

2. AMENDMENT/MODIFICATION NO. 0005	3. EFFECTIVE DATE 05-Aug-2002	4. REQUISITION/PURCHASE REQ. NO. W32CS5-2004-3218	5. PROJECT NO. (If applicable)
---------------------------------------	----------------------------------	--	--------------------------------

6. ISSUED BY CODE	7. ADMINISTERED BY (If other than Item 6) CODE
----------------------	---

USA ENGINEER DISTRICT, JACKSONVILLE 400 WEST BAY STREET CESAJ-CT (ROOM 867) JACKSONVILLE, FL 32202-4412	BY HAND: DELIVER TO "ISSUED BY" ADDRESS BY MAIL: USAED JACKSONVILLE, PO BOX 4970, ATTN: CESAJ-CT JACKSONVILLE, FL 32232-0019
---	---

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)	(✓)	9A. AMENDMENT OF SOLICITATION NO. DACW17-02-B-0009
	(X)	9B. DATED (SEE ITEM 11) 14 -MAR-2002
		10A. MODIFICATION OF CONTRACTS/ORDER NO.
		10B. DATED (SEE ITEM 13)

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers tended. is extended, is not ex-

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:
 (a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

- | | |
|-----|---|
| (✓) | A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A. |
| | B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). |
| | C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: |
| | D. OTHER (Specify type of modification and authority) |

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

CENTRAL AND SOUTHERN FLORIDA PROJECT FOR FLOOD CONTROL AND OTHER PURPOSES, C-51 STORMWATER TREATMENT AREA 1 EAST CONTRACT 6, PALM BEACH COUNTY, FLORIDA

ANY ENCLOSURE ACCOMPANYING THIS AMENDMENT SHOULD BE INSERTED IN THE PLANS AND/OR SPECIFICATIONS AS APPLICABLE. ALL SUPERSEDED MATERIALS SHOULD BE REMOVED OR ADEQUATELY MARKED TO INDICATE THEY HAVE BEEN SUPERSEDED.

THE BID OPENING DATE IS CHANGED FROM JULY 30, 2002 TO AUGUST 20, 2002 AT 14:00.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)		
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
_____ (Signature of person authorized to sign)		BY _____ (Signature of Contracting Officer)	05-AUG-2002

SECTION SF-30 BLOCK CONTINUATION SHEET

Stormwater Treatment Area 1-East, Contract 6, Central and Southern Florida
Project for flood Control and Other Purposes, Palm Beach County, Florida

IFB: DACW17-02-B-0009 dated 14 March 2002, Amendment #0005.

SPECIFICATIONS: Specifications for this project have been updated.

- a. Asterisks appear before and after the line or lines where revisions have been made to the text on the enclosed revised pages and pertain only to the changes made by this amendment except where the reverse side of a page has been previously amended; however, these can be identified by the amendment number opposite the page number at the bottom of each page.
 - b. Some specification revisions include additions with underlined text or deletions with line/cross-outs.
 - c. The text changes may have necessitated reformatting of subsequent text or pages. If this is the case, those pages have also been issued as amended pages but are not marked with asterisks, underlining or line/cross-outs.
1. Section 00010: **Descriptive Change, Delete** the date established by prior amendment in Box 13A of Page 00010-1 (STANDARD FORM 1442), and **Insert** the date indicated on STANDARD FORM 30, Box 14. **Delete** Page 00010-4, and **Insert** new Page 00010-4.
 2. Section 01000: **Delete** entire section, and **Insert** new Section 01000.
 3. Section 02300: **Delete** entire section, and **Insert** new Section 02300.

DRAWINGS (D.O. File No. 400-38,153): The following drawing changes are **descriptive:**

1. Drawing 2/36, EARTHWORK QUANTITIES TABLE (From top to bottom):
 - a. Segment 1, L-85, **Delete** "140+20.94", and **Insert** "139+33.15".
 - b. Segment 3, I.L. 3, **Delete** "49+78.32", and **Insert** "49+46.07".
 - c. Segment 3, I.L. 2, **Delete** "95+36.95", and **Insert** "95+32.65".
 - d. Segment 4, I.L. 6, **Delete** "139+47.95", and **Insert** "137+68.45".

SECTION 00010

SUPPLIES OR SERVICES AND PRICES/COSTS

C-51 STORMWATER TREATMENT AREA 1-EAST, CONTRACT 6
CENTRAL AND SOUTHERN FLORIDA PROJECT FOR FLOOD CONTROL AND OTHER PURPOSES

LINE ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
0001	ELECTRICAL POWER DISTRIBUTION (See Note 1)	1	LUMP SUM		\$ 280,000
0002	ENVIRONMENTAL PROTECTION	1	LUMP SUM		\$ _____
0003	DEMOLITION	1	LUMP SUM		\$ _____
0004	CLEARING	1	LUMP SUM		\$ _____
0005	GRUBBING	1	LUMP SUM		\$ _____
0006	WASTE EXCAVATION, SEGMENT 3	61,389	CUBIC YARD	\$ _____	\$ _____
0007	WASTE EXCAVATION, SEGMENT 4	57,355	CUBIC YARD	\$ _____	\$ _____
*0008	LEVEE EMBANKMENT, SEGMENT 1	199,128	CUBIC YARD	\$ _____	\$ _____
0009	LEVEE EMBANKMENT, SEGMENT 2	313,198	CUBIC YARD	\$ _____	\$ _____
0010	LEVEE EMBANKMENT, SEGMENT 3	344,234	CUBIC YARD	\$ _____	\$ _____
0011	LEVEE EMBANKMENT, SEGMENT 4	195,335	CUBIC YARD	\$ _____	\$ _____
0012	LEVEE EMBANKMENT, SEGMENT 5	58,439	CUBIC YARD	\$ _____	\$ _____
0013	FILL EXISTING CANAL	73,681	CUBIC YARD	\$ _____	\$ _____
0014	EXCAVATION, DEWATERING, FILLING, AND BACKFILLING FOR CONTROL STRUCTURES S-364, S-365, S-367, S-368 AND S-369 (PER STRUCTURE)	19	EACH	\$ _____	\$ _____
0015	EXCAVATION, DEWATERING, FILLING, AND BACKFILLING FOR CONTROL STRUCTURE S-375	1	LUMP SUM		\$ _____
0016	RIPRAP	1,277	CUBIC YARD	\$ _____	\$ _____
0017	BEDDING FOR RIPRAP	393	CUBIC YARD	\$ _____	\$ _____
0018	48" CORRUGATED ALUMINUM PIPE	460	LINEAR FOOT	\$ _____	\$ _____
0019	FLASHBOARD RISERS FOR 48" CORRUGATED ALUMINUM PIPE WITH FLASHBOARDS	2	EACH	\$ _____	\$ _____
*0020	CAST-IN-PLACE REINFORCED CONCRETE	4,056	CUBIC YARD	\$ _____	\$ _____
0021	EMBEDDED METAL ITEMS FOR CONTROL STRUCTURES S-364, S-365, S-367, S-368 AND S-369 (PER STRUCTURE)	19	EACH	\$ _____	\$ _____
0022	8' X 8' PRECAST CONCRETE BOX CULVERTS FOR CONTROL STRUCTURES S-364, S-365, S-367, S-368 AND S-369 (PER STRUCTURE)	19	EACH	\$ _____	\$ _____
0023	8' X 8' PRECAST CONCRETE BOX CULVERTS FOR CONTROL STRUCTURE S-375	1	LUMP SUM		\$ _____

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01000

GENERAL REQUIREMENTS

PART 1 GENERAL

- 1.1 PARTNERING
- 1.2 REFERENCES
- 1.3 SUBMITTALS
- 1.4 WORK UNDER OTHER CONTRACTS
 - 1.4.1 Contract DACW17-99-C-0043
 - 1.4.2 Construction of Pumping Station S-319
 - 1.4.3 Construction of Pumping Station S-362
 - 1.4.4 Construction of Pumping Station S-361
 - 1.4.5 Contract 5
 - 1.4.6 Contract 7
- 1.5 WORK BY OTHERS
 - 1.5.1 Florida Power and Light (FPL)
 - 1.5.2 South Florida Water Management District (SFWMD)
- 1.6 USE OF PREMISES
 - 1.6.1 L-85, South Distribution Cell Levee and FPL Access Pad P-01
 - 1.6.2 Segment 2
 - 1.6.3 Segment 3
 - 1.6.4 Segment 4
 - 1.6.5 Segment 5 and East Distribution Cell (EDC)
- 1.7 ORDER OF WORK
 - 1.7.1 Completion Time
 - 1.7.1.1 Coordination and Completion of Work for Pump Tests
 - 1.7.2 Scheduled Delays
 - 1.7.2.1 Segment 1 Earthwork
 - 1.7.2.2 Segment 2 Earthwork and Water Control Structures
 - 1.7.2.3 Segment 3 Earthwork and Water Control Structures
 - 1.7.2.4 Segment 4 Earthwork
 - 1.7.2.5 Segment 5 Earthwork and Structure S-375
 - 1.7.2.6 Water Control Structures S-363, S-366, S-370 and S-373
 - 1.7.2.7 Water Control Structures S-371, S-372 and S-374
 - 1.7.3 Coordination with Florida Power and Light (FPL)
- 1.8 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK
- 1.9 LIQUIDATED DAMAGES-CONSTRUCTION - ALTERNATE I
- 1.10 PROJECT RECORD DOCUMENTS
 - 1.10.1 Working As-Built Drawings
 - 1.10.2 Preliminary Submittal
 - 1.10.3 Drawing Preparation
 - 1.10.4 As-Built Shop Drawings
 - 1.10.5 Computer Aided Design and Drafting (CADD) Drawings

- 1.11 EQUIPMENT OPERATING INSTRUCTIONS AND PARTS IDENTIFICATION
- 1.12 CONTRACTOR-FURNISHED EQUIPMENT
- 1.13 PHYSICAL DATA
 - 1.13.1 Physical Conditions
 - 1.13.2 Location
 - 1.13.3 Weather Conditions
 - 1.13.4 Transportation Facilities
 - 1.13.4.1 Major Highways, Airports, Port Facilities, and Rail Access
 - 1.13.4.2 Contractor Investigation
 - 1.13.5 Local Conditions - Water Stages
 - 1.13.5.1 Water Fluctuations
 - 1.13.5.2 Water Stages
 - 1.13.5.3 Historical Stage Graphs
 - 1.13.6 Subsurface Investigations
- 1.14 LAYOUT OF WORK
 - 1.14.1 Established Monuments
 - 1.14.2 Layout
 - 1.14.3 Survey
 - 1.14.4 Levee and FPL Access Pad Embankment Cross Section Surveys
- 1.15 STONE SOURCES (JAN 2000)
- 1.16 RETESTING OF CONSTRUCTION MATERIALS
- 1.17 CRITICAL LIFT PLAN OPERATION
 - 1.17.1 Definition of a Critical Lift
 - 1.17.2 Critical Lift Plan Submittal
- 1.18 ACCOMMODATIONS FOR GOVERNMENT PERSONNEL
 - 1.18.1 General
 - 1.18.2 Office Trailer
 - 1.18.3 Office Equipment
 - 1.18.4 Utilities
 - 1.18.5 Janitorial Services
 - 1.18.6 Payment
- 1.19 CONSTRUCTION PROJECT SIGNS
 - 1.19.1 Signage Removal
 - 1.19.2 Signage Costs
- 1.20 WATER
- 1.21 ELECTRICITY
- 1.22 UNITS OF MEASURE
- 1.23 HURRICANE AND SEVERE STORM PLAN
 - 1.23.1 Hurricane and Severe Storm Plan Contents
 - 1.23.2 Sample Plan
 - 1.23.3 Monitoring of Weather
- 1.24 PRECONSTRUCTION CONFERENCE
 - 1.24.1 Preconstruction Conference Submittal Items
 - 1.24.2 Failure to Comply
 - 1.24.3 Contracting Officer Representative Responsibility
 - 1.24.3.1 Report Preparation Instruction
 - 1.24.3.2 Contractor Indoctrination
 - 1.24.3.3 Letter of Record
- 1.25 NOTICE TO PROCEED
- 1.26 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (31 OCT 1989)
 - 1.26.1 Schedule
 - 1.26.2 Contractor Responsibility
- 1.27 HAUL ROADS
- 1.28 CONSTRUCTION PROJECT SIGNS

- 1.29 SAMPLE - HURRICANE AND SEVERE STORM PLAN
- 1.30 SAMPLE - GUIDE FOR EMPLOYEE SAFETY AND OCCUPATIONAL HEALTH
INDOCTRINATION
- 1.31 CONTROL MONUMENT DESCRIPTIONS
- 1.32 CORE BORING LOGS AND LABORATORY DATA
- 1.33 INTERIM REGULATION SCHEDULE, WATER CONSERVATION AREA NO. 1
- 1.34 HISTORICAL STAGE GRAPHS, S-5AE TAILWATER

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

-- End of Section Table of Contents --

SECTION 01000

GENERAL REQUIREMENTS

PART 1 GENERAL

1.1 PARTNERING

In order to most effectively accomplish this contract, the Government is willing to form a cohesive partnership with the Contractor and its subcontractors. This partnership would strive to draw on the strengths of each organization in an effort to achieve a quality project done right the first time, within budget and on schedule. This partnership would be bilateral in make-up and participation will be totally voluntary. Any cost associated with effectuating this partnership will be agreed to by both parties and will be shared equally by the Government and the Contractor.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

CORPS OF ENGINEERS JACKSONVILLE REGULATION (CESAJR)

CESAJR 385-1-1 (1998) Safety and Occupational Health Program

ENGINEERING MANUALS (EM)

EM 385-1-1 (1996) Safety and Health Requirements Manual

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 (1999) National Electrical Code

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals having an "FIO" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

Levee Embankment Cross Section Surveys; G A/E

SD-04 Drawings

As-Built Shop Drawings; FIO. As-Built Contract Drawings; FIO. Electronic As-Built Files; FIO. Working As-Built Drawings; G A/E.

Refer to paragraph PROJECT RECORD DOCUMENTS for procedure.

SD-06 Instructions

Equipment Operating Instructions and Parts Identification; G|EN.

Parts catalogs and operating instructions covering all equipment furnished.

SD-07 Schedules

Contractor-Furnished Equipment; FIO.

Itemized list showing all Contractor-furnished mechanical and electrical equipment installed under this contract.

1.4 WORK UNDER OTHER CONTRACTS

Work at the contract site will proceed concurrently under a number of contracts. The following is a summary of work included in other Government contracts.

1.4.1 Contract DACW17-99-C-0043

Contract DACW17-99-C-0043 includes furnishing and delivering vertical pumps, diesel engines and right-angle gear drives for Pumping Station S-319 and Pumping Station S-362.

1.4.2 Construction of Pumping Station S-319

Pumping Station S-319 will serve as the primary inflow pumping station for STA-1E. The contract for construction of S-319 includes the pumping station substructure and superstructure, providing the pumping station auxiliary equipment, related mechanical and electrical systems, installation of pumps, diesel engine drive units, right angle gear reducers, and diesel engine instrumentation, earthwork adjacent to the pumping station, and miscellaneous civil works.

1.4.3 Construction of Pumping Station S-362

Pumping Station S-362 will serve as the primary outflow pumping station for STA-1E. The contract for construction of S-362 includes the pumping station substructure and superstructure, providing the pumping station auxiliary equipment, related mechanical and electrical systems, installation of pumps, diesel engine drive units, right angle gear reducers, and diesel engine instrumentation, earthwork adjacent to the pumping station, and miscellaneous civil works. The contract also includes construction of the S-362 access road along the entire easterly perimeter of STA-1E.

1.4.4 Construction of Pumping Station S-361

Pumping Station S-361 will serve as a secondary inflow and seepage return pumping station for STA-1E. The contract for construction of S-361 includes the pumping station structure, complete, and all related mechanical and electrical equipment. The contract also includes a length of Levee 85, Interior Levee 6, the Discharge Canal and Seepage Canal in the immediate vicinity of the pumping station.

1.4.5 Contract 5

Contract 5 includes the construction of the following elements of STA-1E.

- a. Demolition, clearing, and grubbing within the limits indicated on the contract drawings. This contract includes all demolition, clearing, and grubbing as specified.
- b. General cell grading includes all excavation, hauling, fill placement and grading necessary to effect the general cell grading indicated in Cells 1, 2, 3, 4N, 4S, 5, 6, and 7, including demolition and removal of existing drainage structures to the extent indicated and specified. Where indicated on the contract drawings, certain existing canals, waterways, and berms within the limits of those cells will be remain in place and generally undisturbed upon completion of adjacent work under this contract, and will be degraded or otherwise modified under other Government contracts. This contract also includes the operation of the existing and modified drainage system on the site as necessary to maintain site drainage and off-site drainage and irrigation, all as indicated and specified.
- c. South Distribution Cell Levee, Interior Levee 7, and FPL Access Pads includes all work necessary for the completion of the South Distribution Cell Levee, Interior Levee 7, and Florida Power and Light (FPL) access pads, including, but not necessarily limited to:
 - (1) Excavation of adjacent borrow and spreader canals
 - (2) Stripping beneath levee and FPL access pad embankment foundations.
 - (3) Embankment construction.
 - (4) Topsoiling and finish grading.
 - (5) Grassing.
- d. Water Control Structures - includes all work necessary for the construction of water control structures S-363 (A through C), S-366 (A through E), S-370 (A through C), and S-373 (A and B), other than furnishing and installing stilling well level sensing devices and other equipment necessary for completion of telemetric control. Work under this contract includes, but is not necessarily limited to:
 - (1) Excavation, dewatering, filling, and backfilling.
 - (2) Construction of cast-in-place concrete headwalls and wingwalls, including embedded metal items, handrailing, and grating.
 - (3) Furnishing and installing precast reinforced concrete box

culverts.

(4) Furnishing and installing aluminum slide gates, complete with operators.

(5) Furnishing, installing, and testing electrical equipment, conduit, and wiring.

(6) Precast concrete control buildings.

(7) Riprap and bedding.

- e. Stilling wells and staff gages includes installation of required elements of wells and gaging equipment.

1.4.6 Contract 7

Contract 7 includes construction of the following elements of STA-1E.

- a. Levee 85 and adjacent discharge and seepage canals, beginning at its intersection with existing Levee 40 and extending east to its intersection with Interior Levee 8.
- b. Interior Levee 1 west of Interior Levee 4 and adjacent collection and spreader canals.
- c. Interior Levee 6 and adjacent collection and discharge canals west of its intersection with Interior Levee 4.
- d. That part of Interior Levee 7 excluded from construction under Contract 5.
- e. Interior Levee 5; rough grading along Interior Levee 5 is included in Contract 5.
- f. Degradation and final disposition of certain existing canals, waterways and berms within the limits of work under Contract 5 but shown to remain generally undisturbed upon completion of adjacent work under Contract 5.
- g. Clearing, grubbing and demolition within the limits of work under Contract 7, other than as indicated on the contract drawings to be performed under Contract 5.
- h. Water control structures S-371 (A through C) through Interior Levee 1, other than furnishing and installing stilling well level sensing devices and other equipment necessary for completion of telemetric control.
- i. Water control structures S-372 (A through E) through Interior Levee 6, other than furnishing and installing stilling well level sensing devices and other equipment necessary for completion of telemetric control.
- j. Water control structures S-374 (A through C) through Interior Levee 1, other than furnishing and installing stilling well level sensing devices and other equipment necessary for completion of telemetric control.

1.5 WORK BY OTHERS

1.5.1 Florida Power and Light (FPL)

Certain items of work related to the removal and replacement of existing power distribution and transmission lines will be performed by FPL.

- a. Existing power distribution lines within the limits of work under Contract 5 will be partially demolished and salvaged by FPL in advance of the commencement of work under this contract.
- b. Existing power transmission lines north of the limits of work under this contract are to be relocated as a part of the construction of STA-1E. Existing transmission lines indicated on the contract drawings are to remain in place and not be disturbed by Contract 5. Those transmission lines will be relocated and the existing power transmission lines demolished by FPL following completion and Government acceptance of the South Distribution Cell Levee and FPL access pads included in the scope of work under Contract 5.
- c. New power distribution lines necessary to provide electrical service to the various water control structures will be constructed by FPL. This work includes the construction of a distribution line along the South Distribution Cell Levee, which will be constructed by FPL following completion and Government acceptance of the South Distribution Cell Levee and FPL access pads included in the scope of work under Contract 5.

1.5.2 South Florida Water Management District (SFWMD)

The construction of Structure G-311 in existing Levee 40 at the westerly end of the West Distribution Cell will be performed under a contract issued by SFWMD. That contract will include extension of the borrow canal in the West Distribution Cell along the South Distribution Cell Levee to G-311 following relocation of the FPL overhead power transmission lines.

An investigation of possible site contamination, a determination of required remediation, and the completion of that required remediation will be performed under a contract issued by the SFWMD. The contaminated sites and associated work include:

- a. Aboveground storage tank (AST) area in the southeast part of Cell 4S. Work will include permitting, removal, and closure of AST's; overseeing demolition and removal of secondary containment structure and overhang; evacuation of petroleum contact water; excavation, transport and disposal of petroleum-impacted soils; and backfilling with clean sand.
- b. Maintenance area and equipment shelter located in the southeast part of Cell 4S, adjacent to the AST area. Work will include demolition of the equipment trailer and pole barn; segregation and staging/disposal of the demolition materials; excavation,

transport, and disposal of oil- and arsenic-impacted soil;
groundwater monitoring, and backfilling with clean sand.

- c. Chemical mixing areas. Work will include excavation, transport, and disposal of arsenic-impacted soil; groundwater monitoring, and backfilling with clean sand.
- d. Pump station located along the alignment of Interior Levee 4 in the central portion of Cell 4S. Work will include removal, disposal, and closure of single-walled AST piping; replacement of the single-walled piping with double-walled piping; excavation, transport, and disposal of petroleum-impacted soils; and backfilling with clean sand.
- e. Pump station located approximately 450' west and 150' south of the intersection of Interior Levee 7 and Levee L-85. Work will include coordination of excavation, transport, and disposal of petroleum-impacted soil; limited open-hole air sparging; and groundwater monitoring.
- f. Pump station located approximately 100' north and 100' west of the intersection of Interior Levee 8 and Levee L-85. Work will include excavation, transport, and disposal of petroleum-impacted soil; groundwater monitoring; backfilling with clean fill; and construction of a new support pad.
- g. Pump station located at the far north end of the stairstep canal. Work will include excavation, transport, and disposal of petroleum-impacted soil and groundwater monitoring.
- h. Former fuel tank site located approximately 100' south of the Levee L-85 alignment in the central part of the East Distribution Cell. Work remaining at this site includes backfill, installation of monitoring wells, and at least two quarterly monitor readings before closure.

1.6 USE OF PREMISES

The Contractor will not have exclusive use of the premises. Limit use of the premises for storage and execution of the work to allow for work by other contractors. Confine operations to areas within the contract limits indicated. Portions of the site outside the contract limits indicated shall not be disturbed. Canals indicated to remain shall be kept open and functional under all circumstances. Pump and drainage site features as indicated on the site drainage plan will be operated by others for drainage and irrigation of adjacent lands; Contractor shall not hinder access or operation of these pumps. Water levels controlled by these pumps will generally be maintained for agricultural purposes. The Contractor cannot expect optimal water levels to facilitate work. The Contractor shall plan his work accordingly.

1.6.1 L-85, South Distribution Cell Levee and FPL Access Pad P-01

Contractor will have exclusive use of the lands on which levee L-85 sta.

~~140+20.94~~ 139+33.15 to 299+49.07 and the FPL Access Road are to be constructed until completion and Government acceptance of levee L-85. Contractor will have exclusive use of the lands on which completion of the South Distribution Cell Levee (SDCL) and FPL Access Pad P-01 is required only after Government acceptance of the work to be completed under Contract 5 on these facilities between SDCL sta. 105+91 and 196+00 and transmission line construction by FPL.

1.6.2 Segment 2

Contractor will have exclusive use of those lands on which construction of Interior Levee 1 sta. 131+20.78 to 181+83.95, Interior Levee 2 sta. 0+00 to 47+76.57, and Interior Levee 6 and Levee L-85 from L-85 sta. 299+49.07 to 400+77.30 is required only after completion and Government acceptance of cell grading, final land preparation and disking of Cells 1, 2, and 3 by Contract 5. Contractor will have exclusive use of those lands on which construction of Interior Levee 1 sta. 77+47.52 to 131+20.78 is required only after completion and Government acceptance of cell grading, final land preparation and disking of Cell 4N by Contract 5.

1.6.3 Segment 3

Contractor will have exclusive use of those lands on which construction of Interior Levee 2 sta. 47+76.57 to 95+32.65, Interior Levee 3, Interior Levee 4 sta. 0+00 to 33+00, and Interior Levee 6 and Levee L-85 from L-85 sta. 400+77.30 to 484+99.92 is required only after completion and Government acceptance of cell grading, final land preparation, and disking of Cells 2, 3, 4N, 4S, and 5.

1.6.4 Segment 4

Contractor will have exclusive use of those lands on which construction of Interior Levee 4 sta. 33+00 to 150+72.91 and Interior Levee 6 sta. ~~139+47.95~~ 137+68.45 to 193+25 is required within the indicated limits of construction only after completion and Government acceptance of cell grading and final land preparation and disking in Cells 3, 4N, 4S, 5, and 6 by Contract 5.

1.6.5 Segment 5 and East Distribution Cell (EDC)

Contractor will have exclusive use of those lands on which construction of Interior Levee 8 and L-85 sta. 106+70.51 to 119+22.23 is required within the indicated limits of construction only after removal of existing transmission lines in the EDC by FPL.

1.7 ORDER OF WORK

Other than as specified below, the construction sequence and order of work shall be determined by the Contractor. The required completion times specified herein shall be considered milestones required by the contract and included in the project schedule and network diagram to be prepared as required in Section 01320 PROJECT SCHEDULE.

1.7.1 Completion Time

All work under this contract shall be completed within 458 calendar days after the Contractor's receipt of a Notice to Proceed with construction at the site. Contract 5 scheduled completion dates for items in Paragraphs 1.7.2.1, 1.7.2.2, 1.7.2.3 and 1.7.2.4 are based on the assumption the Contractor's receipt of Notice to Proceed (NTP) will be 15 July 2002, and will be extended or reduced by the number of days before or after the above date that the Contractor in fact receives NTP.

1.7.1.1 Coordination and Completion of Work for Pump Tests

The Government plans to test the pumps in Pumping Stations 319 and 362 during the construction period for this contract. In order to test the S-319 pumps, the East Distribution Cell would need to be made ready for storage of water, and be capable of discharging flows from Structures 363 A, B and C to Cell 1. In addition to the East Distribution Cell, Cells 1, 2, Structures 364 A, B and C, Structures 365 A and B, and L-85 (between Sta. 400+77.30 and Sta. 484+99.92) would need to be complete to test the pumps at S-362. With approval of the Contracting Officer's Representative (COR), the Contractor shall complete the East Distribution cell ready for the S-319 pump tests, 150 days from Contractor's receipt of Notice to Proceed. With approval of the COR, the Contractor shall complete Cells 1 and 2, Structures 364 A, B and C, S-365 A and B, and L-85 (between Sta. 400+77.30 and Sta. 484+99.92) ready for the S-362 pump test, 240 days after the Contractor's receipt of Notice to Proceed.

- a. Work to be completed prior to testing pumps at Pumping Station 319 is as follows:

- (1) The South Distribution Levee from L-8 to Sta. 194+60 (to be completed as part of Contract 5).
- (2) Structures 363 A, B and C (to be completed as part of Contract 5).
- (3) Segment 5, Levee 85 Sta. 106+70.51 to Sta. 119+22.23 (this contract).
- (4) Segment 1, Levee 85 Sta. ~~140+20.94~~ 139+33.15 to Sta. 238+00.00 (this contract, including seepage canal connecting to C-51).
- (5) Segment 5, Interior Levee 8 Sta. 0+00.00 to Sta. 23+01.43 (this contract).
- (6) S-319 Discharge Canal (this contract).

- b. Additional work to be completed prior to testing pumps at Pumping Station 362 is as follows (all in this contract):

- (1) Segment 1, Levee 85 Sta. 238+00.00 to Sta 299+49.07 (including seepage canal).
- (2) Segment 2, Levee 85 Sta. 299+49.07 to Sta. 348+68.21 (including seepage canal).
- (3) Segment 2, Levee 85 Sta. 348+68.21 to Sta. 400+77.30 (including seepage canal, Discharge Canal 7 and Interior Levee 6).
- (4) Segment 3, Levee 85 Sta. 400+77.30 to Sta. 484+99.92 (includes seepage canal and discharge canal).
- (5) Structures 364 A, B and C.

- (6) Structures 365 A and B.
- (7) Segment 2, Interior Levee 2 Sta. 0+00.00 to Sta. 47+76.57.
- (8) Segment 3, Interior Levee 2 Sta. 47+76.57 to Sta. 95+36.95.
- (9) Segment 2, Interior Levee 1 Sta. 131+20.78 to Sta. 181+83.95.
- (10) Segment 4, Interior Levee 6 Sta. ~~139+47.95~~ 137+68.45 to Sta. 193+25.00.

1.7.2 Scheduled Delays

The Contractor's schedule developed under Section 01320 PROJECT SCHEDULE shall reflect the following scheduled delays. Affected work may not proceed until approved by the Contracting Officer's Representative, which approval will be given upon completion of preceding work by others. Specific elements of earthwork included in Segments 1 through 5 are as indicated and specified in Section 02300 EARTHWORK.

1.7.2.1 Segment 1 Earthwork

Other than as specified herein, all construction for Segment 1, including clearing, grubbing, excavation, and embankment, may proceed upon Contractor's receipt of a Notice to Proceed. With approval of the Contracting Officer's Representative (COR), construction of the South Distribution Cell Levee (SDCL) between sta. 194+60 and sta. 198+59.47 (including adjacent borrow canal) may proceed prior to completion by Florida Power and Light (FPL) of new transmission line construction, presently scheduled for completion 264 calendar days after Notice to Proceed with work under this contract. Work included in Segment 1, including construction of SDCL between Sta. 194+60 and Sta. 198+59.47, required to complete the Distribution Cell ready for Pumping Station 319 pump test, shall be complete within 150 days after receipt of the Notice to Proceed. Contractor shall maintain the existing drainage and irrigation paths for adjacent landowners during construction.

1.7.2.2 Segment 2 Earthwork and Water Control Structures

Construction of Segment 2 earthwork, together with water control structures S-364 and S-367, may not begin until completion of all Cell 1, 2 and 3 grading and final land preparation (disking) under Contract 5, presently scheduled for completion 174 calendar days after Notice to Proceed with work under this contract. Clearing and grubbing for L-85 and Interior Levee 6, where within Segment 2, as well as construction of water control structures S-365, may begin at any time following issuance of a Notice to Proceed with construction under this contract. With approval of the COR, construction in Cells 1 and 2 may begin at any time following issuance of Notice to Proceed. Levee 85 and Interior Levees 1 and 2 work included in Segment 2, required to complete Cell 1 & 2 ready for Pumping Station 362 pump test, shall be complete within 240 days after receipt of Notice to Proceed. The Contractor shall maintain the existing drainage and irrigation paths for adjacent landowners during construction.

1.7.2.3 Segment 3 Earthwork and Water Control Structures

Construction of Segment 3 earthwork, including water control structures S-368, may not begin until completion of all Cell 4S grading and land

preparation (disking) under Contract 5, presently scheduled for completion 75 calendar days after Notice to Proceed with work under this contract. Clearing and grubbing for L-85 and Interior Levee 6, where within Segment 3, as well as construction of water control structures S-369, may begin at any time following issuance of a Notice to Proceed with construction under this contract. Levee 85 and Interior Levee 2 work included in Segment 3, required to complete Cells 1 and 2 ready for Pumping Station 362 pump test, shall be complete within 240 days after receipt of Notice to Proceed. The Contractor shall maintain the existing drainage and irrigation paths for adjacent landowners.

1.7.2.4 Segment 4 Earthwork

Construction of Segment 4 earthwork may not begin until completion of all Cell 4N grading and final land preparation (disking) under Contract 5, presently scheduled for completion 194 calendar days after to Notice to Proceed with work under this contract. In addition, construction of Segment 4 earthwork may not begin until completion of all Segment 3 earthwork under this contract and placement into service (by others) of Pumping Station S-361, presently scheduled for April 10, 2002. Interior Levee 6 work included in Segment 4, required for testing Pumping Station 362, shall be complete within 240 days after receipt of the Notice to Proceed. Contractor shall maintain the existing drainage and irrigation paths for adjacent landowners.

1.7.2.5 Segment 5 Earthwork and Structure S-375

Other than as specified herein, with the approval of the Contracting Officer's Representative, all construction in Segment 5 may proceed upon Contractor's receipt of a Notice to Proceed. Contractor shall maintain access for FPL to new and existing transmission lines during constructions.

Contractor shall complete construction of Internal Levee 8 (I.L. 8) (between Sta. 0+00 and Sta. 23+01.43) and L-85 (between Sta. 106+70.51 and Sta. 119+22.23) within 150 days after receipt of Notice to Proceed. A continuous levee section (or a levee and earth cofferdam section around S-375) shall be constructed to allow for storage of water in the East Distribution cell and testing of the pumps at Pumping Station S-319.

1.7.2.6 Water Control Structures S-363, S-366, S-370 and S-373

Installation of stilling well level sensors and telemetry equipment at these structures, all to be constructed under Contract 5, may not proceed until Government acceptance of all work under Contract 5, presently scheduled to be completed 392 calendar days after Notice to Proceed with work under this contract.

1.7.2.7 Water Control Structures S-371, S-372 and S-374

Installation of stilling well level sensors and telemetry equipment at these structures, all to be constructed under Contract 7, may not proceed until Government acceptance of all work under Contract 7, presently scheduled to be completed 436 calendar days after Notice to Proceed with work under this contract.

1.7.3 Coordination with Florida Power and Light (FPL)

The Contractor shall complete all required levee embankments for Interior Levees 1, 3 and 6, and shall complete all construction for water control structures S-364, S-365, S-367, S-368 and S-369 (including final setting of precast concrete control buildings, but excluding final electrical construction), ready for FPL distribution line construction, within 365 calendar days of Notice to Proceed with work under this contract. Contractor shall permit FPL unimpeded access for construction of the distribution lines over a period of 49 calendar days, and shall provide FPL, through the Contracting Officer's Representative, not less than 45 days advance notice of readiness for distribution line construction by FPL.

1.8 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK

a. Read this paragraph in conjunction with the Clause COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (FAR 52.211-10) of Section 00700 CONTRACT CLAUSES.

b. In addition to the above, the following shall apply: The time stated for completion shall include the time specified for the establishment of grass as set forth in the paragraph ESTABLISHMENT AND PROTECTION AND MAINTENANCE of Section 02921 SEEDING

1.9 LIQUIDATED DAMAGES-CONSTRUCTION - ALTERNATE I

Refer to the Clause LIQUIDATED DAMAGES-CONSTRUCTION - ALTERNATE I (FAR 52.211-12) of Section 00700 CONTRACT CLAUSES.

1.10 PROJECT RECORD DOCUMENTS

This paragraph covers as-built drawings complete, as a requirement of the contract. The terms "drawings," "contract drawings," "drawing files," "working as-built drawings" and "final as-built drawings" refer to contract drawings which are revised to be used for final as-built drawings. At the Preconstruction Conference, the Contracting Officer's Representative will furnish to the Contractor one set of electronic files which reflect the contract drawings as awarded. The files will be furnished in the latest version of Microstation by Bentley Systems, Inc., on CD-ROM.

1.10.1 Working As-Built Drawings

The Contractor shall revise 2 sets of paper prints by red-line process to show the as-built conditions during the prosecution of the project. These as-built marked prints shall be kept current on a weekly basis and available on the job site at all times. Changes from the contract plans which are made in the work or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded as they occur by means of details and notes. The working as-built marked prints will be jointly reviewed for accuracy and completeness by the Contracting Officer and the Contractor prior to submission of each monthly pay estimate. If the Contractor fails to maintain the working as-built drawings as specified herein, the Contracting Officer will deduct from the monthly progress payment an amount representing the estimated cost of

maintaining the as-built drawings and will continue the monthly deduction of the 10% retainage even after 50% completion of the contract. This monthly deduction will continue until an agreement can be reached between the Contracting Officer and the Contractor regarding the accuracy and completeness of updated drawings. The working as-built drawings shall show the following information, but not be limited thereto:

- a. The location, description, and dimensions of utility lines or other installations of any kind or description known to exist within the construction area.
- b. The location and dimensions of any changes within structures.
- c. As=As constricted grade, elevations, cross section, or alignment of roads, earthwork, structures or utilities if any changes were made from contract plans.
- d. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor; including, but not limited to, fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.
- e. The topography, invert elevations and grades of drainage installed or affected as part of the project construction.
- f. Changes or modifications which result from the final inspection.
- g. Where contract drawings or specifications present options, only the option selected for construction shall be shown on the final as-built prints.
- h. If borrow material for this project is from sources on Government property, or if Government property is used as a spoil area, the Contractor shall furnish a contour map of the final borrow pit/spoil area elevations.

1.10.2 Preliminary Submittal

At the time of final inspection, the Contractor shall prepare 2 copies of the working as-built prints and these shall be delivered to the Contracting Officer for review and approval. These working as-built marked prints shall be neat, legible and accurate. If the Contractor elects to use references to as-built shop drawings on the working as-built prints, then paper copies of the referenced documents shall be appended at the end of the working set of as-built prints. The index sheet shall be revised to reflect the appended as-built shop drawings. The review by Government personnel will be expedited to the maximum extent possible. Upon approval, the working as-built marked prints will be returned to the Contractor for use in preparation of final as-built drawings. If upon review, the working as-built marked prints are found to contain errors and/or omissions, they will be returned to the Contractor for corrections. The Contractor shall complete the corrections and return the working as-built marked prints to the Contracting Officer within 10 calendar days.

1.10.3 Drawing Preparation

Upon approval of the working as-built prints submittal, the Contractor will be furnished, by the Government, one set of contract drawings with all amendments incorporated, to be used for final as-built drawings. These contract drawings will be furnished as specified by the Using Agency. These drawings shall be modified as may be necessary to correctly show the features of the project as it has been constructed by bringing the contract set into agreement with approved working as-built prints, adding such additional drawings as may be necessary. These drawings are part of the permanent records of this project and the Contractor shall be responsible for the protection and safety thereof until returned to the Contracting Officer. Any drawings damaged or lost by the Contractor shall be satisfactorily replaced by the Contract at no additional cost to the Government.

1.10.4 As-Built Shop Drawings

Upon completion of items of work, the Contractor shall revise the shop drawings to show "as-built" conditions. The notation "Revised to show 'as-built' conditions" shall be placed in red in the lower right corner of each drawing along with the initials of a responsible company representative. Each as-built shop drawing or catalog cut shall be identified by the Contract Number DACW17-01-R-0001 associated with the contract, and corresponding transmittal number from ENG Form 4025. "As-built" shop drawings of each Contractor-prepared construction drawing should be prepared as soon as possible after the construction detailed on a given drawing has been completed. After the "as-built" shop drawings have been prepared as described above and within 15 calendar days after the item has been incorporated into the project, the Contractor shall submit one complete set of as-built shop drawings, including catalog cuts, to the Contracting Officer. The Government reserves the right to withhold payment for the total price of the item for which as-built shop drawings have not been submitted.

1.10.5 Computer Aided Design and Drafting (CADD) Drawings

Only personnel proficient in the preparation of CADD drawings shall be employed to modify the contract drawings or prepare additional new drawings. Additions and corrections to the contract drawings shall be equal in quality to that of the originals. Line work, line weights, lettering, layering conventions, and symbols shall be the same as the original line work, line weights, lettering, layering conventions, and symbols. If additional drawings are required, they shall be prepared using the specified electronic file format applying the same guidance specified for original drawings. Any appended as-built shop drawings, if not in electronic format, shall be scanned and further prepared for submission as discussed in this paragraph. The title block and drawing border to be used for any new final as-built drawings or appended as-built shop drawings shall be identical to that used on the contract drawings. Additions and corrections to the contract drawings shall be accomplished using CADD media files supplied by the Government. These contract drawings will already be compatible with the Using Agency's system when received by the Contractor.

The Using Agency uses Microstation by Bentley Systems, Inc., CADD software system. The media files will be supplied on Using Agency's specified media. The Contractor shall be responsible for providing all program files and hardware necessary to prepare final as-built drawings. The Contracting Officer will review final as-built drawings for accuracy and the Contractor shall make all required corrections, changes, additions, and deletions.

a. When final revisions have been completed, the cover sheet drawing shall show the wording "RECORD DRAWING AS-BUILT" followed by the name of the Contractor in letters at least 3/16 inch high. All other contract drawings shall be marked either "AS-BUILT" drawing denoting no revisions on the sheet of "REVISED AS-BUILT" denoting one or more revisions. Original contract drawings shall be dated in the revision block. The Contractor shall sign the cover sheet of the marked-up drawings in the following manner: "I CERTIFY THAT THESE CORRECTED DRAWINGS INDICATE CONSTRUCTION AS ACTUALLY PERFORMED AND ARE AN ACCURATE REPRESENTATION OF THE SPECIFIED WORK. THESE CORRECTED DRAWINGS ARE APPROVED FOR PREPARATION OF AS-BUILT CONSTRUCTION DRAWINGS."

b. After receipt by the Contractor of the approved working as-built prints and the original contract drawings files the Contractor shall, within 60 days, make the final as-built submittal. This submittal shall consist of 2 sets of completed final as-built drawings on separate media consisting of both CADD files (compatible with the Using Agency's system on electronic storage media identical to that supplied by the Government) and mylars; 2 blue line prints of these drawings and the return of the approved marked working as-built prints. They shall be complete in all details and identical in form and function to the contract drawing files supplied by the Government. Any transactions or adjustments necessary to accomplish this is the responsibility of the Contractor. The Government reserves the right to reject any drawing files it deems incompatible with its CADD system. All paper prints, drawing files and storage media submitted will become the property of the Government upon final approval. Failure to submit final as-built drawing files and marked prints as specified shall be cause for withholding any payment due the Contractor under this contract. Approval and acceptance of final as-built drawings shall be accomplished before final payment is made to the Contractor.

1.11 EQUIPMENT OPERATING INSTRUCTIONS AND PARTS IDENTIFICATION

See Section 01781 OPERATION AND MAINTENANCE DATA.

1.12 CONTRACTOR-FURNISHED EQUIPMENT

See Section 01781 OPERATION AND MAINTENANCE DATA.

1.13 PHYSICAL DATA

Read this paragraph in conjunction with the Clause PHYSICAL DATA (FAR 52.236-4) of Section 00700 CONTRACT CLAUSES.

1.13.1 Physical Conditions

The indications of physical conditions on the drawings and in the specifications are the result of site investigations by surveys and/or by core borings. When the indicated physical conditions are the result of site investigations by core borings, the core boring logs and laboratory data are appended to the end of this Section and the core boring locations are shown on the drawings. While the Government's borings are representative of subsurface conditions at their respective locations and vertical reaches, local variations characteristic of the rocks and subsurface materials of this region are to be expected. The material recovered from the core borings is available for inspection by prospective bidders at the Corps of Engineers District Warehouse, 3077 Talleyrand Avenue, 20th Street, Jacksonville, Florida (between the hours of 8:00 am and 3:00 pm, except Federal holidays) during the entire bid period, and prospective bidders are strongly urged to examine the material and assure themselves that they have made the best possible evaluation of the subsurface conditions. Prospective bidders shall notify the Jacksonville District Explorations Manager at 904-232-3295 at least four (4) working days before the visit with the following information: (1) the project title; (2) the specific core borings or entire set which are to be viewed; (3) the date, time, and duration of the visit; (4) the name of the person(s) and company to view the borings; and, (5) a point of contact and phone number regarding the visit. Bidders shall form their own conclusions from this examination prior to submission of their bids. Bidders shall record their core examination visit in a record book maintained at the inspection site.

1.13.2 Location

The project site is located in unincorporated Palm Beach County, Florida, immediately south of U.S. Highway 98/441 (Southern Boulevard). the northeasterly corner of the project site (intersection of Southern Boulevard with Flying Cow Road) is approximately 14 miles west of Interstate 95.

1.13.3 Weather Conditions

The project area is subject to tropical storms and hurricanes from June through November, and to windy and/or rainy weather, including severe electrical storms and other sudden and locally severe meteorological occurrences that approach hurricane conditions, during any time of the year. The climate of the area is essentially subtropical and temperatures below freezing are rare. The wet season in the project area is from May through October. In general, the winter months constitute the dry season and rainfall is usually associated with mid-latitude systems (fronts and low pressure systems) and is distributed in a spatially uniform pattern. The summer months comprise the wet season and rainfall is closely associated with convective activity. These rainfall events are normally of short duration and amounts are quite variable spatially. Occasionally, daily rainfall in the dry season can be quite heavy as mid-latitude systems penetrate into Florida. The average number of days per calendar month with rainfall equal to, or greater than 0.1 inch is provided in paragraph TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER below. This information was obtained from rain gauge entitled West Palm Beach located at Latitude 26 degrees N. and Longitude 80 degrees 07' W. The data were obtained from

monthly climatological data publications by the National Climatic Center, NOAA, for the period of record from January 1963 through June 1984.

It shall be the Contractor's responsibility to obtain information concerning rain and wind conditions that could influence his construction operations. Reference is made to the following publications which contain climatological and meteorological observations and data. The publication "Local Climatological Data - Monthly Summary" published by NOAA, Asheville, North Carolina, contains climatological and meteorological observations and data. The Annual Summary gives a summary of the observations for the period of record. This publication is available for review in the office of the U.S. Army Corps of Engineers, Jacksonville District Office, 400 West Bay Street, Jacksonville, Florida. Subscription price and ordering information are available from the National Climatic Data Center, Federal Building, Asheville, N.C. 28801. NOAA also has an internet information page at: <http://www.ncdc.noaa.gov/>.

1.13.4 Transportation Facilities

1.13.4.1 Major Highways, Airports, Port Facilities, and Rail Access

West Palm Beach is served by Interstate 95, the Florida Turnpike, U.S. Highway 98/441, and Florida State Road 80; the Florida East Coast Railroad and CSX Railroad; Palm Beach International Airport (PBI); and the Port of Palm Beach.

1.13.4.2 Contractor Investigation

In addition to the information given in the contract drawings, the Contractor shall make his own investigation of available roads for transportation, load limits for bridges and roads, and other road conditions affecting the transportation of materials and equipment to the site. The Contractor shall investigate the availability of railroad sidings, and shall make all arrangements for use of any sidings for the delivery of any materials and equipment to be used on the work.

1.13.5 Local Conditions - Water Stages

1.13.5.1 Water Fluctuations

The below stated water fluctuations are for information only and are not to be utilized in conjunction with any contract related hydrographic surveying. Reference should be made to the water level datum for surveying purposes as noted on the control drawings(s) of the contract plans.

1.13.5.2 Water Stages

Water stages in the project area are mainly affected by rainfall, local runoff, water supply deliveries, groundwater levels, and operation of water control structures. Water levels in Water Conservation Area (WCA) No. 1 are regulated according to a regulation schedule that seasonally varies from 14.0 to 17.5 feet, NGVD (refer to schedule appended to the end of this Section (Appendix F)). Please visit the Water Management and Meteorology Section's web site at <http://www.saj.usace.army.mil/h2o/> for possible

future deviations to this regulation schedule. Inflows to WCA No. 1 are controlled by Pump Station S-5A and distributed by the South Florida Water Management District's (SFWMD) Inflow and Distribution Works (I&D Works). S-5A pumps surplus water via C-51 from the agricultural area northwest of the pump station into WCA No. 1. S-5A may also remove excess water from the L-8 and C-51 basins and from Lake Okeechobee when the lake is above its regulation schedule. Stages in C-51 (West Palm Beach Canal) are regulated by the operation of the C&SF Project Structures S-155 and S-5AE. S-155 and S-5AE are operated by the SFWMD. S-155 passes flood runoff from C-51, maintains optimum water levels, prevents overdrainage of the area, prevents saltwater intrusion, and passes regulatory discharges from Lake Okeechobee and/or WCA No. 1 when capacity is available in C-51. Stages closest to the project area are influenced mainly by S-5AE flows. S-5AE is operated to pass water from Lake Okeechobee and/or WCA No. 1 to meet water supply demands downstream in C-51. S-5AE is closed whenever releases would aggravate flood conditions downstream. When capacity is available in C-51, S-5AE can be used to discharge excess water from L-8 Canal, or regulatory releases from Lake Okeechobee and/or WCA No. 1. During dry conditions, water can be transferred from WCA No. 1 or Lake Okeechobee into C-51 to recharge the aquifer and prevent saltwater intrusion. Excess water in the west basin is discharged to tidewater by way of S-155 or to WCA No. 1 by way of S-5AE, S-5AW, and S-5A.

Water levels upstream of S-155 are normally maintained at 8.5 feet, NGVD. However, water levels will vary above and below 8.5 feet, NGVD. The United States Geological Survey (USGS) operates a gauging station entitled "West Palm Beach Canal at West Palm Beach, Fl", downstream of the project site at the West Palm Beach Lock. For the period of record November 1939 to September 1999, the peak stage recorded was 10.89 feet, NGVD, on 13 October 1947, and the minimum stage recorded was 2.85 feet, NGVD, on 3 December 1953, 9 October 1963, and 9 September 1964. The maximum daily discharge recorded was 5710 cubic feet per second (cfs) on 18 October 1995.

Water levels in C-51 Basin are regulated by the SFWMD. All operations of existing structures are to be performed by SFWMD personnel. The Contractor shall not interfere or hinder the SFWMD's access to or operation of these structures.

1.13.5.3 Historical Stage Graphs

Stage graphs showing historic tailwater elevations at S-5-AE are appended to the end of this Section (Appendix G). All data in these historical stage graphs are provisional and subject to revision. The Contractor should understand that, in general, historic water levels and discharges are not necessarily indicative of future water levels and discharges.

1.13.6 Subsurface Investigations

Refer to core boring logs and laboratory data appended to the end of this Section.

1.14 LAYOUT OF WORK

1.14.1 Established Monuments

The Government has established monuments, control data and elevations for the work site(s) as indicated on the contract drawings. Control monument descriptions are appended to the end of this Section.

1.14.2 Layout

From the monuments, control data and elevations established by the Government, the Contractor shall complete the layout of the work and shall be responsible for all measurements that may be required for the execution of the work to the location and limit marks prescribed in the specifications or on the contract drawings, subject to such modifications as the Contracting Officer may require to meet changed conditions or as a result of necessary modifications to the contract work.

1.14.3 Survey

The Contractor shall furnish, at his own expense, such stakes, templates, platforms, equipment, tools and material, and all labor as may be required in laying out any part of the work from the monuments, control data and elevations established by the Government. It shall be the responsibility of the Contractor to maintain and preserve all stakes and other marks established by the Contracting Officer until authorized to remove them, and if such marks are destroyed by the Contractor or through his negligence, prior to their authorized removal, they may be replaced by the Contracting Officer, at his discretion, and the expense of replacement will be deducted from any amounts due or to become due the Contractor. The Contracting Officer may require that work be suspended at any time when location and limit marks established by the Contractor are not reasonably adequate to permit checking of the work.

1.14.4 Levee and FPL Access Pad Embankment Cross Section Surveys

The Contractor shall obtain as-constructed cross sections and profiles of all completed levee embankments. Cross sections shall be obtained at intervals not exceeding 100 feet. The Contractor shall plot all cross sections, and compute in-place embankment volumes for use by the Government in establishing final payment quantities in accordance with the provisions of Section 02300 EARTHWORK. Contractor shall submit one copy of all field cross section notes in bound books, together with plotted cross sections and embankment volume computations, for approval by the Contracting Officer.

Surveys for sections of embankment completed on any period for which progress payments are requested shall be submitted but not less than fourteen (14) calendar days in advance of the Contractor's submittal of the request for payment.

1.15 STONE SOURCES (JAN 2000)

The Contractor shall be responsible for all arrangements in obtaining and testing of proposed stone sources. Bidders must verify that sources can meet gradation and quantity requirements. The Contractor shall submit within 10 days after Notice of Award, the proposed stone sources for all classes of stone, including all laboratory test data and service records

for the proposed stone source(s). The Contractor shall submit a letter stating that he has verified that the stone, or sources, which he plans to use will be able to produce, either solely or collectively, the quantity of stone, of an acceptable quality, necessary for this project. This letter must include a list of the source of sources from which the Contractor plans to obtain the stone. The Government reserves the right to revoke approval and reject any or all material furnished from any source at any time during the course of the contract if and when it is determined by the Contracting Officer that such material does not conform to the gradation or quality specified. The Contractor's attention is called to the fact that the specified gradations are not industry standard and processing of materials will be required to meet the specified gradations. The Contractor shall submit the "Stone Source Information" form for each stone source. A sample of this form is appended to the end of Section 02370 STONE PROTECTION.

1.16 RETESTING OF CONSTRUCTION MATERIALS

Where specified, initial tests on construction materials, which are specifically indicated in these specifications to be tested by the Government, will be performed at the expense of the Government unless otherwise specified hereinafter. Any retesting due to failure of the materials to meet the requirements in the initial test or any retesting requested by the Contractor shall be performed at the Contractor's expense.

The retests shall be at laboratories approved by the Contracting Officer. The cost of retests made at Government Laboratories will be deducted from the total amount due the Contractor.

1.17 CRITICAL LIFT PLAN OPERATION

1.17.1 Definition of a Critical Lift

A non-routine crane lift which requires detailed planning and additional or unusual safety precautions. Critical lifts include lifts made when the load weight is 75 percent of the rated capacity of the crane; lifts which require that the load will be lifted, swung, or placed out of the operator's view; lifts made with more than one crane; lifts involving a non-routine or technically difficult rigging arrangement; or, any lift which the crane operator believes should be considered critical.

1.17.2 Critical Lift Plan Submittal

In such a case, the Contractor shall submit a Critical Lift Plan, hereinafter referred to as "Plan", prior to making a critical lift. The Plan shall be prepared by the crane operator, lift supervisor, and rigger. All personnel involved in the lift shall review and sign the Plan. The Plan shall be documented and a copy provided to the Contracting Officer for approval. The Plan shall be submitted at the Preconstruction Conference to permit time for review and shall contain the following information:

- a. The Plan shall specify the exact size and weight of the load to be lifted as well as all crane and rigging components which add to the weight.

- b. The Plan shall specify the lift geometry and procedures, including the crane position, height of the lift, the load radius, the boom length, and angle for the entire range of the lift.
- c. The Plan shall designate the crane operator, lift supervisor, and rigger, and state their qualifications.
- d. The Plan shall include a rigging plan which shows the lift points, describes rigging procedures, and hardware requirements.
- e. The Plan shall describe the ground conditions, outrigger or crawler track requirements, and if necessary, the design of mats necessary to achieve a level, stable foundation of sufficient bearing capacity for the lift. For floating cranes or derricks, the plan shall describe the operating base (platform) condition.
- f. The Plan shall list environmental conditions under which lift operations are to be stopped.
- g. The Plan shall specify coordination and communication requirements for the lift operation.
- h. For tandem or tailing crane lifts, the Plan shall specify the make and model of the cranes, the line, boom and swing speeds, and requirements for an equalizer beam.

1.18 ACCOMMODATIONS FOR GOVERNMENT PERSONNEL

1.18.1 General

The Contractor shall furnish and maintain an office trailer for the exclusive use of Government personnel throughout the contract period. The office trailer shall be independent of any building or trailer used by the Contractor. The trailer shall be set up and furnished as specified, ready for Government occupancy no later than 30 calendar days after receipt of the Notice to Proceed.

1.18.2 Office Trailer

The office trailer shall be of light, but weatherproof construction, with a minimum of 600 square feet, 7-1/2 feet of head room, and not less than 8 feet in width. The trailer shall be partitioned into two office spaces with space for conference area between and have two entrance doors. The walls and ceilings shall be insulated, and the interior walls shall be finished. The trailer shall have a restroom and shall be complete with flush toilet, lavatory, and medicine cabinet. A minimum of two double socket wall outlets and one ceiling light shall be provided in each separate room of the building. The trailer shall have a sufficient number of windows to admit ample working light, and windows shall be arranged to open and to be securely fastened from the inside. Glass panels in windows shall be equipped with bars or heavy mesh screens which will prevent easy access into the trailer through the windows. Insect screens shall be provided for windows and doors. The doors shall be of solid core construction and be equipped with butt hinges, and a padlock and heavy duty

hasp bolted to the doors. The trailer shall be equipped with electric heat and air conditioning of sufficient capacity for the intended geographic location to maintain an ambient air temperature of 72 degrees F (winter) to 78 degrees F (summer) throughout the trailer. The office trailer shall be located at a site convenient to the work area and as approved by the Contracting Officer. It shall be leveled and set on blocks, and shall be secured by tie-down anchors sufficient to withstand hurricane force winds. The office trailer and furnished equipment will remain the property of the Contractor. Upon completion of all work under this contract, the office trailer shall be removed by the Contractor from the project site.

1.18.3 Office Equipment

The office trailer shall be equipped as follows:

- 1 - Plan Table installed in one office (may be built in) with a minimum working surface of 4 feet by 6 feet, and draftsman stool
- 2 - Office desks with five lockable drawers (to inches x 30 inched, laminated top) and padded swivel chair for each (desks should be designed for use with PCs)
 - 1 - Conference Table with eight chairs
 - 1 - Fire resistant, five drawer, legal size lockable filing cabinet
 - 2 - Five drawer, letter size lockable filing cabinets
 - Intercom connection to Contractor's secretarial station
 - Telephone answering machine with remote answering capability and voice time/day stamp
- ...1 - Table to support FAX and printer
- Photo-static copy machine
- 2 shelf sets - Four shelves high by 12 inches deep by 3 feet long (attachable to wall)
- 2 - 3' x 6' Cork Bulletin Boards
- 3 - 3' x 6' Dry Erase Boards
- 1 - Vertical filing plan rack sufficient for contract drawings
- 3 - Waste baskets
- 1 - Seven cubic foot refrigerator with freezer
- 1 - Water cooler/dispenser with minimum 3 gallon capacity
- 1 - Microwave Oven

1.18.4 Utilities

Potable water shall be connected to the trailer's toilet and lavatory. Sewage disposal facilities shall be provided and comply with all local regulations. The Contractor shall make the necessary arrangements to either obtain or generate electrical power and shall connect, provide, and bear the cost of the electrical service for the office trailer described above. Electric service shall be 120/240 volt, single phase, three wire, 60 hertz, sufficient to handle the required load (operation of air conditioning, heating, lights, appliances, electric calculators, etc.) and shall meet the current National Electric Code. The Contractor shall provide and maintain telephones and telephone service into the office trailer (one line, two extensions). Where an acceptable and reliable network is not available, cellular telephones may be provided in lieu of a regular telephone line. Monthly charges for long distance calls made by

the Government shall be reimbursed to the Contractor.

1.18.5 Janitorial Services

The Contractor shall furnish daily janitorial services for the office space on the project site and perform any required maintenance of facilities and grounds as deemed necessary by the Contracting Officer during the entire life of the contract. Toilet facilities shall be kept clean and sanitary at all times. Services shall be performed at such a time and in such a manner to least interfere with Government use of the trailer, but shall be accomplished only when Contracting Officer Representative's are present. Service shall be accomplished to the satisfaction of the Contracting Officer. The Contractor shall also provide daily trash collection and cleanup of the trailer and adjacent outside areas.

1.18.6 Payment

No separate or direct payment will be made for furnishing and setting up the equipped office trailer and utilities, or for operation and maintenance costs, and all appropriate costs, including utilities, shall be considered a subsidiary obligation of the Contractor, in the same category as field supervision, and listed as an overhead item separately identifiable in the accounting system.

1.19 CONSTRUCTION PROJECT SIGNS

Except when otherwise directed by the Contracting Officer, the Contractor shall furnish, install, and maintain the construction project signs at the worksite(s) covered under this contract. The construction project signs (a project identification sign and a safety performance sign) shall be as indicated in the appendix at the end of this Section, and shall be erected, where directed, within thirty (30) calendar days after receipt of the Notice to Proceed. The signs shall be of the construction, size, format, and style indicated, shall be neatly and sturdily constructed, and shall be securely erected in a workmanlike manner to support the sign properly for the life of the contract. The name of the facilities shown in the appendix are for illustration only. No sign shall be prepared until the facility name applicable to the work under the contract has been furnished by the Contracting Officer.

1.19.1 Signage Removal

Upon completion of construction and when so directed by the Contracting Officer, the construction project signs shall be removed by the Contractor during the final cleanup process. The signs shall be disposed of by the Contractor in a manner satisfactory to the Contracting Officer.

1.19.2 Signage Costs

All costs connected with the furnishing, installation, maintenance, and removal of the construction project signs shall be included in the total contract price of the items listed in the Bidding Schedule.

1.20 WATER

a. The responsibility shall be upon the Contractor to provide and maintain at his own expense an adequate supply of water for his use for construction, and to install and maintain necessary supply connections and piping for same, but only at such locations and in such manner as may be approved by the Contracting Officer. In the event water is made available by the Government, the Contractor shall, at his own expense, install a meter to determine the amount of water used by him and such water will be paid for by, or charged to, the Contractor at prevailing rates or at reasonable rates as determined by the Contracting Officer. Before final acceptance, temporary connections and piping installed by the Contractor shall be removed in a manner satisfactory to the Contracting Officer.

b. The Contractor shall provide and maintain his own temporary toilet and washing facilities. Toilet and washing facilities shall be installed and maintained in compliance with the provisions of the latest version of EM 385-1-1 in a location approved by the Contracting Officer.

1.21 ELECTRICITY

a. All electric current required by the Contractor shall be furnished at his own expense. All temporary connections for electricity shall conform to the requirements of the latest versions of EM 385-1-1, CESAJR 385-1-1, and NFPA 70, and be subject to the approval of the Contracting Officer. In the event electricity is made available by the Government, the Contractor shall, at his own expense, install a meter to determine the amount of current used by him and such electricity will be paid for by, or charged to, the Contractor at prevailing rates or at reasonable rates as determined by the Contracting Officer. All temporary lines will be furnished, installed, connected, and maintained by the Contractor in a workmanlike manner satisfactory to the Contracting Officer and shall be removed by the Contractor in like manner at his expense prior to completion of the construction.

b. In accordance with the latest versions of EM 385-1-1, CESAJR 385-1-1, and NFPA 70, the Contractor shall provide Ground Fault Circuit Interruption (GFCI) on all 120 volt, 15 and 20 ampere, single phase receptacles used for construction power. Ground Fault Circuit Interrupters are not an acceptable substitute for grounding.

1.22 UNITS OF MEASURE

The standard U.S. system of measure shall be utilized by the Contractor in the performance of his work. Any omission, unprofessional or inaccurate use of a unit of measure on the part of the Contractor shall not relieve him of his responsibilities under the contract terms. The unit of measure used in this specification and on the Contract Drawings is the standard U.S. system. If no unit of measure is indicated on the drawing such as on ranges, stations, slope elevations, and distance numbers, then they are to be considered the standard U.S. system.

1.23 HURRICANE AND SEVERE STORM PLAN

1.23.1 Hurricane and Severe Storm Plan Contents

Within 20 calendar days after the Notice of Award, the Contractor shall submit as an attachment to his Accident Prevention Plan, a Hurricane and Severe Storm Plan for review and acceptance. This plan shall include but not be limited to the following:

- a. Types of storms anticipated (Winter storm, Hurricane, Tornado).
- b. Time intervals before storms when action will be taken and details of the actions taken.
- c. List of the equipment to be used on the job and its ability to handle adverse weather.
- d. Plan of evacuation to include interim measures, i.e., immediate reaction plans to be taken for all storm occurrences, particularly sudden/flash storms.

1.23.2 Sample Plan

Appended to the end of this Section is a sample Hurricane and Severe Storm Plan to be used for illustrative purposes only.

1.23.3 Monitoring of Weather

The Contractor shall maintain full-time monitoring of the NOAA marine weather broadcasts, and avail themselves of such other local commercial weather forecasting services as may be available. These information broadcasts shall be the Contractor's primary source in the decision process to implement action under the approved storm plan.

1.24 PRECONSTRUCTION CONFERENCE

A Preconstruction Conference will be arranged by the Contracting Officer's Representative after award of contract and shall be held before Notice to Proceed is issued. The Contracting Officer's Representative will notify the Contractor of the time and date set for the meeting. At this conference, the Contractor shall be oriented with respect to Government procedures and line of authority, contractual, administrative, and construction matters. Additionally, a schedule of required submittals will be discussed. Minutes of the meeting shall be prepared by the Contracting Officer or Contracting Officer's Representative and signed by both the Contractor and the Contracting Officer or Contracting Officer's Representative. The minutes shall become a part of the contract file. There may also be occasions when subsequent conferences will be called to reconfirm mutual understanding.

1.24.1 Preconstruction Conference Submittal Items

Within twenty (20) calendar days after the date of the Notice of Award, the Contractor shall submit the following items in either completed or draft form for review by the Contracting Officer's Representative prior to the

preconstruction conference:

Letter Appointing Superintendent

Power of Attorney and Certified Copy of Resolution for local representatives (if local representative will be allowed to sign contract documents)

Affirmative Action Plan, Refer to Clause EQUAL OPPORTUNITY of Section 00700 CONTRACT CLAUSES.

Drug-Free Workplace, Refer to Clause DRUG-FREE WORKPLACE of Section 00700 CONTRACT CLAUSES.

List of Subcontractors

Accident Prevention Plan (including Activity Hazards Analysis as outlined in EM 385-1-1, Appendix A and Figure 1 of Section 1, Hurricane and Severe Storm Plan, and Employee Safety and Health Indoctrination (ESHI) (sample ESHI appended to the end of this Section).

Critical Lift Plan Operation, Refer to paragraph CRITICAL LIFT PLAN OPERATION of this Section.

Hazard Communication Program, Refer to Clause HAZARD COMMUNICATION of Section 00800 SPECIAL CONTRACT REQUIREMENTS.

Confined Space Entry Plan, Refer to Clause CONFINED SPACE ENTRY of Section 00800 SPECIAL CONTRACT REQUIREMENTS.

Hurricane and Severe Storm Plan, Refer to paragraph HURRICANE AND SEVERE STORM PLAN of this Section.

Diving Plan (including Activity Hazards Analysis), Refer to Clause DIVING PLAN of Section 00800 SPECIAL CONTRACT REQUIREMENTS.

Quality Control Plan, Refer to Section 01451 CONTRACTOR QUALITY CONTROL.

Completed Electronic Submittal Register

Environmental Protection Plan, Refer to Section 01410 ENVIRONMENT PROTECTION.

Traffic Control Plan

Preliminary submittals required under Section 01320 PROJECT SCHEDULE.

Other Items as May be Specified Elsewhere

Each Plan shall be submitted as an enclosure to a letter, signed by a Corporate Official of the Contractor. The letter shall state that the Plan complies with all requirements of the contract.

1.24.2 Failure to Comply

The timing of submission of submittals and completion of the Preconstruction Conference is intended to allow the Contractor and the Government adequate time to prepare for commencement of work. However, should the Contractor fail to submit required items within the times stated, the Contracting Officer may issue NTP prior to receipt of submittals and prior to the Preconstruction Conference. If NTP is issued prior to the Contractor's compliance with submittal requirements and prior to the Preconstruction Conference, the Contractor will not be permitted to commence work until these requirements have been satisfied. Any delays attributable to the Contractor's failure to comply with these pre-work requirements shall be at the Contractor's expense and may be cause for remedial action by the Contracting Officer. Submittals required by this Section are described in paragraph SUBMITTALS above.

1.24.3 Contracting Officer Representative Responsibility

1.24.3.1 Report Preparation Instruction

Instruct the Contractor in the preparation of the Daily Report(s) which the Contractor will submit.

1.24.3.2 Contractor Indoctrination

Inform the Contractor of the requirements to indoctrinate ALL personnel on job site safety prior to the employee commencing any work. The indoctrination shall be signed and dated by the employee and the Supervisor. A copy shall be maintained by the Contractor at the job site.

1.24.3.3 Letter of Record

The letter of record will be written documenting all items discussed at the conference and a copy will be furnished by the Contracting Officer's Representative to all in attendance.

1.25 NOTICE TO PROCEED

The Notice to Proceed (NTP) will not be issued to the Contractor until after the Preconstruction Conference has been completed. However, if the Contractor fails to submit an acceptable Quality Control (QC) Plan, Environmental Protection Plan, Accident Prevention Plan, or other plan(s) required under these specifications, within the time prescribed, construction shall not start unless an acceptable interim plan is submitted. While the Contractor is operating under an acceptable interim plan, the Contracting Officer may retain funds from progress payments in accordance with the Clause PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS of Section 00700 CONTRACT CLAUSES until such time as the Contractor submits an acceptable final plan. If an acceptable final plan is not submitted within a reasonable time, as determined by the Contracting Officer, the Contracting Officer may order the Contractor to stop work until such time as an acceptable plan has been submitted. Any such stop work order shall not be considered a suspension of work for an unreasonable period of time under the Clause SUSPENSION OF WORK of Section 00700 CONTRACT CLAUSES and the Contractor shall not be entitled to pay

adjustments as a result of the stop work order.

1.26 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (31 OCT 1989)

This provision specifies the procedure for the determination of time extensions for unusually severe weather in accordance with the Clause DEFAULT (FIXED-PRICE CONSTRUCTION) of Section 00700 CONTRACT CLAUSES. In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

- a. The weather experienced at the project site during the contract period must be found to be unusually severe; that is, more severe than the adverse weather anticipated for the project location during any given month.
- b. The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

1.26.1 Schedule

The following schedule of monthly anticipated adverse weather delays is based upon National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The schedule is based on the average number of days in each calendar month with daily rainfall equal to or greater than 0.1 inches. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY
CALENDAR DAYS PER MONTH

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
5	6	4	3	8	11	9	10	13	9	6	4

1.26.2 Contractor Responsibility

Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor will record on the daily CQC report the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph (b) above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the Clause DEFAULT (FIXED PRICE CONSTRUCTION) of Section 00700 CONTRACT CLAUSES.

1.27 HAUL ROADS

Whenever practical, one-way haul roads shall be used on this contract. Haul roads built and maintained for this work shall comply with the following:

- a. One-way haul roads for off-the-road equipment; e.g., belly dumps, scrapers, and off-the-road trucks shall have a minimum usable width of 25 ft. One-way haul roads for over-the-road haulage equipment only (e.g., dump trucks, etc.) may be reduced to a usable width of 15 feet. When the Contracting Officer determines that it is impractical to obtain the required width for one-way haul roads (e.g., a road on top of a levee), a usable width of not less than 10 feet may be approved by the Contracting Officer, provided a positive means of traffic control is implemented. Such positive means shall be signs, signals, and/or signalman and an effective means of speed control.
- b. Two-way haul roads for off-the-road haulage equipment shall have a usable width of 60 feet. Two-way haul roads for over-the-road haulage equipment only may be reduced to a usable width of 30 feet.
- c. Haul roads shall be upgraded and otherwise maintained to keep the surface free from potholes, ruts, and similar conditions that could result in unsafe operation.
- d. Grades and curves shall allow a minimum sight distance of 200 feet for one-way roads and 300 feet for two-way roads. Sight distance is defined as the centerline distance an equipment operator (4.5 feet above the road surface) can see an object 4.5 feet above the road surface. When conditions make it impractical to obtain the required sight distance (e.g., ramps over levees), a positive means of traffic control shall be implemented.
- e. Dust abatement shall permit observation of objects on the roadway at a minimum distance of 300 feet.
- f. Haul roads shall have the edges of the usable portion marked with posts at intervals of 50 feet on curves and 200 feet maximum elsewhere. Such markers shall extend 6 feet above the road surface, and for nighttime haulage, be provided with reflectors in both directions.

1.28 CONSTRUCTION PROJECT SIGNS

See APPENDIX A at the end of this Section (5 pages).

1.29 SAMPLE - HURRICANE AND SEVERE STORM PLAN

See APPENDIX B at the end of this Section (4 pages).

1.30 SAMPLE - GUIDE FOR EMPLOYEE SAFETY AND OCCUPATIONAL HEALTH
INDOCTRINATION

See APPENDIX C at the end of this Section (2 pages).

1.31 CONTROL MONUMENT DESCRIPTIONS

See APPENDIX D at the end of this Section (34 pages).

1.32 CORE BORING LOGS AND LABORATORY DATA

See APPENDIX E in Volume 2 of this Specification (474 pages).

1.33 INTERIM REGULATION SCHEDULE, WATER CONSERVATION AREA NO. 1

See Appendix F at the end of this Section (1 page).

1.34 HISTORICAL STAGE GRAPHS, S-5AE TAILWATER

See Appendix G at the end of this Section (2 pages).

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 02 - SITE WORK

SECTION 02300

EARTHWORK

PART 1 GENERAL

- 1.1 REFERENCES
- 1.2 MEASUREMENT
 - 1.2.1 Levee Embankment and Filling Existing Canals
 - 1.2.1.1 Topsoil Requirements
 - 1.2.2 Waste Excavation
 - 1.2.3 Excavation, Dewatering, Filling and Backfilling for Water Control Structures
- 1.3 PAYMENT
- 1.4 DEFINITIONS
 - 1.4.1 Satisfactory Materials
 - 1.4.2 Unsatisfactory Materials
 - 1.4.3 Cohesionless and Cohesive Materials
 - 1.4.4 Degree of Compaction
 - 1.4.5 Topsoil
 - 1.4.6 Select Fill
- 1.5 SUBMITTALS
- 1.6 SUBSURFACE DATA
- 1.7 TOLERANCES
 - 1.7.1 Levee Embankments
 - 1.7.2 Spreader, Collection, Seepage and Discharge Canals
 - 1.7.3 Borrow Canals
 - 1.7.4 Filling Existing Canal

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

- 3.1 STRIPPING OF TOPSOIL
- 3.2 GENERAL EXCAVATION
 - 3.2.1 Waste Excavation
 - 3.2.2 Water Control Structures
- 3.3 DRAINAGE AND DEWATERING
 - 3.3.1 General
 - 3.3.2 Site and Off-Site Drainage and Irrigation
 - 3.3.3 Demolition, Abandonment and Removal of Existing Drainage Structures
 - 3.3.3.1 Culverts Equal to or Less than 30 Inches in Diameter
 - 3.3.3.2 Culverts Greater than 30 Inches in Diameter

- 3.3.3.3 Existing, Previously Abandoned Pumping Stations
- 3.3.4 Dewatering for Water Control Structure Excavations
- 3.4 FILLING EXISTING DRAINAGE CANAL
- 3.5 BACKFILL
- 3.6 PREPARATION OF GROUND SURFACE FOR EMBANKMENTS
- 3.7 EMBANKMENTS
- 3.8 FINISHING
- 3.9 PLACING TOPSOIL
- 3.10 TESTING
 - 3.10.1 In-Place Densities
 - 3.10.2 Check Tests on In-Place Densities
 - 3.10.3 Optimum Moisture and Laboratory Maximum Density

-- End of Section Table of Contents --

SECTION 02300

EARTHWORK

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 136	(1996a) Sieve Analysis of Fine and Coarse Aggregates
ASTM D 422	(1963; R 1998) Particle-Size Analysis of Soils
ASTM D 1140	(1997) Amount of Material in Soils Finer than the No. 200 (75-micrometer) Sieve
ASTM D 1556	(1990; R 1996) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 1557	(1998) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu. m.))
ASTM D 2167	(1994) Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D 2487	(1998) Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 2922	(1996) Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D 3017	(1988; R 1996e1) Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
ASTM D 4318	(1998) Liquid Limit, Plastic Limit, and Plasticity Index of Soils

1.2 MEASUREMENT

1.2.1 Levee Embankment and Filling Existing Canals

The unit of measure for levee embankment and for filling existing canals will be the cubic yard, computed by the average end area method from cross sections taken before and after the embankment or fill construction. The volume to be paid for will be the number of cubic yards of material measured in its final (in place and compacted) position. The measurement will include the volume of embankment necessary to replace subgrade material stripped from the embankment subgrade to the depth indicated on the contract drawings. The measurement will not include the volume of subgrade material or other material that is scarified or plowed and reused in-place. Measurement of completed and accepted embankment will extend to the higher of the neat lines (including topsoil) indicated on the contract drawings or to the volume actually placed within the elevation tolerances specified in paragraph TOLERANCES. Embankment or canal fills placed above the specified tolerances will not be measured for payment. The Contracting Officer shall authorize and accept all volume computations including, but not limited to volumes for limits of embankment and required excavations.

1.2.1.1 Topsoil Requirements

Separate excavation, hauling, and spreading or piling of topsoil and related miscellaneous operations will be considered subsidiary obligations of the Contractor, covered under the contract unit prices for embankment.

1.2.2 Waste Excavation

The unit of measurement for waste excavation will be the cubic yard, computed by the average end area method from cross sections taken before and after the excavation operations. The volume to be paid for will be the number of cubic yards of material measured in its original position and removed from the indicated excavation and borrow areas; the depth of waste excavation is expected to vary by location, and shall be as directed by the contracting officer. The measurement will not include the volume of any excavation performed prior to the taking of elevations and measurements of the undisturbed grade, and will exclude any excavation below the depth of waste excavation authorized by the contracting officer.

1.2.3 Excavation, Dewatering, Filling and Backfilling for Water Control Structures

The unit of measure will be per structure.

1.3 PAYMENT

Payment will constitute full compensation for all labor, equipment, tools, supplies, and incidentals necessary to complete the work specified herein.

- a. Levee Embankment: Embankment placed for construction of levees will be paid for at the following contract prices per cubic yard, dependant upon location, and will constitute full compensation for excavation, hauling, stripping of embankment foundations, stockpiling of topsoil, embankment placement and compaction,

placement of topsoil, and final grading.

(1) Line Item 0008 "Levee Embankment, Segment 1" includes all embankment placed in the following locations, complete with required excavations for the Seepage Canal back (north) of L-85 station ~~346+93.14~~ and for the SDCL Borrow Canal between SDCL Sta. ~~198+29.47~~ 299+49.07.

(a) South Distribution Cell Levee (SDCL) between SDCL Sta. 194+60 and Sta. 198+59.47.

(b) L-85 from Sta. 139+33.15 to Sta. ~~240+50~~, and from Sta. ~~243+15~~ to Sta. ~~346+93.14~~ 299+49.07.

(c) FPL Access Road from Sta. 0+00.00 to Sta. 11+88.09.

(2) Line Item 0009 "Levee Embankment, Segment 2" includes all embankment placed in the following locations, complete with required excavations for the Cell 2 Collection Canal, Seepage Canal and Discharge Canal between L-85 stations ~~346+93.1~~ and ~~398+58.52~~ 299+49.07 and 400+77.30, and for all required collection and spreader canal excavation adjacent to Interior Levee 1 and Interior Levee 3.

(a) L-85 from Sta. ~~346+93.14~~ to Sta. ~~398+58.52~~ 299+49.07 to Sta. 400+77.30.

(b) Interior Levee 6 from Sta. 0+00.00 to Sta. 50+81.70.

(c) Interior Levee 1 from Sta. 77+47.52 to Sta. 181+83.95.

(d) Interior Levee 2 from Sta. 0+00.00 to Sta. 47+76.57.

(3) Line Item 0010 "Levee Embankment, Segment 3" includes all embankment placed in the following locations, complete with required excavations for the Seepage Canal and Discharge Canal between L-85 stations ~~398+58.52~~ 400+77.30 and 484+99.92.

(a) L-85 from Sta. ~~398+58.52~~ 400+77.30 to Sta. 484+99.92.

(b) Interior Levee 6 from Sta. 50+81.70 to Sta. ~~137+168.45~~ 137+68.45.

(c) Interior Levee 2 from Sta. 47+76.57 to Sta. 95+32.65.

(d) Interior Levee 3 from Sta. 0+00.00 to Sta. ~~49+66.10~~ 49+46.07.

(e) Interior Levee 4 from Sta. 0+00.00 to Sta. 33+00.00.

(4) Line Item 0011 "Levee Embankment, Segment 4" includes all embankment placed in the following locations, complete with required excavations for the Discharge Canal and Cell ~~45~~ 4S Collection Canal adjacent to Interior Levee 6.

- (a) Interior Levee 6 from Sta. 137+68.45 to Sta. ~~193+78.49~~
193+25.00.
- (b) Interior Levee 4 from Sta. 33+00 to Sta. 150+72.91.
- (5) Line Item 0012 "Levee Embankment, Segment 5" includes all embankment placed in the following locations, complete with required excavation for the Borrow Canal adjacent to Interior Levee 8.
- (a) L-85 from Sta. ~~112+79.32~~ 106+70.51 to Sta. 119+22.23.
- (b) Interior Levee 8 from Sta. 0+00.00 to Sta. ~~22+95.74~~
23+01.43.
- b. Fill Existing Canal: Payment for filling existing canal will be made at the contract unit price per cubic yard for Line Item 0013 "Fill Existing Canal". This price shall constitute full compensation for placement, compaction and final grading.
- c. Waste Excavation: Waste excavation, to the extent and within the limits authorized by the contracting officer, will be paid for at the contract unit prices per cubic yard, dependant upon location. Payment shall constitute full compensation for all costs associated with excavation, hauling, spreading and placing the waste excavation in the disposal area indicated on the contract drawings.
- (1) Line Item 0006 "Waste Excavation, Segment 3" includes all waste excavation between L-85 Sta. ~~398+58.52~~ 400+77.30 and Sta. 484+99.92, including waste materials excavated along the L-85 embankment foundation and from the Seepage and Discharge canals.
- (2) Line Item 0007 "Waste Excavation, Segment 4" includes all waste excavation between Interior Levee 6 Sta. 137+68.45 and Sta. ~~193+78.49~~ 193+25.00, including waste materials excavated from the Discharge Canal and the Cell 4S Collection Canal.
- d. Excavation, Dewatering, Filling and Backfilling for Water Control Structures: All labor, equipment, materials and incidental costs associated with excavation, dewatering of excavations, filling for and backfilling of new water control structures other than S-375 (to existing prevailing grade) will be paid for at the contract unit price per structure for Line Item 0014 "Excavation, Dewatering, Filling, and Backfilling for Control Structures S-364, S-365, S-367, S-368 and S-369 (Per Structure)". All similar costs for Structure S-375 will be paid for at the Contract Lump Sum Price for Line Item 0015 "Excavation, Dewatering, Fill and Backfilling for Water control Structure S-375".
- e. Payment for excavation between Stations 0+00.00 and 14+33.00 of the S-319 Getaway Channel will be made at the contract unit price per cubic yard for Line Item 0038 "Excavation for S-319 Getaway

Channel. Payment shall constitute full compensation for all costs associated with excavation, hauling, and disposal of excess material and material unsuitable for fill.

1.4 DEFINITIONS

1.4.1 Satisfactory Materials

Satisfactory materials for embankment construction shall comprise any materials classified by ASTM D 2487 as SW, SP, SM, SW-SM, SC, SW-SC, SP-SM, SP-SC, CL, ML, or CL-ML. Satisfactory materials for general cell grading shall include all excavated materials other than those defined in paragraph UNSATISFACTORY MATERIALS.

1.4.2 Unsatisfactory Materials

Materials which do not comply with the requirements for satisfactory embankment materials are unsatisfactory for use in embankment construction.

Unsatisfactory materials for embankment construction also include man-made fills; trash; refuse; backfills from previous construction; and material classified as satisfactory which contains root and other organic matter. The Contracting Officer shall be notified of any contaminated materials. Final determination of compliance and use of unsatisfactory materials shall be at the direction of the Contracting Officer.

Unsatisfactory materials for use in general cell grading are limited to trash, refuse, and the products of demolition, clearing and grubbing.

1.4.3 Cohesionless and Cohesive Materials

Cohesionless materials include materials classified in ASTM D 2487 as GW, GP, SW, and SP. Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GM and SM will be identified as cohesionless only when the fines are nonplastic. Testing required for classifying materials shall be in accordance with ASTM D 4318, ASTM C 136, ASTM D 422, and ASTM D 1140.

1.4.4 Degree of Compaction

Degree of compaction required is expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 1557 abbreviated as a percent of laboratory maximum density.

1.4.5 Topsoil

Material for topsoils shall be obtained from excavations indicated on the drawings and shall consist of the most suitable materials for that purpose as defined in Section 02921 SEEDING.

1.4.6 Select Fill

Select fill for structure backfill shall comprise any materials classified by ASTM D 2487 as SW, SP, SM, SW-SM, or SP-SM with no more than 10% passing a #200 sieve.

1.5 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-08 Statements

Testing; GA A/E.

Qualifications of the commercial testing laboratory or Contractor's testing facilities.

Dewatering for Water Control Structure Excavations; GA A/E

SD-09 Reports

Testing; FIO.

Within 24 hours of conclusion of physical tests for all laboratory and field tests, including calibration curves and results of calibration tests.

1.6 SUBSURFACE DATA

Subsurface soil boring logs and laboratory testing data are appended to Section 01000 GENERAL REQUIREMENTS and are further discussed therein.

1.7 TOLERANCES

1.7.1 Levee Embankments

Levee embankments shall be constructed to the lines and grades indicated within a tolerance of plus or minus 3 inches, with the exception that the completed top elevations of such embankments shall be constructed to within a tolerance of minus 0 inches, plus 6 inches.

1.7.2 Spreader, Collection, Seepage and Discharge Canals

Excavations for the Spreader, Collection, Seepage and Discharge Canals shall be constructed to the lines and indicated within a tolerance of plus or minus 6 inches.

1.7.3 Borrow Canals

Excavations for the Borrow Canal along and north of the South Distribution Cell Levee and the Interior Levee 8 Borrow Canal shall be constructed to the theoretical top widths and side slopes indicated. The invert elevation and bottom width of the completed canal excavations will be permitted to vary as required to obtain a balance with the required volume of embankment for the South Distribution Cell Levee and levee embankments in Segment 5.

1.7.4 Filling Existing Canal

The finished ground surface elevation of fills placed in the existing agricultural canal immediately west of parallel to Interior Levee 4 shall be within a tolerance of +0", -6" of the lines and grades indicated.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 STRIPPING OF TOPSOIL

Topsoil within the toes of slopes of levee embankments shall be stripped to a depth of 4 inches. Topsoil shall be spread on areas already graded and prepared for topsoil, or transported and deposited in stockpiles convenient to areas that are to receive application of the topsoil later. Topsoil shall be kept separate from other excavated materials, brush, litter, objectionable weeds, roots, stones larger than 2 inches in diameter, and other materials that would interfere with planting and maintenance operations. Any surplus of topsoil from excavations and grading shall be incorporated into required general area, fills and embankments.

3.2 GENERAL EXCAVATION

The Contractor shall perform excavation of every type of material encountered within the limits of the project to the lines, grades, and elevations indicated and as specified. Grading shall be in conformity with the typical sections shown and the tolerances specified in paragraph FINISHING. Satisfactory excavated materials shall be transported to and placed in fill or embankment within the limits of the work.

3.2.1 Waste Excavation

Where indicated on the contract drawings, surficial soils are anticipated to consist of organic peats and mucks. To the extent directed by the Contracting Officer, peats and mucks in the upper parts of canal excavations and in the subgrade for the L-85 levee embankment shall be removed and placed in the waste material disposal area indicated, and shall not be used for construction of levee embankments. The completed waste material disposal area shall be rough graded to eliminate abrupt changes in elevation and as required to present a generally finished appearance. The completed top surface elevation in the waste material disposal area shall not exceed that indicated.

3.2.2 Water Control Structures

Excavations shall be made to the lines, grades, and elevations shown, or as directed. Trenches and foundation pits shall be of sufficient size to permit the placement and removal of forms for the full length and width of structure footings and foundations as shown. When concrete is to be placed in an excavated area, the bottom of the excavation shall not be disturbed. Excavation to the final grade level shall not be made until just before the concrete is to be placed. Additional excavation requirements of precast reinforced concrete box culverts are specification Section 02631 WATER CONTROL STRUCTURES.

3.3 DRAINAGE AND DEWATERING

3.3.1 General

The contractor shall be responsible for maintaining the site in a suitably drained condition until certification of Substantial Completion of all work included in the contract is issued by the Contracting Officer. Existing drainage structures and facilities indicated on the contract drawings may be used by the Contractor except as noted in 3.3.2 of this Section and 1.41 of Section 01000; the Government makes no warranty as to the suitability or fitness for use of those existing drainage structures and facilities, including pumping stations. The Contractor shall effect such repairs as may be necessary to place and maintain existing pumping stations in working order for use under this contract, or shall at his option replace or supplement existing pumping facilities with temporary Contractor-furnished pumping equipment. The cost of electrical power and diesel fuel consumed in operation of existing or temporary Contractor-furnished pumping equipment shall be at the Contractor's expense. Surface water shall be directed away from excavation and construction sites to prevent erosion and undermining of foundations. Diversion ditches, dikes and grading shall be provided and maintained as necessary during construction. Excavated slopes and fill and backfill surfaces shall be protected to prevent erosion and sloughing. Excavation shall be performed so that the sites of active work, the areas immediately surrounding such sites, and the area affecting operations at the sites shall be continually and effectively drained.

3.3.2 Site and Off-Site Drainage and Irrigation

Existing drainage canals and structures are indicated on the contract drawings. The contract drawings also include definition of the drainage pattern to be established and in-place upon completion of work under this contract. Drainage from and irrigation water to certain off-site lands tributary to the existing site drainage system will be controlled by others. The Contractor shall not hinder the operation of or access to the facilities required to maintain drainage from or irrigation to those off-site lands as noted in Section 01000, 1.41. Those off-site lands include approximately one square mile of residential lands in the Rustic Ranches subdivision (located immediately east of Cell 4N) and approximately 400 acres of agricultural lands south of the Rustic Ranches subdivision and immediately east of Cell 4S. All other drainage structures shall be controlled by the Contractor to facilitate the work as necessary.

3.3.3 Demolition, Abandonment and Removal of Existing Drainage Structures

Numerous existing drainage structures exist on the project site, and are indicated on the contract drawings. Other than as otherwise indicated on the contract drawings, existing culverts within the limits of work under this contract shall be either removed or demolished and abandoned in place as follows:

3.3.3.1 Culverts Equal to or Less than 30 Inches in Diameter

The ends of these culverts within the limits of grading under this contract

shall be crushed by mechanical means. Crushing shall extend to not less than three feet from the exposed ends of the culvert, and shall be conducted so as to result in a crushed height of the culvert end not greater than 4 inches. Existing stop log risers, where present within the limits of grading, shall be removed. Culvert ends exposed after removal of the risers shall be crushed as specified above. Culvert ends or risers within the indicated limits of construction under other contracts shall not be disturbed.

3.3.3.2 Culverts Greater than 30 Inches in Diameter

All such culverts, including stop log risers and other appurtenances, within the limits of grading under this contract shall be excavated and removed, and the resulting excavations backfilled. Backfilling will not be required at such culverts located within existing canals indicated on the contract drawings to remain in service upon completion of work under this contract. The product of such removals shall be handled in accordance with the provisions of Section 02220 DEMOLITION.

3.3.3.3 Existing, Previously Abandoned Pumping Stations

Existing and previously abandoned pumping stations within the limits of grading under this contract, including all appurtenant equipment and materials, shall be demolished in accordance with the requirements of Section 02220 DEMOLITION. Only those pumping stations identified on the contract drawings as remaining in service upon completion of work under this contract shall be left in place. Those pumping stations shall be left in operational condition.

3.3.4 Dewatering for Water Control Structure Excavations

The Contractor shall submit a dewatering plan for water control structure excavations prepared by a Geotechnical Engineer registered as a professional engineer in the State of Florida. Groundwater flowing toward or into excavations shall be controlled to prevent sloughing of excavation slopes and walls, boils, uplift and heave in the excavations and to eliminate interference with the orderly progress of construction. French drains, sumps, ditches or trenches will not be permitted within 3 feet of the foundation of any structure other than with specific written approval, and then only after specific contractual provisions for restoration of the foundation area have been made.

3.4 FILLING EXISTING DRAINAGE CANAL

Fills placed in the existing agricultural drainage canal along and immediately west of the Interior Levee 4 cell grading areas shall be deposited in horizontal layers not exceeding 12 inches in loose thickness. No minimum density is specified for such fills; the degree of compaction shall be that obtained by the controlled routing of hauling and spreading equipment over the surface of previously placed layers.

3.5 BACKFILL

Backfill adjacent to any and all types of structures shall be placed and

compacted to at least 90 percent laboratory maximum density for cohesive materials or 95 percent laboratory maximum density for cohesionless materials to prevent wedging action or eccentric loading upon or against the structure. Ground surface on which backfill is to be placed shall be prepared as specified in paragraph PREPARATION OF GROUND SURFACE FOR EMBANKMENTS. Compaction requirements for backfill materials shall also conform to the applicable portions of paragraph EMBANKMENTS. Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, vibratory compactors, or other approved equipment.

3.6 PREPARATION OF GROUND SURFACE FOR EMBANKMENTS

Ground surface on which embankments for levees is to be placed shall be stripped of live, dead, or decayed vegetation, rubbish, debris, and other unsatisfactory material; plowed, disked, or otherwise broken up to a depth of four inches; pulverized; moistened or aerated as necessary; thoroughly mixed; and compacted to at least 90 percent laboratory maximum density for cohesive materials or 95 percent laboratory maximum density for cohesionless materials. Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, vibratory compactors, or other approved equipment. The prepared ground surface shall be scarified and moistened or aerated as required just prior to placement of embankment materials to assure adequate bond between embankment material and the prepared ground surface.

3.7 EMBANKMENTS

Earth embankments for levees shall be constructed from satisfactory materials free of organic material and rocks with any dimension greater than 3 inches. The material shall be placed in successive horizontal layers of loose material not more than 12 inches in depth. Rocks shall be evenly distributed throughout the layer, exercising care to minimize direct rock-to-rock contact. Each layer shall be spread uniformly on a soil surface that has been moistened or aerated as necessary, and scarified or otherwise broken up so that the fill will bond with the surface on which it is placed. After spreading, each layer shall be plowed, disked, or otherwise broken up; moistened or aerated as necessary; thoroughly mixed; and compacted to at least 95 percent of maximum density except for the top 12 inches which shall be compacted to at least 98 percent of maximum density. Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, vibratory compactors, or other approved equipment.

3.8 FINISHING

The surface of excavations, embankments, and fills shall be finished to a smooth and compact surface in accordance with the lines, grades, and cross sections or elevations shown and the requirements of paragraph TOLERANCES. Gutters and ditches shall be finished in a manner that will result in effective drainage. The surface of areas to be turfed shall be finished to a smoothness suitable for the application of turving materials.

3.9 PLACING TOPSOIL

On areas to receive topsoil, the compacted subgrade soil shall be scarified to a 2 inch depth for bonding of topsoil with subsoil. Topsoil then shall be spread evenly to a thickness of 4 inches and graded to the elevations and slopes shown. Topsoil shall not be spread when excessively wet or dry.

3.10 TESTING

Testing shall be performed by an approved commercial testing laboratory or by the Contractor subject to approval. If the Contractor elects to establish testing facilities, no work requiring testing will be permitted until the Contractor's facilities have been inspected and approved by the Contracting Officer. Field in-place density shall be determined in accordance with ASTM D 1556, ASTM D 2167, or ASTM D 2922. When ASTM D 2922 is used, the calibration curves shall be checked and adjusted using only the sand cone method as described in ASTM D 1556. ASTM D 2922 results in a wet unit weight of soil and when using this method ASTM D 3017 shall be used to determine the moisture content of the soil. The calibration curves furnished with the moisture gauges shall also be checked along with density calibration checks as described in ASTM D 3017; the calibration checks of both the density and moisture gauges shall be made at the beginning of a job on each different type of material encountered and at intervals as directed by the Contracting Officer. When test results indicate, as determined by the Contracting Officer, that compaction is not as specified, the material shall be removed, replaced and recompacted to meet specification requirements. Tests on recompacted areas shall be performed to determine conformance with specification requirements. Inspections and test results shall be certified by a registered professional civil engineer. These certifications shall state that the tests and observations were performed by or under the direct supervision of the engineer and that the results are representative of the materials or conditions being certified by the tests. The following number of tests, if performed at the appropriate time, will be the minimum acceptable for each type operation.

3.10.1 In-Place Densities

- a. One test per 10,000 square feet, or fraction thereof, of each lift of embankment or backfill areas compacted by other than hand-operated machines.
- b. One test per 5,000 square feet, or fraction thereof, of each lift of embankment or backfill areas compacted by hand-operated machines.

3.10.2 Check Tests on In-Place Densities

If ASTM D 2922 is used, in-place densities shall be checked by ASTM D 1556 as follows:

- a. One check test per lift for each 100,000 square feet, or fraction thereof, of each lift of embankment or backfill compacted by other than hand-operated machines.
- b. One check test per lift for each 50,000 square feet, of embankment or backfill areas compacted by hand-operated machines.

3.10.3 Optimum Moisture and Laboratory Maximum Density

Tests shall be made for each type material or source of material including borrow material to determine the optimum moisture and laboratory maximum density values. One representative test per 10,000 cubic yards of fill and backfill, or when any change in material occurs which may affect the optimum moisture content or laboratory maximum density.

-- End of Section --