER QUALITY:

Water quality treatment for 2.5 inches times the percentage of impervious coverage is provided for Basins 3 and 4 in a dry retention pond and a wet detention pond.

Basin	Treatment Method		Vol Req'd. (ac-ft)	Vol Prov'd (ac-ft)
BASIN 3	.16 acres	DRY RETENTION	0.09	0.14
BASIN 4	.66 acres	WET DETENTION	0.57	0.63

ROAD DESIGN:

As shown in the following table, minimum road center lines have been set at or above the calculated design storm flood elevation.

Design Storm Freq: 10 YR 24 HR Design Rainfall: 7.00 inches

Basin	Flood Elevation (ft., NGVD)	Minimum Centerline Elevation (ft, NGVD)
BASIN 3	72.99	77.99
BASIN 4	68.95	71.4

IV. ENVIRONMENTAL ASSESSMENT

PROJECT SITE DESCRIPTION:

The project site is parallel to, and south of, the existing SR600 highway crossing Reedy Creek. This area of the creek floodplain contains a number of crossings in addition to SR600, including the CSX railroad, a 100KV powerline, a 28" sewer pipe and telecommunications facilities. The existing highway is very narrow and the bridges are old and dilapidated. FDOT data indicates that SR600 is one of the most dangerous highways in Central Florida.

Forested wetlands exist within the undeveloped areas to the north and south of the existing highway. The proposed project falls within an area of forested wetlands adjacent to the existing highway. Historic silviculture has eliminated most of the large cypress trees in this area, but a few large specimens remain. The CSX railroad causeway has restricted upstream surface

water flow to this portion of the wetland.

EXISTING ON SITE WETLAND COMMUNITIES AND OTHER SURFACE WATERS:

ID NO	TOTAL ACREAGE	BIOLOGICAL CONDITION	COMMUNITY TYPE	COMMUNITY ACREAGE
OSW1	2.73	N/A	STREAMS AND WATERWAYS	2.73
OSW2	.16	N/A	WATER	.16
W1	10.55	GOOD/FAIR	WETLAND FORESTED MIXED	10.55

TOTAL ON SITE WETLAND/SURFACE WATER ACREAGE: 13.44

EXISTING ON SITE UPLAND COMMUNITIES:

ID NO	TOTAL ACREAGE	BIOLOGICAL CONDITION	COMMUNITY TYPE	COMMUNITY ACREAGE
UP1	14.85	N/A	ROADS AND HIGHWAYS	14.85
UP2	5.11	N/A	OTHER OPEN LANDS (RURAL)	5.11
UP3	.60	GOOD/FAIR	UPLAND HARDWOOD FOREST	.60

TOTAL ON SITE UPLAND ACREAGE: 20.56

ENDANGERED, THREATENED & SPECIES OF SPECIAL CONCERN SUMMARY:

The project site does not contain preferred habitat for endangered, threatened, or species of special concern. No endangered/threatened or species of special concern were observed on site, and submitted information indicates that endangered/threatened or species of special concern use of the site is not an issue. This permit does not relieve the applicant from complying with all applicable rules and any other agencies' requirements if in the future, endangered/threatened or species of special concern are discovered on the site.

WETLAND PRESERVATION AND IMPACT SUMMARY:

The proposed project will require fill to be placed over 3.78 acres of wetlands associated with the Reedy Creek Swamp. In addition, 2.01 acres of additional floodplain wetlands will be partially impacted (clearing) by construction of the bridge (Exhibit 12). This partial impact will be in the form of tree cutting and shading from the bridge deck. The existing two lanes of SR 600 will be taken out of service. The areas of impact are illustrated in Exhibit No. 11. A portion of the wetlands are under consideration for public acquisition by the District under the SOR program.

The proposed project will provide benefits which include the enhancement of wildlife corridors and reduced constriction of surface water flows in Reedy Creek. This will be accomplished through the proposed bridging (Exhibit 12)

acres of mitigation from the TLWMA mitigation site). The proposed activities will provide substantial benefits to at least eleven listed species of fauna in an area of great ecological concern to the state.

WETLAND INVENTORY NOTE:

The Wetland Inventory Table for the offsite mitigation was previously recorded under the conceptual permit (Application No. 940614-9).

WETLAND INVENTORY -

MOD PHASE - STATE RD 600/REEDY CRK BRIDGE REPLACEMENT ONSITE

	Cypress	Marsh	Trans.	Mix Forest	Totals
Total Wet. AC	0	0	0	10.55	10.55
Wet. Preserved	0	0	0	4.76	4.76
Wet. Impacted	0	0	0	5.79	5.79
Wet. Disturbed	0	0	0	0	0
Wet. Improved	0	0	0	0	0
Wet. Created	0	0	0	0	0

	Uplands
Other Compensation	0

ENVIRONMENTAL SUMMARY:

The activities described in the construction plans are consistent with the conceptual permit (Application No. 940614-9). These activities include 5.79 acres of mixed forested wetland impacts. Mitigation for these impacts will include offsite mitigation via the FDOT Three Lakes Wildlife Management site. This mitigation will consist of the debiting of 95.7 acres from the total remaining mitigation acreage (Exhibit No. 13). Considering the functions that could potentially be lost due to these impacts and the functions that could potentially be gained through the regionally significant offsite mitigation, it appears that the offsite mitigation is more significant.

SYSTEM OPERATION:

Florida Department Of Transportation

PROPOSED LAND USE(S):

Highway

WATER USE PERMIT STATUS:

No irrigation of landscaped areas is proposed at this time.

DRI STATUS:

This project is not a DRI.

SAVE OUR RIVERS:

A portion of the project site falls within an area that has been acquired in conjunction with the Save Our Rivers program. The District is currently negotiating the purchase of additional lands and some of these lands are located within the project site. The District's Land Management Department has been previously notified of the proposed project during the Conceptual Approval process and during the review of this application. The Land Management Department does not oppose the anticipated condemnation of District owned lands by FDOT, since adequate compensation will be provided in accordance with established condemnation procedings. Such compensation is typical of roadway projects involving condemnation of property.

SWIM BASIN:

The project is not within nor does it discharge directly to a designated SWIM basin.

RIGHT-OF-WAY PERMIT STATUS:

A Right-of-Way Permit is not required for this project.

ENFORCEMENT ACTIVITY:

There has been no enforcement activity associated with this application.

THIRD PARTY INTEREST:

No third party has contacted the District with concerns about this application.

WELL FIELD ZONE OF INFLUENCE:

The project is not located within the zone of influence of a wellfield.

PRIMARY ISSUES RESOLVED:

Wetland impacts, wetland mitigation in accordance with the permitted mitigation plan for the Three Lakes Wildlife Management Area.

V. APPLICABLE LAND AREA

The land use table has been updated to reflect the revised project acreage, (the conceptual approval was for 29.59 acres), based on the final alignment and pond sizes.

PROJECT

	TOTAL PROJECT	PREVIOUSLY PERMITTED	THIS PHASE	
TOTAL ACRES	34.00	.00	34.00	acres
WTRM ACREAGE	.82	.00	.82	acres
PAVEMENT	8.77	.00	8.77	acres
PERVIOUS	24.41	.00	24.41	acres

VI. STAFF RECOMMENDATION

The Staff recommends that the following be issued:

Authorization for the Construction and Operation of the surface water management system to serve a 34.0 acre HIGHWAY project, discharging to REEDY CREEK VIA REEDY CREEK SWAMP.

Based on the information provided, District rules have been adhered to.

Staff recommendation is for approval subject to the attached Standard Limiting and Special Conditions.

DRAFT
Subject to Governing Board Approval

VII. STAFF REVIEW

NATURAL RESOURCE MANAGEMENT DIVISION APPROVAL

APPLICATION REVIEWER

John G. Lesman

SUPERVISING PROFESSIONAL

Marc S. Ady

DIVISION DIRECTOR:

Robert G. Robbins

DATE: 11-7-96

SURFACE WATER MANAGEMENT DIVISION APPROVAL

APPLICATION REVIEWER

Alan L. Leavens

SUPERVISING PROFESSIONAL

Edward W. Yaun, P.E.

DIVISION DIRECTOR:

Anthony M. Waterhouse, P.E.

DATE: 11/12/96

LIMITING CONDITIONS

1. THE PERMITTEE SHALL IMPLEMENT THE WORK AUTHORIZED IN A MANNER SO AS TO MINIMIZE ANY ADVERSE IMPACT OF THE WORKS ON FISH, WILDLIFE, NATURAL ENVIRONMENTAL VALUES, AND WATER QUALITY. THE PERMITTEE SHALL INSTITUTE NECESSARY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING FULL COMPACTION OF ANY FILL MATERIAL PLACED AROUND NEWLY INSTALLED STRUCTURES, TO REDUCE EROSION, TURBIDITY, NUTRIENT LOADING AND SEDIMENTATION IN THE RECEIVING WATERS.

2. WATER QUALITY DATA FOR THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY OR INTO SURFACE WATERS OF THE STATE WILL BE SUBMITTED TO THE DISTRICT AS REQUIRED BY SECTION 5.9, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT DISTRICT - MARCH, 1994." PARAMETERS TO BE MONITORED MAY INCLUDE THOSE LISTED IN CHAPTER 62-302, F.A.C. IF WATER QUALITY DATA IS REQUIRED, THE PERMITTEE SHALL PROVIDE DATA ON VOLUMES OF WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE DAYS OF SAMPLING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY OR INTO SURFACE WATERS OF THE STATE.

3. THIS PERMIT SHALL NOT RELIEVE THE PERMITTEE OF ANY OBLIGATION TO OBTAIN NECESSARY FEDERAL, STATE, LOCAL OR SPECIAL DISTRICT APPROVALS.

4. THE OPERATION PHASE OF THIS PERMIT WILL NOT BECOME EFFECTIVE UNTIL THE DISTRICT'S ACCEPTANCE OF CERTIFICATION OF THE COMPLETED SURFACE WATER WATER MANAGEMENT SYSTEM. THE PERMITTEE SHALL REQUEST TRANSFER OF THE PERMIT TO THE RESPONSIBLE OPERATIONAL ENTITY ACCEPTED BY THE DISTRICT, IF DIFFERENT FROM THE PERMITTEE. THE TRANSFER REQUEST CAN BE SUBMITTED CONCURRENTLY WITH THE CONSTRUCTION COMPLETION CERTIFICATION.

5. ALL ROAD ELEVATIONS SHALL BE SET IN ACCORDANCE WITH THE CRITERIA SET FORTH IN SECTION 6.5, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994."

6. ALL BUILDING FLOOR ELEVATIONS SHALL BE SET IN ACCORDANCE WITH THE CRITERIA SET FORTH IN SECTION 6.4, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994."

7. OFF-SITE DISCHARGES DURING CONSTRUCTION AND DEVELOPMENT WILL BE MADE ONLY THROUGH THE FACILITIES AUTHORIZED BY THIS PERMIT.

8. A PERMIT TRANSFER TO THE OPERATION PHASE SHALL NOT OCCUR UNTIL A RESPONSIBLE ENTITY MEETING THE REQUIREMENT IN SECTION 9.0, "BASIS OF REVIEW FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS WITHIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT - MARCH, 1994," HAS BEEN ESTABLISHED TO OPERATE AND MAINTAIN THE SYSTEM. THE ENTITY MUST BE PROVIDED WITH SUFFICIENT OWNERSHIP OR LEGAL INTEREST SO THAT IT HAS CONTROL OVER ALL

WATER MANAGEMENT FACILITIES AUTHORIZED HEREIN.

9. THE PERMIT DOES NOT CONVEY TO THE PERMITTEE ANY PROPERTY RIGHT NOR ANY RIGHTS OR PRIVILEGES OTHER THAN THOSE SPECIFIED IN THE PERMIT AND CHAPTER 40E-4, FAC.

10. THE PERMITTEE SHALL HOLD AND SAVE THE DISTRICT HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS, OR LIABILITIES WHICH MAY ARISE BY REASON OF THE CONSTRUCTION, OPERATION, MAINTENANCE OR USE OF ANY FACILITY AUTHORIZED BY THE PERMIT.

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12. WITHIN 30 DAYS OF ISSUANCE OF THIS PERMIT, THE PERMITTEE OR AUTHORIZED AGENT SHALL NOTIFY THE DISTRICT (VIA THE SUPPLIED CONSTRUCTION COMMENCEMENT NOTICE OR EQUIVALENT) OF THE ACTUAL OR ANTICIPATED CONSTRUCTION START DATE AND THE EXPECTED COMPLETION DATE.

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IN ACCORDANCE WITH SECTIONS 40E-1.6105 AND 40E-4.351, F.A.C.

16. A PRORATED SHARE OF SURFACE WATER MANAGEMENT RETENTION/DETENTION AREAS, SUFFICIENT TO PROVIDE THE REQUIRED FLOOD PROTECTION AND WATER QUALITY TREATMENT, MUST BE PROVIDED PRIOR TO OCCUPANCY OF ANY BUILDING OR RESIDENCE.

17. A STABLE, PERMANENT AND ACCESSIBLE ELEVATION REFERENCE SHALL BE ESTABLISHED ON OR WITHIN ONE HUNDRED (100) FEET OF ALL PERMITTED DISCHARGE STRUCTURES NO LATER THAN THE SUBMISSION OF THE CERTIFICATION REPORT. THE LOCATION OF THE ELEVATION REFERENCE MUST BE NOTED ON OR WITH THE CERTIFICATION REPORT.

18. IT IS THE RESPONSIBILITY OF THE PERMITTEE TO INSURE THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS DO NOT OCCUR DURING CONSTRUCTION.

19. THE PERMITTEE MUST OBTAIN A WATER USE PERMIT PRIOR TO CONSTRUCTION DEWATERING, UNLESS THE WORK QUALIFIES FOR A GENERAL PERMIT PURSUANT TO SUBSECTION 40E-20.302(4), F.A.C.

SPECIAL CONDITIONS

1. DISCHARGE FACILITIES:

   BASIN: BASIN 3:

   1-2' WIDE SHARP CRESTED WEIR WITH CREST AT ELEV. 73.82' NGVD.
   190 LF OF 1.5' DIA. RCP CULVERT.

   RECEIVING BODY : REEDY CREEK SWAMP

   CONTROL ELEV : 70 FEET NGVD. /70 FEET NGVD DRY SEASON.

   BASIN: BASIN 4:

   1-4.1' WIDE SHARP CRESTED WEIR WITH CREST AT ELEV. 68.4' NGVD.
   1-.25' DIA. CIRCULAR ORIFICE WITH INVERT AT ELEV. 67.09' NGVD.
   58 LF OF 3.2' WIDE X 2' HIGH ELLIPTICAL CULVERT.

   RECEIVING BODY : REEDY CREEK SWAMP

   CONTROL ELEV : 67.09 FEET NGVD. /67.09 FEET NGVD DRY SEASON.

2. LAKE SIDE SLOPES SHALL BE NO STEEPER THAN 4:1 (HORIZONTAL:VERTICAL) TO A DEPTH OF TWO FEET BELOW THE CONTROL ELEVATION. SIDE SLOPES SHALL BE NURTURED OR PLANTED FROM 2 FEET BELOW TO 1 FOOT ABOVE CONTROL ELEVATION TO INSURE VEGETATIVE GROWTH.

3. FACILITIES OTHER THAN THOSE STATED HEREIN SHALL NOT BE CONSTRUCTED WITHOUT AN APPROVED MODIFICATION OF THIS PERMIT.

4. ALL SPECIAL CONDITIONS PREVIOUSLY STIPULATED BY PERMIT NUMBER 49-00765-S REMAIN IN EFFECT UNLESS OTHERWISE REVISED AND SHALL APPLY TO THIS MODIFICATION.

5. OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM SHALL BE THE RESPONSIBILITY OF FLORIDA DEPARTMENT OF TRANSPORTATION.

6. SILT SCREENS, HAY BALES OR OTHER SUCH SEDIMENT CONTROL MEASURES SHALL BE UTILIZED DURING CONSTRUCTION. THE SELECTED SEDIMENT CONTROL MEASURES SHALL BE INSTALLED LANDWARD OF THE UPLAND BUFFER ZONES AROUND ALL PROTECTED WETLANDS. ALL AREAS SHALL BE STABILIZED AND VEGETATED IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION INTO THE WETLANDS AND UPLAND BUFFER ZONES.

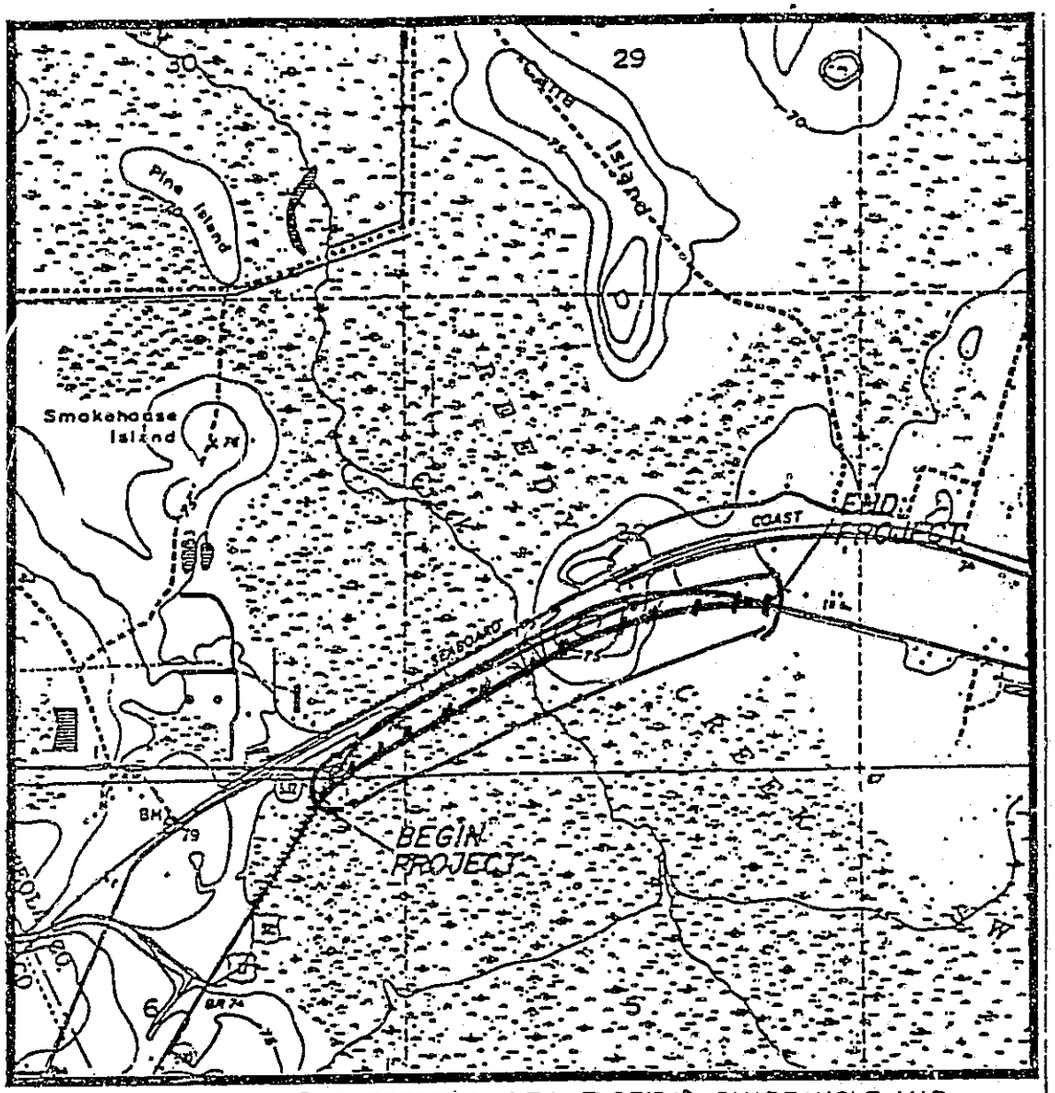
7. THE SFWMD RESERVES THE RIGHT TO REQUIRE REMEDIAL MEASURES TO BE TAKEN BY THE PERMITTEE IF WETLAND AND/OR UPLAND MONITORINC OR OTHER INFORMATION DEMONSTRATES THAT ADVERSE IMPACTS TO PROTECTED, CONSERVED, INCORPORATED OR MITIGATED WETLANDS OR UPLANDS HAVE OCCURRED DUE TO PROJECT RELATED

ACTIVITIES.

8. ANY FUTURE CHANGES IN LAND USE OR TREATMENT OF WETLANDS AND/OR UPLAND BUFFER/COMPENSATION AREAS MAY REQUIRE A SURFACE WATER MANAGEMENT PERMIT MODIFICATION AND ADDITIONAL ENVIRONMENTAL REVIEW BY DISTRICT STAFF. PRIOR TO THE PERMITTEE INSTITUTING ANY FUTURE CHANGES NOT AUTHORIZED BY THIS PERMIT, THE PERMITTEE SHALL NOTIFY THE SFWMD OF SUCH INTENTIONS FOR A DETERMINATION OF ANY NECESSARY PERMIT MODIFICATIONS.

9. MITIGATION SHALL BE PROVIDED BY DESIGNATION OF 95.7 ACRES OF WETLAND RESTORATION/ENHANCEMENT WITHIN THE 534.9-ACRE THREE LAKES WILDLIFE MANAGEMENT AREA (TLWMA) MITIGATION SITE (PREVIOUSLY AUTHORIZED BY SFWMD PERMIT APPLICATION NUMBERS 940614-10 AND 940614-1-D). THIS MITIGATION ACREAGE WILL BE SUBTRACTED FROM THE 500.9 ACRES THAT CURRENTLY REMAIN AVAILABLE, LEAVING A BALANCE OF 405.2 ACRES OF MITIGATION AVAILABLE TO OFFSET OTHER FDOT DISTRICT 5 ROADWAY PROJECTS (SEE EXHIBIT NO. 13).

10. ALL PROVISIONS OF THE TLWMA PERMIT APPLICATION NUMBER 940614-10 CONCERNING CONSTRUCTION, MONITORING AND MAINTENANCE OF THE MITIGATION SITE ARE INCORPORATED BY REFERENCE INTO THIS PERMIT.



REFERENCE: U.S.G.S. "INTERCESSION CITY, FLORIDA" QUADRANGLE MAP

SECTION:	6	ISSUED:	1953
TOWNSHIP:	26 SOUTH	PHOTOREVISED:	1980
RANGE:	28 EAST	SCALE:	1" = 2000'
			1 : 24000

LOCATION MAP

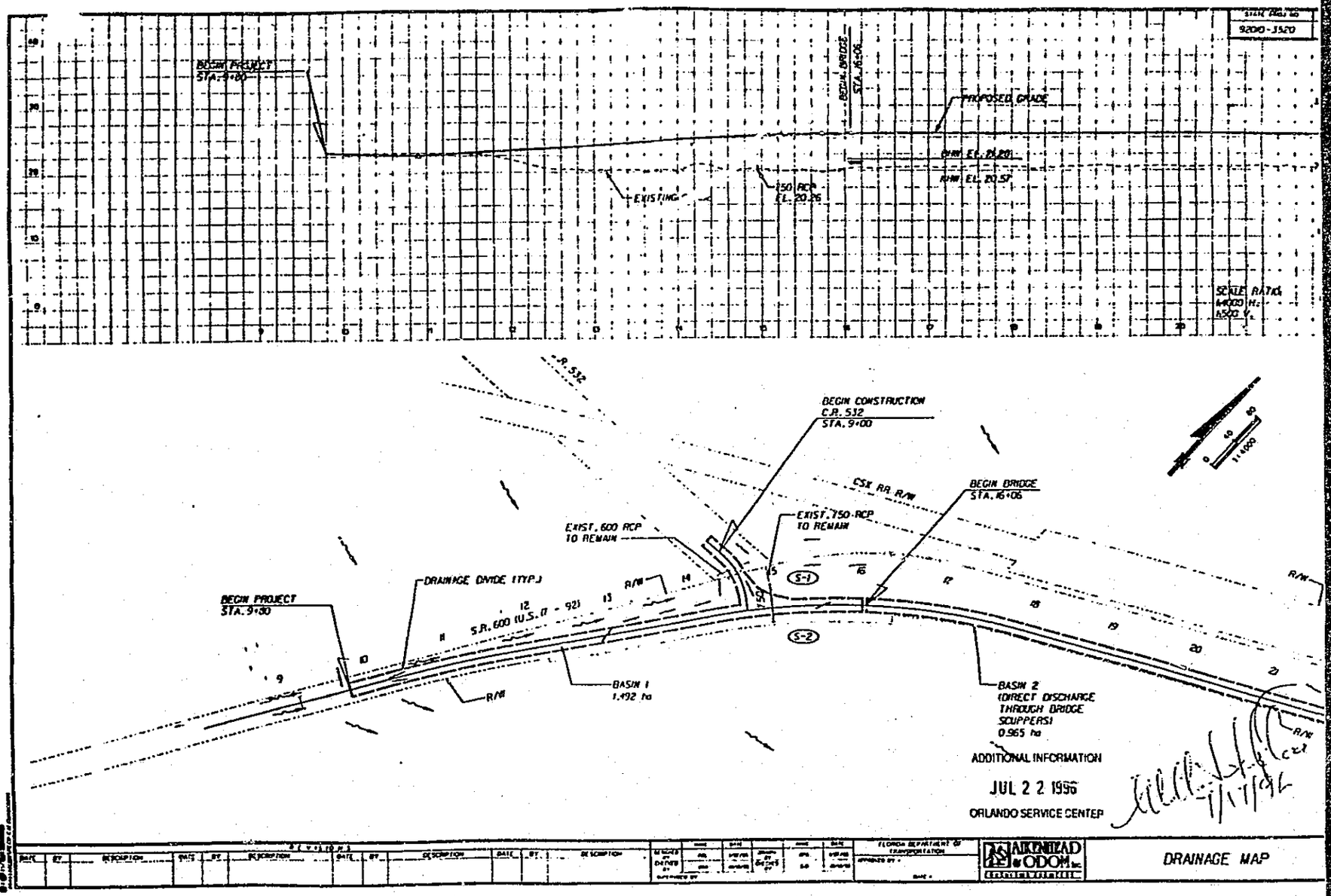
AIKENHEAD & ODOM inc.
CONSULTING ENGINEERS

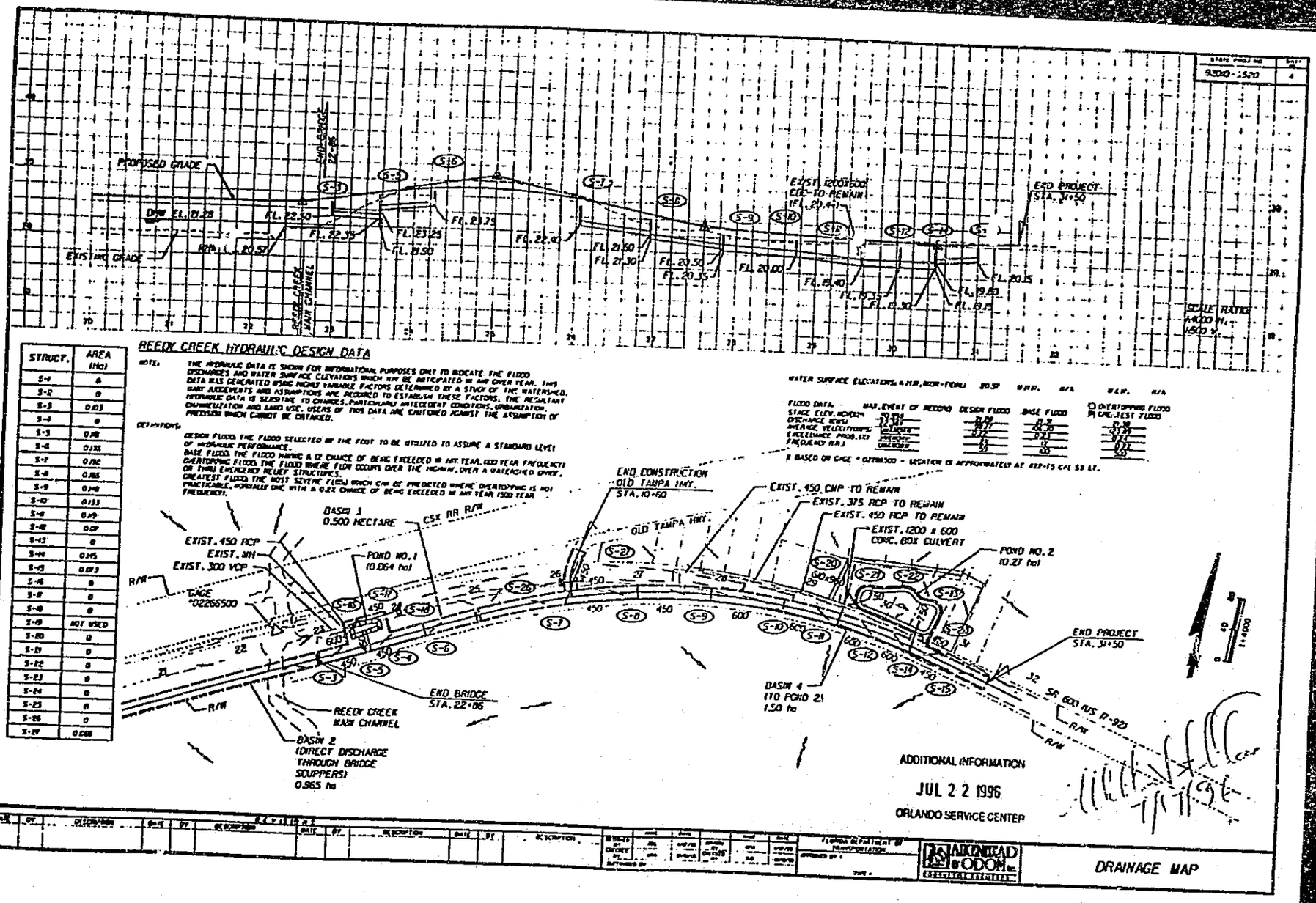
FRAZIER ENGINEERING, INC.
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
1642 N. Harbor City Boulevard, Melbourne, Florida 32935
TEL. (407)-253-8131, FAX (407)-255-2231

STATE ROAD 60C
AT
REEDY CREEK

EXHIBIT 1

EXHIBIT 2


BEGIN PROJECT STA. 9+80
BEGIN BRIDGE STA. 15+06
PROPOSED GRADE
EXISTING
150 RCP EL. 20.26
R/W EL. 21.20
R/W EL. 20.57
SCALE RATIO 1:400 H. 1:500 V.
C.R. 532
BEGIN CONSTRUCTION C.R. 532 STA. 9+00
CSX RR R/W
BEGIN BRIDGE STA. 15+06
EXIST. 750 RCP TO REMAIN
EXIST. 600 RCP TO REMAIN
DRAINAGE DIVIDE (TYP.)
BEGIN PROJECT STA. 9+80
S.R. 600 (U.S. 17 - 92)
R/W
S-1
S-2
BASIN 1 1.492 ha
BASIN 2 (DIRECT DISCHARGE THROUGH BRIDGE SCUPPERS) 0.965 ha
ADDITIONAL INFORMATION
JUL 2 2 1996
ORLANDO SERVICE CENTER
FLORIDA DEPARTMENT OF TRANSPORTATION
ARENTZAD & ODOM, Inc.
DRAINAGE MAP



STRUCT.	AREA (Ha)
S-1	6
S-2	0
S-3	0.03
S-4	0
S-5	0.18
S-6	0.13
S-7	0.15
S-8	0.15
S-9	0.14
S-10	0.13
S-11	0.19
S-12	0.27
S-13	0
S-14	0.15
S-15	0.13
S-16	0
S-17	0
S-18	0
S-19	NOT USED
S-20	0
S-21	0
S-22	0
S-23	0
S-24	0
S-25	0
S-26	0
S-27	0.08

REEDY CREEK HYDRAULIC DESIGN DATA

NOTE: THE HYDRAULIC DATA IS SHOWN FOR INFORMATIONAL PURPOSES ONLY TO INDICATE THE FLOOD DISCHARGES AND WATER SURFACE ELEVATIONS WHICH MAY BE ANTICIPATED IN ANY GIVEN YEAR. THIS DATA WAS GENERATED USING MORE VARIABLE FACTORS DETERMINED BY A STUDY OF THE WATERSHED. MANY ASSUMPTIONS AND ASSUMPTIONS ARE REQUIRED TO ESTABLISH THESE FACTORS, THE RESULTANT HYDRAULIC DATA IS SENSITIVE TO CHANGES, PARTICULARLY ANTECEDENT CONDITIONS, URBANIZATION, CHANNELIZATION AND LAND USE. USERS OF THIS DATA ARE CAUTIONED AGAINST THE ASSUMPTION OF PRECISION WHEN CANNOT BE OBTAINED.

DEFINITIONS:

DESIGN FLOOD: THE FLOOD SELECTED BY THE FDOT TO BE UTILIZED TO ASSURE A STANDARD LEVEL OF HYDRAULIC PERFORMANCE.

BASE FLOOD: THE FLOOD HAVING A 1% CHANCE OF BEING EXCEEDED IN ANY YEAR. (100 YEAR FREQUENCY)

OVERTOPPING FLOOD: THE FLOOD WHERE FLOW OCCURS OVER THE ROADWAY, OVER A WATERSHED DIVIDE, OR THRU EMERGENCY RELIEF STRUCTURES.

GREATEST FLOOD: THE MOST SEVERE FLOW WHICH CAN BE PREDICTED WHERE OVERTOPPING IS NOT PRACTICABLE, NORMALLY USE WITH A 0.2% CHANCE OF BEING EXCEEDED IN ANY YEAR (500 YEAR FREQUENCY).

WATER SURFACE ELEVATIONS: N.H.P. (NGVD-1929) 20.52 N.G.V.D. N/A W.L.W. N/A

FLOOD DATA	MAX. EVENT OF RECORD	DESIGN FLOOD	BASE FLOOD	☐ OVERTOPPING FLOOD ☐ GREATEST FLOOD
STAGE ELEV. (NGVD)	20.94	21.24	21.5	21.78
DISCHARGE (CFS)	2130	1870	2120	2120
AVERAGE VELOCITY (FPS)	2.1	2.27	2.29	2.29
EXCEEDANCE PROB. (%)	0.2%	4%	1%	0.2%
RECURRENCE INTERVAL (YEARS)	500	25	100	500

* BASED ON GAGE # 02266500 - LOCATION IS APPROXIMATELY AT 622+75 C/L SR 93 (I-4)

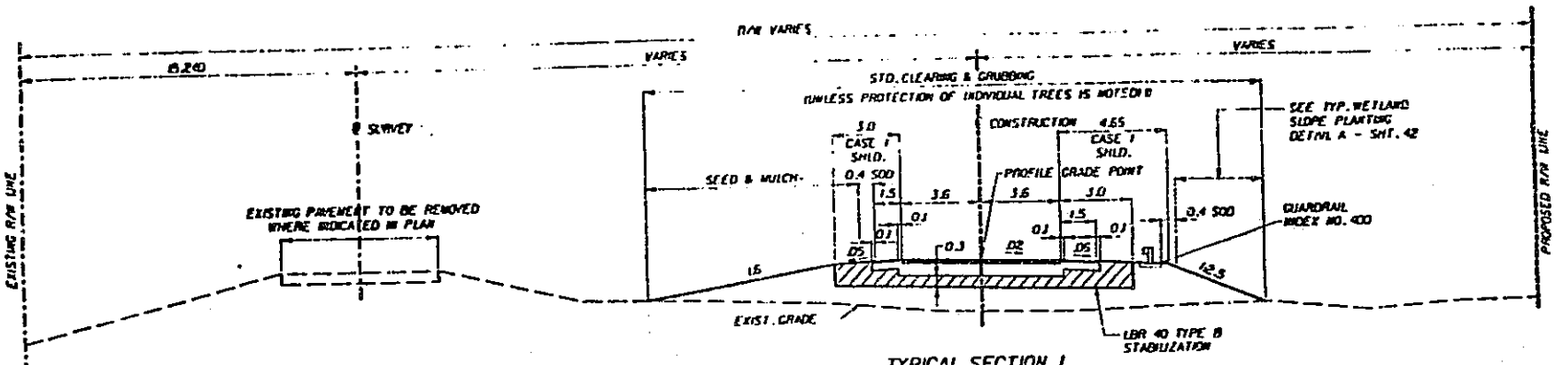
ADDITIONAL INFORMATION

JUL 2 2 1996

ORLANDO SERVICE CENTER

| REVISIONS | | |

PROJECT 92010-3520



TYPICAL SECTION 1
S.R. 600 (U.S. 17-92)
STA. 9+80 TO STA. 16+00 (BEGIN APPR. SLAB)

TRAFFIC DATA

CURRENT YEAR ESTIMATE - 1995 ADT - 11,689
OPENING YEAR ESTIMATE - 2000 ADT - 15,911
DESIGN YEAR ESTIMATE - 2020 ADT - 32,800
K - 9.5% D - 54.3% T - 10.5% (24 HR.)
DESIGN SPEED - 105 km/h

NEW CONSTRUCTION

OPTIONAL BASE GROUP 12 WITH
TYPE S STRUCTURAL COURSE (110 mm)
AND FRICTION COURSE FC2 (15 mm) (RUBBER)

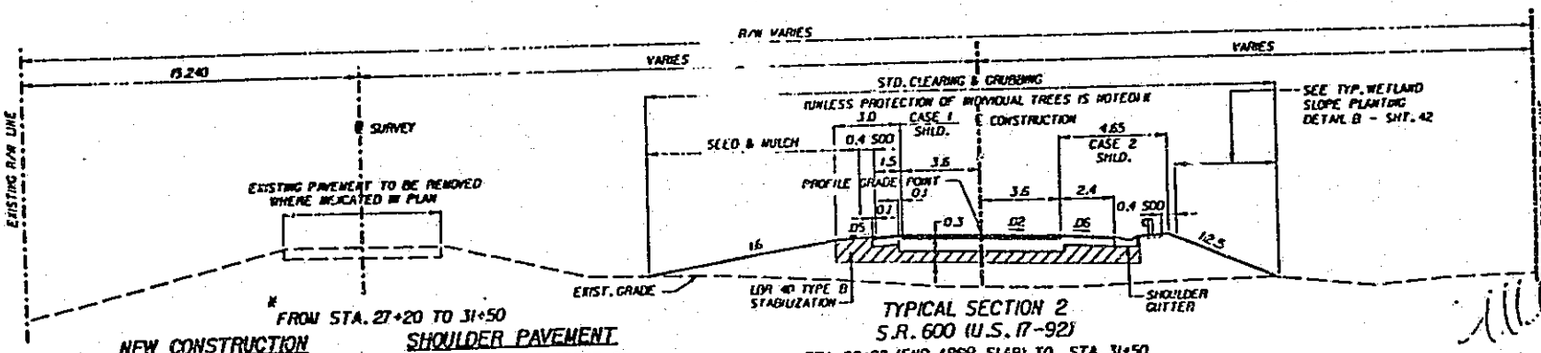
SHOULDER PAVEMENT

OPTIONAL BASE GROUP 01 WITH
TYPE S STRUCTURAL COURSE (30 mm)
AND FRICTION COURSE FC2 (15 mm) (RUBBER)

ADDITIONAL INFORMA

JUL 2 2 1996

ORLANDO SERVICE CE



TYPICAL SECTION 2
S.R. 600 (U.S. 17-92)
STA. 22+92 (END APPR. SLAB) TO STA. 31+50
FOR PAVEMENT DESIGN SEE TYPICAL SECTION NO. 1 *

* FROM STA. 27+20 TO 31+50

NEW CONSTRUCTION

OPTIONAL BASE GROUP 12
USING ABC-3

SHOULDER PAVEMENT

OPTIONAL BASE GROUP 01
USING ABC-3

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DESIGNED - DATE
DRAWN - DATE
CHECKED - DATE
QUANTITIES - DATE
APPROVED - DATE

FLORIDA DEPARTMENT OF TRANSPORTATION

ARENDALL ODOM INC.

TYPICAL SECTIONS

EXHIBIT 4

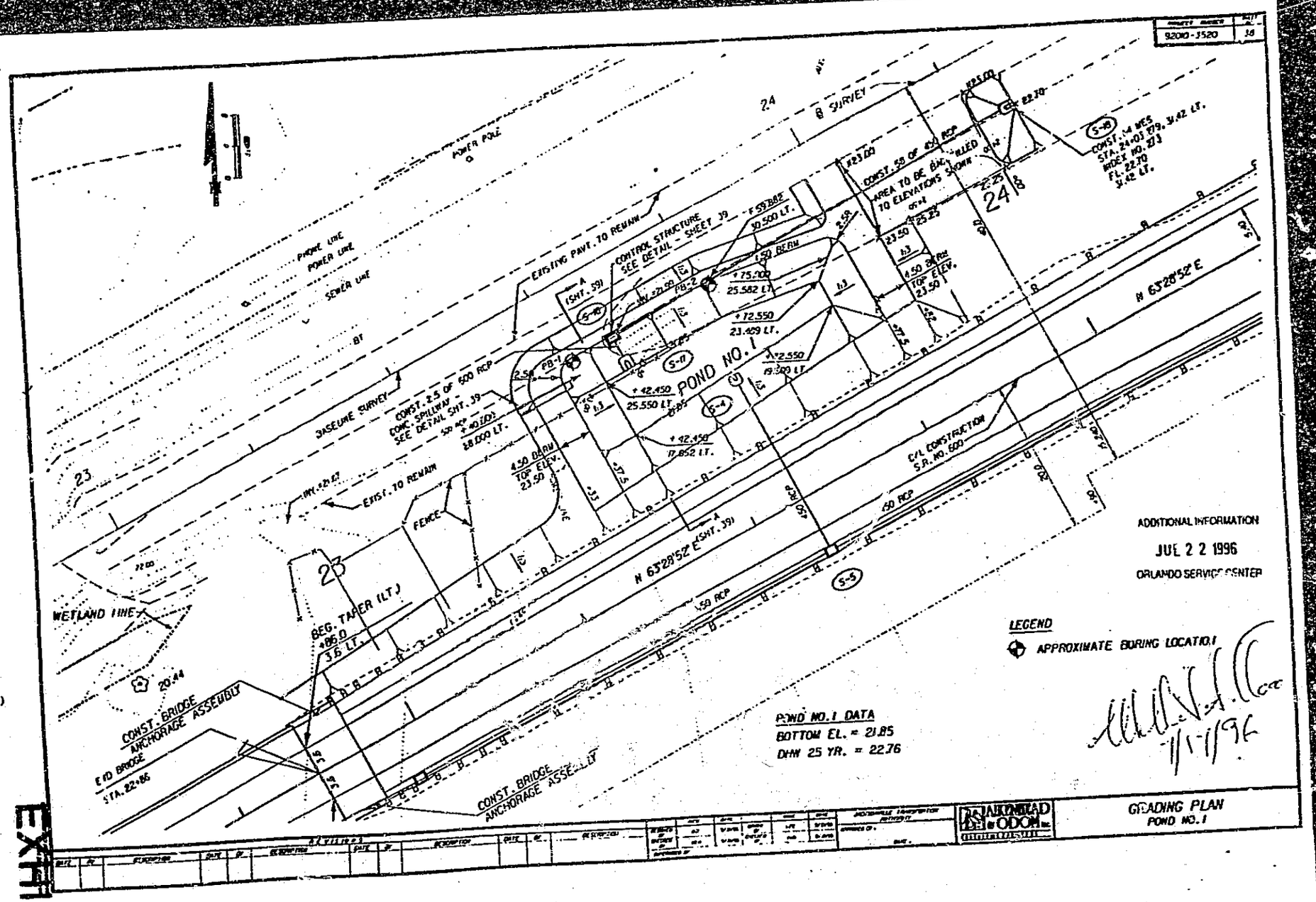
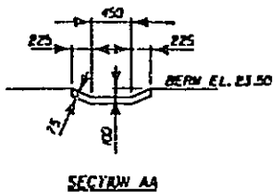
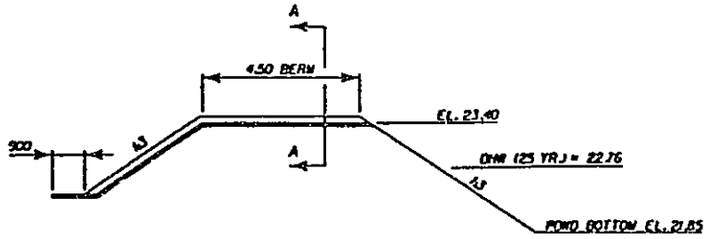

POND NO. 1
N 63°28'52" E
N 63°28'52" E (SHT. 39)
BASELINE SURVEY
EXIST. PAVT. TO REMAIN
CONTROL STRUCTURE SEE DETAIL - SHEET 39
CONST. 2.5' OF 500 RCP CONC. SPILLWAY SEE DETAIL SHT. 39
CONST. 55' OF 450 RCP
AREA TO BE EXCAVATED TO ELEVATIONS SHOWN
450 DRAIN TOP ELEV. 23.50
450 BEAM
CONST. 14 MES STA. 24+03 RT. 9, 42 LT. INDEX NO. 213 FL. 22.70 9.42 LT.
CONST. 14 MES STA. 22+86 INDEX NO. 213 FL. 20.44 9.42 LT.
CONST. BRIDGE ANCHORAGE ASSEMBLY
END BRIDGE STA. 22+86
BEG. TAPER (LT.) STA. 23+00.0 3.6 LT.
EXIST. TO REMAIN
FENCE
WETLAND LINE
POWER POLE
POWER LINE
SEWER LINE
C/L CONSTRUCTION S.R. NO. 600
450 RCP
S-5
S-6
S-11
S-18
PB-1
PB-2
ADDITIONAL INFORMATION
JUL 2 2 1996
ORLANDO SERVICE CENTER
LEGEND
APPROXIMATE BORING LOCATION
POND NO. 1 DATA
BOTTOM EL. = 21.85
DHW 25 YR. = 22.76
1/1/96
GRADING PLAN
POND NO. 1

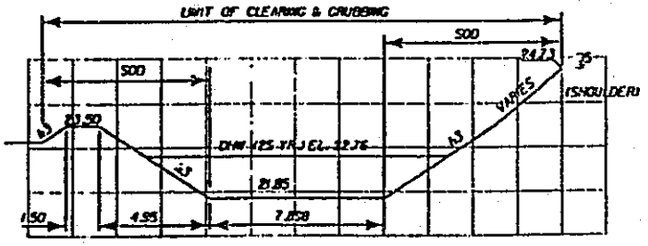
EXHIBIT 5



SECTION AA

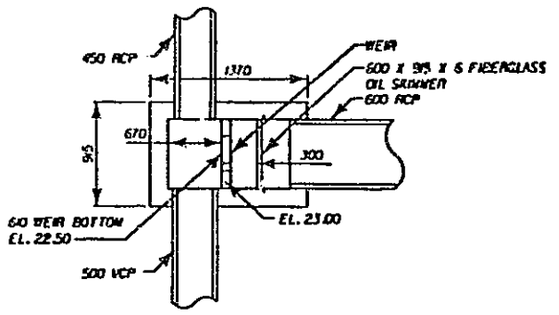


CONCRETE SPILLWAY
INDEX NO. 284

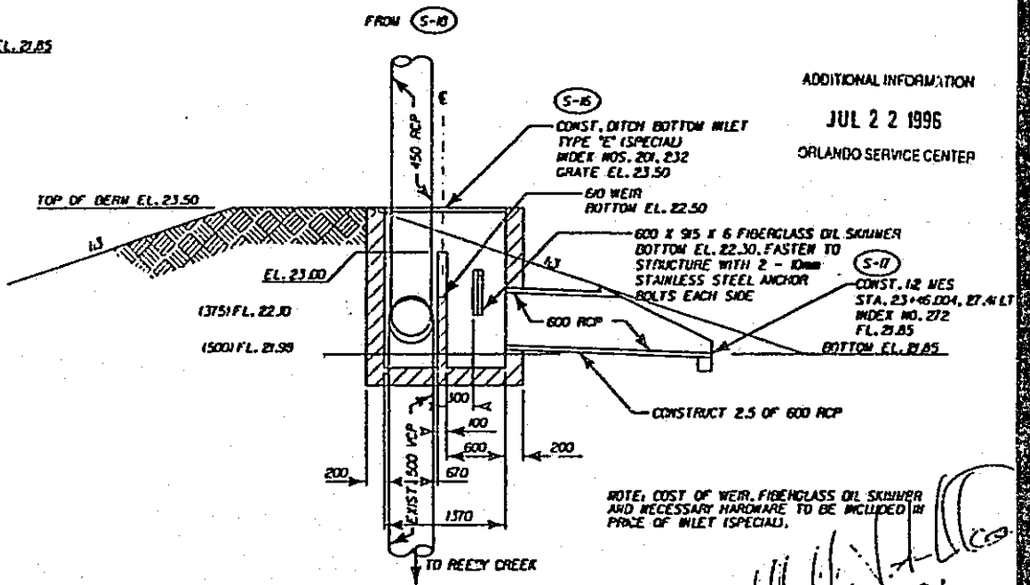


SECTION A-A (POND 1)

	FLOW	HWL
10 YR. - 24 HR. SCS STORM:	5.33 m3/min.	22.67
25 YR. - 24 HR. SCS STORM:	8.65 m3/min.	22.76
CRITICAL STORM:		
100 YR. - 1 HR. STORM:	7.88 m3/min.	22.75



PLAN VIEW



S-16 CONTROL STRUCTURE DETAIL
STA. 23+46.002, 30.19 LT.
SCALE 1:50

ADDITIONAL INFORMATION

JUL 2 2 1996

ORLANDO SERVICE CENTER

NOTE: COST OF WEIR, FIBERGLASS OIL SKIMMER AND NECESSARY HARDWARE TO BE INCLUDED IN PRICE OF INLET (SPECIAL).

7/19/96

ARMSTEAD & ODOM, INC.

DETAILS
POND NO. 1

EXHIBIT 6

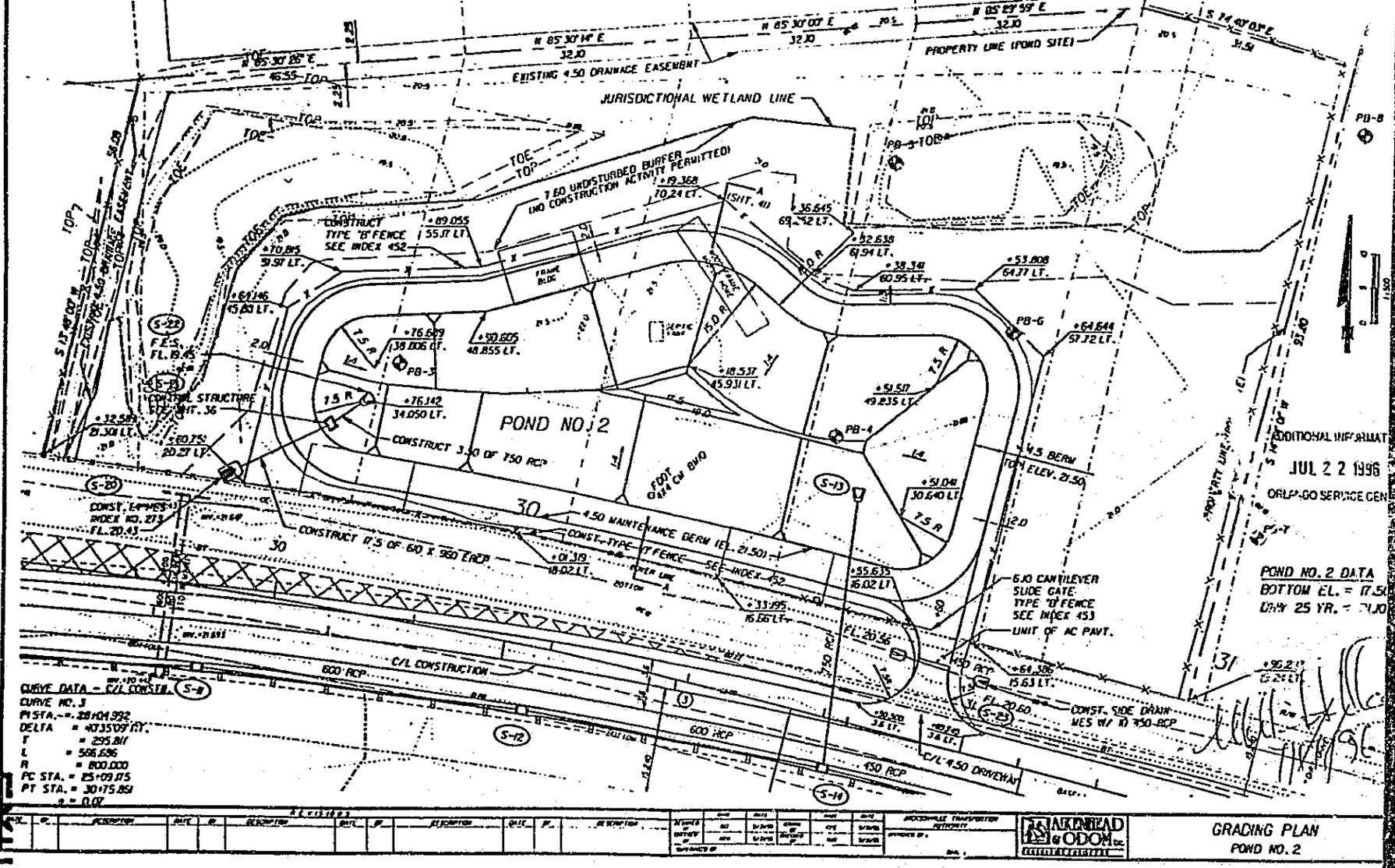
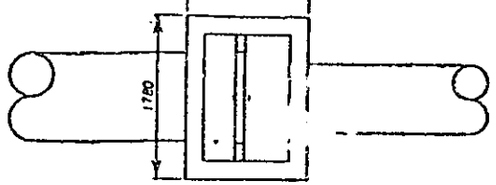
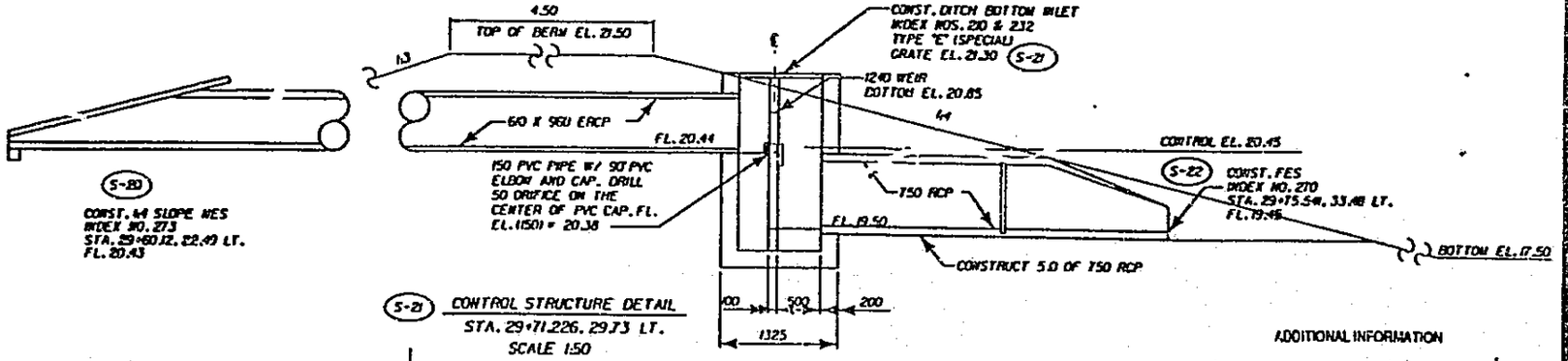

POND NO. 2
JURISDICTIONAL WETLAND LINE
EXISTING 4.50 DRAINAGE EASEMENT
PROPERTY LINE (POND SITE)
7.60 UNDISTURBED BUFFER (NO CONSTRUCTION ACTIVITY PERMITTED)
CONSTRUCT TYPE "B" FENCE SEE INDEX 452
CONSTRUCT 3.50 OF 750 RCP
4.50 MAINTENANCE BERM (EL. 21.50)
CONST. TYPE "F" FENCE SEE INDEX 452
CONSTRUCT 17.5 OF 6.0 X 9.50 ERCP
C/L CONSTRUCTION
600 RCP
450 RCP
600 HCP
6.0 CANTILEVER SLIDE GATE TYPE "D" FENCE SEE INDEX 453
LIMIT OF AC PAVT.
CONST. SIDE DRAIN MES W/ FD 450-RCP
C/L 4.50 DRIVEWAY
4.5 BERM TOP ELEV. 21.50
CONTROL STRUCTURE
CONST. 4' MES SEE INDEX NO. 275
F.E.S. FL. 19.45
POND NO. 2 DATA
BOTTOM EL. = 17.5
ADDITIONAL INFORMAT
JUL 2 2 1996
ORLANDO SERVICE CEN
CURVE DATA - C/L CONSTR.
CURVE NO. 3
PI STA. = 28+04.932
DELTA = 40°35'09" RT.
T = 295.811
L = 566.636
R = 800.000
PC STA. = 25+09.175
PT STA. = 30+75.861
e = 0.02
ARMSTEAD & ODOM Inc.
GRADING PLAN
POND NO. 2

EXHIBIT 7



PLAN VIEW



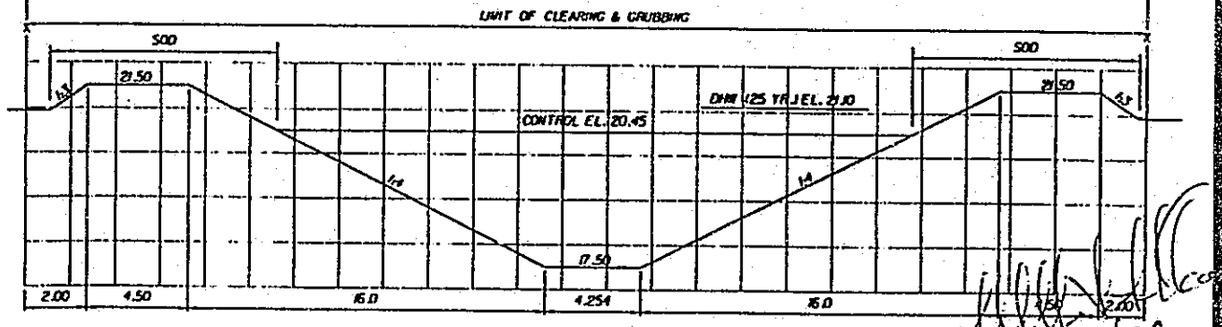
S-21 CONTROL STRUCTURE DETAIL
STA. 29+71.226, 29.73 LT.
SCALE 1:50

NOTE: COST OF WEIR AND NECESSARY HARDWARE TO BE INCLUDED IN PRICE OF INLET (SPECIAL).

ADDITIONAL INFORMATION

JUL 2 2 1996

ORLANDO SERVICE CENTER



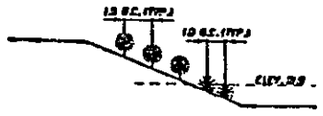
SECTION A-A (POND 2)

	FLOW	HWL
10 YR. - 24 HR. SCS STORM:	9.24 m3/min.	21.02
25 YR. - 24 HR. SCS STORM:	17.35 m3/min.	21.10
CRITICAL STORM:		
100 YR. - 1 HR. STORM:	15.00 m3/min.	21.07

7/17/96

EXHIBIT 8

DETAILS
POND NO. 2



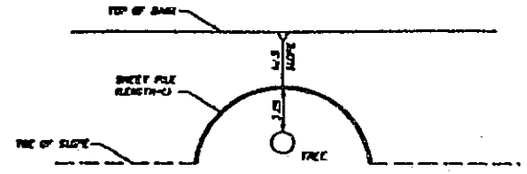
4.5 SLOPES SHALL BE PLANTED AS DETAILED ABOVE WHERE INDICATED IN THE PLANS. SPARTINA BAKERIS TO BE PLANTED BELOW THE 10.5 ELEVATION AT A NOMINAL SPACING OF 1.0 LONGITUDINALLY AND TRANSVERSELY. SERICEA REPERS IS TO BE PLANTED ABOVE THE 10.5 ELEVATION AT A NOMINAL SPACING OF 4.5 LONGITUDINALLY AND TRANSVERSELY.

SLOPE PLANTING DETAIL A

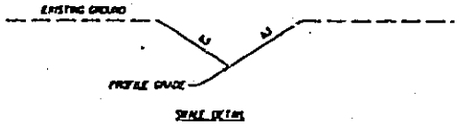
4.5 SLOPES SHALL BE PLANTED AS DETAILED ABOVE WHERE INDICATED IN THE PLANS. SPARTINA BAKERIS TO BE PLANTED BELOW THE 8.0 ELEVATION AT A NOMINAL SPACING OF 1.0 LONGITUDINALLY AND TRANSVERSELY. SERICEA REPERS IS TO BE PLANTED ABOVE THE 8.0 ELEVATION AT A NOMINAL SPACING OF 4.5 LONGITUDINALLY AND TRANSVERSELY.

SLOPE PLANTING DETAIL B

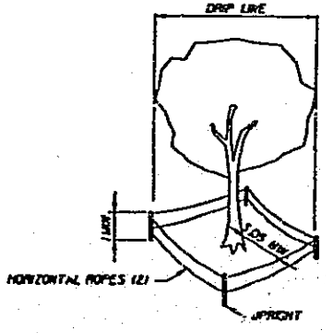
NOTE: USE NON-WOVEN FABRIC SOIL STABILIZATION FOR ALL SLOPES STEEPER THAN 4:1 AROUND TREES.



EVALUATION



SCALE: 1"=1'-0"

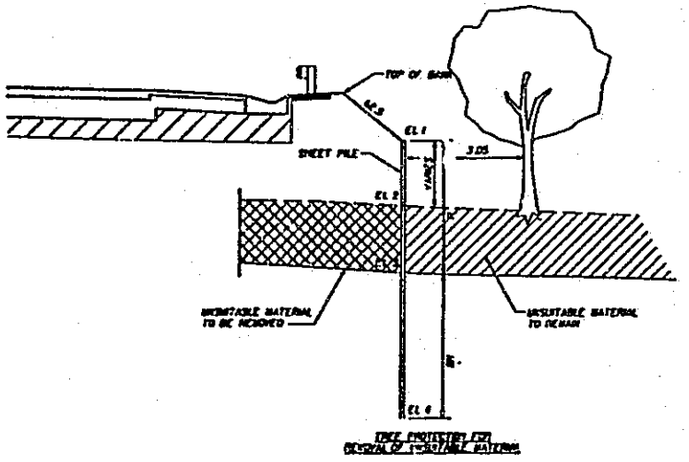


TREE PROTECTION NOTES

1. NO HEAVY EQUIPMENT ALLOWED INSIDE BARRIER, EXCEPT HAND LABOR.
2. NO CONSTRUCTION MATERIALS OR TEMPORARY SOIL DEPOSITS ALLOWED INSIDE THIS AREA.
3. MINIMUM RADIUS TO BE PROTECTED IS ENTIRE CRIPLINE OR PROJECT SIDE OF TREE. AVOID EXCESS PLACEMENT OF PROTECTION WITHIN WETLANDS OR SOILS APART FROM PROJECT.
4. UPRIGHTS SHALL BE A MINIMUM OF 1.0m IN HEIGHT.
5. UPRIGHTS - THE EQUIVALENT OF 2"x 4" LUMBER OR 2.0m MAXIMUM CENTERS.
6. HORIZONTAL - THE EQUIVALENT OF TWO COURSES OF 10mm NON-) ROPING WITH YELLOW PLASTIC TAPE FLAGGING.
7. BARRIERS TO BE ERECTED AROUND TREES TO REMAIN BEFORE CONSTRUCTION OR REMOVE TREES ARE REMOVED.
8. BARRIERS TO REMAIN IN PLACE UNTIL ALL PAVING, CONSTRUCTION AND LIGHT EQUIPMENT IS OUT OF AREA.

TREE PROTECTION DETAIL

SHEET PILE TABLE							
LOCATION	OFFSET	SOIL	EL1	EL2	EL3	EL4	L
L1+49	15.0	RT.	11.3	10.2	10.8	14.0	7.3
M+03	15.0	RT.	12.6	10.2	10.7	12.-	13.9
P+27	20.0	LT.	13.2	10.4	10.8	13.0	15.2
P+60	22.5	LT.	12.9	10.4	10.8	10.8	12.0



TREE PROTECTION (TP)
REMOVAL OF UNSUITABLE MATERIAL

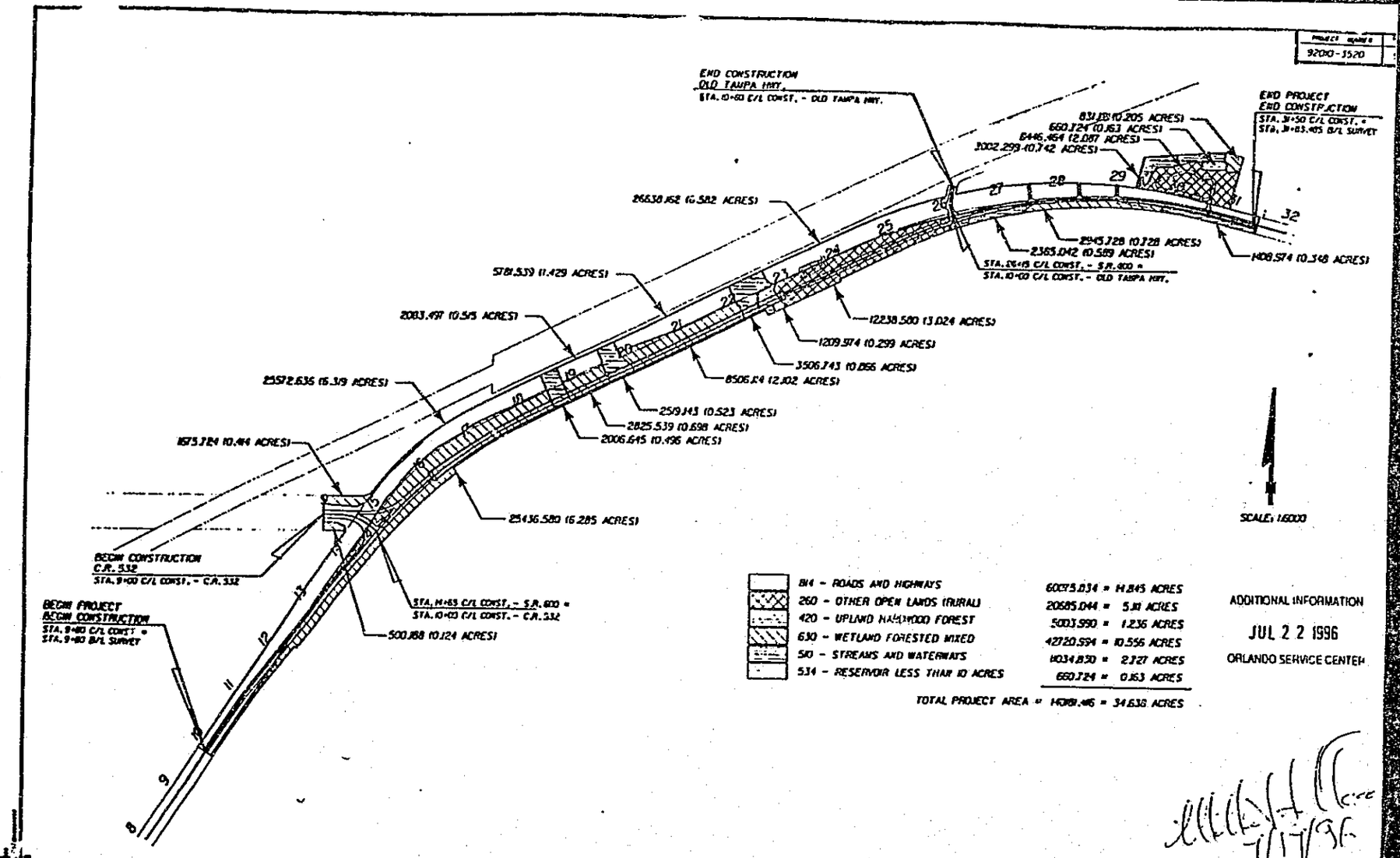
NOTE:
APPROACH TO EXCEEDING FILL AREAS, NOT REQUIRED AT BRIDGE ABUTMENTS. PROTECTED TREES NOTED TO REMAIN IN GRADE SHALL BE MARKED WITH YELLOW OR ORANGE FLAGGING OR BANDS AT INTERVALS OF EITHER TO 1.5 (5') ABOVE FINAL GRADE OR ELEVATION. GRADE CONTRACTOR SHALL USE CAUTION WITH ALL EQUIPMENT TO AVOID DAMAGE OF PROTECTED TREES.

ADDITIONAL INFORMATION

JUL 2 2 1996

ORLANDO SERVICE CENTER

| REVISIONS | | | | | | |



814	ROADS AND HIGHWAYS	640795.034 = 14.845 ACRES	
260	OTHER OPEN LANDS (RURAL)	20585.044 = 5.01 ACRES	
420	UPLAND HARDWOOD FOREST	5003.990 = 1.236 ACRES	
630	WETLAND FORESTED MIXED	427120.594 = 10.556 ACRES	
510	STREAMS AND WATERWAYS	11034.830 = 2.727 ACRES	
534	RESERVOIR LESS THAN 10 ACRES	660.724 = 0.163 ACRES	
	TOTAL PROJECT AREA =	1408981.416 = 34.838 ACRES	

ADDITIONAL INFORMATION

JUL 2 2 1996

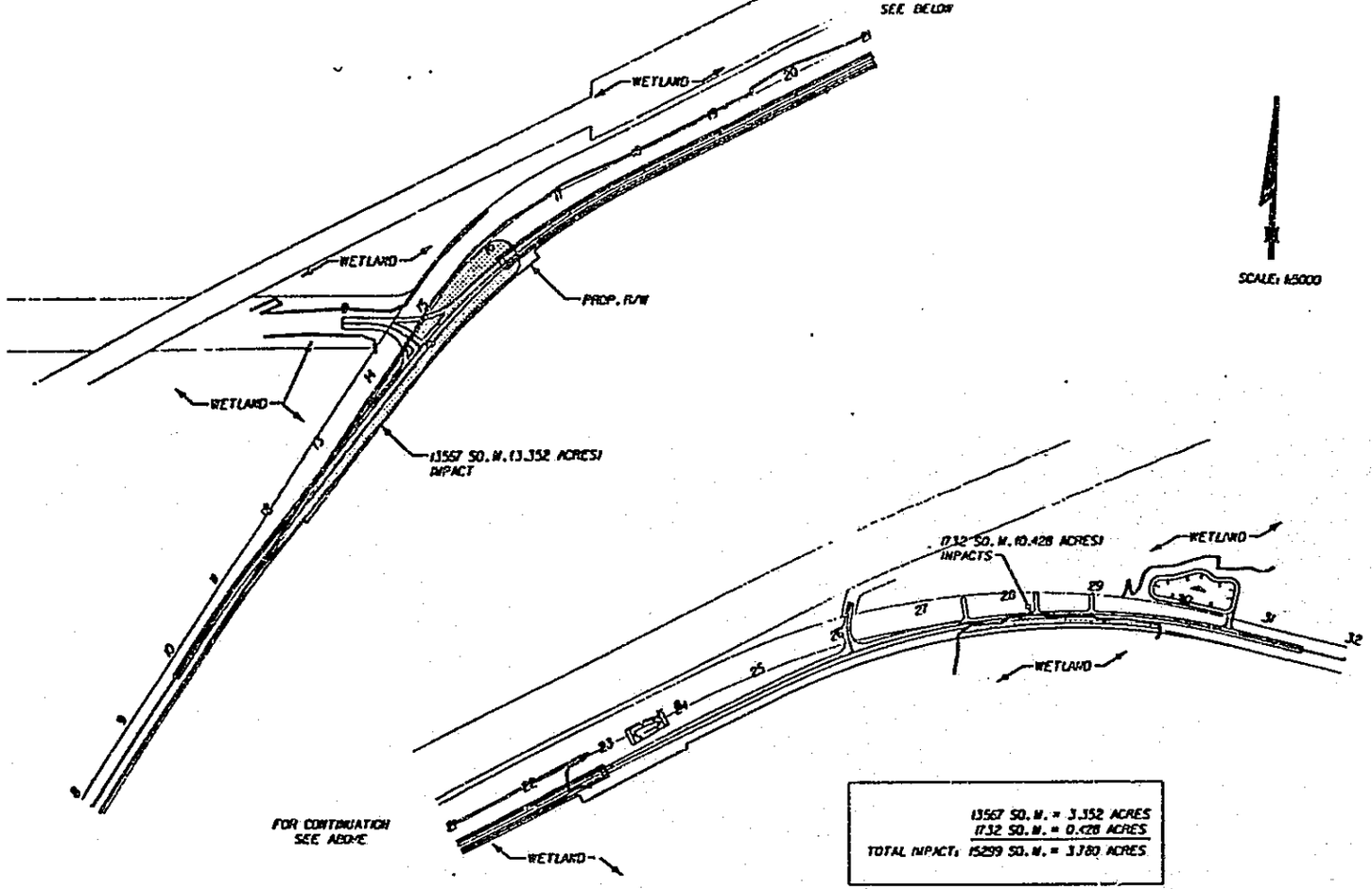
ORLANDO SERVICE CENTER

NO.	DESCRIPTION	DATE	BY

ARENDAL & ODOM INC.

FLUCCS MAP

EXHIBIT 10



ADDITIONAL INFORMATION

JUL 2 2 1996

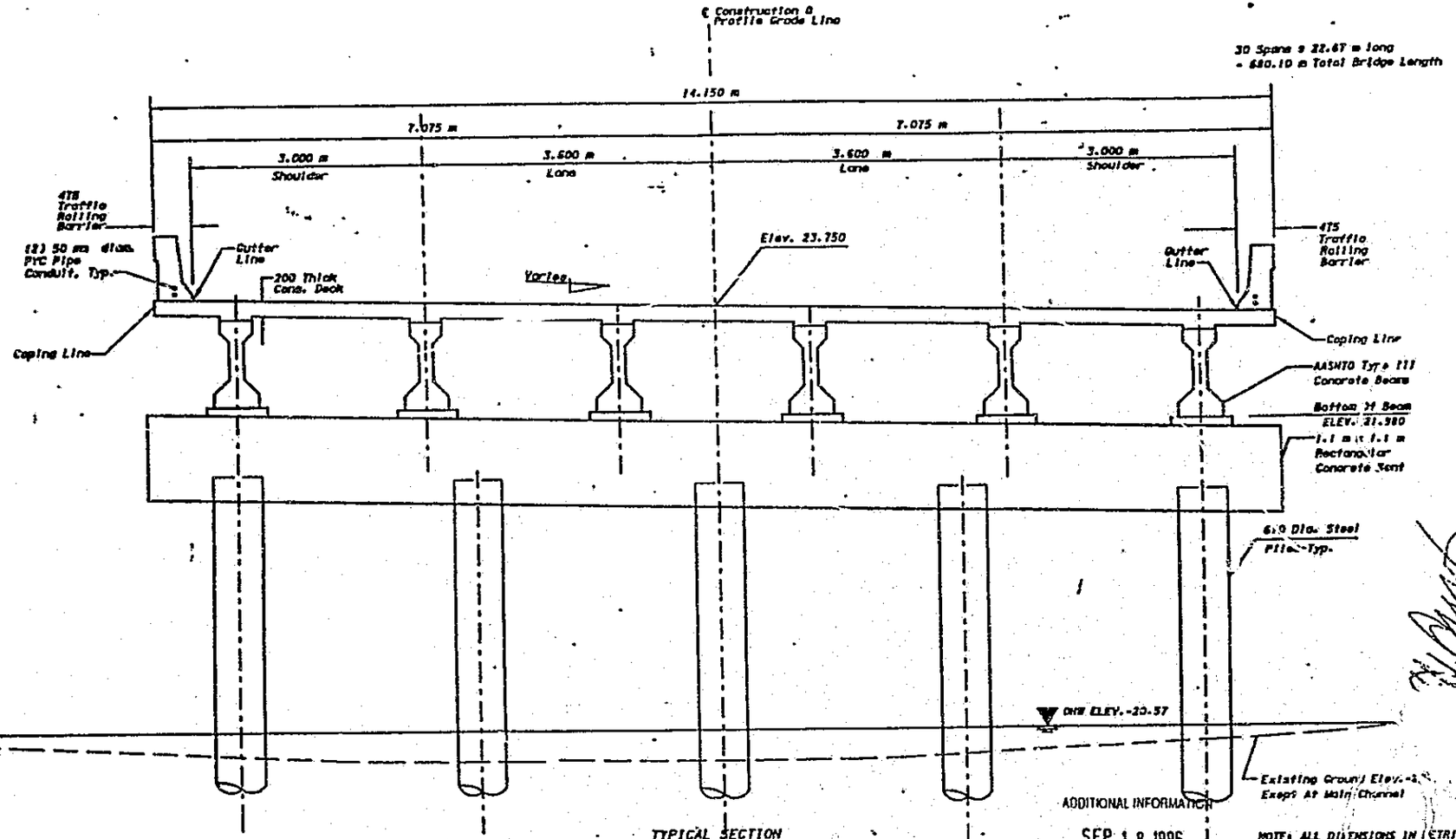
ORLANDO SERVICE CENTER

13557 SQ. M. = 3.352 ACRES
1732 SQ. M. = 0.428 ACRES
TOTAL IMPACT: 15289 SQ. M. = 3.780 ACRES

7/17/96

| REVISIONS | | |

EXHIBIT 12A



TYPICAL SECTION
(Looking Up Station)

ADDITIONAL INFORMATION

SEP 18 1996

NOTE: ALL DIMENSIONS IN METRIC

REVISIONS

DESIGNED BY

DRAWN BY

CHECKED BY

DESIGNER OF RECORD

LOCO: FRASER ENGINEERING, INC.

SEAL

STRUCTURES DESIGN OFFICE

SERVICE CENTER

TYPICAL SECTION

S.R. 600

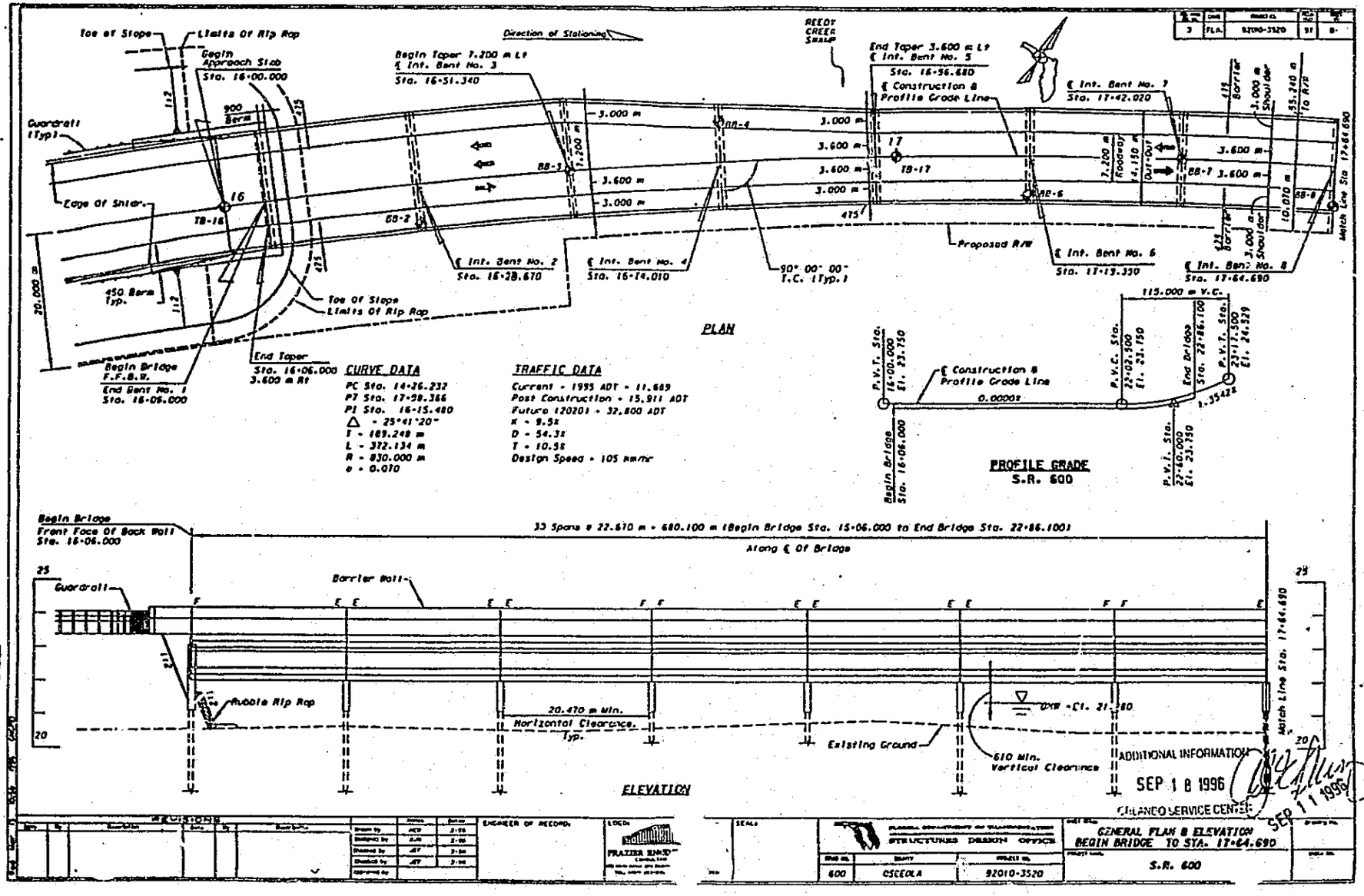

Toe of Slope
Limits Of Rip Rap
Begin Approach Slab
Sta. 16+00.000
Direction of Stationing
Begin Taper 7.200 m Lt
℄ Int. Bent No. 3
Sta. 16+51.340
REEDY CREEK SWALE
End Taper 3.600 m Lt
℄ Int. Bent No. 5
Sta. 16+56.680
℄ Construction ⊕
Profile Grade Line
℄ Int. Bent No. 7
Sta. 17+42.020
Guardrail (Typ.)
900 Berm
1:2
1:5
3.000 m
3.600 m
7.200 m
Roadway
14.150 m
Out-Out
Barrier
1.000 m Shoulder
55.240 m To R/S
Edge Of Slab
TB-16
16
17
TB-17
BB-1
BB-2
BB-3
BB-4
BB-5
BB-6
BB-7
BB-8
4.75
Proposed R/W
℄ Int. Bent No. 2
Sta. 16+28.670
℄ Int. Bent No. 4
Sta. 16+74.010
90° 00' 00"
T.C. (Typ.)
℄ Int. Bent No. 6
Sta. 17+13.350
℄ Int. Bent No. 8
Sta. 17+64.690
Match Line Sta 17+64.690
20.000 m
450 Berm Typ.
Toe Of Slope
Limits Of Rip Rap
End Taper
Sta. 16+06.000
3.600 m Rt
Begin Bridge
F.F.B.W.
End Bent No. 1
Sta. 16+06.000
PLAN
CURVE DATA
PC Sta. 14+26.232
PT Sta. 17+98.366
PI Sta. 16+15.480
Δ = 25°41'20"
T = 183.248 m
L = 372.134 m
R = 830.000 m
e = 0.070
TRAFFIC DATA
Current = 1995 ADT = 11,669
Post Construction = 15,911 ADT
Future (2020) = 32,800 ADT
K = 9.5%
D = 54.3%
T = 10.5%
Design Speed = 105 km/hr
115.000 m V.C.
P.V.T. Sta. 16+00.000 El. 23.750
℄ Construction ⊕ Profile Grade Line
0.0000%
P.V.C. Sta. 22+02.500 El. 23.750
End Bridge Sta. 22+86.100
P.V.T. Sta. 23+17.500 El. 24.529
-1.3542%
Begin Bridge Sta. 16+06.000
P.V.I. Sta. 22+60.000 El. 23.750
PROFILE GRADE
S.R. 600
Begin Bridge
Front Face Of Back Wall
Sta. 16+06.000
33 Spans @ 22.610 m = 680.100 m (Begin Bridge Sta. 16+06.000 to End Bridge Sta. 22+86.100)
Along ℄ Of Bridge
25
Guardrail
Barrier Wall
F
E E
F F
2:1
Rubble Rip Rap
20.470 m Min. Horizontal Clearance, Typ.
20
Existing Ground
OHW - El. 21.780
610 Min. Vertical Clearance
Match Line Sta. 17+64.690
ELEVATION
ADDITIONAL INFORMATION
SEP 18 1996
ORLANDO SERVICE CENTER
SEP 11 1996
REVISIONS
ENGINEER OF RECORD
FRAZIER ENG'D
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
600
OSCEOLA
92010-3520
GENERAL PLAN & ELEVATION
BEGIN BRIDGE TO STA. 17+64.690
S.R. 600

EXHIBIT 12

EXHIBIT 12C

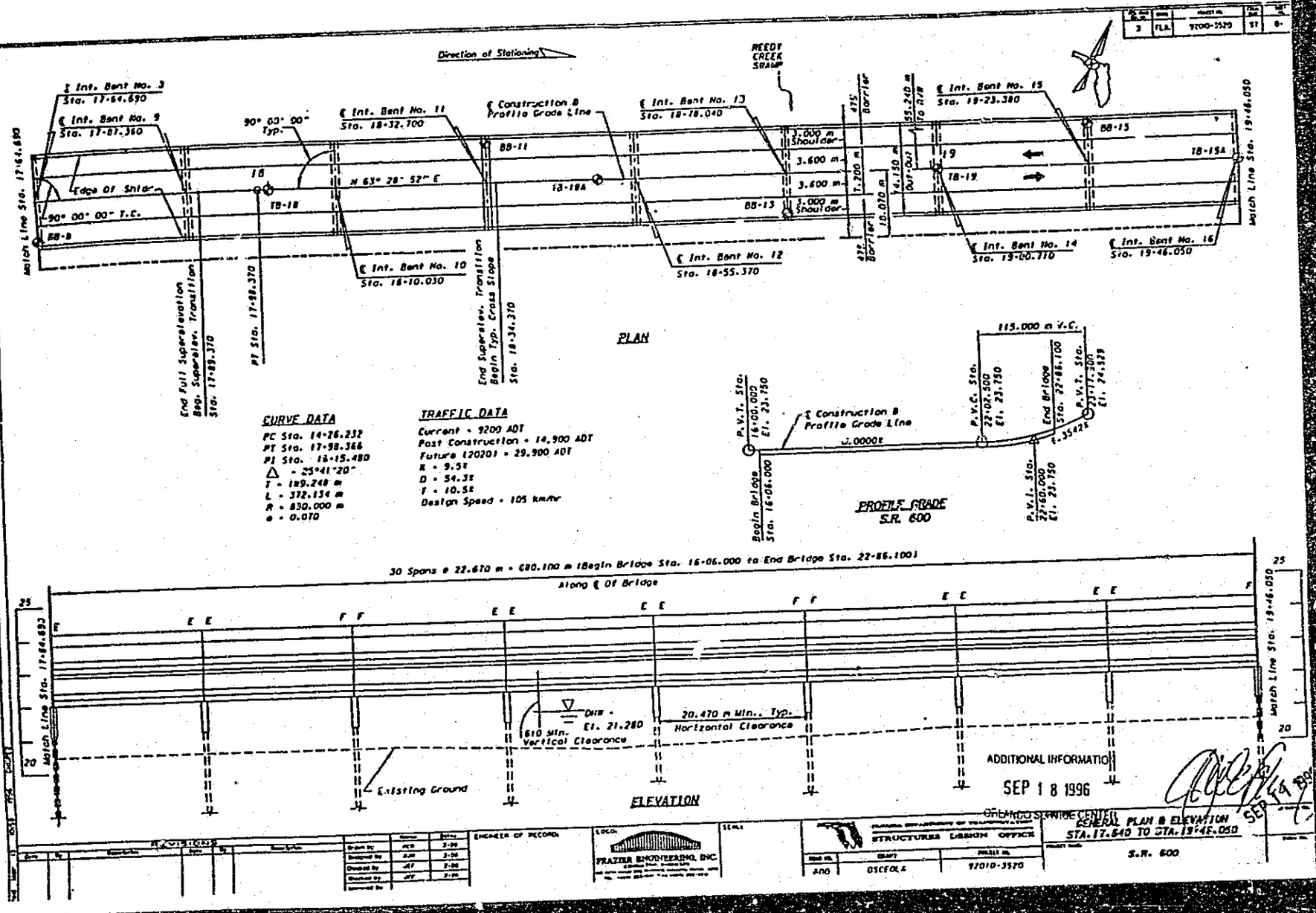
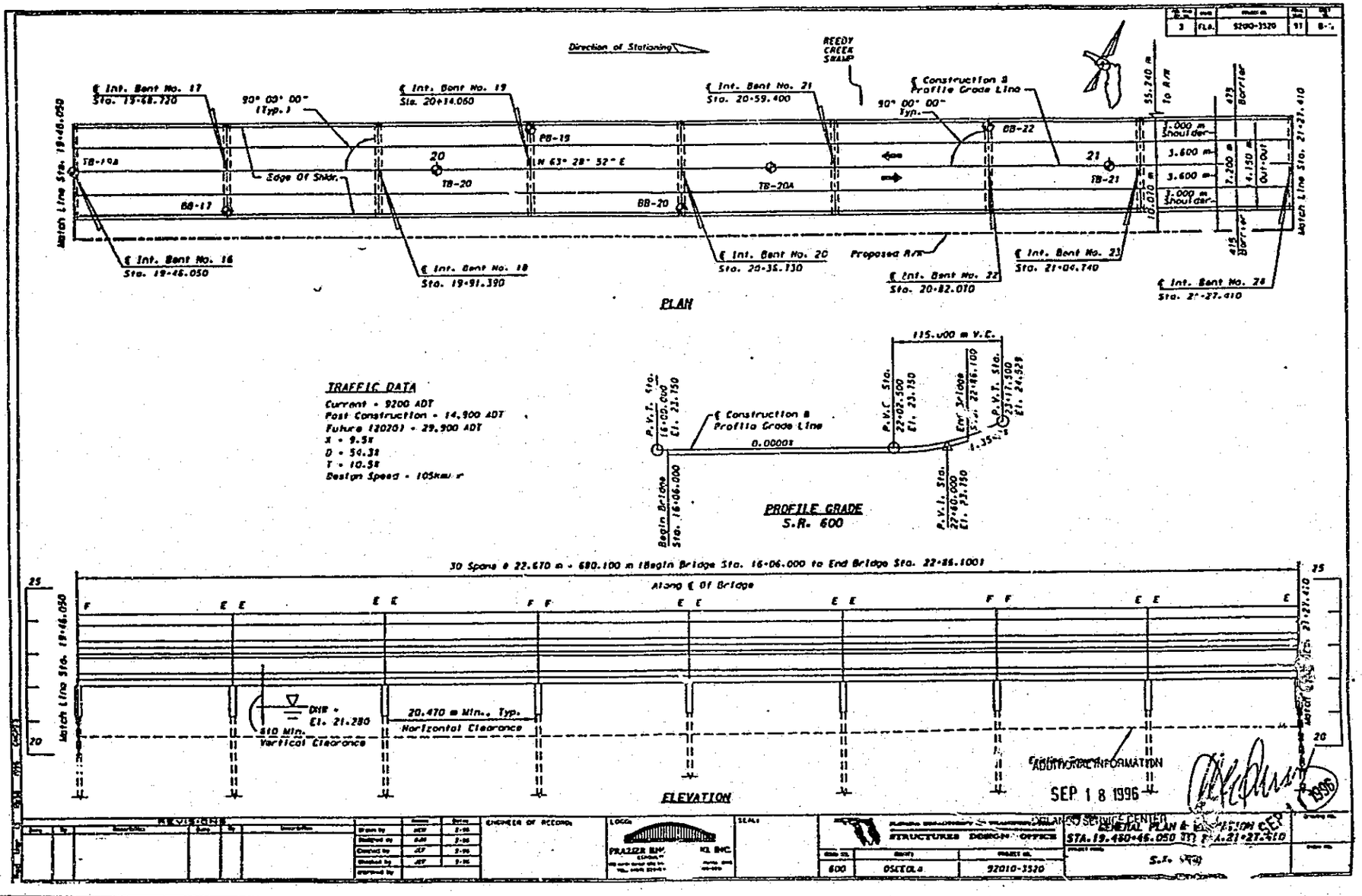

Direction of Stationing
REEDY CREEK SWAMP
℄ Int. Bent No. 3 Sta. 17+64.690
℄ Int. Bent No. 9 Sta. 17+87.360
℄ Int. Bent No. 11 Sta. 18+32.700
℄ Construction B Profile Grade Line
℄ Int. Bent No. 13 Sta. 18+18.040
℄ Int. Bent No. 15 Sta. 19+23.380
Match Line Sta. 17+64.690
Match Line Sta. 19+46.050
90° 00' 00" Typ.
Edge Of Shldr.
90° 00' 00" T.C.
B8-9
TB-18
N 63° 28' 52" E
B8-11
TB-18A
B8-13
TB-19
TB-19A
3.000 m Shoulder
3.600 m
3.600 m
3.000 m Shoulder
7.200 m
10.070 m
14.130 m Out-Out
55.240 m to ℄ Brg
475' Barrier
475' Barrier
℄ Int. Bent No. 10 Sta. 18+10.030
℄ Int. Bent No. 12 Sta. 18+55.370
℄ Int. Bent No. 14 Sta. 19+40.710
℄ Int. Bent No. 16 Sta. 19+46.050
End Full Superelevation Beg. Superelev. Transition Sta. 17+88.370
PI Sta. 17+98.370
End Superelev. Transition Begin Typ. Cross Slope Sta. 18+34.370
PLAN
CURVE DATA
PC Sta. 14+26.232
PT Sta. 17+98.366
PI Sta. 16+15.480
△ = 25°41'20"
T = 169.248 m
L = 372.134 m
R = 830.000 m
e = 0.070
TRAFFIC DATA
Current = 9200 ADT
Post Construction = 14,900 ADT
Future (2020) = 29,900 ADT
K = 9.5%
D = 54.3%
T = 10.5%
Design Speed = 105 km/hr
115.000 m V.C.
P.V.T. Sta. 16+00.000 El. 23.150
℄ Construction B Profile Grade Line
P.V.C. Sta. 22+02.500 El. 23.150
End Bridge Sta. 22+86.100
P.V.T. Sta. 22+117.300 El. 24.529
-.0000%
+.3542%
Begin Bridge Sta. 16+06.000
P.V.I. Sta. 22+60.000 El. 23.150
PROFILE GRADE S.R. 600
30 Spans @ 22.670 m = 680.100 m (Begin Bridge Sta. 16+06.000 to End Bridge Sta. 22+86.100)
Along ℄ Of Bridge
E E
F F
25
20
Match Line Sta. 17+64.690
Match Line Sta. 19+46.050
OHW = El. 21.280
610 Min. Vertical Clearance
20.470 m Min., Typ. Horizontal Clearance
Existing Ground
ELEVATION
ADDITIONAL INFORMATION
SEP 18 1996
ORLANDO SERVICE CENTER
GENERAL PLAN & ELEVATION
STA. 17+64.690 TO STA. 19+46.050
S.R. 600
ENGINEER OF RECORD
FRAZIER ENGINEERING, INC.
STRUCTURES DESIGN OFFICE
OSCEOLA
97010-3570

EXHIBIT 12D



ADDITIONAL INFORMATION

SEP 18 1996

REVISIONS

ENGINEER OF RECORD

SEAL

FRAZIER ENG. CORP. KS INC.

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
ORLANDO SERVICE CENTER

GENERAL PLAN & ELEVATION
STA. 19+480+46.050 TO STA. 21+27.410

STATE NO.	COUNTY	PROJECT NO.
600	OSCEOLA	92010-3520

S.R. 600

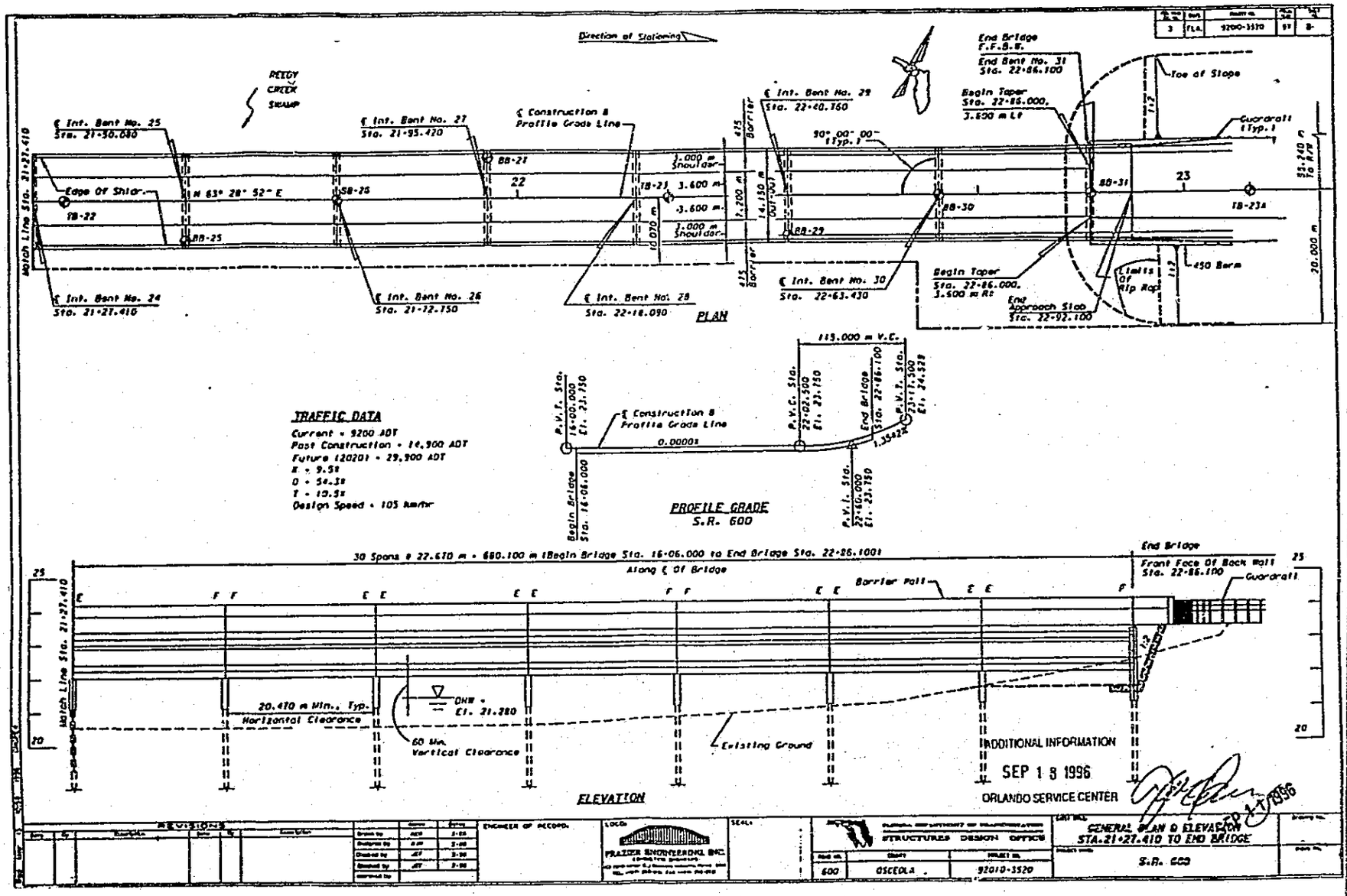

Direction of Stationing
REEDY CREEK SWAMP
℄ Int. Bent No. 25
Sta. 21+30.080
℄ Int. Bent No. 27
Sta. 21+95.420
℄ Construction B
Profile Grade Line
℄ Int. Bent No. 29
Sta. 22+40.160
End Bridge
F.F.B.W.
End Bent No. 31
Sta. 22+86.100
Begin Taper
Sta. 22+86.000,
3.600 m Lt
Toe of Slope
Guardrail
(Typ.)
Edge Of Shldr.
TB-22
N 63° 28' 52" E
BB-25
BB-26
BB-27
22
TB-23
3.600 m
3.600 m
1.000 m Shoulder
1.000 m Shoulder
10.070 m
4.15 Barrier
1.200 m
14.150 m
OUT-OUT
4.15 Barrier
90° 00' 00"
(Typ.)
BB-30
BB-29
BB-31
23
TB-23A
33.240 m To R/W
20.000 m
4.50 Berm
Limits Of Rip Rap
℄ Int. Bent No. 24
Sta. 21+27.410
℄ Int. Bent No. 26
Sta. 21+72.750
℄ Int. Bent No. 28
Sta. 22+18.090
℄ Int. Bent No. 30
Sta. 22+63.430
Begin Taper
Sta. 22+86.000,
3.600 m Rt
End Approach Slab
Sta. 22+92.100
Match Line Sta. 21+27.410
PLAN
TRAFFIC DATA
Current = 9200 ADT
Post Construction = 16,900 ADT
Future (2020) = 29,900 ADT
K = 9.5%
D = 54.3%
T = 10.5%
Design Speed = 105 km/hr
115.000 m V.C.
P.V.I. Sta. 16+00.000 El. 23.750
℄ Construction B Profile Grade Line
0.0000%
P.V.C. Sta. 22+02.500 El. 23.750
End Bridge Sta. 22+86.100
P.V.I. Sta. 23+11.500 El. 24.329
1.3562%
Begin Bridge Sta. 16+06.000
P.V.I. Sta. 22+46.000 El. 23.750
PROFILE GRADE
S.R. 600
30 Spans @ 22.670 m = 680.100 m (Begin Bridge Sta. 16+06.000 to End Bridge Sta. 22+86.100)
Along ℄ Of Bridge
End Bridge
Front Face Of Back Wall
Sta. 22+86.100
Guardrail
Barrier Rail
25
20
Match Line Sta. 21+27.410
20.410 m Min., Typ. Horizontal Clearance
OHW = El. 31.280
60 Min. Vertical Clearance
Existing Ground
ELEVATION
ADDITIONAL INFORMATION
SEP 18 1996
ORLANDO SERVICE CENTER
REVISIONS
ENGINEER OF RECORD
FRAZIER ENGINEERING INC.
SEAL
STRUCTURES DESIGN OFFICE
600
OSCEOLA
92010-3520
GENERAL PLAN & ELEVATION
STA. 21+27.410 TO END BRIDGE
S.R. 600

EXHIBIT 12E

TABLE OF CREDIT WITHDRAWAL

FDOT - THREE LAKES WILDLIFE MANAGEMENT AREA MITIGATION BANK SITE

PERMIT #	*AC. IMPACTS*	*AC. MIT. USED*	*MIT. BALANCE*	*RATIO*
48-00840-S 48-00840-D		34.0	500.9	
49-00765-S (Mod)	3.78 2.01	75.6 20.1	405.2	20:1 10:1

This information is being submitted to the District per a request dated June 18, 1996.

ADDITIONAL INFORMATION

JUL 2 2 1996

ORLANDO SERVICE CENTER

EXHIBIT 19

STAFF REPORT DISTRIBUTION LIST

PROJECT: SR 600 RELOCATION & REEDY CREEK BRIDGE REPLACEMENT
APPLICATION NUMBER: 960124-5
PERMIT MODIFICATION NUMBER: 49-00765-S

INTERNAL DISTRIBUTION

Reviewer:
X Alan L. Leavens
X John G. Lesman
X Edward W. Yaun, P.E.
X Marc S. Ady
X E Edmundson - ORL
X D. Gilpin-Hudson - UDP
X J. Golden - REG
X A. Lee - Orl Service Center
X C. Rinaldi - CLM
X R. Robbins - NRM
X A. Waterhouse - REG
Environmental PPC Reviewer
Field Engineering
X Office of Counsel

GOVERNING BOARD MEMBERS

Ms. Valerie Boyd
Mr. William Graham
Mr. William Hammond
Ms. Betsy Krant
Mr. Richard Machek
Mr. Eugene K. Pettis
Mr. Nathaniel P. Reed
Ms. Miriam Singer
Mr. Frank Williamson, Jr.

DEPT. OF ENVIRONMENTAL PROTECTION

EXTERNAL DISTRIBUTION

X Applicant:
FLORIDA DEPARTMENT OF TRANSPORTATION

X Applicant's Consultant:
AIKENHEAD & ODOM, INC.

X Engineer, County of:
OSCEOLA

Engineer, City of:

Local Drainage District:

COUNTY

BUILDING AND ZONING

OTHER

X Div of Recreation and Park - District 6
X F.G.F.W.F.C.
X Florida Audubon - Charles Lee
X Sierra Club - Central Florida Group

EXHIBIT 14

Appendix E – Pond Cost Estimates

SR 600 (US17-92)
Osceola County

Designed by: SE
Checked by: OB

Construction Cost Estimate: Pond JU P1

Item No.	Item	Quantity	Unit	Cost/Unit	Total Cost
0120 1	Regular Excavation	45,700.00	CY	$ 9.91	$ 452,887.00
0425 1559	Inlets, Dt Bott	1	EA	$ 8,273.10	$ 8,273.10
0430175136	Pipe Culv, Opt Matl, Round, 36", S/CD	280	LF	$ 247.04	$ 69,171.20
0430982138	MES, Opt Round, 36", CD	1	EA	$ 5,657.09	$ 5,657.09
				Total	**$ 643,186.07**

SR 600 (US17-92)
Osceola County

Designed by: SE
Checked by: OB

Construction Cost Estimate: Pond JU P2A

Item No.	Item	Quantity	Unit	Cost/Unit	Total Cost
0120 1	Regular Excavation	22,200.00	CY	$ 9.91	$ 220,002.00
0425 1559	Inlets, Dt Bott	1	EA	$ 8,273.10	$ 8,273.10
0430175136	Pipe Culv, Opt Matl, Round, 36", S/CD	350	LF	$ 247.04	$ 86,464.00
0430982138	MES, Opt Round, 36", CD	1	EA	$ 5,657.09	$ 5,657.09
				Total	**$ 384,475.43**

SR 600 (US17-92)
Osceola County

Designed by: SE
Checked by: OB

Construction Cost Estimate: Pond P2B

Item No.	Item	Quantity	Unit	Cost/Unit	Total Cost
0120 1	Regular Excavation	7,100.00	CY	$ 9.91	$ 70,361.00
0425 1559	Inlets, Dt Bott	1	EA	$ 8,273.10	$ 8,273.10
0430175136	Pipe Culv, Opt Matl, Round, 36", S/CD	280	LF	$ 247.04	$ 69,171.20
0430982138	MES, Opt Round, 36", CD	1	EA	$ 5,657.09	$ 5,657.09
				Total	**$ 184,154.87**

SR 600 (US17-92) **Designed by: SE**
Osceola County **Checked by: OB**

Construction Cost Estimate: Floodway Compensation Pond FCA2

Item No.	Item	Quantity	Unit	Cost/Unit	Total Cost
0120 1	Regular Excavation	19,400.00	CY	$ 9.91	$ 192,254.00
0425 1559	Inlets, Dt Bott	1	EA	$ 8,273.10	$ 8,273.10
0430175136	Pipe Culv, Opt Matl, Round, 36", S/CD	280	LF	$ 247.04	$ 69,171.20
0430982138	MES, Opt Round, 36", CD	1	EA	$ 5,657.09	$ 5,657.09
				Total	**$ 330,426.47**

SR 600 (US17-92)
Osceola County

Designed by: SE
Checked by: OB

Construction Cost Estimate: Pond 3.1

Item No.	Item	Quantity	Unit	Cost/Unit	Total Cost
0120 1	Regular Excavation	52,400.00	CY	$ 9.91	$ 519,284.00
0425 1549	Inlets, Dt Bott	1	EA	$ 8,273.10	$ 8,273.10
0430982138	Pipe Culv, Opt Matl, Round, 36", S/CD	280	LF	$ 247.04	$ 69,171.20
0430982138	MES, Opt Round, 36", CD	1	EA	$ 5,657.09	$ 5,657.09
				Total	**$ 722,862.47**

SR 600 (US17-92)
Osceola County

Designed by: SE
Checked by: OB

Construction Cost Estimate: Pond 4.1

Item No.	Item	Quantity	Unit	Cost/Unit	Total Cost
0120 1	Regular Excavation	29,700.00	CY	$ 9.91	$ 294,327.00
0425 1549	Inlets, Dt Bott	1	EA	$ 8,273.10	$ 8,273.10
0430175124	Pipe Culv, Opt Matl, Round, 36", S/CD	230	LF	$ 247.04	$ 56,819.20
0430982138	MES, Opt Round, 36", CD	1	EA	$ 5,657.09	$ 5,657.09
				Total	**$ 438,091.67**

For Pond 1+2:

A =49.28 ac
C = 0.57
R = 31 in
RT = 21 days
WS =153 days
CF = 12 in/ft

$$PPV\ (required) = \frac{A\ x\ C\ x\ R\ x\ RT}{WS\ x\ CF} = \frac{49.28\ ac\ x\ 0.57\ x\ 31\ in\ x\ 21\ days}{153\ days\ x\ 12\ in/ft} = 9.95\ ac-ft$$

Total PPV provided for Pond 1+2 = 16.46 ac-ft > 9.95 ac-ft OK

Appendix F – Ditch Calculations

Project: US 1792 Ditch Calculations

Prepared By: DH Date: 8/11/2023
Checked By: AM Date: 8/11/2023

Design Event: 10 Yr

Max Vel. 4.00

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac)	Increment C_{10}	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section F.S (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Remarks
1179+00	1216+00	RT LT	0.424	3.27 1.08	0.95 0.20	3.32	3.32	10.00	6.41	21.28	6	5.00	4	0.042	1.10	1.84	NO	1. Stage is 1.10 plus FDOT standard 1 ft freeboard, total is 2.10 ft. The ditch depth is 3.5 ft. 2. Intensity depth is taken from NOAA Atlas 14.

Project: US 1792 Ditch Calculations

Prepared By: DH Date: 8/11/2023
Checked By: AM Date: 8/11/2023

Design Event: 10 Yr

Max Vel. 4.00

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac)	Increment C_{10}	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section F.S (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Remarks
1264+50	1316+50	RT LT	0.515	4.59 1.52	0.95 0.20	4.66	4.66	10.00	6.41	29.87	6	5.00	4	0.042	1.23	2.15	NO	1. Stage is 1.23 plus FDOT standard 1 ft freeboard, total is 2.23 ft. The ditch depth is 3.5 ft. 2. Intensity depth is taken from NOAA Atlas 14.

Project: US 1792 Ditch Calculations

Prepared By: DH Date: 8/11/2023
Checked By: AM Date: 8/11/2023

Design Event: 10 Yr

Max Vel. 4.00

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac)	Increment C_{10}	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section F.S (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Remarks
1346+00	1381+00	RT LT	0.355	3.09 1.02	0.95 0.20	3.14	3.14	10.00	6.41	20.13	6	5.00	4	0.042	1.12	1.70	NO	1. Stage is 1.70 plus FDOT standard 1 ft freeboard, total is 2.70 ft. The ditch depth is 3.5 ft. 2. Intensity depth is taken from NOAA Atlas 14.