



**BROWNSVILLE NAVIGATION
DISTRICT OF CAMERON COUNTY,
TEXAS**

Request for Bids

**PLACEMENT AREA 8 -
DIKE RELOCATION**

Project No.
DPR-191025-60

**Pre-Bid Date - Tuesday, September 16,
2025 2:00 PM**

**Closing Date - Tuesday, September 30, 2025
3:00 PM**

Brownsville Navigation District • 1000 Foust Road • Brownsville, TX 78521
(956) 831-4592 • (800) 378-5395 • Fax (956) 831-5006 • portofbrownsville.com

PORT OF BROWNSVILLE

Table of Contents

PLACEMENT AREA 8 - DIKE RELOCATION

SECTION	PAGE NO(S).
ADVERTISEMENT FOR BIDS	AFB-1
INTENT TO BID STATEMENT	ITBS-1
INSTRUCTIONS TO BIDDERS	ITB-1 – ITB-9
BIDDING DOCUMENTS	
BID FORM	BF-1 - BF-3
BID BOND	BB-1
STATEMENT OF NON-COLLUSION	NC-1
DISCLOSURE OF INTERESTS	DI-1 – DI-2
CERTIFICATE & DEFINITIONS	C&D-1
CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS	CRD-1
RESPONDENT'S ACKNOWLEDGEMENT FORM	1 PAGE
VENDOR REGISTRATION FORM	3 PAGES
CONFLICT OF INTEREST QUESTIONNAIRE	FORM CIQ (2 PAGES)
GOVERNMENT CODE CHAPTER 2270 AND 2252 DISCLOSURE STATEMENT	1 PAGE
CONTRACTOR'S PRE-BID DISCLOSURE STATEMENT	CPBD-1 – CPBD-3
SUBCONTRACTOR'S PRE-BID DISCLOSURE STATEMENT	SPBD-1 – SPBD-3
CONTRACT DOCUMENTS	
AGREEMENT	AG-1 – AG-6
PERFORMANCE BOND	PEB-1 – PEB-3
PAYMENT BOND	PYB-1 – PYB-3
CERTIFICATES OF INSURANCE	CI-1
GENERAL CONDITIONS	GC-1 – GC-44
SUPPLEMENTARY GENERAL CONDITIONS	SGC-1 – SGC-14
CONSTRUCTION DRAWINGS	32 TECHNICAL SHEETS
SPECIFICATIONS	59 PAGES
NOTICE OF AWARD & ACCEPTANCE OF NOTICE	NOA - 1
NOTICE TO PROCEED & ACCEPTANCE OF NOTICE	NTP – 1
AFFIDAVIT OF ALL BILLS PAID	ABP-1 – ABP-2

PLACEMENT AREA 8 - DIKE RELOCATION

Advertisement for Bids

Notice to Bidders

Notice is hereby given that bids will be received by the Brownsville Navigation District (“BND”) of Cameron County, Texas for the “**PLACEMENT AREA 8 - DIKE RELOCATION**” project at the Port of Brownsville, Cameron County, Texas.

Bids must be delivered in a sealed envelope labeled with the project name to BND at 1000 Foust Road, Brownsville, Texas 78521 no later than **3:00 PM** on **Tuesday, September 30, 2025**, addressed to Mr. Miguel Barajas, CTCD, CTCM, Procurement and Contracts Supervisor. Bids will be calculated on a Unit Price basis and must comply with the requirements set out in the **Bid Document**, which may be obtained from Mr. Manuel Martinez, Acting Director of Engineering Services at mmartinez@portofbrownsville.com, at (956) 831-4592, or at www.portofbrownsville.com. Bid security in the amount of 5% of the highest bid amount is required as specified in the **Bid Document**. A **Mandatory Pre-Bid Virtual Conference** will be held at **3:00 PM** on **Tuesday, September 16, 2025**. The link will be made available to interested bidders who submit the **Intent to Bid Form**, which can be retrieved from the Port of Brownsville website.

The BND Board of Commissioners **HEREBY RESERVES THE RIGHT** to reject any and all bids, and to select the bid deemed most advantageous to the BND.

Intent to Bid Statement

PLACEMENT AREA 8 - DIKE RELOCATION

1. CONTRACTOR'S INFORMATION:

Contractor: _____

Address: _____ Main Phone: _____

City: _____ State: _____ Zip: _____

2. CONTRACTOR'S INTENT TO BID STATEMENT:

We, the above-named contractor, hereby declare our Intent to Bid on the "**PLACEMENT AREA 8 - DIKE RELOCATION**" project at the Port of Brownsville.

We acknowledge and understand that a **Mandatory Pre-Bid Virtual Meeting** will be held at the BND Administration Building, 1000 Foust Road, Brownsville, TX and will attend virtually or in person. We assume responsibility to secure the link for said Virtual Meeting.

We hereby request to be included in the bidder's list and to be notified of the issuance of any Addenda for this project. We also acknowledge and understand that our company information on this form will be made available to the public.

3. CONTRACTOR'S OFFICER:

Name: _____ Work Phone: _____

Title: _____ Cel Phone: _____

Signature: _____ Date: _____

Main eMail Address: _____

Secondary eMail Address: _____

1. RECEIPT AND OPENING OF BIDS:

The Brownsville Navigation District, Texas, (hereinafter called OWNER), invites bids on the form attached hereto, all blanks of which must be appropriately filled in, in ink.

The OWNER may consider informal and non-responsive, any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No BIDDER may withdraw a bid within at least ninety (90) days after the actual date of the opening thereof.

2. INSPECTION OF SITE:

Each BIDDER shall visit the site of the proposed work and fully acquaint himself with the existing conditions there relating to construction and labor, and shall fully inform himself as to the facilities involved, the difficulties and restrictions attending the performance of the Contract. The BIDDER should thoroughly examine and familiarize himself with the Drawings, Technical Specifications, and all other Contract Documents. The Contractor, by the execution of the Contract, shall in no way be relieved of any obligation under it due to his failure to receive or examine any form or legal instrument, or to visit the site and acquaint himself with the conditions there existing and the OWNER will be justified in rejecting any claim for extra time, or compensation, or both, based on facts regarding which Contractor should have been on notice as a result thereof.

3. PREPARATION OF BID AND USE BID FORMS:

These contract documents include a complete set of bidding documents. The BIDDER shall copy all documents listed in the table of contents under the heading BIDDING DOCUMENTS and shall submit his bid on these forms. A bid shall be comprised of the BIDDING DOCUMENTS completed by the BIDDER plus supplemental information required by the specifications and documents or deemed necessary by the BIDDER to fully describe his offering.

If any of the information submitted as part of the bid is considered to be proprietary by the BIDDER, he shall identify such in his bid.

- a) Preparation. Each bid shall be carefully prepared using the proposal and proposal data forms included as a part of the bidding documents. Entries on the proposal and proposal data forms shall be typed, using dark black ribbon, or legibly written in black ink. All prices shall be stated in words and figures except where the forms provide for figures only. In case of discrepancy, the amount shown in words will govern.

The BIDDER shall acknowledge, in the space provided in the proposal form, receipt of each addendum issued for the specifications and documents during the bidding period.

The BIDDER shall assemble all drawings, catalog data, and other supplementary information necessary to thoroughly describe materials and equipment covered by the proposal, and shall attach such supplemental information to the copies of the

specifications and documents submitted.

- b) Signatures. Each BIDDER shall sign the proposal with his usual signature and shall give his full business address. The BIDDER's name stated on the proposal shall be the exact legal name of the firm. The names of all persons signing should also be typed or printed below the signature.

Proposals by partnerships shall be signed with the partnership name followed by the signature and designation of one of the partners or other authorized representative. A complete list of the partners shall be included with the proposal.

Proposals by a corporation shall be signed in the official corporate name of the corporation, followed by the signature and designation of the president, secretary, or other person authorized to bind the corporation.

A proposal by a person who affixes his signature the word "president," "secretary," "agent," or other designation, without disclosing his principal, will be rejected. Satisfactory evidence of the authority of the officer signing in behalf of the corporation shall be furnished. Bidding corporations shall designate the state in which they are incorporated and the address of their principal office.

- c) Submittal. The original proposal (and its accompanying copy) shall be transmitted to arrive at the designated address not later than the date and time stipulated in the Legal Notice and Invitation to Bid.

Submit the original proposal and one signed copy of the proposal to:

Chairman, Board of Commissioners
Brownsville Navigation District, Texas
c/o Manuel Martinez
1000 Foust Road
Brownsville, Texas 78521

Each bid must be submitted in a sealed envelope bearing on the outside the name of the BIDDER, his address, and the name of the project for which the bid is submitted. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified in the bid form.

4. METHOD OF BIDDING: UNIT PRICE.

Prices shall be firm, not subject to qualification, condition or adjustment. Prices shall be in United States dollars. Prices shall be lump sum except where unit prices are requested by the bid forms. If unit price items are required by the proposal, the unit prices for each of the several items in the proposal of each BIDDER shall include its pro-rata share of overhead so that the sum of the products obtained by multiplying the quantity shown for each item by the unit price bid represents the total bid. Any bid not conforming to the requirement may be rejected as informal and non-responsive. The special attention of all BIDDERS is called to this provision, for should conditions make it necessary to revise the quantities, no limit will be fixed for such increased or decreased quantities nor extra compensation allowed, provided the net monetary value of all such additive and subtractive changes in quantities of such items of work pursuant to public competitive bidding statutes (i.e., difference in cost) shall not increase or decrease the original contract price

by more than twenty-five (25%) percent. A proposed decrease only that exceeds twenty-five (25%) percent of the original contract price must be agreed to in advance by the Contractor.

5. MANDATORY PRE-BID CONFERENCE:

A Mandatory Pre-Bid meeting between the OWNER, prospective bidders, suppliers, etc., will be held to answer any questions concerning the work. No addenda will be issued at this meeting. Subsequent thereto, if necessary to clear up any written questions, a written addendum will be issued by the OWNER to all pre-bid conference attendees. The pre-bid meeting will be held at the place, time and date indicated in the Invitation to Bid, unless re-scheduled by Addendum. Interested parties are invited to attend.

6. DISCLOSURE BY BIDDER:

Each BIDDER shall submit with the bid documents, on the form furnished for that purpose, his Pre-Bid Disclosure Statement showing his experience record in performing the type of work embraced in the contract, his organization and equipment available for the work contemplated, and, when specifically requested by the OWNER, a detailed financial statement. The OWNER shall have the right to take such steps as it deems necessary to determine the ability and responsibility of the BIDDER to perform his obligations under the Contract and the BIDDER shall be responsive in furnishing the OWNER all such information and data for this purpose as it may request. OWNER reserves the right to reject any bid where an investigation of the available evidence or information does not satisfy the OWNER that the BIDDER is responsible to carry out properly the terms of the Contract. This shall also apply to any proposed subcontractor(s).

7. SUBCONTRACTS:

The BIDDER is specifically advised that any person, firm, or other party to whom it is proposed to award a subcontract under this contract must be acceptable to the OWNER, and that a Pre-Bid Disclosure Statement for each proposed subcontractor must also be submitted with the bid documents.

8. BID SECURITY:

Each bid must be accompanied by certified or cashier's check, or a bid bond prepared on the form of the bid bond attached hereto, duly executed by the BIDDER as principal and having as surety therein a surety company approved by the OWNER, authorized to do business in the State of Texas in the amount of not less than five (5%) percent of the bid. Such checks, or bid bonds will be returned to all except the three lowest BIDDERS within fifteen (15) days after the opening of bids, and the remaining checks, or bid bonds will be returned promptly after the OWNER and the accepted BIDDER have executed the contract or if no award has been made, within thirty (30) days after the date of the opening of bids. The bid security will be returned upon demand of the BIDDER at any time thereafter, so long as he has not been notified of the acceptance of his bid.

9. ADDENDA AND INTERPRETATIONS:

No oral interpretations by OWNER and its representatives shall be binding upon OWNER as to the meaning of the plans, specifications, contract documents, or other pre-bid documents.

Every request for such interpretation should be made in writing, addressed to the Engineering Services Department of the Brownsville Navigation District, and must be received at least ten (10) days prior to the date fixed for the opening of bids in order to be considered. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be on file at the Department mentioned above no later than five (5) days prior to the date fixed for opening of bids, and will be mailed by certified mail with return receipt requested to all prospective BIDDERS (at the respective addresses furnished for such purposes), not later than three (3) days prior to said date. It will be the BIDDER's responsibility to inquire as to any addenda issued and failure of any BIDDER to receive any such addenda or interpretation shall not relieve such BIDDER from any obligation under his bid as submitted. All addenda so issued shall become part of the contract documents.

10. TIME FOR RECEIVING BIDS:

Bids received prior to the advertised hour of opening will be securely kept sealed. The officer whose duty it is to open them will decide when the specified time has arrived, and no bid received thereafter will be considered; except that when a bid arrives by mail after the time fixed for opening, but before the reading of all other bids is completed, and it is shown to the satisfaction of the OWNER that the non-arrival on time was due solely to delay in the mails for which the BIDDER was not responsible, such bid will be received and considered.

BIDDERS are cautioned that, while telegraphic or telefax modifications of bids may be received as provided above, such modifications, if not explicit and if in any sense subject to misinterpretation, shall make the bid so modified or amended, subject to rejection for non-responsiveness.

11. OPENING OF BIDS:

At the time and place fixed for the opening of bids, the OWNER will cause to be opened and publicly read aloud every bid received within the time set for receiving bids, irrespective of any irregularities therein. BIDDERS and other persons properly interested may be present, in person or by representative.

12. WITHDRAWAL OF BIDS:

Bids may be withdrawn on written, telegraphic, or telefax request dispatched by the BIDDER in time for delivery in the normal course of business to the time fixed for opening; provided, that written confirmation of any telegraphic withdrawal over the signature of the BIDDER is placed in the mail and postmarked prior to the time set for bid opening. The bid security of any BIDDER withdrawing his bid in accordance with the foregoing conditions will be returned promptly.

13. AWARD OF CONTRACT: REJECTION OF BIDS:

The contract will be awarded to the responsive and responsible BIDDER submitting the lowest bid complying with the conditions of the Legal Notice and Invitation for Bids. The BIDDER to whom the award is made will be notified at the earliest possible date. The OWNER, however, reserves the right to reject any and all bids and to waive any informality in bids received whenever such rejection or waiver is in its interest.

The OWNER reserves the right to consider as not responsible any BIDDER who does not

habitually perform with his own forces the major portions of the work involved in construction of the improvements embraced in this contract.

14. EXECUTION OF AGREEMENT: PERFORMANCE AND PAYMENT BOND:

Subsequent to the award and within ten (10) days after the prescribed forms are presented for signature, the successful BIDDER shall execute and deliver to the OWNER an agreement in the form included in the contract documents in such number of copies as the OWNER may require.

Having satisfied all conditions of award as set forth elsewhere in these documents, the successful BIDDER shall, within the period specified in the preceding paragraph, furnish a Performance Bond and Payment Bond, each in a penal sum not less than the full amount of the contract as awarded, as security for the faithful performance of the contract, and for the payment of all persons, firms or corporations to whom the Contractor may become legally indebted for labor, materials, tools, equipment, or services of any nature including utility and transportation services, employed or used by him in performing the work. Such bonds shall be in the same form as that included in the contract documents and shall bear the same date as, or a date subsequent to that of the agreement. The current power of attorney for the person who signs for any surety company shall be attached to such bonds. These bonds shall be signed by a guaranty or surety company legally authorized to do business in the State of Texas.

The failure of the successful BIDDER to execute such agreement and to supply the required bonds and insurance certificates within ten (10) days after the prescribed forms are presented for signature, or within such extended period as the OWNER may grant in writing, based upon reasons determined sufficient by the OWNER, shall constitute a default, and the OWNER may either award the contract to the next lowest responsive and responsible BIDDER or readvertise for bids, and may charge against the defaulting BIDDER the difference between the amount of the defaulted bid and the amount for which a contract for the work is subsequently executed, irrespective of whether the amount thus due exceeds the amount of the bid bond. If a more favorable bid is received by readvertising, the defaulting BIDDER shall have no claim against the OWNER for a refund.

15. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT:

The successful BIDDER, upon his failure or refusal to execute and deliver the contract, bonds and insurance certificates required within ten (10) days after he has received notice of the acceptance of his bid, shall forfeit to the OWNER, as liquidated damages (and not as a penalty) for such failure or refusal, the security deposited with his bid.

16. TIME OF COMPLETION AND LIQUIDATED DAMAGES:

BIDDER must agree to commence work on or before a date to be specified in a written "Notice to Proceed" issued by the OWNER and to fully complete the project within the contract time, as provided in Article 3 of the Agreement.

BIDDER must agree also to pay as mutually agreed to liquidated damages, and not as a penalty, the sum of five hundred (\$500.00) per day for each consecutive calendar day thereafter, as provided in said Article 3.

17. NOTICE OF SPECIAL CONDITIONS:

Attention is particularly called to those parts of the contract documents and specifications which deal with the following:

- A. Inspection and testing of materials.
- B. Insurance requirements.
- C. Wage and Hour Provisions.
- D. State Sales and Use Tax Exemption Provisions

18. LAWS AND REGULATIONS:

The BIDDER's attention is directed to the fact that all applicable federal, state and local laws, statutes, ordinances, codes and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

19. EQUAL EMPLOYMENT OPPORTUNITY:

Attention of BIDDERS is particularly called to the requirement for ensuring that employees and applicants for employment are not discriminated against because of their race, color, religion, sex, handicap, or national origin.

20. SUBMITTAL OF TRENCH SAFETY DESIGN:

If project includes open trench excavation deeper than 5 feet, contractor shall submit a trench safety system to Engineer for review and approval prior to beginning of construction.

21. INFORMATION TO BE SUBMITTED WITH PROPOSAL:

Each BIDDER shall submit with his proposal pertinent information concerning proposed equipment and materials and proposed construction organization.

- a) Equipment and Materials. In addition to the information submitted on the proposal and proposal data forms, each BIDDER shall submit all specifications, preliminary drawings, and similar descriptive information necessary to describe completely the equipment and materials he proposes to furnish, if applicable.

The proposal shall be based on new equipment and materials which comply with specifications and documents in every respect, unless the BIDDER takes specific exception as provided herein before. If alternate or "equal" equipment and materials are indicated in the proposal, it shall be understood that the OWNER will have the option of selecting any one of the alternates so indicated and such selection shall not be a cause for extra compensation or extension of time.

- b) Contractor's Field Organization. Each BIDDER shall submit with his proposal an organization chart showing the names of field management, supervisory, and technical personnel, and the details of the management, supervisory, and technical organization which he proposes to use for this project. The successful BIDDER's organizational

concept will be subject to the review and acceptance of the OWNER. The experience record of the Contractor's field superintendent shall be submitted with the proposal.

22. PREFERENCE LAW:

Contractor selection will take into consideration any Preference Laws of the Statutes of Texas.

23. SUBSURFACE CONDITIONS:

Each BIDDER shall be responsible for determining prior to bidding, the types of subsurface materials which will be found. If test borings have been made on the site, the locations and logs of the test borings are included in the plans.

It is to be expressly understood and acknowledged by the BIDDER, that any information on subsurface materials made available by OWNER for BIDDER'S convenience shall not be a part of the contract documents and there is no expressed or implied guarantee of the data given, nor of the interpretation thereof.

All excavation for this project will be unclassified and the BIDDER shall be responsible for investigating and satisfying himself of subsurface conditions (including the presence or likelihood of encountering rock or rock-like materials and debris) prior to submitting his bid, which shall include any and all costs BIDDER associates with avoiding, managing or removing said subsurface conditions without claim for extra compensation against OWNER.

24. DISPOSAL OF EXCESS MATERIALS:

After backfilling and compacting any temporary trenches backfill or removing temporary earthen material, there may be in some instances an excess of soil material over that required to bring the backfill up to the original grade. In such cases where there is an excess of material, BIDDER shall load and haul it away from the job site and dispose of it in a legal manner so as not to trespass, adversely impact any protected wetlands, adversely impact the 100 year flood plain, adversely impact any endangered species, or otherwise create drainage diversions or impoundments. No extra remuneration for this work will be allowed.

25. EROSION AND SEDIMENT CONTROL MEASURES:

The BIDDER is expected to conduct his work in such a manner as to minimize any soil erosion or sediment runoff from the construction site. Earth cuts and fills shall have smooth, flat side slopes, as generally indicated on the PLANS, to preclude erosion of the soil. Such operations should be timed consistent with the actual need for doing the work and only to leave raw, unprotected surfaces for a minimum of time.

Existing lawns are to remain intact as far as practical. Such areas as are disturbed shall be duly restored by the BIDDER to as good or better than original condition using the same type of grass, shrubs, or cover as the original. The BIDDER shall be responsible for correcting any erosion that occurs at his sole cost without claim for extra compensation.

As construction progresses, and in accordance with current federal legislation regulating storm water runoff and management from construction sites greater than five acres in size, if applicable,

(See: Section 405 of the Water Quality Act of 1987, Section 402(P) as amended), and at locations where erosion with sediment runoff occurs or is likely to occur, the BIDDER shall construct temporary ditches, retainage levees, drains, inlets, or other works to correct the condition. Upon completion of the work, such facilities shall be removed.

During construction, the BIDDER shall take the necessary precautions to see that erosion is controlled and sediment runoff is prevented so as to protect the quality of any neighboring water bodies.

26. SAFETY PROVISIONS:

BIDDER shall provide barricades, flares, warning signs, and/or flagmen so as to eliminate danger and inconvenience to the public, railroad and job site personnel. In addition to any other requirements of the Contract Documents, the BIDDER shall be responsible for familiarity and compliance with all Federal (OSHA), State, Railroad and local safety rules, laws and requirements with particular attention to be given to excavation and trench safety requirements.

27. PROTECTION OF PROPERTY AND EXISTING UTILITIES:

Within developed areas, all public and private property along and adjacent to the BIDDER'S operations, including lawns, yards, shrubs, drainage gradients and trees, shall be adequately protected, and when damages occur, they shall be repaired, replaced, or renewed or otherwise put in a condition equal to or better than that which existed before the BIDDER caused the damage or removal.

An attempt has been made to show all known existing utilities on the PLANS, but the possibility remains strong that some underground utilities may exist that have not been shown. The BIDDER, through mandatory contact with local utility owners, shall keep himself informed and take such precautions as necessary to avoid damage.

28. WAGES AND HOURS:

The most recent wage rate determination from the U.S. Department of Labor for Cameron County as locally adopted by the BND is a part of these specifications and controls minimum wage, hour and any fringe benefits.

A copy of the wage rate schedule must be posted at the job site in both English and Spanish and kept posted in a conspicuous place on the site of the project at all times during construction. The BIDDER shall familiarize himself with the included General Conditions Section entitled "Wage and Labor Standard Provisions - 100% Locally Funded Construction." Copies of the wage rate schedule are included herein, but the responsibility for posting and keeping posted rests upon the BIDDER.

29. GUARANTEE:

The BIDDER shall guarantee the work for a period of one (1) year after date of acceptance in writing by the OWNER. During this period, the BIDDER shall make any repairs and/or replacements of defective materials and corrections due to poor workmanship, all as may be required for full compliance with the Specifications. This guarantee shall apply to all matters reported by the

OWNER in writing within said one (1) year period and this guarantee shall be included in the coverage period set forth in the Performance Bond.

30. SECURITY GRANT CONTRACT PROVISIONS:

The successful BIDDER shall comply with the Security Grant Contract Provisions as outlined in the next section of these contract documents. In the event these Provisions differ from any other similar requirement in these documents, these provisions shall govern. The successful BIDDER shall, upon request by the OWNER or the OWNER's representative, provide proof of compliance with each such provision, as applicable and as required.

Bid Form

PLACEMENT AREA 8 - DIKE RELOCATION

Place: Board of Commissioners - Brownsville Navigation District
1000 Foust Road
Brownsville, Texas 78521

Due Date: Before **3:00 P.M., Tuesday, September 30, 2025.**

Proposal of _____ hereinafter called BIDDER, a corporation organized and existing under the laws of the State of _____, or a partnership or an individual doing business as _____.

To: The Brownsville Navigation District, Texas, hereinafter called OWNER.

Gentlemen:

The BIDDER, in compliance with your invitation for bids for the **"PLACEMENT AREA 8 - DIKE RELOCATION"** project, having examined the drawings and specifications with related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project, including the availability of materials and labor, hereby proposes to furnish all labor, materials and supplies, and to construct the project in accordance with the contract documents, within the time set forth herein, and at the attached unit prices. These price(s) are to cover all expenses incurred in performing the work required under the contract documents, of which this proposal is a part. These price(s) are firm and shall not be subject to adjustment provided this Proposal is accepted within ninety (90) days after the time set for receipt of proposals.

BIDDER hereby agrees to commence work under this contract on or before a date to be specified in a written "Notice to Proceed" to be issued by the OWNER and to fully complete the project within (270) two hundred seventy calendar days after notice to proceed, as defined in the specifications. BIDDER further agrees to pay as liquidated damages, the sum of five hundred (\$500.00) dollars for each consecutive calendar day thereafter as hereinafter provided in Article 3 of the Agreement.

BIDDER agrees to perform all work for which he contracts as described in the specifications and as shown on the plans, for the attached unit prices:

SUBCONTRACTORS. BIDDER proposes that he will perform the majority of the work at the project site with his own forces and that specific portions of the work not performed by the BIDDER will be subcontracted and performed by the following subcontractors.

Subcontracted Work	Name of Subcontractor
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

PLACEMENT AREA 8 - DIKE RELOCATION

BIDDER Agrees to perform all the work described in the Contract Documents
for the following Unit Prices (which include any and all applicable taxes and fees):

Tuesday, September 30, 2025

BASE WORK:

#	DESCRIPTION		EST. QTY.	UNIT COST	AMOUNT
1	General				
	a	Mobilization & Demobilization	1 LS		
	b	Construction Surveying	1 LS		
	c	Surface and Groundwater Control / Site Dewatering	1 LS		
	d	Geotechnical Testing	1 LS		
	e	Acceptance Aerial Photograph	1 LS		
	f	Remaining Dike Raise from Original Contract	6,000 CY		
2	North Dike Relocation				
	a	Erosion Control Fence	5,600 LF		
	b	Clearing, Grubbing, Stripping	23 AC		
	c	Excavate Subgrade for New Dike & Dispose Material	392,000 CY		
	d	Excavate Borrow Material from Existing Dike	73,200 CY		
	e	Locate and Excavate Supplemental Borrow Material	146,400 CY		
	f	Load and Haul Borrow Material to Construct New Dike	220,000 CY		
	g	Place/Compact/Grade Borrow Material to Construct New Dike	220,000 CY		
	h	Final Site Excavation/Filling and Grading to Drain	29,000 CY		
	i	Load/Haul Surplus Soil to PA Interior	363,000 CY		
3	West & South Dike Relocation				
	a	Erosion Control Fence	5,600 LF		
	b	Clearing, Grubbing, Stripping	23 AC		
	c	Excavate Subgrade for New Dike & Dispose Material	392,000 CY		
	d	Excavate Borrow Material from Existing Dike	73,200 CY		
	e	Locate and Excavate Supplemental Borrow Material	146,400 CY		
	f	Load and Haul Borrow Material to Construct New Dike	220,000 CY		

	g	Place/Compact/Grade Borrow Material to Construct New Dike	220,000 CY		
	h	Final Site Excavation/Filling and Grading to Drain	29,000 CY		
	i	Load/Haul Surplus Soil to PA Interior	363,000 CY		
TOTAL BASE BID:					

ADDITIVE WORK:

#	D E S C R I P T I O N	EST. QTY.	UNIT COST	AMOUNT
A1	Degrading 5,250 L.F. of Interior Dikes	31,400 CY		
TOTAL ADDITIVE BID:				

TOTAL BID (BASE + ADDITIVE):

BIDDER Acknowledges receipt of the following addenda:

In case of discrepancy, the unit price amount shall govern.

The above included prices shall include all labor, materials, excavation, bailing, shoring, removal, backfill, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for.

BIDDER understands that the OWNER reserves the right to reject any or all bids and to waive any informalities in the bidding.

BIDDER agrees that this Bid shall be good and may not be withdrawn for a period of ninety (90) days after the scheduled closing time for receiving bids.

The undersigned hereby declares that only the persons or firms interested in the proposal as principal or principals are named herein, and that no other persons or firms than are herein mentioned have any interest in this Proposal or in the contract to be entered into; that this Proposal is made without connection with any other person, company, or parties likewise submitting a Bid or proposal; and that it is in all respects for and in good faith, without collusion or fraud.

Upon receipt of written notice of the acceptance of this Bid, BIDDER will execute the formal contract attached within ten (10) days and deliver the Performance and Payment Bonds and Insurance Certificates as required under the GENERAL CONDITIONS. The Bid security attached in the sum of _____ (\$ _____) is to become the property of the OWNER in the event the contract, bonds, and insurance certificates are not executed or delivered within the time above set forth, as mutually agreed to liquidated damages and not as a penalty for the delay and additional administrative expense to the OWNER caused thereby; otherwise the Bid security will be returned upon the signing of the contract and delivering the approved bonds and insurance certificates.

Respectfully submitted,

By: _____

Seal affixed here
if BID is by a
Corporation

Title

Address

Attest: _____

Bid Bond

PLACEMENT AREA 8 - DIKE RELOCATION

STATE OF TEXAS §
 § KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF CAMERON §

THAT WE, the undersigned, _____ as Principal,
and _____ as Surety, are hereby held and firmly bound
unto the BROWNSVILLE NAVIGATION DISTRICT, TEXAS, as OWNER in the penal sum of
_____ for the payment of which, well and truly to
be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed this _____ day of _____, 20____.

The Condition of the above obligation is such that whereas the Principal has submitted to the
OWNER a certain BID attached hereto and hereby made a part hereof to enter into a contract in
writing, for construction of the project known as:

"PLACEMENT AREA 8 - DIKE RELOCATION"

NOW, THEREFORE,

(a) If said BID shall be rejected, or
(b) If said BID shall be accepted and the Principal shall execute and deliver a contract
in the form of Agreement attached hereto (properly completed in accordance with said BID) and
shall furnish payment and performance bonds for his faithful performance of said contract, and
for the payment of all persons performing labor or furnishing materials in connection therewith,
and shall furnish insurance certificates, and shall in all other respects perform the agreement
created by the acceptance of said BID, then this obligation shall be void. Otherwise the same
shall remain in force and effect, it being expressly understood and agreed that the liability of the
Surety for any and all claims hereunder shall, in no event, exceed the penalty amount of this
obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety
and its Bond shall be in no way impaired or affected by an extension of the time with which the
OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals,
and such of them as are corporations have caused their corporate seals to be hereto affixed and
these presents to be assigned by their proper officers, the day and year first set forth above.

Signed this _____ day of _____, 20____.

Principal

Surety

By: _____

Statement of Non-Collusion

PLACEMENT AREA 8 - DIKE RELOCATION

The undersigned hereby certifies that they are duly authorized to execute this contract, that this company, corporation, firm, partnership or individual has not prepared this BID in collusion with any other Bidder, and that the contents of this BID as to prices, terms or conditions of said BID have not been communicated by the undersigned nor by any employee or agent to any other person engaged in this type of business prior to the official opening of this BID.

Company: _____

Address: _____

Phone: _____

Fax: _____

Bidder: _____
(Signature)

Bidder: _____
(Print Name)

Title: _____
(Print Title)

Signature of Company Officer Authorizing this
Bid: _____

Company
Officer: _____
(Print Name)

Officer's Title: _____
(Print Title)

Note: This form must be filled out and submitted with the sealed bid.

Disclosure of Interests

PLACEMENT AREA 8 - DIKE RELOCATION

The Brownsville Navigation District requires all persons or firms seeking to do business with the District to provide the following information. Every question must be answered. If a question is not applicable, answer with "N/A". Corporations whose shares are publicly traded and listed on national or regional stock exchanges or over-the-counter markets may file a current Securities and Exchange Commission Form 10-K with the District in lieu of answering the questions below. See Definitions.

Firm Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Firm is: ☐ Corporation ☐ Partnership ☐ Sole Owner
☐ Association ☐ Other _____

DISCLOSURE QUESTIONS

If additional space is necessary, please use the reverse side or attach separate sheet (s).

1. State the name of each "employee" of the Brownsville Navigation District having any "ownership interests" constituting 10% or more of the voting stock or shares of the business entity or ownership of \$2,500 or more of the fair market value for the business entity or employed by the above "firm".

Name	Title	Department

2. State the name of each "official" of the Brownsville Navigation District having any "ownership interests" constituting 10% or more of the ownership in the above named "firm", or employed by the above named "firm".

Name	Title	Department

3. State the names of each "Board Member" of the Brownsville Navigation District having any "ownership interests" constituting 10% or more of the ownership in the above named "firm", or employed by the above named "firm".

Name

Title

Department

Name and Title of Authorized Representative (Typed)

Signature of Authorized Representative

Date

Note: This form must be filled out and submitted with the sealed bid.

Certificate and Definitions

PLACEMENT AREA 8 - DIKE RELOCATION

CERTIFICATE

I certify that all information provided is true and correct as of the date of this statement, that I have not knowingly withheld disclosure of any information requested; and that supplemental statements will be promptly submitted to the Brownsville Navigation District as changes occur.

Certifying Name: _____

Title: _____

Signature: _____

Date: _____

DEFINITIONS

The following definitions of terms should be used in answering the questions set forth below:

- A. "Board Member" – An elected member of any board, commission, or committee appointed by the Brownsville Navigation District of Brownsville, Texas.
- B. "Employee" – Any person employed by the Brownsville Navigation District either on a full time or part-time basis, but not as an independent contractor.
- C. "Firm" – Any entity operated for economic gain, whether professional, industrial or commercial, and whether established to produce or deal with a product or service, including but not limited to, entities operated in the form of sole proprietorship, as self employed person, partnership, corporation, joint stock company, joint venture, receivership or trust, and entities which for purposes of taxation are treated as non-profit organizations.
- D. "Official" – The Chairman, members of the Brownsville Navigation District, General Manager, CEO, Deputy Port Director, Department and Division Heads.
- E. "Ownership Interest" – Legal or equitable interest, whether actually or constructive held, in a firm, including when such interest is held through the agent, trust, estate or holding entity. "Consecutively held" refers to holding or control established through voting trusts, proxies, or special terms of venture of partnership agreements.

Please Complete and Submit to:

Chairman of the Board
Brownsville Navigation District
c/o Manuel Martinez, Acting
Director of Engineering Services
1000 Foust Road
Brownsville, Texas 78521

Certification Regarding Debarment, Suspension, and Other Responsibility Matters

PLACEMENT AREA 8 - DIKE RELOCATION

CERTIFICATE

Name of Entity: _____

The prospective participant certifies to the best of their knowledge and belief that they and their principals:

- a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b) Have not within a three year period preceding this bid been convicted of had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, Local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and
- d) Have not within a three year period preceding this application/bid had one or more public transactions (Federal, State, Local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this bid or termination of the award. In addition, under 18 USC Section 1001, a false statement may result in a fine up to a \$10,000.00 or imprisonment for up to five (5) years, or both.

Name and Title of Authorized Representative (Typed)

Signature of Authorized Representative

Date

☐ I am unable to certify to the above statements. My explanation is attached.

Please Complete and Submit to:

Chairman of the Board
Brownsville Navigation District
c/o Manuel Martinez, Acting
Director of Engineering Services
1000 Foust Road
Brownsville, Texas 78521

BROWNSVILLE NAVIGATION DISTRICT
Bidder's Acknowledgment Form

Having carefully examined the information, notices and specifications and conditions contained in this package, the undersigned Bidder's agent or representative hereby proposes and agrees to comply with these Specifications at the prices quoted. The Bidder affirms that, to the best of their knowledge, the bid has been arrived at independently and is submitted without collusion with anyone to obtain information or gain any favoritism that would in any way limit competition or give them an unfair advantage over other Bidders in the award of this bid.

Addendums received:

Vendor:
Address:
City, State, Zip Code:
Signature of Bidder:
Title with Company:



To Vendors Doing Business with Brownsville Navigation District:

The Texas legislature passed two pieces of legislation that affect the relationship between the Brownsville Navigation District and its vendors. The Board of Commissioners of the Brownsville Navigation District has incorporated these new requirements into the *Code of Ethics* already in place for the District.

The District will now require that any vendor seeking to do business with the Brownsville Navigation District must file certain documents on an annual basis in order to be able to be awarded a purchase contract or a purchase order for goods or services. These forms are:

1. Vendor Registration Form
2. Conflict of Interest Questionnaire

These forms must be re-filed on an annual basis. Copies of the required forms and a full copy of the *Code of Ethics* are available on the District's website at:

www.portofbrownsville.com

Conflict of Interest Questionnaires can be found at the Texas Ethics Commission web site at:

<http://www.ethics.state.tx.us/forms/CIQ.pdf>

Conflict of Interest Questionnaires must be filed in regard to the Brownsville Navigation District "local government officers" which include the Navigation District Commissioners, the Port Director and CEO and the Deputy Port Directors. A listing of these persons is enclosed. Completed forms are to be filed with my office.

Please do not hesitate to contact me should you have any questions regarding these forms.

Sincerely,

Mr. Zeus Yanez,
Director of Finance
(956) 838-7023 Fax (956) 831-5106
zyanez@portofbrownsville.com

encl:

Brownsville Navigation District
1000 Foust Road / Brownsville, Texas 78521 / (956) 831 -4592 / (800) 378-5395 / Fax (956) 831-5106
www.portofbrownsville.com

Brownsville Navigation District Vendor Registration Form

Please complete this form to give the District your contact information for use during an RFP/RFB process or to open or update a vendor account

Date:	Name of Person Providing Information:
If you are currently participating in an RFP process for the District, please indicate the RFP/RFB title:	
If you are interested in receiving a notice when an RFP/RFB is available, please indicate your areas of interest:	
<input type="checkbox"/> Construction Contracts	<input type="checkbox"/> Security Services
<input type="checkbox"/> Property/Liability Insurance	<input type="checkbox"/> Bank Depository
<input type="checkbox"/> Group Insurance	Other:
<input type="checkbox"/> Salvage Offerings	
<input type="checkbox"/> Uniform Service	

Vendor Name	Web Site
Contact Person:	Fax Number:
Phone Number:	eMail Address:
Mailing Address:	Physical Address:

Form of Business <i>(Individual/Sole Proprietor/Partnership/Corporation/Other)</i>	Taxpayer Identification Number:
---	---------------------------------

Please return this form by fax to (956) 831-5106 or by email to vendor@portofbrownsville.com

Signature of Person Providing Information

This vendor is not a Listed Company as per: Section 2252 of the Texas Government Code Federal Debarred List - SAM.gov	_____ Signature of Purchasing Auditor
---	--

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor or other person doing business with local governmental entity

OFFICE USE ONLY

Date Received

This questionnaire is being filed in accordance with chapter 176 of the Local Government Code by a person doing business with the governmental entity.

By law this questionnaire must be filed with the records administrator of the local government not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code.

A person commits an offense if the person violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

1 Name of person doing business with local governmental entity.

2

☐

Check this box if you are filing an update to a previously filed questionnaire.

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than September 1 of the year for which an activity described in Section 176.006(a), Local Government Code, is pending and not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)

3 Describe each affiliation or business relationship with an employee or contractor of the local governmental entity who makes recommendations to a local government officer of the local governmental entity with respect to expenditure of money.

4

Describe each affiliation or business relationship with a person who is a local government officer and who appoints or employs a local government officer of the local governmental entity that is the subject of this questionnaire.

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor or other person doing business with local governmental entity

FORM CIQ

Page 2

5 Name of local government officer with whom filer has affiliation or business relationship. (Complete this section only if the answer to A, B, or C is YES.)

This section, item 5 including subparts A, B, C & D, must be completed for each officer with whom the filer has affiliation or business relationship. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer named in this section receiving or likely to receive taxable income from the filer of the questionnaire?

☐

Yes

☐

No

B. Is the filer of the questionnaire receiving or likely to receive taxable income from or at the direction of the local government officer named in this section AND the taxable income is not from the local governmental entity?

☐

Yes

☐

No

C. Is the filer of this questionnaire affiliated with a corporation or other business entity that the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?

☐

Yes

☐

No

D. Describe each affiliation or business relationship.

6 Describe any other affiliation or business relationship that might cause a conflict of interest.

7

Signature of person doing business with the governmental entity

Date

Texas Government Code Sections 2270.002 and 2252.152

Disclosure Statement

The undersigned business entity hereby represents and warrants that the following statements are true and correct:

- (a) Pursuant to Section 2270.002, Texas Government Code, we hereby represent that we do not boycott Israel (as defined in Section 2270.002, Texas Government Code) and, subject to or as otherwise required by applicable Federal law, including, without limitation, 50 U.S.C. Section 4607, we agree not to boycott Israel during the term of this purchase agreement.
- (b) We hereby acknowledge that (a) we do not engage in business with Iran, Sudan, or any foreign organization and (b) we are not listed by the Texas Comptroller as described in Section 2252.152, Texas Government Code.

Company Name
Authorized Signature
Print Name and Position with the Company
Date

Contractor's Pre-Bid Disclosure Statement

PLACEMENT AREA 8 - DIKE RELOCATION

1. This Pre-Bid Disclosure Statement is submitted to the Brownsville Navigation District by:
☐ a Corporation, ☐ a Co-partnership, or ☐ an individual.

Contractor: _____

Address: _____ Phone: ____

City: _____ State: ____ Zip: _____

2. Years in business under present business name: _____.

3. Years of experience in construction work of the type called for in this contract as:

☐ a General Contractor: _____ ☐ a Sub-Contractor: _____

4. What projects has your organization completed? List most recent **FIRST**.

Contract Amount	Type of Work	Date Completed	Owner's Name and Address
-----------------	--------------	----------------	--------------------------

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

5. What projects does your organization have under way as often as this date?

Contract Amount	Type of Work	Date Completed	Owner's Name and Address
-----------------	--------------	----------------	--------------------------

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

6. Have you ever failed to complete any work awarded to you? ☐ Yes ☐ No
If "Yes", state where and why.

7. Are you at present in any major litigation or lawsuits involving construction work of any type?
☐ Yes ☐ No. If "Yes", explain:

8. Explain in detail the manner in which you have inspected the work proposed in this Contract:

9. Explain in detail your plan or layout for performing the work proposed in this contract:

10. If this contract is awarded to you, your company's administrative manager for the work will be Mr./Ms. _____, and your resident construction superintendent will be Mr./Ms. _____.

11. What experience in this type of work is enjoyed by the individual designated as superintendent above?

12. What portions of the work do you intent to sublet? _____

13. What equipment do you own that is available for the proposed work?

Quantity	Description, Size, Capacity, etc.	Condition	Years in Service	Present Location
----------	--------------------------------------	-----------	---------------------	---------------------

14. Have you received firm offers for all major items of material and/or equipment within the prices used in preparing your proposal? ☐ Yes ☐ No

The signatory of this questionnaire guarantees the truth and accuracy of all statements herein made and all answers herein expressed.

Dated this _____ day of _____, 20____.

By: _____

Name: _____

Title: _____

STATE OF _____

COUNTY OF _____

Subscribed and sworn to me this _____ day of _____, 20____.

Notary Public

My commission expires: _____

Subcontractor's Pre-Bid Disclosure Statement

PLACEMENT AREA 8 - DIKE RELOCATION

1. This Pre-Bid Disclosure Statement is submitted to the Brownsville Navigation District by:
☐ a Corporation, ☐ a Co-partnership, or ☐ an individual.

Subcontractor: _____

Address: _____ Phone: ____

City: _____ State: ____ Zip: _____

2. Years in business under present business name: ____.
3. Years of experience in construction work of the type called for in this contract as:
☐ a General Contractor: _____ ☐ a Sub-Contractor: _____

4. What projects has your organization completed? List most recent **FIRST**.

Contract Amount	Type of Work	Date Completed	Owner's Name and Address
-----------------	--------------	----------------	--------------------------

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

5. What projects does your organization have under way as often as this date?

Contract Amount	Type of Work	Date Completed	Owner's Name and Address
-----------------	--------------	----------------	--------------------------

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

6. Have you ever failed to complete any work awarded to you? ☐ Yes ☐ No
If "Yes", state where and why.

7. Are you at present in any major litigation or lawsuits involving construction work of any type?
☐ Yes ☐ No. If "Yes", explain:

PRE-BID DISCLOSURE STATEMENT

8. Explain in detail the manner in which you have inspected the work proposed in this Contract:

9. Explain in detail your plan or layout for performing the work proposed in this contract:

10. If this contract is awarded to you, your company's administrative manager for the work will be Mr./Ms. _____, and your resident construction superintendent will be Mr./Ms. _____.

11. What experience in this type of work is enjoyed by the individual designated as superintendent above?

12. What portions of the work do you intent to sublet? _____

13. What equipment do you own that is available for the proposed work?

Quantity	Description, Size, Capacity, etc.	Condition	Years in Service	Present Location
----------	--------------------------------------	-----------	---------------------	---------------------

PRE-BID DISCLOSURE STATEMENT

14. Have you received firm offers for all major items of material and/or equipment within the prices used in preparing your proposal? ☐ Yes ☐ No

The signatory of this questionnaire guarantees the truth and accuracy of all statements herein made and all answers herein expressed.

Dated this _____ day of _____, 20____.

By: _____

Name: _____

Title: _____

STATE OF _____

COUNTY OF _____

Subscribed and sworn to me this _____ day of _____, 20____.

Notary Public

My commission expires: _____

Agreement

PLACEMENT AREA 8 - DIKE RELOCATION

THIS AGREEMENT is dated as of the _____ day of _____, 20____ by and Between the **BROWNSVILLE NAVIGATION DISTRICT**, Texas (hereinafter called OWNER), and _____ of _____ (hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK.

CONTRACTOR shall furnish all of the materials, supplies, tools, equipment, labor and other services necessary for the construction and completion of the work described herein and complete all the work as specified or indicated in the Contract Documents. The work is generally described as:

PLACEMENT AREA 8 - DIKE RELOCATION

at the Brownsville Navigation District, Texas.
(hereinafter referred to as "Work").

Article 2. ENGINEER.

The project has been designed by the Department of Engineering Services of the Brownsville Navigation District (hereinafter also called ENGINEER).

Article 3. CONTRACT TIME.

3.1 The Work shall be substantially completed within the number of calendar days specified in the Bid form from issuance of the Notice to Proceed and shall be fully completed within ninety (90) days after that date.

3.2 Liquidated Damages. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not substantially complete within the time specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving in a legal proceeding the actual loss suffered by OWNER if the Work is not substantially complete on time. Accordingly, instead of requiring such proof, OWNER and CONTRACTOR agree that as liquidated damages for the delay (but not as a penalty) CONTRACTOR shall pay OWNER five hundred (\$500.00) dollars for each calendar day that expires after the time specified in paragraph 3.1 for substantial completion until the Work is substantially complete.

Article 4. CONTRACT PRICE.

4.1 CONTRACTOR shall perform the Work described in the Contract Documents for the amounts shown in the Bid Proposal, and OWNER shall pay CONTRACTOR in current funds based on the Bid Proposal.

Article 5. PAYMENT PROCEDURES.

Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by OWNER as provided for in the General Conditions.

5.1 Progress Payments. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment on or about the twentieth day after submittal of the Application for Payment each month as provided below. All progress payments shall be on the basis of the progress of the Work measured by the completed bid items as per paragraph 14.1 of the General Conditions.

5.1.1 Prior to Substantial Completion progress payments shall be in an amount equal to 90% of the amount requested in the Application for Payment, with 10% remaining as retainage for the project, to be released in accordance paragraph 5.2.

5.1.2 Upon substantial completion, OWNER shall pay an amount sufficient to increase total payments to CONTRACTOR to 90% of the Contract Price, less such amounts OWNER shall determine in accordance with paragraph 14.7 of the General Conditions.

5.2 Final Payment. Upon final completion and acceptance of the Work in accordance with paragraph 14.13 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by OWNER as provided in said paragraph 14.13.

Article 6. CONTRACTOR'S REPRESENTATIONS.

In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

6.1 CONTRACTOR has familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the Work.

6.2 CONTRACTOR has made or caused to be made examinations and investigations of information as he deems necessary for the performance of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations or similar data are or will be required by CONTRACTOR for such purposes.

6.3 CONTRACTOR has given OWNER written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by OWNER is acceptable to CONTRACTOR.

6.4 CONTRACTOR is skilled and experienced in the type of work described in the Contract Documents.

Article 7. CONTRACT DOCUMENTS.

The Contract Documents which comprise the entire Agreement between OWNER and CONTRACTOR are attached to this Agreement, made a part hereof and consists of the following:

- 7.1 Advertisement for Bids.
- 7.2 Intent to bid Statement.
- 7.3 Instructions to Bidders (pages 1 to 9, inclusive).
- 7.4 Bid Form (pages 1 to 3, inclusive).
- 7.5 Bid Bond.
- 7.6 Statement of Non-collusion.
- 7.7 Disclosure of Interests (pages 1 to 2, inclusive).
- 7.8 Certificate and Definitions.
- 7.9 Certification Regarding Debarment, Suspension and other Responsibility Matters.
- 7.10 Respondent's Acknowledgement Form.
- 7.11 Vendor Registration Form.
- 7.12 Conflict of Interest Questionnaire (pages 1 to 2, inclusive).
- 7.13 Government Code Chapter 2270 and 2252 Disclosure Statement.
- 7.14 Contractor's Pre-Bid Disclosure Statement (pages 1 to 3, inclusive).
- 7.15 Subcontractor's Pre-Bid Disclosure Statement (pages 1 to 3, inclusive).
- 7.16 Agreement (pages 1 to 5, inclusive).
- 7.17 Performance Bond (pages 1 to 3, inclusive).
- 7.18 Payment Bond (pages 1 to 3, inclusive).
- 7.19 Certificates of Insurance.
- 7.20 General Conditions (pages 1 to 44, inclusive).
- 7.21 Supplemental General Conditions (pages 1 to 14, inclusive).
- 7.22 Construction Drawings – (Number [4] Sheets, inclusive).
- 7.23 Construction Specifications (Number [72] pages, inclusive).
- 7.24 Notice of Award & Acceptance of Notice.
- 7.25 Notice to Proceed & Acceptance of Notice.
- 7.26 Affidavit of all Bills Paid (pages 1 to 2, inclusive).

- 7.27 Any modifications, including Addenda issued prior to bidding and/or Change Orders duly delivered after execution of this Agreement.

There are no Contract Documents other than those listed above in this Article 7. The Contract Documents may only be altered, amended or repealed by a Modification (as defined in Article 1 of the General Conditions).

Article 8. MISCELLANEOUS.

8.1 Terms used in this Agreement which are defined in Article 1 of the General Conditions shall have the meanings indicated in the General Conditions.

8.2 No assignment by a party hereto of any rights under or interest in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

8.3 OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives to the other party hereto, his partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

8.4 The invalidity or unenforceability of any provision of the Contract Documents shall not affect the validity or enforceability of any other provision of the Contract Documents.

8.5 This Agreement and the Contract Documents are subject to all applicable laws, statutes, codes, ordinances, rules and regulations.

8.6 In the event of default by CONTRACTOR under the Contract Documents, OWNER shall have all rights and remedies afforded to it at law or in equity to enforce the terms of the Contract Documents. The exercise of any one right or remedy shall be without prejudice to the enforcement of any other right or remedy allowed at law or in equity.

8.7 If any action at law or in equity is necessary by OWNER to enforce or interpret the terms of the Contract Documents, OWNER shall be entitled to reasonable attorneys' fees and costs and any necessary disbursements in addition to any other relief to which the OWNER is entitled.

8.8 The Contract Documents constitute the entire agreement between the parties hereto and supersede all prior agreements and understandings between the parties. The Contract can be modified or amended by written agreement of the parties.

8.9 These Contract Documents are governed by the laws of the State of Texas and the parties agree that venue for all lawsuits arising from these Contract Documents shall lie in Cameron County, Texas.

IN WITNESS WHEREOF, the parties hereto have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER and CONTRACTOR. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR, or by ENGINEER on their behalf.

This Agreement will be effective on the _____ day of _____, 20 ____.

BROWNSVILLE NAVIGATION DISTRICT

By: _____
ESTEBAN GUERRA, Chairman

By: _____

Attest: _____
JOHN REED, Secretary

Attest: _____

Address for giving notices:

Address for giving notices:

Attn: Mr. Manuel Martinez, Acting
Director of Engineering Services
1000 Foust Road
Brownsville, TX 78521

Attn:

The Brownsville Navigation District is a governmental entity as defined by Texas Tax Code Section 151.309. District takes the position that this contract is exempt from taxation under Section 151.311 of the Texas Tax Code. The District will provide Contractor with evidence of District's status as a governmental entity, so that Contractor may claim exemption from sales tax for all purchases of tangible personal property used in the performance of this contract. **The parties agree that for purposes of claiming the exemption Contractor is the agent of District within the meaning of 34 Texas Administrative Code Rule 3.322.** However, District and Contractor further agree that (1) to the extent this contract or purchases made to fulfill this contract are taxable, that this is a "separated contract", and that the following amount of money represents that part of the total contract price representative of the value of tangible personal property to be physically incorporated into the project realty: \$ _____, and (2) in no event shall District be liable to Contractor for an increase in the Contract Price because of sales taxes.

Performance Bond

PLACEMENT AREA 8 - DIKE RELOCATION

KNOW ALL MEN BY THESE PRESENTS:

THAT _____
(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal,
(Corporation, Partnership, or Individual)

and _____
(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto the BROWNSVILLE NAVIGATION DISTRICT, Texas, hereinafter called OWNER, in the penal sum of _____ Dollars (\$_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the ____ day of _____, 20____, a copy of which is hereto attached and made a part hereof, for the construction of the:

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year post-construction guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PLACEMENT AREA 8 - DIKE RELOCATION

PERFORMANCE BOND

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

This bond is subject to and governed by Article 5160 of the Texas Revised Civil Statutes and all amendments thereto.

IN WITNESS WHEREOF, this instrument is executed in triplicate, each counterpart of which shall be deemed an original, this the ____ day of _____, 20__.

ATTEST:

(Principal)

(Principal) Secretary By: _____(s)
(Signature)

(SEAL)

(Witness as to Principal) _____
(Address) _____

(Address) _____

ATTEST:

(Surety)

(Surety) Secretary By: _____
(Attorney-in-Fact)

(SEAL)

(Witness as to Surety) _____
(Address) _____

(Address) _____

NOTE: Date of BOND must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute BOND.

ATTACH

POWER OF ATTORNEY

TO BE FURNISHED BY CONTRACTOR

Payment Bond

PLACEMENT AREA 8 - DIKE RELOCATION

KNOW ALL MEN BY THESE PRESENTS:

THAT _____
(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal,
(Corporation, Partnership, or Individual)

and _____
(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto the BROWNSVILLE NAVIGATION DISTRICT, Texas, hereinafter called OWNER, in the penal sum of _____ Dollars (\$_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the ____ day of _____, 20__, a copy of which is hereto attached and made a part hereof, for the construction of the _____.

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose legally perfected claim may be unsatisfied.

This bond is subject to and governed by Article 5160 of the Texas Revised Civil Statutes and all amendments thereto.

IN WITNESS WHEREOF, this instrument is executed in triplicate, each counterpart of which shall be deemed an original, this the ____ day of _____, 20__.

ATTEST:

(Principal)

(Principal) Secretary

By: _____
(Signature)

(SEAL)

(Witness as to Principal)

(Address)

(Address)

ATTEST:

(Surety)

(Surety) Secretary

By: _____
(Attorney-in-Fact)

(SEAL)

(Witness as to Surety)

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract. If Contractor Partnership, all partners should execute BOND.

ATTACH
POWER OF ATTORNEY
TO BE FURNISHED BY CONTRACTOR

Certificates of Insurance

PLACEMENT AREA 8 - DIKE RELOCATION

ATTACH

CERTIFICATES OF INSURANCE

TO BE FURNISHED BY CONTRACTOR

General Conditions

PLACEMENT AREA 8 - DIKE RELOCATION

STANDARD
GENERAL CONDITIONS
OF THE
CONSTRUCTION CONTRACT

Prepared by

Engineers' Joint Contract Documents Committee

and

Issued and Published Jointly By

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
A practice division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

AMERICAN CONSULTING ENGINEERS COUNCIL

AMERICAN SOCIETY OF CIVIL ENGINEERS

CONSTRUCTION SPECIFICATION INSTITUTE

The document has been approved and endorsed by:

The Associated General Contractors of America

TABLE OF CONTENTS OF GENERAL CONDITIONS

Article Number	Title
1	DEFINITIONS
2	PRELIMINARY MATTERS
3	CONTRACT DOCUMENTS: INTENT, AMENDING AND REUSE
4	AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS
5	BONDS AND INSURANCE
6	CONTRACTOR'S RESPONSIBILITIES
7	OTHER WORK
8	OWNER'S RESPONSIBILITIES
9	ENGINEER'S STATUS DURING CONSTRUCTION
10	CHANGES IN THE WORK
11	CHANGE OF CONTRACT PRICE
12	CHANGE OF CONTRACT TIME
13	WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK
14	PAYMENTS TO CONTRACTOR AND COMPLETION
15	SUSPENSION OF WORK AND TERMINATION
16	(RESERVED)
17	MISCELLANEOUS

Index to General Conditions

GENERAL CONDITIONS

ARTICLE 1. DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

Addenda - Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the bidding documents or the Contract Documents. These Addenda shall become a part of the Contract Documents and modify the drawings, specifications or other bid documents as indicated. No verbal changes in the Work as shown or described shall become binding.

Agreement - The written agreement between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

Application for Payment - The form accepted by ENGINEER which is to be used by CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

Bid - The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

Bonds - Bid, performance and payment bonds and other instruments of security.

Change Order - A document recommended by ENGINEER, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.

Contract Documents - The Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post-Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all amendments, modifications and supplements issued pursuant to paragraphs 3.4 and 3.5 on or after the Effective Date of the Agreement.

Contract Price - The moneys payable by OWNER to CONTRACTOR under the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.9.1 in the case of Unit Price Work).

Contract Time - The number of days (computed as provided in paragraph 17.2) or the date stated in the Agreement for the completion of the Work.

CONTRACTOR - The person, firm or corporation with whom OWNER has entered into

the Agreement.

Defective - An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof), has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.8 or 14.10).

Drawings - The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by ENGINEER and are referred to in the Contract Documents.

Effective Date of the Agreement - The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by OWNER.

ENGINEER - The person, firm or corporation named as such in the Agreement.

Field Order - A written order issued by ENGINEER which orders minor changes in the Work in accordance with paragraph 9.5 but which does not involve a change in the Contract Price or the Contract Time.

General Requirements - Sections of Division 1 of the Specifications.

Laws and Regulations; Laws or Regulations - Laws, rules, regulations, ordinances, codes and/or orders.

Notice of Award - The written notice by OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

Notice to Proceed - A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR's obligations under the Contract Documents.

OWNER - The public body or authority, corporation, association, firm or person with whom Contractor has entered into the Agreement and for whom the Work is to be provided.

Partial Utilization - Placing a portion of the Work in service for the purpose for which it is intended (or a related purpose) before reaching Substantial Completion for all the Work.

Project - The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

Resident Project Representative - The authorized representative of ENGINEER who is assigned to the site or any part thereof.

Shop Drawings - All drawings, diagrams, illustrations, schedules and other data which are

specifically prepared by or for CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.

Specifications - Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

Subcontractor - An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

Substantial Completion - The Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER as evidenced by ENGINEER's definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if there be no such certificate issued, when final payment is due in accordance with paragraph 14.13. The terms "substantially complete" and "substantially completed" as applied to any Work refer to Substantial Completion thereof.

Supplementary Conditions - The part of the Contract Documents which amends or supplements these General Conditions.

Supplier - A manufacturer, fabricator, supplier, distributor, materialman or vendor.

Underground Facilities - All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

Unit Price Work - Work to be paid for on the basis of unit prices.

Work - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

Work Directive Change - A written directive to CONTRACTOR, issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraph 4.2 or 4.3 or to emergencies under paragraph 6.22. A Work Directive Change may not change the Contract Price or the Contract Time, but is evidence that the parties expect that the change directed or documented by a Work Directive Change will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Time as provided in paragraph 10.2.

Written Amendment - A written amendment of the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly Work-related aspects of the Contract Documents.

ARTICLE 2. PRELIMINARY MATTERS

Delivery of Bonds:

2.1 When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish in accordance with paragraph 5.1.

Copies of Documents:

2.2 OWNER shall furnish to CONTRACTOR up to ten copies (unless otherwise specified in the Supplementary Conditions) of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

Commencement of Contract Time; Notice to Proceed:

2.3 The Contract Time will commence to run on the thirtieth day after the after the effective Date of the Agreement, or if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty days after the Effective Date of the Agreement. In no event will the Contract Time commence to run later than the seventy fifth day after the day the of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

Starting the Project:

2.4 CONTRACTOR shall start to perform the Work on the date when the Contract Time commences to run, but no Work shall be done at the site prior to the date on which the Contract Time commences to run.

Before Starting Construction:

2.5 Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby. CONTRACTOR shall be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy in the Contract Documents, if CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

2.6 Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for review:

2.6.1 an estimated progress schedule indicating the starting and

completion dates of the various stages of the Work;

2.6.2 a preliminary schedule of Shop Drawings submissions; and

2.6.3 a preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by CONTRACTOR at the time of submission.

2.7 Before any Work at the site is started, Contractor shall deliver to Owner, with a copy to Engineer, certificates (and other evidence of insurance requested by OWNER) which CONTRACTOR is required to purchase and maintain in accordance with paragraphs 5.3, 5.4, and Owner shall deliver to CONTRACTOR certificates (and other evidence of insurance requested by CONTRACTOR) which OWNER is required to purchase and maintain in accordance with paragraphs 5.6 and 5.7.

Preconstruction Conference:

2.8 Within twenty days after the Effective Date of the Agreement, but before CONTRACTOR starts the Work at the site, a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to discuss the schedules referred to in paragraph 2.6, to discuss procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, and to establish a working understanding among the parties as to the Work.

Finalizing Schedules:

2.9 At least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to finalize the schedules submitted in accordance with paragraph 2.6. The finalized progress schedule will be acceptable to ENGINEER as providing an orderly progression of the Work to completion within the Contract Time, but such acceptance will neither impose on ENGINEER responsibility for the progress or scheduling of the Work nor relieve CONTRACTOR from full responsibility therefor. The finalized schedule of Shop Drawing submissions will be acceptable to ENGINEER as providing a workable arrangement for processing the submissions. The finalized schedule of values will be acceptable to ENGINEER as to form and substance.

ARTICLE 3. CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

Intent:

3.1 The Contract Documents comprise the entire agreement between OWNER and CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the place of the Project.

3.2 It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work,

materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result will be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials or equipment such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or Laws or Regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to ENGINEER, or any of ENGINEER's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.15 or 9.16. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in paragraph 9.4.

3.3 If, during the performance of the Work, CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, CONTRACTOR shall so report to ENGINEER in writing at once and before proceeding with the Work affected thereby shall obtain a written interpretation or clarification from ENGINEER. However, CONTRACTOR shall be not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy in the Contract Documents if CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

Amending and Supplementing Contract Documents:

3.4 The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

- 3.4.1 a Formal Written Amendment,
- 3.4.2 a Change Order (pursuant to paragraph 10.4), or
- 3.4.3 a Work Directive Change (pursuant to paragraph 10.1).

As indicated in paragraphs 11.2 and 12.1, Contract Price and Contract Time may only be changed by a Change Order or a Written Amendment.

3.5 In addition, the requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

- 3.5.1 a Field Order (pursuant to paragraph 9.5),
- 3.5.2 ENGINEER's approval of a Shop Drawing or sample (pursuant to paragraphs 6.26 and 6.27), or

3.5.3 ENGINEER's written interpretation or clarification (pursuant to paragraph 9.4).

Reuse of Documents:

3.6 Neither CONTRACTOR nor any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER shall have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER; and they shall not reuse any of them on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaptation by ENGINEER. All drawings, specifications or other documents (or copies of any thereof) are upon completion of the project to become the property of OWNER. Further use thereof without written consent of OWNER is prohibited.

ARTICLE 4. AVAILABILITY OF LANDS: PHYSICAL CONDITIONS: REFERENCE POINTS

Availability of Lands:

4.1 OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto and such other lands which are designated for the use of CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. If CONTRACTOR believes that any delay in OWNER's furnishing these lands, rights-of-way or easements entitles CONTRACTOR to an extension of the Contract Time, CONTRACTOR may make a claim therefor as provided in Article 12. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

Physical Condition:

4.2.1 Explorations and Reports: Reference is made to the Supplementary Conditions for identification of those reports of explorations and tests of subsurface conditions at the site that have been utilized by ENGINEER in preparation of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such reports, but not upon nontechnical data, interpretations or opinions contained therein or for the completeness thereof for CONTRACTOR's purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to subsurface conditions at the site.

4.2.2 Existing Structures: Reference is made to the Supplementary Conditions for identification of those drawings of physical conditions in or relating to existing surface or subsurface structures (except Underground Facilities referred to in paragraph 4.3) which are at or contiguous to the site that have been utilized by ENGINEER in preparation of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such drawings, but not for the completeness thereof for CONTRACTOR's purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to physical conditions in or relating to such structures.

4.2.3 Report of Differing Conditions: If CONTRACTOR believes that:

4.2.3.1 any technical data on which CONTRACTOR is entitled to rely as provided in paragraphs 4.2.1 and 4.2.2 is inaccurate, or

4.2.3.2 any physical condition uncovered or revealed at the site differs materially from that indicated, reflected or referred to in the Contract Documents,

CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work in connection therewith (except in an emergency as permitted by paragraph 6.22), notify OWNER and ENGINEER in writing about the inaccuracy or difference.

4.2.4 ENGINEER's Review: ENGINEER will promptly review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER's findings and conclusions.

4.2.5 Possible Document Change: If ENGINEER concludes that there is a material error in the Contract Documents or that because of newly discovered conditions a change in the Contract Documents is required, a Work Directive Change or a Change Order will be issued as provided in Article 10 to reflect and document the consequences of the inaccuracy or difference.

4.2.6 Possible Price and Time Adjustments: In each such case, an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, or any combination thereof, may be allowable to the extent that they are attributable to any such inaccuracy or difference. If OWNER and CONTRACTOR are unable to agree as to the amount or length thereof, a claim may be made therefor as provided in Articles 11 and 12.

Physical Conditions - Underground Facilities:

4.3.1 Shown or Indicated: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

4.3.1.1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and,

4.3.1.2 CONTRACTOR shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Facilities shown or indicated in the Contract Documents, for coordination of the Work with the owners of such Underground Facilities during construction, for the safety and protection thereof as provided in paragraph 6.20 and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Price.

4.3.2 Not Shown or Indicated. If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of, CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work affected thereby (except in an emergency as permitted by paragraph 6.22), identify the owner of such Underground Facility and give written notice thereof to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility to determine the extent to which the Contract Documents should be modified to reflect and document the consequences of the existence of the Underground Facility, and the Contract Documents will be amended or supplemented to the extent necessary. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 6.20. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any Underground Facility that was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of. If the parties are unable to agree as to the amount or length thereof, CONTRACTOR may make a claim therefor as provided in Articles 11 and 12.

Reference Points:

4.4 OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work (unless otherwise specified in the General Requirements), shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.

ARTICLE 5. BONDS AND INSURANCE

Performance and Other Bonds:

5.1 CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These bonds shall remain in effect at least until one year after the date when final payment becomes due, except as otherwise provided by Law or Regulation or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary Conditions. All Bonds shall be in the forms prescribed by Law or Regulation or by the Contract Documents and be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

5.2 If the surety on any Bond furnished by CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the

project is located or it ceases to meet the requirements of paragraph 5.1, CONTRACTOR shall within five days thereafter substitute another Bond or Surety, both of which must be acceptable to OWNER.

Contractor's Liability Insurance:

5.3 CONTRACTOR shall purchase and maintain such comprehensive general liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR's performance and furnishing of the Work and CONTRACTOR's other obligations under the Contract Documents, whether it is to be performed or furnished by CONTRACTOR, by any Subcontractor, by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts and/or omissions any of them may be liable:

5.3.1 Claims under workers' or workmen's compensation, disability benefits and other similar employee benefit acts;

5.3.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;

5.3.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees;

5.3.4 Claims for damages insured by personal injury liability coverage which are sustained (a) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (b) by any other person for any other reason;

5.3.5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom;

5.3.6 Claims arising out of operation of Laws or Regulations for damages because of bodily injury or death of any person or for damage to property; and

5.3.7 Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

The insurance required by these paragraphs 5.3 and 5.6 shall include the specific coverages and be written for not less than the limits of liability and coverages provided in the Supplementary Conditions, or required by law, whichever is greater. The comprehensive general liability insurance shall include completed operations insurance. All of the policies of insurance so required to be purchased and maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be cancelled, materially changed or renewal refused until at least thirty days' prior written notice has been given to OWNER and ENGINEER by certified mail. All such insurance shall remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing defective Work in accordance with paragraph 13.12. In addition, CONTRACTOR shall maintain such completed operations insurance for at least two years after final payment and

furnish OWNER with evidence of continuation of such insurance at final payment and one year thereafter.

Contractual Liability Insurance:

5.4 The comprehensive general liability insurance required by paragraph 5.3 will include contractual liability insurance applicable to CONTRACTOR's obligations under paragraphs 6.30 and 6.31.

Owner's Liability Insurance:

5.5 Owner shall be responsible for purchasing and maintaining OWNER'S own liability insurance and, at OWNER's option, may purchase and maintain such insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.

Property Insurance:

5.6 Unless otherwise provided in the Supplementary Conditions, OWNER shall purchase and maintain property insurance upon the Work at the site to the full insurable value thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER and ENGINEER's consultants in the Work, all of whom shall be listed as insureds or additional insured parties, shall insure against the perils of fire and extended coverage and shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage, and such other perils as may be provided in the Supplementary Conditions, and shall include damages, losses and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, architects, attorneys and other professionals). If not covered under the "all risk" insurance or otherwise provided in the Supplementary Conditions, CONTRACTOR shall purchase and maintain similar property insurance on portions of the Work stored on and off the site or in transit when such portions of the Work are to be included in an Application for Payment.

5.7 OWNER shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEERS and ENGINEER's consultants in the Work, all of whom shall be listed as insured or additional insured parties.

5.8 All the policies of insurance (or the certificates or other evidence thereof) required to be purchased and maintained by OWNER in accordance with paragraphs 5.6 and 5.7 will contain a provision or endorsement that the coverage afforded will not be cancelled or materially changed or renewal refused until at least thirty days prior written notice has been given to CONTRACTOR by certified mail and will contain waiver provisions in accordance with paragraph 5.11.2.

5.9 OWNER shall not be responsible for purchasing and maintaining any property insurance to protect the interests of CONTRACTORS, Subcontractors or others in the Work to the extent of any deductible amounts that are provided in the Supplementary Conditions. The risk of loss within the deductible amount will be borne by CONTRACTOR. Subcontractor, or others suffering any such loss and if any of them wishes property insurance coverage within the

limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

5.10 If CONTRACTOR requests in writing that other special insurance be included in the property insurance policy, OWNER shall, if possible, include such insurance, and the cost thereof will be charged to CONTRACTOR by appropriate Change Order or Written Amendment. Prior to commencement of Work at the Site, OWNER shall in writing advise CONTRACTOR whether or not such other insurance has been procured by OWNER.

Waiver of Rights:

5.11.1 OWNER and CONTRACTOR waive all rights against each other for all losses and damages caused by any of the perils covered by the policies of insurance provided in response to paragraph 5.6 and 5.7 and any other property insurance applicable to the Work, and also waives all such rights against the Subcontractors. ENGINEER, ENGINEER's consultants and all other parties named as insureds in such policies for losses and damages so caused. As required by paragraph 6.11, each subcontract between CONTRACTOR and a Subcontractor will contain similar waiver provisions by the Subcontractor in favor of OWNER, CONTRACTOR, ENGINEER, ENGINEER's consultants and all other parties named as insureds. None of the above waivers shall extend to the rights that any of the insured parties may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy is issued.

5.11.2 OWNER and CONTRACTOR intend that any policies provided in response to paragraph 5.6 and 5.7 shall protect all of the parties insured and provide primary coverage for all losses and damages caused by the perils covered thereby. Accordingly, all such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any of the parties named as insureds or additional insureds, and if the insurers require separate waiver forms to be signed by ENGINEER or ENGINEER's consultant or any Subcontractor, CONTRACTOR will obtain the same, and if such waiver forms are required of any Subcontractor, CONTRACTOR will obtain the same.

Receipt and Application of Proceeds:

5.12. Any insured loss under the policies of insurance required by paragraphs 5.6 and 5.7 will be adjusted with OWNER and made payable to OWNER as trustee for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.13. OWNER shall deposit in a separate account any money so received, and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreements is reached the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof and the Work and the cost thereof covered by an appropriate Change Order or Written Amendment.

5.13. OWNER as trustee shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within fifteen days after the occurrence of loss to OWNER's exercise of this power. If such objection be made, OWNER as trustee shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If required in writing by any party in interest, OWNER as trustee shall, upon the occurrence of any insured loss, give bond for the proper performance of such duties.

Acceptance of Insurance:

5.14. If OWNER has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by CONTRACTOR in accordance with paragraphs 5.3 and 5.4 on the basis of its not complying with the Contract Documents, OWNER shall notify CONTRACTOR in writing thereof within ten days of the date of delivery of such certificates to OWNER in accordance with paragraph 2.7. If CONTRACTOR has any objection to the coverage afforded by or other provisions of the policies of insurance required to be purchased and maintained by OWNER, in accordance with paragraphs 5.6 and 5.7 on the basis of their not complying CONTRACTOR shall notify OWNER in writing thereof within ten days of the date of delivery of such certificates to CONTRACTOR in accordance with paragraph 2.7. OWNER and CONTRACTOR shall each provide to the other such additional information in respect of insurance provided by each as the other may reasonably request. Failure by OWNER or CONTRACTOR to give any such notice of objection within the time provided shall constitute acceptance of such insurance purchased by the other as complying with the Contract Documents.

Partial Utilization - Property Insurance:

5.15. If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be accomplished in accordance with paragraph 14.10 provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and in writing effected the changes in coverage necessitated thereby. The insurers providing the property insurance shall consent to such use or occupancy by endorsement on the policy or policies, but the property insurance shall not be cancelled or lapse on account of any such partial use or occupancy.

ARTICLE 6. CONTRACTOR'S RESPONSIBILITIES**Supervision and Superintendence:**

6.1. CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the Contract Documents.

6.2. CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR.

Labor, Materials and Equipment:

6.3. CONTRACTOR shall provide competent, suitably qualified personnel to survey

and lay out the Work and perform construction as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER's written consent given after prior written notice to ENGINEER.

6.4. Unless otherwise specified in the General Requirements, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

6.5. All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provision of any such instructions will be effective to assign to ENGINEER, or any of ENGINEER's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.15 or 9.16.

Adjusting Progress Schedule:

6.6. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.9) adjustments in the progress schedule to reflect the impact thereon of new developments; these will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

Substitutes or "Or-Equal" Items:

6.7.1. Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by ENGINEER if sufficient information is submitted by CONTRACTOR to allow ENGINEER to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by ENGINEER will include the following as supplemented in the General Requirements. Requests for review of substitute items of material and equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to ENGINEER for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice CONTRACTOR's achievement of

Substantial Completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by ENGINEER in evaluating the proposed substitute. ENGINEER may require CONTRACTOR to furnish at CONTRACTOR's expense additional data about the proposed substitute.

6.7.2. If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to ENGINEER, if CONTRACTOR submits sufficient information to allow ENGINEER to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in paragraph 6.7.1 as applied by ENGINEER and as may be supplemented in the General Requirements.

6.7.3. ENGINEER will be allowed a reasonable time within which to evaluate each proposed substitute. ENGINEER will be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without ENGINEER's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guaranty or other surety with respect to any substitute. ENGINEER will record time required by ENGINEER and ENGINEER's consultants in evaluating substitutions proposed by CONTRACTOR and in making changes in the Contract Documents occasioned thereby. Whether or not ENGINEER accepts a proposed substitute, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER's consultants for evaluating each proposed substitute.

Concerning Subcontractors, Suppliers and Others:

6.8.1. CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization (including those acceptable to OWNER and ENGINEER as indicated in paragraph 6.8.2), whether initially or as a substitute, against whom OWNER or ENGINEER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

6.8.2. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of materials and equipment) to be submitted to OWNER in advance of the specified date prior to the Effective Date of the Agreement for acceptance by OWNER and ENGINEER and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER's or ENGINEER's acceptance (either in writing or by failing to make written objection thereto by the date indicated for

acceptance or objection in the bidding documents or the Contractor Documents) of any such Subcontractor, Supplier or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute, the Contract Price may be increased by the difference in the cost occasioned by such substitution and an appropriate Change Order will be issued or Written Amendment signed. All increases or decreases in the Contract Price shall be governed by all state and local statutes, codes, laws, ordinances, rules and regulations governing competitive bidding and Change Orders. No acceptance by OWNER or ENGINEER of any such Subcontractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

6.9. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and/or omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and/or omissions. Nothing in the Contract Documents shall create any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

6.10. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

6.11. All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER and contains waiver provisions as required by paragraph 5.11. CONTRACTOR shall pay each Subcontractor a just share of any insurance moneys received by CONTRACTOR on account of losses under policies issued pursuant to paragraphs 5.6 and 5.7.

Patent Fees and Royalties:

6.12. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. CONTRACTOR shall indemnify and hold harmless OWNER and ENGINEER and anyone directly or indirectly employed by either of them from and against claims, damages, losses and expenses (including attorneys' fees and court costs) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device not specified in the Contract Documents, and shall defend all such claims in connection with any alleged infringement of such rights.

Permits:

6.13. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or if there are no Bids on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

Laws and Regulations:

6.14.1. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

6.14.2. If CONTRACTOR observes that the Specifications or Drawings are at variance with any Laws or Regulations. CONTRACTOR shall give ENGINEER prompt written notice thereof, and any necessary changes will be authorized by one of the methods indicated in paragraph 3.4. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Laws or Regulations, and without such notice to ENGINEER, CONTRACTOR shall bear all costs arising therefrom; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

Taxes:

6.15. CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the Place of the Project which are applicable during the performance of the Work.

Use of Premises:

6.16. CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Project site and land and areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or any of the land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against OWNER or ENGINEER by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify, hold OWNER and ENGINEER harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or

equitable, brought by any such other party against OWNER or ENGINEER to the extent based on a claim arising out of CONTRACTOR's performance of the Work.

6.17. During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by OWNER. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

6.18. CONTRACTOR shall not load or permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

Record Documents:

6.19. CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Directive Changes, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents, together with all approved samples and a counterpart of all approved Shop Drawings, will be available to ENGINEER for reference. Upon completion of the Work, these record documents, samples and Shop Drawings will be delivered to ENGINEER for OWNER.

Safety and Protection:

6.20. CONTRACTOR shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

6.20.1. all employees on the Work and other persons and organizations who may be affected thereby;

6.20.2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and

6.20.3. other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Facilities not designated for removal, relocation or replacement in the course of construction.

CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property referred to in paragraph 6.20.2 or 6.20.3 caused, directly or indirectly, in whole or in

other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR. CONTRACTOR's duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.13 that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.21. CONTRACTOR shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be CONTRACTOR's superintendent unless otherwise designated in writing by CONTRACTOR to OWNER.

Emergencies:

6.22. In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from ENGINEER or OWNER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If ENGINEER determines that a change in the Contract Documents is required because of the action taken in response to an emergency, a Work Directive Change or Change order will be issued to document the consequences of the changes or variations.

Shop Drawings and Samples:

6.23. Not Used

6.24. Not Used

6.25. Not Used

6.26. ENGINEER will review and approve with reasonable promptness Shop Drawings and samples, but ENGINEER's review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents) or to safety precautions or programs incidents thereto. The review and approval of a separate item as such will not indicate approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER and shall return the required number of corrected copies of Shop Drawings and submit as required new samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.27. ENGINEER's review and approval of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of submission as required by paragraph 6.25.2 and ENGINEER has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawings or sample approval; nor will any approval by ENGINEER

relieve CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 6.25.1

6.28. Where a Shop Drawing or sample is required by the Specifications, any related Work performed prior to ENGINEER's review and approval of the pertinent submission will be the sole expense and responsibility of CONTRACTOR.

Continuing the Work:

6.29. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.5 or as CONTRACTOR and OWNER may otherwise agree in writing.

Indemnification:

6.30. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER and ENGINEER and their consultants, agents and employees from and against all claims, damages, losses and expenses, direct, indirect or consequential (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of CONTRACTOR, any Subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, or regardless of whether or not it is caused in part by a party indemnified hereunder or arises by or is imposed by Law and Regulations regardless of the negligence of any such party.

6.31. In any and all claims against OWNER or ENGINEER or any of their consultants, agents or employees by any employee of CONTRACTOR, any Subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.30 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any such Subcontractor or other person or organization under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

6.32. The obligations of CONTRACTOR under paragraph 6.30 shall not extend to the liability of ENGINEER, ENGINEER's consultants, agents or employees arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications.

ARTICLE 7 - OTHER WORK

Related Work at Site:

7.1. OWNER may perform other work related to the Project at the site by OWNER's own forces, have other work performed by utility owners or let other direct contracts therefor which shall contain General Conditions similar to these. If the fact that such other work is to be performed was not noted in the Contract Documents, written notice thereof will be given to CONTRACTOR prior to starting any such other work; and, if CONTRACTOR believes that such performance will involve additional expense to CONTRACTOR or requires additional time and the parties are unable to agree as to the extent thereof, CONTRACTOR may make a claim therefor as provided in Articles 11 and 12.

7.2. CONTRACTOR shall afford each utility owner and other contractor who is a party to such a direct contract (or OWNER, if OWNER is performing the additional work with OWNER's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the Work with theirs, CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

7.3. If any part of CONTRACTOR's Work depends for proper execution or results upon the work of any such other contractor or utility owner (or OWNER), CONTRACTOR shall inspect and promptly report to ENGINEER in writing any delays, defects or deficiencies in such work that renders it unavailable or unsuitable for such proper execution and results. CONTRACTOR's failure so to report will constitute an acceptance of the other work as fit and proper for integration with CONTRACTOR's Work except for latent or nonapparent defects and deficiencies in the other work.

Coordination:

7.4. If OWNER contracts with others for the performance of other work on the Project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified in the Supplementary Conditions, and the specific matters to be covered by such authority and responsibility will be itemized, and the extent of such authority and responsibilities will be provided, in the Supplementary Conditions. Unless otherwise provided in the Supplementary Conditions, neither OWNER nor ENGINEER shall not have any authority or responsibility in respect of such coordination.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.1. OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.2. In case of termination of the employment of ENGINEER, OWNER shall appoint an engineer against whom CONTRACTOR makes no reasonable objection, whose status under

the Contract Documents shall be that of the former ENGINEER. Any dispute in connection with such appointment shall be subject to arbitration.

8.3. OWNER shall furnish the data required of OWNER under the Contract Documents promptly and shall make payments to CONTRACTOR promptly after they are due as provided in paragraphs 14.4 and 14.13.

8.4. OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions at the site and in existing structures which have been utilized by ENGINEER in preparing the Drawings and Specifications.

8.5. OWNER's responsibility in respect of purchasing and maintaining liability and property insurance are set forth in paragraphs 5.5 through 5.6.

8.6. OWNER is obligated to execute Change Orders as indicated in paragraph 10.4.

8.7. OWNER's responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 13.4.

8.8. In connection with OWNER's right to stop Work or suspend Work, see paragraphs 13.10 and 15.1. Paragraph 15.2 deals with OWNER's right to terminate services of CONTRACTOR under certain circumstances.

ARTICLE 9 -ENGINEERS STATUS DURING CONSTRUCTION

Owner's Representative:

9.1. ENGINEER will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER's representative during construction are set forth in the Contract Documents and shall not be extended without written consent of OWNER and ENGINEER.

Visits to Site:

9.2. ENGINEER will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. ENGINEER's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform to the Contract Documents. On the basis of such visits and on-site observations as an experienced and qualified design professional, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defects and deficiencies in the Work.

Project Representation:

9.3. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project

Representative to assist ENGINEER in observing the performance of the Work. The duties, responsibilities and limitations of authority of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions. If OWNER designates another agent to represent OWNER at the site who is not ENGINEER's agent or employee, the duties, responsibilities and limitations of authority of such other person will be as provided in the Supplementary Conditions.

Clarifications and Interpretations:

9.4. ENGINEER, after consultation with OWNER, will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. If CONTRACTOR believes that a written clarification or interpretation justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree to the amount or extent thereof, CONTRACTOR may make a claim therefor as provided in Article 11 or Article 12.

Authorized Variations in Work:

9.5. ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER, and also on CONTRACTOR who shall perform the Work involved promptly. If CONTRACTOR believes that a Field Order justifies an increase in the Contract Price or an extension of the Contract Time, CONTRACTOR may make a claim therefor as provided in Article 11 or 12.

Rejecting Defective Work:

9.6. ENGINEER will have the authority to disapprove or reject Work which ENGINEER believes to be defective, and will also have authority to require special inspection or testing of the Work as provided in paragraph 13.9, whether or not the Work is fabricated, installed or completed.

Shop Drawings, Change Orders and Payments:

9.7. In connection with ENGINEER's responsibility for Shop Drawings and samples, see paragraphs 6.23 through 6.28 inclusive.

9.8. In connection with ENGINEER's responsibilities as to Change Orders, see Articles 10, 11 and 12.

9.9. In connection with ENGINEER's responsibilities in respect of Applications for Payment, etc., see Article 14.

Determinations for Unit Prices:

9.10. ENGINEER will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR. ENGINEER will review with CONTRACTOR ENGINEER's

preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). ENGINEER's written decisions thereon will be final and binding upon OWNER and CONTRACTOR, unless, within ten days after the date of any such decision, either OWNER or CONTRACTOR delivers to the other party to the Agreement and to ENGINEER written notice of intention to appeal from such a decision.

Decisions on Disputes:

9.11. ENGINEER will be the interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and claims under Articles 11 and 12 in respect of changes in the Contract Price or Contract Time will be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph, which ENGINEER will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter will be delivered by the claimant to ENGINEER and the other party to the Agreement promptly (but in no event later than thirty days) after the occurrence of the event giving rise thereto, and written supporting data will be submitted to ENGINEER and the other party within sixty days after such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim.

9.12. When functioning as interpreter and judge under paragraphs 9.10 and 9.11, ENGINEER will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by ENGINEER pursuant to paragraphs 9.10 and 9.11 with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.16) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such claim, dispute or other matter.

Limitations on ENGINEER's Responsibilities:

9.13. Neither ENGINEER's authority to act under this Article 9 or elsewhere in the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of ENGINEER to CONTRACTOR, and Subcontractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.

9.14. Whenever in the Contract Documents the term "as ordered", "as directed", "as required", "as allowed", "as approved" or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper" or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.15 or 9.16.

9.15. ENGINEER will not be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs

incident thereto and ENGINEER will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

9.16. ENGINEER will not be responsible for the acts and/or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

ARTICLE 10 - CHANGES IN THE WORK

10.1. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by a Written Amendment, a Change Order, or a Work Directive Change. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

10.2. If OWNER and CONTRACTOR are unable to agree as to the extent, if any, of an increase or decrease in the Contract Price or an extension or shortening of the Contract Time that should be allowed as a result of a Work Directive Change, a claim may be made therefor as provided in Article 11 or Article 12.

10.3. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraphs 3.4 and 3.5, except in the case of an emergency as provided in paragraph 6.22 and except in the case of uncovering Work as provided in paragraph 13.9.

10.4. OWNER and CONTRACTOR shall execute appropriate Change Orders (or Written Amendments) covering:

10.4.1. changes in the Work which are ordered by OWNER pursuant to paragraph 10.1, are required because of acceptance of defective Work under paragraph 13.13 or correcting defective Work under paragraph 13.14, or are agreed to by the parties;

10.4.2. changes in the Contract Price or Contract Time which are agreed to by the parties; and

10.4.3. changes in the Contract Price or Contract Time which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 9.11;

provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.29.

10.5. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR'S responsibility, and the amount of each applicable Bond will be

adjusted accordingly.

ARTICLE 11 - CHANGE OF CONTRACT PRICE

11.1. The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the Contract Price.

11.2. The Contract price may only be changed by a Change Order or by a Written Amendment. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the party making the claim to the other party promptly and to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the amount claimed covers all known amounts (direct, indirect and consequential) to which the claimant is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Price shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this paragraph 11.2.

11.3. The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

11.3.1. Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved (subject to the provisions of paragraphs 11.9.1. through 11.9.3. inclusive).

11.3.2. By mutual acceptance of a lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 11.6.2.1).

11.3.3. On the basis of the Cost of the Work (determined as provided in paragraphs 11.4 and 11.5) plus a CONTRACTOR's Fee for overhead and profit (determined as provided in paragraphs 11.6 and 11.7).

Cost of the Work:

11.4. The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5:

11.4.1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe

benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' or workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by OWNER.

11.4.2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

11.4.3. Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to CONTRACTOR and shall deliver such bids to OWNER who will then determine which bid will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a Fee, the Subcontractor's Cost of the Work shall be determined in the same manner as CONTRACTOR's Cost of the Work. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

11.4.4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants) employed for services specifically related to the Work.

11.4.5. Supplemental costs including the following:

11.4.5.1. The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

11.4.5.2. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

11.4.5.3. Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof--all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

11.4.5.4. Sales, consumer, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

11.4.5.5. Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

11.4.5.6. Losses and damages (and related expenses), not compensated by insurance or otherwise, to the Work or otherwise sustained by CONTRACTOR in connection with the performance and furnishing of the Work (except losses and damages within the deductible amounts of property insurance established by OWNER in accordance with paragraph 5.9), provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's Fee. If, however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, CONTRACTOR shall be paid for services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7. The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8. Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

11.4.5.9. Cost of premiums for additional Bonds and insurance required because of changes in the Work and premiums for property insurance coverage within the limits of the deductible amounts established by OWNER in accordance with paragraph 5.9.

11.5. The term Cost of the Work shall not include any of the following:

11.5.1. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR's principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.4.1 or specifically covered by paragraph 11.4.4--all of which are to be considered administrative costs covered by the CONTRACTOR's Fee.

11.5.2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.

11.5.3. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

11.5.4. Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 11.4.5.9 above).

11.5.5. Costs due to the intentional and/or negligent acts and/or omissions of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts and/or omissions any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

11.5.6. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

CONTRACTOR's Fee:

11.6. The CONTRACTOR's Fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

11.6.1 a mutually acceptable fixed fee; or if none can be agreed upon.

11.6.2. a fee based on the following percentages of the various portions of the Cost of the Work:

11.6.2.1. for costs incurred under paragraphs 11.4.1 and 11.4.2, the CONTRACTOR's Fee shall be fifteen percent;

11.6.2.2. for costs incurred under paragraph 11.4.3, the CONTRACTOR's Fee shall be five percent; and if a subcontract is on the basis of Cost of the Work Plus a Fee, the maximum allowable to CONTRACTOR on account of overhead and profit of all Subcontractors shall be fifteen percent;

11.6.2.3. no fee shall be payable on the basis of costs itemized under paragraphs 11.4.4, 11.4.5 and 11.5;

11.6.2.4. the amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in CONTRACTOR's Fee by an amount equal to ten percent of the net decrease; and

11.6.2.5. when both additions and credits are involved in any one change, the adjustment in CONTRACTOR'S Fee shall be computed on the basis of the net change in accordance with paragraphs 11.6.2.1 through 11.6.2.4, inclusive.

11.7. Whenever the cost of any Work is to be determined pursuant to paragraph 11.4 or 11.5, CONTRACTOR will submit in form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

Cash Allowances:

11.8. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such Subcontractors or Suppliers and for such sums within the limit of the allowances as may be acceptable to ENGINEER. CONTRACTOR agrees that:

11.8.1. The allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and

11.8.2. CONTRACTOR's costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances. No demand for additional payment on account of any thereof will be valid.

Prior to final payment an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

Unit Price Work:

11.9.1. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER in accordance with Paragraph 9.10.

11.9.2. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

11.9.3. Where the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement and there is no corresponding adjustment with respect to any other item of Work and if CONTRACTOR believes that CONTRACTOR has incurred additional expense as a result thereof. CONTRACTOR may make a claim for an increase in the Contract Price in accordance with Article 11 if the parties are unable to agree as to the amount of any such increase.

ARTICLE 12 - CHANGE OF CONTRACT TIME

12.1. The Contract Time may only be changed by a Change Order or a Written Amendment. Any claim for an extension or shortening of the Contract Time shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Time shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this paragraph 12.1.

12.2. The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR if a claim is made therefor as provided in paragraph 12.1. Such delays shall include, but not be limited to, acts or neglect by OWNER or others performing additional work as contemplated by Article 7, or to fires, floods, labor disputes, epidemics, abnormal weather conditions or acts of God.

12.3. All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of this Article 12 shall not exclude recovery for damages (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court costs) for delay by either party.

ARTICLE 13 - WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

Warranty and Guarantee:

13.1. CONTRACTOR warrants and guarantees to OWNER and ENGINEER that all Work will be in accordance with the Contract Documents and will not be defective. Prompt notice of all defects shall be given to CONTRACTOR. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article 13.

Access to Work:

13.2. ENGINEER and ENGINEER's representatives, other representatives of OWNER, testing agencies and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide proper and safe conditions for such access.

Tests and Inspections:

13.3. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests or approvals.

13.4. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) to specifically be inspected, tested or approved, CONTRACTOR shall assume full responsibility therefor, pay all costs in connection therewith and furnish ENGINEER the

required certificates of inspection, testing or approval. CONTRACTOR shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with OWNER's or ENGINEER's acceptance of a Supplier of materials or equipment proposed to be incorporated in the Work, or if materials or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work. The cost of all inspections, tests and approvals other than those which are required by the Contract Documents shall be paid by OWNER (unless otherwise specified).

13.5. All inspections, tests or approvals other than those required by Laws or Regulations of any public body having jurisdiction shall be performed by organizations acceptable to OWNER and CONTRACTOR (or by ENGINEER if so specified).

13.6. If any Work (including the work of others) that is to be inspected, tested or approved is covered without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation. Such uncovering shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

13.7. Neither observations by ENGINEER nor inspections, tests or approvals by others shall relieve CONTRACTOR from CONTRACTOR's obligations to perform the Work in accordance with the Contract Documents.

Uncovering Work:

13.8. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER's observation and replaced at CONTRACTOR's expense.

13.9. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request, shall uncover, expose or otherwise make available for observation, inspection or testing as ENGINEER may require that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, CONTRACTOR shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, (including but not limited to fees and charges or engineers, architects, attorneys and other professionals), and OWNER shall be entitled to an appropriate decrease in the Contract Price, and if the parties are unable to agree as to the amount thereof, may make a claim therefor as provided in Article 11. If, however, such Work is not found to be defective, CONTRACTOR may be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction; and, if the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a claim therefor as provided in Articles 11 and 12.

Owner May Stop the Work:

13.10. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been

eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any other party.

Correction or Removal of Defective Work:

13.11. If required by ENGINEER, CONTRACTOR shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by ENGINEER, remove it from the site and replace it with nondefective Work. CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

One Year Correction Period:

13.12. If within one year after the date of issue of the Certificate of Acceptance or such longer period of time as may be prescribed by Laws or Regulations, any Work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instruction, either correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with nondefective Work. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such removal and replacement (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) will be paid by CONTRACTOR. In special circumstances where a particular item of equipment is placed in continuous service before acceptance of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

Acceptance of Defective Work:

13.13. If, instead of requiring correction or removal and replacement of defective Work, OWNER (and, prior to ENGINEER's recommendation of final payment), prefers to accept it, OWNER may do so. CONTRACTOR shall bear all direct, indirect and consequential costs attributable to OWNER's evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness and to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals). If any such acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefor as provided in Article 11. If the acceptance occurs after such final payment, an appropriate amount as determined by OWNER will be paid by CONTRACTOR to OWNER.

OWNER May Correct Defective Work:

13.14. If CONTRACTOR fails within a reasonable time after written notice of ENGINEER to proceed to correct and to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.11, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days'

written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph OWNER shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees such access to the site as may be necessary to enable OWNER to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of OWNER in exercising such rights and remedies will be charged against CONTRACTOR in an amount approved as to reasonableness by ENGINEER, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefor as provided in Article 11. Such direct, indirect and consequential costs will include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all court costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR's defective Work. CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies hereunder.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

Schedule of Values:

14.1. The schedule of values established as provided in paragraph 2.9 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

Application for Progress Payment:

14.2. At least twenty days before each progress payment is scheduled (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that OWNER has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (which are hereinafter in these General Conditions referred to as "Liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER's interest therein, all of which will be satisfactory to OWNER. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

CONTRACTOR's Warranty of Title:

14.3. CONTRACTOR warrants and guarantees that title to all Work, materials and

equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

Review of Applications for Progress Payment:

14.4. OWNER will, within ten days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER, or return the Application to CONTRACTOR indicating in writing ENGINEER's reasons for refusing to make payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application. Ten days after presentation of the Application for Payment with ENGINEER's recommendation, the amount recommended will (subject to the provisions of the last sentence of paragraph 14.7) become due and when due will be paid by OWNER to CONTRACTOR.

14.5. ENGINEER's recommendation of any payment requested in an Application for Payment will constitute a representation by ENGINEER to OWNER, based upon ENGINEER's on-site observations of the Work in progress as an experienced and qualified design professional and on ENGINEER's review of the Application for Payment and the accompanying data and schedules that the Work has progressed to the point indicated, that, to the best of ENGINEER's knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.10 and to any other qualifications stated in the recommendation); and that CONTRACTOR is entitled to payment of the amount recommended. However, by recommending any such payment ENGINEER will not thereby be deemed to have represented that exhaustive or continuous on-site inspections have been made to check the quality or the quantity of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents or that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or OWNER to withhold payment to CONTRACTOR.

14.6. ENGINEER's recommendation of final payment will constitute an additional representation by ENGINEER to OWNER that the conditions precedent to CONTRACTOR's being entitled to final payment as set forth in paragraph 14.13 have been fulfilled.

14.7. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

14.7.1. the Work is defective or completed Work has been damaged requiring correction or replacement.

14.7.2. the Contract Price has been reduced by Written Amendment or Change Order.

14.7.3. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.14, or

14.7.4. of ENGINEER's actual knowledge of the occurrence of any of the events enumerated in paragraphs 15.2.1 through 15.2.9 inclusive.

OWNER may refuse to make payment in whole or in part of the amount recommended by ENGINEER because claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work or Liens have been filed in connection with the Work or there are other items entitling OWNER to a set-off against the amount recommended, but OWNER must give CONTRACTOR written notice (with a copy to ENGINEER) stating the reasons for such action.

Substantial Completion:

14.8. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Within a reasonable time thereafter, OWNER, CONTRACTOR and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have ten days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within twenty days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of OWNER's objections, ENGINEER considers the Work substantially complete, ENGINEER will within said twenty days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion, ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER prior to ENGINEER's issuing the definitive certificate of Substantial Completion, ENGINEER's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

14.9. OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

Partial Utilization:

14.10. Use by OWNER of any finished part of the Work, which has specifically been identified in the Contract Documents or which OWNER, ENGINEER and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER without significant interference with CONTRACTOR's performance of the remainder of the Work,

may be accomplished prior to Substantial Completion of all the Work subject to the following:

14.10.1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees, CONTRACTOR will certify to OWNER and ENGINEER that said part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER will notify OWNER and CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers that part of the Work to be substantially complete, the provisions of paragraphs 14.8 and 14.9 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

14.10.2. OWNER may at any time request CONTRACTOR in writing to permit OWNER to take over operation of any such part of the Work although it is not substantially complete. A copy of such request will be sent to ENGINEER and within a reasonable time thereafter OWNER, CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion and will prepare a list of the items remaining to be completed or corrected thereon before final payment. If CONTRACTOR does not object in writing to OWNER and ENGINEER that such part of the Work is not ready for separate operation by OWNER, ENGINEER will finalize the list of items to be completed or corrected and will deliver such list to OWNER and CONTRACTOR together with a written statement as to the division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, heat, utilities, insurance, warranties and guarantees for that part of the Work which will become binding upon OWNER and CONTRACTOR at the time when OWNER takes over such operation (unless they shall have otherwise agreed in writing and so informed ENGINEER). During such operation and prior to Substantial Completion of such part of the Work, OWNER shall allow CONTRACTOR reasonable access to complete or correct items on said list and to complete other related Work.

14.10.3. No occupancy or separate operation of part of the Work will be accomplished prior to compliance with the requirements of paragraph 5.15 in respect of property insurance.

Final Inspection:

14.11. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies.

Final Application for Payment:

14.12. After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents (as provided in paragraph 6.19) and other documents--all as required by the Contract Documents, and after ENGINEER has indicated that the Work is acceptable (subject to the provisions of paragraph 14.16), CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Subcontractor or Supplier fails to furnish a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

Final Payment and Acceptance:

14.13. If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application for Payment and accompanying documentation--all as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application to OWNER for payment. Thereupon ENGINEER will give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.16. Otherwise, ENGINEER will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application. Thirty days after presentation to OWNER of the Application and accompanying documentation, in appropriate form and substance, and with ENGINEER's recommendation and notice of acceptability, the amount recommended by ENGINEER will become due and will be paid by OWNER to CONTRACTOR.

14.14. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.1, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

Contractor's Continuing Obligation:

14.15. CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by ENGINEER, nor the issuance of a certificate of Substantial Completion or Acceptance, nor any payment by OWNER to CONTRACTOR under the Contract Documents, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor the issuance of a notice of acceptability by ENGINEER pursuant to paragraph 14.13, nor any correction of defective Work by OWNER will constitute an acceptance of Work not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents (except as provided in paragraph 14.16).

Waiver of Claims:

14.16. The making and acceptance of final payment will constitute:

14.16.1. a waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.11 or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it will not constitute a waiver by OWNER of any rights in respect of CONTRACTOR's continuing obligations under the Contract Documents; and

14.16.2. a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

Owner May Suspend Work:

15.1. OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR may be allowed an increase in the Contract Price or an extension of the Contract Time, or both; directly attributable to any suspension if CONTRACTOR makes an approved claim therefor as provided in Articles 11 and 12.

Owner May Terminate:

15.2. Upon the occurrence of any one or more of the following events:

15.2.1. if CONTRACTOR commences a voluntary case under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if CONTRACTOR takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency;

15.2.2. if a petition is filed against CONTRACTOR under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other federal or state law in effect at the time relating to bankruptcy or insolvency;

15.2.3. if CONTRACTOR makes a general assignment for the benefit of creditors;

15.2.4. if a trustee, receiver, custodian or agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose of enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of CONTRACTOR's creditors;

15.2.5. if CONTRACTOR admits in writing an inability to pay its debts generally as they become due;

15.2.6. if CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 29. as revised from time to time);

15.2.7. if CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;

15.2.8. if CONTRACTOR disregards the authority of ENGINEER; or

15.2.9. if CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents;

OWNER may, after giving CONTRACTOR (and the surety, if there be one) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) such excess will be kept by OWNER. If such costs exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such costs incurred by OWNER will be approved as to reasonableness by ENGINEER and incorporated in a Change Order, but when exercising any rights or remedies under this paragraph OWNER shall now be required to obtain the lowest price for the Work performed.

15.3. Where CONTRACTOR's services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.4. Upon seven days' written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Work

and terminate the Agreement. In such case, CONTRACTOR shall be paid for all Work executed and any expense sustained plus reasonable termination expenses, which will include, but not be limited to, direct, indirect and consequential costs (including, but not limited to, fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs).

15.5. If through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within thirty days after it is submitted, or OWNER fails for thirty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR, may upon seven days written notice to OWNER and ENGINEER terminate the Agreement and recover from OWNER payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if ENGINEER has failed to act on an Application for Payment or OWNER has failed to make any payment as aforesaid, CONTRACTOR may upon seven day's written notice to OWNER and ENGINEER stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve CONTRACTOR of the obligations under paragraph 6.29 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with OWNER.

ARTICLE 16 (Reserved)

ARTICLE 17 - MISCELLANEOUS

Giving Notice:

17.1. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation in the case of the CONTRACTOR or the General Manager in the case of the OWNER for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

Computation of Time:

17.2.1. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.2.2. A calendar day of twenty-four hours measured from midnight to the next midnight shall constitute a day.

General:

17.3. Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph 17.3 shall not be construed as a substitute for or a

waiver of the provisions of any applicable statute of limitations or repose.

17.4. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the conditions, warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.30, 13.1, 13.12, 13.14, 14.3 and 15.2 and all of the rights and remedies available to OWNER and ENGINEER thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to OWNER and ENGINEER which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply. All representations, conditions, warranties and guarantees made in the Contract Documents will survive the execution, final payment and termination or completion of the Agreement. All statements contained in any document required by OWNER, whether delivered at the time of the execution of the Contract Documents or at a later date, shall constitute representations, warranties and guarantees herein.

Supplementary General Conditions

PLACEMENT AREA 8 - DIKE RELOCATION

1. GENERAL

The Standard General Conditions of the construction Contract prepared by the ENGINEER's Joint Contract documents Committee (No. 1910-8 1990 Edition) shall form a part of this contract, together with the following Supplementary General Conditions. A copy of the Standard General Conditions (No. 1910-8) is bound herewith.

The following supplements modify, change, delete, or add to the General Conditions, where any part of the General Conditions is modified or voided by these articles, the unaltered provisions of that part shall remain in effect.

2. DETAILED AMENDMENTS TO THE GENERAL CONDITIONS

The following Articles of the Standard General Conditions are hereby amended as follows:

ARTICLE 1: The definition for Contract Documents is hereby amended to insert the word "General and Supplementary General Conditions", after the word "Agreement"

ARTICLE 2: Add the following definitions:

- a. Standard abbreviations: Wherever reference is made to standard specifications, standard of quality or performance, as established by a recognized national authority, the reference may be by initials as generally recognized throughout the authority.
- b. Addenda: Supplements to, change in or corrections to the Drawings and/or Specifications issued in writing by the Engineer during the period of bidding. These addenda shall become a part of the contract and modify the Drawings and/or Specifications as indicated. No verbal changes in the work as shown or described shall becoming binding.
- c. Alternates: Additions, omissions from, or changes to requirements for the project, each of which shall be bid separately and shall be included in or omitted from the contract at the discretion of the owner.
- d. Furnish: To supply at the job site the material, equipment, etc., referred to. Installation is not required of the supplier by the Specifications, but shall be arranged for by the General CONTRACTOR.
- e. Provide: To furnish and install in the location shown or approved at the job site, the material, equipment, etc., referred to.

ARTICLE 5: BONDS AND INSURANCE

Delete the last sentence of Article 5.1 delaying with U.S. Treasury Department Listing and substitute the following:

All the surety companies providing bonds for this project must be registered with the Secretary of State of the State of Texas.

Add to Article 5.3 the following subparagraphs:

- 5.3.1. **COMPENSATION INSURANCE.** The Contractor shall procure and shall maintain during the life of this Contract, Workmen's Compensation Insurance for all of his employees to be engaged in work on this project under this Contract, and in case of any such work sublet, the CONTRACTOR shall require the subcontractor similarly to provide Workmen's Compensation Insurance for all the latter's employees to be engaged in such work unless employees are covered by the protection afforded by the CONTRACTOR's Compensation Insurance. In case of any class of employees engaged in hazardous work on the project, under this Contract and is not protected under the Workmen's Compensation Statute, the CONTRACTOR shall provide and shall cause each subcontractor to provide adequate insurance for employees not otherwise protected.

Worker's Compensation

Which Complies with the Texas Workers Compensation Act as well as all Federal acts applicable to the Contractor's operation at the site.

Employer's Liability

\$1,000,000.00 for each occurrence.

- 5.3.2. **CONTRACTOR'S PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE.** The Contractor shall procure and shall maintain during the life of this contract CONTRACTOR's Public Liability Insurance for injuries, including accidental death, to any one person, and subject to the same limit for each person, on account of one accident, and CONTRACTOR's Property Damage Insurance in amount as follows:

Comprehensive General Liability

\$1,000,000.00 Combined Single Limit
(\$ 4,000,000.00 if explosives are involved in the performance of the contract)

Including: Bodily Injury Liability, Personal Injury Liability, Property Damage Liability, Broad Form Property Damage Liability, Contractual Liability, Products/Completed Operations Liability, Liability for Property of Others in the Care, Custody and Control of the Contractor.

Comprehensive Automobile Liability

\$1,000,000.00 Combined Single Limit

- 5.3.3. **SUBCONTRACTOR'S PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE.** The CONTRACTOR shall require each of his subcontractors to procure and to maintain, during the life of this subcontract, Subcontractor's Public Liability and Property Damage Insurance of the type in subparagraph.

- 5.3.4. Hereof, in amounts approved by the OWNER.

- 5.3.5. **SCOPE OF INSURANCE AND SPECIAL HAZARDS.** The insurance required under subparagraph 5.3.2. and 5.3.3. hereof shall provide adequate protection for the Contractor

and his subcontractors respectively against damage claims which may arise from operations under this Contract, whether such operations be by the insured or by anyone against any special hazards which may be encountered in the performance of this contract.

ARTICLE 6. CONTRACTOR'S RESPONSIBILITIES

Add to subparagraph 6.5:

The CONTRACTOR shall notify the OWNER in writing of any conflict between the Manufacturer's directors and the Contract Documents and shall not perform any work on any item until such conflict has been resolved.

Upon reward of the Contract, the OWNER will, on written request of the CONTRACTOR, furnish the CONTRACTOR with a certificate of exemption from the Limited Sales, Excise and Use Tax in an amount not exceeding the above mentioned bid price for materials or property have been or will be utilized in the performance of the Contract to the full extent of the amount for which a certificate of exemption is requested.

Add the following Subparagraph:

- 6.3.3. The CONTRACTOR shall acquaint himself with all matters and conditions concerning site and existing construction. Any practical criticism or exception regarding feature of the work presented in writing with the Proposal will be considered at that time. If no criticism or exception is given with the Proposal, it shall be assumed that the Contractor agrees that the project, as outlined in the Drawings and Specifications, can be completed satisfactorily. After a Contract Agreement to perform the work has been signed by the CONTRACTOR, it shall then be his responsibility to provide satisfactory work that will meet the full intent of the Contract Documents. The CONTRACTOR shall then pursue this work with the other trades so that all phases of the work may be properly coordinated without delays or damage to any parts of the work.

ARTICLE 13. WARRANTY AND GUARANTEE: TESTS AND INSPECTIONS: CORRECTIONS, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK.

Add the following Subparagraph:

- 13.1 Disputes over Improper Functioning. In case of dispute as to the cause of improper functioning of all or any part of the work, the burden of proof that he has complied with the Contract Documents rests with the CONTRACTOR for this work. He shall submit in writing his opinion of the cause of his recommendation for proving the adequacy of his work. The OWNER shall have those tests made, which he deems advisable, by an independent testing laboratory of this choice. If any tests so made indicate a defect in material or workmanship, or that one or more manufactured components of the work are performing below the standard set by the manufacturer's published data and specifications, the entire cost of all such tests shall be paid for the by the CONTRACTOR, and he shall also pay for retesting of the corrected work until it functions satisfactorily.

ARTICLE 14. PAYMENTS AND COMPLETION.

Add the following to Paragraph 14.1 1:

A qualified person representing the CONTRACTOR shall be present at this final inspection to demonstrate the systems and prove the performance of the equipment. Prior to this inspection, all work shall have been completed, tested, balanced and adjusted and in final operating condition.

Make the following change to Paragraph 14.4 "Approval of Payments"

OWNER shall, within twenty (20) days of presentation to him of an approved application for Payment, pay Contractor the amount approved by Engineer.

ARTICLE 16. ARBITRATION. Delete this entire Article.

Add the following Article.

ARTICLE 18. THE CONTRACTOR SHALL COMPLY WITH THE COMPELAND ACT 48,
STATUTE 948 AND ALL AMENDMENTS OR MODIFICATIONS OF THE
ORIGINAL ACT OF JUNE 13,1934.

3. TEMPORARY FACILITIES

(a) Sanitary Facilities for Workmen

- (1) CONTRACTOR, shall provide and maintain suitable weathertight, painted sanitary toilet facilities for all workmen for the entire construction period. Comply with all requirements of applicable health authorities. When toilet facilities are no longer required, promptly remove from the site, disinfect and clean the area as required.
- (2) CONTRACTOR shall keep toilet facility swept and supplied with toilet tissue at all times.

(b) Weather Protection

- (1) Except where otherwise, specified, CONTRACTOR shall, at all times, provide protection against weather, so as to maintain all work, materials, and fixtures free from injury or damages. All new work likely to be damaged shall be covered or otherwise protected as required.

(c) Work Areas

- (1) The CONTRACTOR shall be confined to all working easements provided.

Storage of excavation material and all contractor equipment and material shall remain within the limits of working easements.

4. TEMPORARY UTILITIES

The CONTRACTOR shall furnish all temporary utilities as required, for the completion of the work.

5. CONSTRUCTION SEQUENCE

- (1) That the following sequence of work be used as a basis for preparation to the Construction Schedule.
- (2) To cooperate with and facilitate the Contractor in the whole of the work to be carried out subject to the following being observed:
 - (a) The CONTRACTOR shall, within five (5) calendar days after the date of the Award of Contract, submit a Construction Schedule for the approval of the Owner and Engineer. This Schedule shall outline an orderly sequence of construction as required to meet the completion time stipulated in the contract.
 - (b) The CONTRACTOR shall coordinate his work with that of other contractors whose work may occur at a conflicting time and location. The coordination shall be such that work will be maintained at a normal rate.
 - (c) Satisfactory access or detour roads shall be provided where necessary due to construction.

6. MEASUREMENT

Before ordering any material or doing any work, the CONTRACTOR will verify all measurements of any existing and new work and shall be responsible for their correctness. Any differences which may be found shall be submitted to the Engineer for consideration before proceeding with the work. No extra compensation will be allowed because of differences between actual dimensions and measurements indicated on the working drawings.

7. PROTECTION

- a. The CONTRACTOR shall send proper notices, make all necessary arrangements and perform all other services required for the care, protection and maintenance of all public utilities, including fire plugs, telephone and telegraph poles and wires, and all other items of this character on or about the site, assuming all responsibility and paying all costs for which the OWNER may be liable.
- b. Temporary Drainage. The CONTRACTOR shall construct and maintain all necessary temporary drainage and do all pumping necessary to keep the excavation free of water.
- c. Bracing, Shoring and Sheeting. The CONTRACTOR shall provide all shoring,

bracing. and sheeting as required for safety and for the proper execution of the work; and have same removed when the work is completed.

- d. Fires shall not be built on the premises except by the express consent of the OWNER and City Fire Marshall.

8. CONTRACTOR'S AND SUBCONTRACTOR'S INSURANCE

- a. The CONTRACTOR shall not commence work under this Contract until he has obtained all the insurance required under this paragraph and such insurance has been approved by the OWNER, nor shall the CONTRACTOR allow any subcontractor to commence work on this Contract until the insurance required of the subcontractor has been so obtained and approved.

- b. Compensation Insurance. The CONTRACTOR shall procure and shall maintain, during the life of his Contract, Workmen's Compensation Insurance for all of his employees to be engaged in work on this project under this Contract and, in case of any such work sublet, the Contractor shall require the subcontractor similarly to provide Workmen's Compensation Insurance for all the latter's employees to be engaged in such work unless employees are covered by the protection afforded by the CONTRACTOR's Compensation.

Insurance. In case of any class of employees engaged in hazardous work on the project under this Contract is not protected under the Workmen's Compensation Statute, the CONTRACTOR shall provide and shall cause each subcontractor to provide adequate insurance for employees not otherwise protected.

- c. CONTRACTOR's Public Liability and Property Damage Insurance. The CONTRACTOR shall procure and shall maintain during the life of this contract, Contractor's Public Liability Insurance for injuries, including accidental death, to any one person, and subject to the same limit for each person, on account of one accident, and CONTRACTOR's Property Damage Insurance in amounts as follows:

Comprehensive General Liability	\$1,000,000.00 Combined Single Limit (\$ 4,000,000.00 if explosives are involved in the performance of the contract)
---------------------------------	--

Including: Bodily Injury Liability, Personal Injury Liability, Property Damage Liability, Broad Form Property Damage Liability, Contractual Liability, Products/Completed Operations Liability, Liability for Property of Others in the Care, Custody and Control of the Contractor.

Comprehensive Automobile Liability \$1,000,000.00 Combined Single Limit

NOTE: Automobile insurance shall cover all automobiles and trucks owned by the CONTRACTOR.

- d. Subcontractor's Public Liability and Property Damage Insurance. The

CONTRACTOR shall require each of his subcontractors to procure and maintain during the life of his subcontract, Subcontractor's Public Liability and Property Damage Insurance of the type specified in subparagraph C hereof, in amounts approved by the OWNER.

- e. Proof of Carriage of Insurance. The CONTRACTOR shall furnish the OWNER with certificates showing the type, amount class of operations covered, effective dates and dates of expiration of policies. Such certificates shall also contain substantially the following statements. "The insurance covered by this certificate will not be concealed or materially altered except after ten days written notice has been received by the OWNER.

9. ACCIDENT PREVENTION

Precaution shall be exercised at all times for the protection of persons (including employees) and property, and hazardous conditions shall be guarded against or eliminated.

10. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

- a. It is hereby understood and mutually agreed, by and between the parties hereto, that the date of beginning, rate of progress and the time for completion of the work to be done thereunder are ESSENTIAL CONDITIONS of this Contract; and it is further mutually understood and agreed, by and between the parties hereto, that the work embraced in this Contract shall be commenced on a date to be specified in the work order.
- b. The CONTRACTOR agrees that said work shall be prosecuted regularly, diligently, and uninterrupted at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between the parties hereto, that the time for the completion of the work described herein is a reasonable time for completion of same, taking into consideration the average climatic range and usual industrial conditions prevailing in the locality.
- c. If the said CONTRACTOR shall neglect, fail or refuse to complete the work within the time herein specified, then the said Contractor does hereby agree, as a part consideration for awarding of this Contract, not as a penalty but as liquidated damages for such breach of calendar day that the CONTRACTOR shall be in default after the time stipulated in the Contract for completing the work.
- d. The Damage to OWNER by reason of this contract not being completed as of that date are parties hereto have therefore fixed and limited such damages to the amount stated in the agreement per day for each day the job runs beyond such date and the fixing of such damages constitutes a part of the consideration for the Contract.
- e. It is further agreed that time is of the essence of each and every portion of this contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where, under the Contract,

additional time is allowed for the completion of any work, the new time fixed by such extension shall not be charged with liquidated damages or any excess cost when the delay in the completion of work is due:

- (1) To any preference, priority or allocation order duly issued by the Government.
- (2) To enforceable cause, beyond the control and without the fault or negligence of the CONTRACTOR, including, but not restricted to, acts of God, or the public enemy, acts of the OWNER, acts of another Contractor in the performance of the Contract with OWNER, fires, floods, epidemics, Quarantine restriction, strikes, freights embargoes, and unusually severe weather.
- (3) To any delays of subcontractors and/or material suppliers occasioned by any of the causes specified in (1) and (2).
- (4) Provided, further, that the Contractor shall, within seven (7) days from the beginning of such delay, notify the OWNER, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify the CONTRACTOR within a reasonable time of its decision in the matter.

11. INSPECTION AND TESTING OF MATERIALS

- a. All materials and equipment/furnished by manufacturers shall be tested, inspected, and certified in accordance with the Contract Documents, laws, ordinances, or any public authority requiring any work to be specifically tested. The cost of such tests, inspections and certifications shall be borne by the CONTRACTOR.
- b. The CONTRACTOR shall cooperate with the testing laboratory to the end that the function and services of the laboratory may be properly performed. The Contractor shall give the OWNER's representative and testing laboratory a minimum of twenty-four (24) hour notice of readiness for all testing as required. Costs of all field tests by such a laboratory shall be borne by the OWNER, unless otherwise stipulated in the Supplementary General Conditions, Article 13.

12. REFERENCE POINTS

The ENGINEER will establish horizontal and vertical controls only (reference points and benchmarks) as shown on the construction plans.

The CONTRACTOR must notify the ENGINEER at least 48 hours prior to starting work on any section or part of the work where controls have not been established or are not identifiable or visible to the CONTRACTOR.

The ENGINEER will upon such advance notice assist the CONTRACTOR in locating and identifying the various CONTRACTOR in location and identifying the various control points and will replace any control points that have been destroyed by others prior to beginning of CONTRACTOR's operations.

After the control points are established and/or identified as outlined above, maintenance

of such control points will be the responsibility of the CONTRACTOR. Any re-staking required for any reason thereafter shall be the final responsibility of the CONTRACTOR.

The CONTRACTOR will provide all other construction staking (cut stakes, blue topping, intermediate string line control, etc.) required to verify grades, depths, thickness and alignment of the various items of construction.

13. SERVICES AT START UP

The CONTRACTOR shall provide the services of technical representative, for the CONTRACTOR furnished equipment, for a sufficient period to assist in start up and initial adjustment of all equipment and to train, advice and consult with the OWNER's operating personnel.

14. PERMITS

Permits, fees and licenses necessary for the pursuit of the work shall be obtained and paid for by the CONTRACTOR.

15. MAINTENANCE OF SITE AND CLEANUP

The work site shall be kept reasonably clean at all times. Surplus materials shall be disposed of by the CONTRACTOR except for the designated to be salvaged. In final cleanup operations, all equipment, scrap materials and temporary structures shall be removed and the site left clean.

16. PROTECTION AND REPLACEMENT OF PROPERTY

Driveways, culverts, storm sewer inlets and laterals, and other public or private property that is destroyed or removed during the construction shall be replaced to its original condition by the CONTRACTOR. Temporary drainage is to be provided as necessary.

17. CONSTRUCTION AREA

CONTRACTOR shall be responsible to maintain and protect in good condition while under construction and exposed areas that become damage shall be CONTRACTOR's responsibility to repair at no cost to owner. This includes construction area being exposed to rainfall, vehicular traffic, etc.

CONTRACTOR shall be responsible for providing temporary access in a safe and approved manner at all times to private properties being affected by this work. After work is complete, any damages, alterations or modifications to existing structures as part of the temporary access construction activities shall be restored to original conditions or repaired as necessary at the sole expense of the CONTRACTOR.

18. PROTECTION OF TREES, AND SHRUBS

Care shall be exercised to prevent damage to trees, plants and shrubs along the work site. No tree, plant or shrub shall be removed unless it interferes unduly with the

construction work. Permission for such removal must first be obtained from the ENGINEER. Provisions of the Technical Specifications shall govern in matters of this nature.

19. BARRICADES AND WARNINGS

Adequate barricades and warning devices shall be provided at the work site. Lights shall be provided between sunset and sunrise when necessary in the opinion of the ENGINEER in accordance with the Traffic Controllers Manual.

20. LOCATION OF & DAMAGE TO EXISTING UTILITIES AND STRUCTURES

The CONTRACTOR is Responsible for locating underground obstacles. It is not represented that the Plans show all sewers, water lines, gas lines, telephone lines, and other underground obstacles. The CONTRACTOR shall exercise caution to prevent damage to existing facilities during the progress of the construction work, taking care to locate same, where possible, in advance of the actual work. The ENGINEER will render all assistance possible to the CONTRACTOR in the matter of determining the location of existing utilities by making available such maps, records and other information as may be accessible to him, when requested to do so, but the accuracy of such information will not be guaranteed. The CONTRACTOR shall make good on all damage to existing utilities resulting from his operations. Where a pipe, duct or other structure of a utility is exposed, which, in the opinion of the ENGINEER requires strengthening, altering or moving, the CONTRACTOR shall perform such work on same, as the ENGINEER may order, which work will be paid for as extra work in accordance with the terms of the Contract relating to extra work. Should the CONTRACTOR, in the layout of his work, encounter any pipe, underground utility, or structure, the location of which has not been furnished to him by the ENGINEER, he shall bring such conditions to the attention of the ENGINEER for his determination of the method to be used to remove or bypass such obstructions.

It is essential that in the event of any damage being caused to existing units then immediate attention be given to their repair, if necessary at the expense of labor and material scheduled to be employed at the new work. Any repair work carried out shall be at the cost of the CONTRACTOR and shall be to the complete satisfaction of the OWNER, who will acknowledge the same in writing.

It is therefore the duty of the CONTRACTOR prior to the commencement of construction to inspect and accurately record in writing to the OWNER and ENGINEER, the conditions of any unit which he reasonably suspect or knows to be damaged, faulty, or defective.

In addition, any such unit(s) so recorded, which in the opinion of the Contractor may deteriorate further as a result of the proposed mode of operations should be protected and/or remedial measures employed as agreed to, and at the cost of the Owner.

21. MATERIALS AND WORKMANSHIP

No material which has been used by the CONTRACTOR for any temporary purpose whatsoever is to be incorporated in the permanent structure without written consent of the ENGINEER. Where materials or equipment are specified by a trade for brand name, it is

not the intention of the Owner to discriminate against an equal product of another manufacturer, but rather to set a definite standard of quality or performance and to establish an equal basis for the evaluation of bids. Where the words "equivalent", "proper" or "equal to" are used, they shall be understood to mean that the thing referred to shall be properly the equivalent of or equal to some other thing, in the opinion of judgment of the ENGINEER. Unless otherwise specified, all materials shall be of the best of their respective kinds and shall be in all cases fully equal to the approved samples.

Notwithstanding that the words "or equal to" or other such expressions may be used in the Specifications in connection with a material, manufactured article or process, the material, article or process specifically designated shall be used, unless a substitute shall be approved in writing by the ENGINEER, and the ENGINEER shall have the right to require the use of such specifically designated material, article or process.

22. CUTTING, PATCHING AND FITTING

The CONTRACTOR shall perform all cutting, patching, or fitting of this work that met be required to make its several parts come together properly and fit it to receive or be received by work or others shown on, or reasonably implied to the drawings and Specifications for the completed structure or facility. The CONTRACTOR shall not endanger any work by cutting, digging or otherwise, and shall not cut or alter the work of others unless specifically noted on the drawings and specifications or authorized in writing by the ENGINEER and the OWNERS of such other work.

23. RIGHT OF ENTRY

The OWNER reserves the right to enter the property or location on which the work herein contracted for is to be constructed or installed, by such agents as it may elect, for the purpose of supervising and inspecting the work, or for the purpose of constructing or installing collateral work as said OWNER may desire.

24. SUPERINTENDENT AND INSPECTION BY OWNER

It is agreed by the CONTRACTOR that the OWNER shall be and is hereby authorized to appoint from time to time subordinate engineers, supervisors, or inspectors, as the said OWNER may deem proper, to inspect the material furnished and work done under this agreement, and to see that the said material is furnished and said work is done in accordance with the Specifications. The CONTRACTOR shall regard and obey the directions and instructions of any sub-coordinate engineers, supervisors, or inspectors as appointed, when such directions are consistent with the obligations of this agreement and these accompanying Specifications, provided, however, that should the CONTRACTOR object to any order by any subordinate engineer, supervisor, or inspector, the CONTRACTOR may, within six (6) days, make written notice to the ENGINEER for his decision. Except, as herein before provided, the authority of subordinate engineers, supervisors, or inspectors shall be limited to the rejection of unsatisfactory work and materials and to the suspension of the work, until the question of acceptability can be referred to the ENGINEER.

25. SUPERINTENDENT BY CONTRACTOR

Except where the CONTRACTOR is an individual and gives his personal superintendent to the work, the CONTRACTOR shall provide a competent superintendent, satisfactory to the OWNER and the ENGINEER, on the work at all times during working hours with full authority to act from him. The CONTRACTOR shall provide an adequate staff for the proper coordination and expediting of his work.

The CONTRACTOR shall provide an on-site representative, satisfactory to the OWNER and the ENGINEER, available at all times (i.e., twenty-four (24) hours per day, seven (7) days per week). The on-site representative shall be stationed close enough to be on the site within 30 minutes of notification. The on-site representative shall have full access to all equipment and material and have full authority necessary to correct any problems, deficiencies, or emergencies which may arise during non-working hours and during the absence of the superintendent.

The name, address, and phone number of both the superintendent and the on-site representative shall be given in writing to the ENGINEER and the Local Public Agency prior to the beginning of construction.

Additional provisions concerning superintendent by the CONTRACTOR are given in General Condition 102 of these Contract Documents.

26. "AS BUILT" DRAWINGS – Not Required

A complete set of contract drawings shall be stapled together and the official "As Built" set on which the CONTRACTOR shall record currently the work carried out through all phases of construction.

The set shall be kept in the office in a neat and clean condition and be available for inspection by the OWNER or ENGINEER at any time during the Contract period. At the completion of the Contract it shall be handed to the ENGINEER accompanied by a letter stating that each drawing has been signed by the CONTRACTOR to the effect that the drawings are a true and accurate record of the work carried out.

27. ACCEPTANCE AND FINAL PAYMENT

Upon written notice that the work is ready for inspections and acceptance, the OWNER shall promptly make such inspection, and when he finds the work acceptable under the Contract fully performed, he shall promptly issue a final certificate over his own signature, stating that the work provided for in this Contract has been completed and is accepted by him under the terms and conditions thereof, and the entire balance found to be due the CONTRACTOR, including the retained percentages, shall be paid to the CONTRACTOR at the office of the OWNER within fifteen (15) days after the date of said final certificate. The CONTRACTOR shall submit satisfactory evidence to the OWNER that all payrolls, material bills, and other indebtedness connected with the work have been paid before the final certificate is issued.

The making and acceptance of the final payment shall constitute a waiver of all claims by the OWNER, other than those arising from unsettled liens, from faulty work appearing

after final payment or from requirements of the Specifications, and of all claims by the CONTRACTOR, except those previously made and still unsettled.

28. GUARANTEE

The work shall be guaranteed to be free from defects due to faulty workmanship or materials for a period of one year from the date of issue of the Certificate of Acceptance. Work found to be improper or imperfect shall be replaced or done without cost to the OWNER within the year guarantee period. Neither the Certificate nor Acceptance, final payment, or any provision of the Contract Documents shall free the CONTRACTOR from his guarantee. Failure to repair or replace faulty work entitles the OWNER to repair or replace the same and recover the costs from the CONTRACTOR and/or his Surety. The CONTRACTOR shall be the sole guarantor of the work installed under this contract and no third party guarantees by subcontractors or suppliers of various components or materials will be acceptable, nor shall agreements with subcontractors or material or component suppliers by the CONTRACTOR reduce the CONTRACTOR's responsibility under this agreement. The Performance Bond shall remain in full force and effect through the guarantee period.

29. PREFERENCE IN EMPLOYMENT

Preference employment shall be given to resident citizens of the area where such persons are available and fully qualified to perform the work to which the employment relates.

30. ANTI-KICKBACK REGULATIONS

The CONTRACTOR shall comply with the Copeland Act 48, Statute 948 and all amendments or modifications of the original act of June 13, 1934.

31. CONTRACTOR'S RESPONSIBILITY

Nothing in these documents shall be constructed as relieving the CONTRACTOR of sole responsibility for coordinating all work, work schedules, and securing proper interface between the various trades, and Subcontractors.

32. BRAND NAMES

The items listed by brand name are to indicate level of quality only and are not a propriety name. They should have added to the listing of a brand name the phrase- "Or Equal".

33. OPERATIONS & MAINTENANCE LITERATURE

All items of equipment required for this contract shall be bid to provide and include as part of the price, literature explaining "Operation & Maintenance" of that item of equipment. If a manufacturer does not print such a standard O & M Manual approved, in writing, by the Manufacturer.

34. MODIFICATIONS OR BID OR WITHDRAWAL PRIOR TO OPENING

At any time prior to bid opening, the CONTRACTOR may, after handing in or submitting his bid, obtain his bid for purposes of modification or withdrawal. Bid opening is defined at the time and date at which bids are received and publicly opened. No bid will be received after that time and date.

35. RETAINAGE AND PROGRESS PAYMENTS

OWNER will make monthly progress payments to CONTRACTOR in response to properly submitted and approved pay requests utilizing the format included in this project manual. Amount due each pay request shall be equal to the Gross amount of work completed to date, less ten percent (10%) retainage, less previous payments made on the project.



TECHNICAL SPECIFICATIONS FOR PLACEMENT AREA 8 DIKE RELOCATION

PREPARED BY



555 N. Carancahua
Suite 1600
Corpus Christi, TX 78401



SPECIFICATIONS AND DRAWINGS

TECHNICAL SPECIFICATIONS

DIVISION 01 – GENERAL REQUIREMENTS

- 01 06 00 Special Conditions
- 01 10 00 Summary of the Work
- 01 14 00 Work Restrictions
- 01 16 50 Storm Water Pollution Prevention Plan
- 01 16 60 Environmental Protection Measures
- 01 25 00 Measurement and Basis of Payment
- 01 33 00 Submittal Procedures

DIVISION 31 – EARTHWORK

- 31 24 00 Embankment Construction

DIVISION 35 – WATERWAY AND MARINE CONSTRUCTION

- 35 20 00 Construction Surveying

APPENDICES

No. Pages

Appendix A – Geotechnical Analyses and Recommendations Report.....1646

DRAWING LIST

SHEET NUMBER

SHEET TITLE

General

00G-01	COVER SHEET AND INDEX
00G-02	LEGENDS AND KEYMAP
00G-03	GENERAL NOTES
00G-04	COVER SHEET AND INDEX

Civil

01C-01	EXISTING CONDITIONS
01C-02	PLACEMENT AREA NO. 8 DIKE BASELINE
01C-03	EXISTING OUTFALL STRUCTURE PHOTOS
02C-01	PROJECT LAYOUT
06C-01	DIKE RELOCATION - CROSS-SECTIONS 01
06C-02	DIKE RELOCATION - CROSS-SECTIONS 02
06C-03	DIKE RELOCATION - CROSS-SECTIONS 03
06C-04	DIKE RELOCATION - CROSS-SECTIONS 04
06C-05	DIKE RELOCATION - CROSS-SECTIONS 05
06C-06	DIKE RELOCATION - CROSS-SECTIONS 06
06C-07	DIKE RELOCATION - CROSS-SECTIONS 07
06C-08	DIKE RELOCATION - CROSS-SECTIONS 08
06C-09	DIKE RELOCATION - CROSS-SECTIONS 09
06C-10	DIKE RELOCATION - CROSS-SECTIONS 10
07C-01	NEW DIKE - CROSS-SECTIONS 01
07C-02	NEW DIKE - CROSS-SECTIONS 02
07C-03	NEW DIKE - CROSS-SECTIONS 03
07C-04	NEW DIKE - CROSS-SECTIONS 04
07C-05	NEW DIKE - CROSS-SECTIONS 05
07C-06	NEW DIKE - CROSS-SECTIONS 06
07C-07	NEW DIKE - CROSS-SECTIONS 07
07C-08	NEW DIKE - CROSS-SECTIONS 08
07C-09	NEW DIKE - CROSS-SECTIONS 09
08C-01	NORTH DIKE DEGRADE - CROSS-SECTIONS
09C-01	DIKE RAISE - CROSS-SECTIONS 01
09C-02	DIKE RAISE - CROSS-SECTIONS 02
10C-01	TYPICAL SECTIONS 01
10C-02	TYPICAL SECTIONS 02

DIVISION 01 – GENERAL REQUIREMENTS
SECTION 01 06 00 – SPECIAL CONDITIONS

PART 1 – GENERAL

1.01 EXAMINATION OF SITE

Visit the site and be thoroughly familiar with job conditions prior to submitting a bid. Failure to give proper consideration to these conditions when preparing proposals will not constitute grounds for additional compensation.

1.02 SUBMITTALS

Daily Activities Reports: Contractor shall provide daily reports documenting completed/ongoing/upcoming work, comparison of scheduled versus actual work completed, adverse weather or other problems that cause delays, and other items as may be required throughout these specifications. Reports shall be completed for every calendar day from the Notice to Proceed to the date of demobilization. Reports shall be submitted to Owner on a weekly basis. Reports shall include the following information:

A. General

1. Weather
2. Problems that cause delay.
3. Equipment and personnel on site.
4. Percent project completion.
5. Photographs of locations or features where work was performed.

B. Specification Section 31 24 00, “Embankment Construction”:

1. Material testing results.
2. Quantities, quality, and locations of material excavated from borrow areas.
3. Locations of dike foundation preparation.
4. Quantity and locations of fill placed.
5. Surveys performed.
6. Records of inspections and any corrective action taken.
7. Items related to excavation and dike construction as described under Section 31 24 00, paragraphs 1.05.A and 1.05.B.

1.03 QUALITY ASSURANCE

- A. Construction Observation:** Owner will periodically observe the construction progress, procedures, and materials of Contractor. Contractor shall offer full cooperation to facilitate these observation activities and shall be responsive to questions regarding methods, equipment, materials, and intentions in pursuing the work or any particular thereof. Such observation by Owner is for the express purpose of verifying compliance by Contractor with the Contract Documents and shall not be construed as construction supervision nor indication of approval of the manner or location in which the work is being performed as being a safe practice or

place. The safety of the workers on the site is the responsibility of Contractor. By entering the site, Contractor and its employees relieve Owner and Owner's designative representatives of any responsibility for their safety and accept complete responsibility for any unsafe acts or procedures which may cause them harm.

- B. Rejection of Work: If Owner rejects work or materials incorporated into the work, Contractor shall bear all expenses associated with testing to prove compliance with the Contract Documents, including but not limited to engineering expenses associated with such testing. Any and all such expenses that are paid directly by Owner will be deducted or withheld from subsequent payment(s) to Contractor.

1.04 TESTING

All testing required by specifications or as indicated on the Drawings shall be paid for by Contractor. Owner reserves the right to perform independent testing. Such testing by Owner does not relieve testing requirements by Contractor.

1.05 JOBSITE SAFETY

- A. Contractor and Subcontractors are obligated to operate the job in accordance with the General Conditions of the contract and OSHA regulations. Contractor shall comply with all pertinent provisions of the Contract Work Hours and Safety Standards Act as amended, commonly known as the Construction Safety Act.
- B. Contractor is advised that they shall provide for:
1. Means for assuring that all workers have, or are provided with, knowledge of how to do their job safely;
 2. Means of keeping the job in a state of good housekeeping;
 3. Free and easy access to and around the job;
 4. Sufficient fire protection facilities, including water supply;
 5. Methods of controlling temporary heaters;
 6. Safe operations around power lines;
 7. Ample protection and safety equipment; and
 8. Reporting of accidents to Owner
- C. Compliance with Federal, State, and local regulations is required under the terms of the contract. The handling and storage of explosives, operation of steam boilers, operation of cranes in the vicinity of power lines, operations of mines and quarries, and other related activities normally require State permits and inspection which must be obtained by Contractor.
- D. Contractor is solely responsible for Jobsite Safety. Owner is not responsible for Jobsite Safety, or Safety at other offsite locations.
- E. Worker safety requirements for excavation and trenching operations:

1. Worker Safety in excavations and trenches shall be provided by Contractor in accordance with Occupational Safety and Health Administration (OSHA) Standards, 29 CFR Part 1926, Subpart P – Excavations, Trenching, and Shoring.
2. It is the sole responsibility of Contractor, and not Owner to determine and monitor the specific applicability of a safety system to the field conditions to be encountered on the job site during the project.
3. Contractor shall indemnify and hold harmless Owner from all damages and cost that may result from failure of methods or equipment used by Contractor to provide for worker safety.
4. Trenches as used herein shall apply to any excavation into or around which structures, utilities, or sewers are placed in excess of five feet in depth.

1.06 CONTRACTOR'S SUPERINTENDENT'S FIELD OFFICE

- A. Establish at site of Project.
- B. Equipment: Telephone, internet (Wi-Fi), mailing address, and sanitary facilities.
- C. Assure attendance at this office during the normal working day.
- D. At this office, maintain complete field file of Shop Drawings, posted Contract Drawings and Specifications, and other files of field operations including provisions for maintaining "Redline Drawings (Record Drawings)."
- E. Remove field office from site upon acceptance of the entire work by Owner.

1.07 PROTECTION OF EXISTING EQUIPMENT, STRUCTURES AND UTILITIES

- A. Contractor shall take measures to protect existing equipment, structures, and utilities during construction. Should damage occur to any equipment, structures, or utilities, Contractor shall contact Owner immediately. All repairs shall be at Contractor's expense. Utility locations have not been field verified. Contractor shall verify existing equipment, structures, and the condition of existing utilities and locations thereof prior to bidding.
- B. The drawings show the locations of known surface structures pertinent to the work. In the case of underground or underwater obstructions such as existing water, sewer, storm sewer, gas, electrical lines, piling, debris, or partial structures that are not shown on the drawings, their location is not guaranteed. Owner and Engineer assume no responsibility for failure to show any or all these structures on the drawings or to show them in their exact location. Failure to show will not be considered sufficient basis for claims for additional compensation for extra work in any manner whatsoever, unless the obstruction encountered necessitates substantial changes in the lines or grades, or requires the building of special work for which no provision is made in the drawings and which is not essentially subsidiary to some item of work for which provision is made. It is assumed that as elsewhere provided Contractor has thoroughly inspected the site, is informed as to the correct location of surface structures, and has included the cost of such incidental work in the price bid, and has considered and allowed for all foreseeable incidental work due to variable subsurface conditions, whether such conditions and such work are fully and properly described on the drawings or not. Minor changes and

variations of the work specified and shown on the drawings shall be expected by Contractor and allowed for as incidental to the satisfactory completion of a whole and functioning work or improvement.

- C. Contractor shall maintain sufficient clearance between his equipment and existing structures or adjacent property, or portions thereof, and utilize precautionary devices or other means, as necessary. Should Contractor allow the equipment to become in contact with any portion of these existing features or structures, repairs to the damaged areas shall be made by Contractor to the satisfaction of Owner, at no additional cost to Owner.
- D. Movement of construction machinery and equipment over existing pipes and utilities during construction shall be at Contractor's risk. Perform work adjacent to utilities in accordance with procedures outlined by utility company. Excavation made with power-driven equipment is not permitted within five feet of known utility or subsurface construction. For work immediately adjacent to (or for excavations exposing) a utility or other buried obstruction, excavate by hand. Prior to execution, inform the utility company of these operations to avoid any unsafe practice. Report damage to utility lines or subsurface construction immediately to Owner.
- E. Existing utility lines that are shown or the locations of which are made known to Contractor prior to excavation and that are to be retained, as well as any utility lines that are to be relocated, shall be protected from damage during excavation and backfilling and, if damaged, shall be repaired by and at the expense of Contractor. If Contractor damages existing utility lines that are not shown or the locations of which are not known to Contractor, report of this damage shall be made immediately to Owner. THE FOLLOWING IS FURNISHED FOR INFORMATION ON VERIFYING PIPELINE OWNERSHIPS:
Lonestar Notification Center
1-713-223-4567 or 1-800-669-8344
Texas 811 (Dig-Tess) 1-800-344-8377

1.08 PHYSICAL DATA

- A. Information furnished below is for Contractor's review. However, it is expressly understood that Owner will not be responsible for any interpretation or conclusion drawn therefrom by Contractor. Owner also shall not be responsible for any lack of information herein pertaining to physical conditions of the site. Contractor shall make every effort possible to familiarize himself with and research the conditions to be expected at the site.
 - 1. Tidal Conditions: Under ordinary conditions, the mean monthly tidal range is approximately 1.5 feet. The height of tide is largely dependent on the speed, direction and duration of the wind. Exclusive of tropical storm activity, winds may raise or depress the water surface as much as, and in some instances more than, three feet.
 - 2. Groundwater: The site is adjacent to the Brownsville Ship Channel, and subsurface groundwater conditions and elevations will change. Contractor shall include all costs for any expected dewatering in his bid. Changes in groundwater elevations shall not be just cause for increased compensation.

3. Surface Debris: Areas of Work may be cluttered with debris, trash, brush, seaweed, etc. Prior to commencement of the Work, Contractor shall remove debris from the footprint of all Work areas. Debris shall not be covered up, buried, or incorporated into the earthwork of the project.

1.09 PROTECTION OF JOB SITE

Contractor shall be responsible for protection of the job site. Contractor shall be fully and completely liable, at his own expense, for design, construction, installation and use, or non-use, of all items and methods incident to performance of the Contract, and for all loss, damage or injury incidental thereto, either to person or property, including, without limitation, the adequacy of all temporary supports, shoring, bracing, formwork, scaffolding, machinery or equipment, safety precautions or devices, and similar items or devices used by him during construction.

1.10 HORIZONTAL AND VERTICAL CONTROL

- A. Owner's Responsibilities: Project benchmarks and control points are as indicated on the drawings.
- B. Contractor's Responsibilities: Contractor shall provide any and all construction staking, baselines or reference points that may be required by his operations to ensure conformance with the lines and grades shown on the drawings. It shall also be responsibility of Contractor to maintain and preserve all stakes and other marks established by Owner until authorized to remove them. If such marks are destroyed by Contractor through his negligence prior to their authorized removal, they may be replaced at the discretion of Owner. The expense of replacement will be deducted from any amounts due, or to become due to Contractor.

Contractor's responsibility for verifying conditions are as defined in General Conditions Article 4. Contractor shall establish from information on the drawings all lines, grades, and levels and will be responsible for maintenance and accuracy thereof. Contractor shall employ an experienced, registered professional land surveyor or professional engineer to establish alignment and control, elevations for excavations, and layout facilities from the information provided on the drawings.

1.11 SANITARY FACILITIES

Contractor shall furnish, install and maintain sanitary facilities for the workers. As the needs arise, a sufficient number of enclosed temporary toilets shall be conveniently placed as required. Drinking water shall be provided from an approved source, so piped or transported as to keep it safe and fresh and served from single service containers or satisfactory types of sanitary drinking stands or fountains. All such facilities and services shall be furnished in strict accordance with existing and governing health regulations, including provision of suitable measures for mosquito prevention.

1.12 ASSIGNMENT OR NOVATION

Contractor shall not assign or transfer, whether by an assignment or novation, any of its rights, duties, benefits, obligations, liabilities, or responsibilities under this Contract without the written consent of Owner; provided, however, that assignments to banks or other financial institutions may

be made without the consent of Owner. No assignment or novation of this Contract shall be valid unless the assignment or novation expressly provides that the assignment of any of Contractor's rights or benefits under the Contract is subject to a prior lien for labor performed, services rendered, and materials, tools, and equipment supplied for the performance of the work under this Contract in favor of all persons, firms, or corporations rendering such labor or services or supplying such materials, tools, or equipment.

1.13 LOSS FROM NATURAL CAUSES

All loss or damage arising out of the nature of the work to be done, or from the action of the elements, or from any unforeseen circumstances, or from unusual circumstances, or from unusual difficulties encountered in the prosecution of the work shall be sustained by Contractor at his own expense.

1.14 NON-LIABILITY OF THE BOARD OF COMMISSIONERS

It is understood and agreed that the members of the Board of Commissioners of the Brownsville Navigation District of Cameron County, Texas are contracting here only in their capacities as Commissioners, and neither they nor the Navigation District shall be liable hereunder for any amount of money, except insofar as same may be paid from accumulated revenues of the Port of Brownsville or the proceeds of revenue bonds issued by said District.

1.15 SCHEDULING OF WORK

In general, Contractor shall be responsible for scheduling his own work. However, there are scheduling milestones and stipulations that Contractor shall abide with which are:

1. Owner's on-site representative will be given a minimum of 24- hour notice for all testing. Owner's on-site representative will be present for all testing that will be used as acceptance of work performed. No testing shall be scheduled outside of 8:00 a.m. to 5:00 p.m.

1.16 SUBCONTRACT REQUIREMENTS

- A. All subcontracts shall contain a nondiscrimination clause.
- B. Each subcontract shall contain a requirement for compliance with the Davis-Bacon and related Acts.
- C. Each subcontractor shall submit each week payroll records and a weekly statement of compliance. These documents should be submitted to the prime Contractor. The subcontractor can satisfy these requirements by submitting a properly completed Department of Labor Form WH-347.
- D. Each subcontract with every subcontractor shall contain a clause committing the subcontractor to employment of local labor to the maximum extent possible.

- E. Each subcontractor shall be required to maintain weekly payroll records. These records are to be retained for a period of three years from the date of completion of the project audit. Each subcontractor shall also be required to furnish a copy of each payroll to Owner. Owner may check payrolls to assure the following:
 - 1. Wage rate and fringe benefits paid agree with the Department of Labor or applicable State wage decision.
 - 2. Name, address, and Social Security Number is shown for all employees.

1.17 SPECIAL CONSIDERATIONS

- A. Contractor shall be responsible for negotiations of any waivers or alternate arrangements required to enable transportation of materials to the site.
- B. Maintain conditions of access road to site such that access is not hindered as the result of construction related deterioration.
- C. Repair to original or better condition any existing improvements or property damaged during construction, at no expense to Owner.

1.18 HISTORICAL AND ARCHAEOLOGICAL

If, during the course of construction, evidence of deposits of historical or archeological interest is found, Contractor shall cease operations affecting the find and shall notify Owner. No further disturbance of the deposits shall ensue until Contractor has been notified by Owner that Contractor may proceed. Owner will issue a notice to proceed after appropriate authorities have surveyed the find and made a determination to Owner. Compensation to Contractor, if any, for lost time or changes in construction resulting from the find, shall be determined in accordance with changed or extra work provisions of the Contract Documents. The site has no known history of historical or archaeological finds.

1.19 MISCELLANEOUS

- A. CAD files will not be provided to Bidders except as otherwise stated in the technical specifications and drawings.
- B. Street Cleaning: Contractor shall keep the adjoining streets free of tracked or spilled materials going to or from the construction area. Hand labor and mechanical equipment must be used where necessary to keep these roadways clear of job-related materials. Such work must be completed without any increase in the Contract price.
- C. Contractor shall clean work area of all engine oil, transmission and hydraulic fluids or other unsightly material prior to completing work.
- D. Any determination as to when streets and curbs require clearing and cleaning due to any tracking or spilled materials falls entirely to Owner only. Owner will also be the sole judge in determining when the tracked or spilled materials have been satisfactorily cleaned or cleared from.

1.20 RECORD DRAWINGS

Contractor shall maintain on a separate set of the contract documents a record of all changes made during construction. Contractor shall be responsible for keeping these records and noting all changes. Final Record Drawings shall be prepared in AutoCAD and turned over to Owner at the completion of the project.

1.21 RESOLUTION OF CONFLICTS IN DOCUMENTS

A. The Contract Documents are complementary, and what is called for by any one will be as binding as if called for by all. In case of conflict between any of the Contract Documents, priority of interpretation will be in the following order (from the highest to the lowest):

1. Unilateral Change Order(s)
2. Change Order(s)
3. Agreement
4. Texas Statutory Performance and Payment Bonds
5. Bid Form
6. Addenda to Contract Documents
7. Special Conditions
8. Notice to Bidders
9. Construction Drawings
10. Technical Specifications
11. General Conditions

B. DISCREPANCIES AND OMISSIONS. It is the intent of the Contract Documents that all Work must be done and all material must be provided to furnish a complete Project; in the event of any discrepancies between the separate Contract Documents, the priority of interpretation defined above will govern. In the event there is still any doubt after application of the priority of interpretation as to the meaning and intent of any portion of the Contract Documents, Engineer will define which is intended to apply to the Work in question.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

DIVISION 01 – GENERAL REQUIREMENTS
SECTION 01 10 00 – SUMMARY OF THE WORK

PART 1 – GENERAL

1.01 DESCRIPTION OF WORK

- A. General: Work includes mobilization/demobilization; upland PA perimeter construction; degrading existing dikes; constructing a drainage swale; care and control of groundwater during construction; observing and protecting endangered/threatened/protected species during the work; multiple topographic surveys for measurement, payment substantiation, and work acceptance purposes; aerial photography; and all other subsidiary work.
- B. Work: The Work includes all labor, materials, tools, equipment, plant, supplies, superintendence, insurance, incidentals, and services necessary or required to fully complete the Work for construction of **Placement Area 8 – Dike Relocation**. The scope of Work is defined in the Contract Documents as listed below.

Advertisement for Bids
Intent to Bid Statement
Instructions to Bidders

Bidding Documents

Bid Form
Bid Bond
Statement of Non-Collusion
Disclosure of Interests
Certificate & Definitions
Certification Regarding Debarment, Suspension, and Other Responsibility Matters
Respondent's Acknowledgement Form
Vendor Registration Form
Conflict of Interest Questionnaire
Government Code Chapter 2270 and 2252 Disclosure Statement
Contractor's Pre-Bid Disclosure Statement
Subcontractor's Pre-Bid Disclosure Statement

Contract Documents

Agreement
Performance Bond
Payment Bond
Certificates of Insurance
General Conditions
Supplementary General Conditions
Davis Bacon Wage Rates
Specifications and Drawings
Notice of Award & Acceptance of Notice

Notice to Proceed & Acceptance of Notice
Affidavit of All Bills Paid

Division 01 – General Requirements

Section 01 06 00 – Special Conditions
Section 01 10 00 – Summary of the Work
Section 01 14 00 – Work Restrictions
Section 01 16 50 – Storm Water Pollution Prevention Plan
Section 01 16 60 – Environmental Protection Measures
Section 01 25 00 – Measurement and Basis of Payment
Section 01 33 00 – Submittal Procedures

Division 31 – Earthwork

Section 31 24 00 – Embankment Construction

Division 35 – Waterway and Marine Construction

Section 35 20 00 – Construction Surveying

Drawings

<u>Sheet Number</u>	<u>Title/Contents</u>
<u>General</u>	
00G-01	Cover Sheet and Index
00G-02	Legends and Key Map
00G-03	General Notes
00G-04	Construction Access Routes
<u>Civil</u>	
01C-01	Existing Conditions
01C-02	Placement Area No. 8 Dike Baseline
01C-03	Cover Sheet and Index
02C-01	Project Layout
06C-01	Dike Relocation - Cross-Sections 01
06C-02	Dike Relocation - Cross-Sections 02
06C-03	Dike Relocation - Cross-Sections 03
06C-04	Dike Relocation - Cross-Sections 04
06C-05	Dike Relocation - Cross-Sections 05
06C-06	Dike Relocation - Cross-Sections 06
06C-07	Dike Relocation - Cross-Sections 07
06C-08	Dike Relocation - Cross-Sections 08
06C-09	Dike Relocation - Cross-Sections 09
06C-10	Dike Relocation - Cross-Sections 10
07C-01	New Dike - Cross-Sections 01
07C-02	New Dike - Cross-Sections 02
07C-03	New Dike - Cross-Sections 03

<u>Sheet Number</u>	<u>Title/Contents</u>
07C-04	New Dike - Cross-Sections 04
07C-05	New Dike - Cross-Sections 05
07C-06	New Dike - Cross-Sections 06
07C-07	New Dike - Cross-Sections 07
07C-08	New Dike - Cross-Sections 08
07C-09	New Dike - Cross-Sections 09
08C-01	North Dike Degrade - Cross-Sections
09C-01	Dike Raise - Cross-Sections 01
09C-02	Dike Raise - Cross-Sections 02
10C-01	Typical Sections 01
10C-02	Typical Sections 02

1.02 SEQUENCE OF CONSTRUCTION

- A. General: The sequence of construction shall be determined by Contractor, unless otherwise restricted by the Contract Documents. Construction shall be continuous from start to finish with no appreciable shut down periods.
- B. Restrictions: The following construction sequence restrictions shall apply to the work for this project:
1. Construction access routes shall be photographed prior to mobilization.
 2. Erosion control fence shall be installed prior to dike construction activities.
 3. Initial surveys shall be performed prior to dike construction.
 4. Depending on Contractor's overall work sequence and progression, interim and final surveys shall be performed daily as needed to document progression of work.
 5. Environmental monitoring and protection shall occur continuously from start to completion of work.
 6. Work at PA8 shall progress continuously from start to finish without interruption or delays.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

DIVISION 01 – GENERAL REQUIREMENTS
SECTION 01 14 00 – WORK RESTRICTIONS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

Drawings, Special Conditions, General Conditions, Supplementary General Conditions, and Technical Specifications apply to this Section.

1.02 SCHEDULE OF WORK

All work shall be complete within the number of calendar days set forth in the Contract and further defined herein.

1.03 SITE STORM PROTECTION

A. General

1. Contractor shall be prepared to demobilize from the site in the event of an approaching storm event or hurricane. Any and all work involved in the preparation for the demobilization and remobilization of Contractor's crew and equipment shall be at no cost to the Owner.
2. When a warning of gale force winds is issued by the National Hurricane Center (NHC), take precautions to minimize danger to persons and equipment. Precautions shall include, but are not limited to, closing openings; removing loose materials, and tools and equipment from exposed locations.
3. Prior to the arrival of a storm perform topographic surveys of the current conditions of any completed work that has not yet been surveyed. These surveys will serve as the basis of payment for work completed prior to the arrival of the storm.

B. Hurricane Condition of Readiness

1. Masters, owners, and operators of vessels retain the ultimate responsibility for the readiness condition of their vessel to withstand hurricane force conditions, whether underway, at anchor, or moored. Port Conditions are set by the United States Coast Guard Sector/Air Station Corpus Christi (USCG) Captain of the Port (COTP) and are used to alert the maritime community to changes in port operations needed to prepare for the hurricane's arrival. The Port of Brownsville Harbormaster coordinates with the USCG during hurricane season. Port Conditions are based on the time gale force winds (34 knots or 39 mph) are predicted to make landfall within the USCG Area of Responsibility. These predictions are based on information obtained from the National Hurricane Center (NHC) at <http://www.nhc.noaa.gov/>. The following designations will be used for setting Port Conditions:

Approximate Time	Port Condition
72 Hours	Whiskey
48 Hours	X-Ray
24 Hours	Yankee
12 Hours	Zulu

2. The COTP will make information about changes in Port Conditions available to the port community through Broadcast Notice to Mariners (BNTM) on Channel 16 VHF-FM.
3. Additional information can be found in the Marine Safety Information Bulletin (MSIB) 0116 - 2016 Hurricane Season, dated May 23, 2016, as prepared by the COTP of the USCG. The MSIB is available on the USCG SECTOR CORPUS CHRISTI website:
<http://homeport.uscg.mil>
4. Unless directed otherwise, comply with:
 - a. Port Condition WHISKEY (Gale force winds are predicted to arrive within 72 hours):
 - i. Curtail all routine activities which might interfere with securing operations. Commence securing and stow all gear and portable equipment.
 - ii. The vessel's master will take prompt effective action to ensure the safety of ship and crew. In most cases the master will avoid the hurricane by putting to sea.
 - iii. Should circumstances dictate staying in port, the master or other vessel representative must obtain permission from the USCG, Port of Brownsville, and the facility at which the vessel will remain berthed. Permission may be obtained by completing a REMAINING IN PORT CHECKLIST and submitting it to the COTP within 24 hours for approval.
 - iv. Continue to monitor the approach of the hurricane as broadcast by the NHC and the BNTM.
 - v. Notification should be made to the USCG and Owner of any problems noted that would prevent or limit preparedness for the hurricane, and identify potential problems or conditions that cannot be corrected or mitigated within 48 hours of expected gale force winds.
 - b. Port Condition X-RAY (Gale force winds are predicted to arrive within 48 hours)
 - i. Vessels or Barges intending to anchor in port during the hurricane shall proceed to anchorage prior to movement restrictions and closing of the port.

- ii. Maintain Port Condition WHISKEY requirements and commence securing operations necessary for Port Condition ZULU which cannot be completed within 18 hours.
 - iii. Review requirements pertaining to Port Condition YANKEE and continue action as necessary to attain Port Condition X-RAY readiness. Continue contact with USCG, Port of Brownsville Harbormaster, and Owner for weather updates and completion of required actions.
 - iv. Continue to monitor the approach of the hurricane as broadcast by the NHC and the BNTM.
 - v. Notification should be made to the USCG, PCCA, and Owner of any problems noted that would prevent or limit preparedness for the hurricane and identify potential problems or conditions that cannot be corrected or mitigated within 24 hours of gale force winds.
- c. Port Condition YANKEE (Gale force winds are predicted to arrive within 24 hours)
- i. Coordinate with USCG and Owner for Condition of Readiness (COR) updates and completion of required actions.
 - ii. Continue to monitor the approach of the hurricane as broadcast by the NHC and the BNTM.
 - iii. Notification should be made to the USCG and Owner of any problems noted that would prevent or limit preparedness for the hurricane, and identify potential problems or conditions that cannot be corrected or mitigated within 24 hours of gale force winds.
- d. Port Condition ZULU. (Gale force winds are predicted to arrive within 12 hours)
- i. Port is closed to all commercial vessel traffic.
 - ii. Coordinate with USCG and Owner for Condition of Readiness (COR) updates and completion of required actions.
 - iii. Continue to monitor the approach of the hurricane as broadcast by the NHC and the BNTM.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

DIVISION 01 – GENERAL REQUIREMENTS
SECTION 01 16 50 – STORM WATER POLLUTION PREVENTION PLAN

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. This section covers construction activities at Contractor's staging areas (i.e., "laydown yards"), construction access corridors through adjacent property, along the outside slope of perimeter dikes, and any other work or soil disturbance areas outside of the PAs. In addition to the requirements set forth in this specification, refer to specification Section 01 16 60, "Environmental Protection Measures" for environmental requirements.
- B. Contractor shall develop a plan, obtain required permits, and provide and maintain required protection devices for any potential storm water issues similar to those discussed herein.
- C. This project may be subject to Texas Commission on Environmental Quality (TCEQ) Texas Pollution Discharge Elimination System (TPDES) Construction Storm Water Discharge Regulations and Requirements. It is the responsibility of Contractor, not Owner, to determine if a TPDES permit is required. As applicable (Refer to Paragraph 3.04), Contractor shall execute a Notice of Intent, Notice of Termination, Notice of Change, and all other required forms, and implement a Storm Water Pollution Prevention Plan (SWPPP). Contractor shall comply with all reporting and inspection requirements set forth in the TPDES regulations.
- D. These requirements do not apply to work performed within dredged material placement area interiors.

1.02 INTRODUCTION

- A. The Storm Water Pollution Prevention Plan (SWPPP) shall describe the terms and conditions of the TPDES General Permit Coverage Notice (No. TXR15000) that authorizes the storm water discharge from this particular construction site. This purpose of the SWPPP is to:
 - 1. Identify potential sources of pollution which may reasonably be expected to affect the quality of the storm water discharged from this site.
 - 2. Describe the practices which will be used to reduce the pollutants from the storm water discharge associated with this site.
- B. The TPDES general permit provides for construction activities for each of the following types of water discharges which are anticipated at this project:
 - 1. Water used to wash vehicles and equipment or control dust
 - 2. Storm water

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

3.01 STORM WATER POLLUTION CONTROLS

At a minimum, provide storm water pollution controls and stabilization measures in accordance with the construction drawings.

3.02 OTHER CONTROLS

A. Waste Disposal:

1. No solid materials, including any building materials, shall be discharged to the waters of the United States. Discharge of a hazardous substance or oil into the storm water system is not permitted and subject to reporting requirements. Refer to Part III, B, of the TPDES general permit for specific guidelines.
2. Substances that have the potential for polluting surface or groundwater must be controlled by whatever means is necessary in order to ensure that they do not discharge from the site.

B. Dust Control:

1. Keep dust down at all times including non-working hours. Air blowing is permitted only for cleaning non-particulate debris such as steel reinforcing bars. Concrete blocks, concrete, and asphalt shall be wet cut.
2. During construction, water trucks will be used to reduce dust as needed. After construction, the site will be stabilized as described elsewhere in this plan in order to control dust.

C. Material Storage:

Chemicals, paints, solvents, fertilizers and other toxic material shall be stored in waterproof containers. Except during applications, the contents shall be kept in trucks or in storage facilities. Runoff containing such materials shall be collected, removed from the site and disposed of at an approved solid waste or chemical disposal facility.

D. Control and Disposal of Hazardous Wastes:

Hazardous wastes are defined in 40 CFR 261. Hazardous wastes that are produced as a result of performing work under this contract shall be handled, stored, transported, and

disposed of according to 40 CFR 262, where applicable. Prevent hazardous wastes from entering the ground, drainage areas, and surface waters. Immediately notify Engineer of hazardous material spills.

3.03 MAINTENANCE AND INSPECTIONS

- A. All stabilization measures are to be in place within 14 days after construction has ceased in that disturbed area. This applies unless construction activity will resume within 21 days of the time activity ceased. All erosion and sediment control measures shall be checked every 7 days and within 24 hours following a rainfall of 0.5 inches or greater. All measures shall be maintained in good working order; if a repair is necessary, it shall be initiated within 24 hours of report.
- B. Locations where vehicles and equipment enter or exit shall be inspected for evidence of off-site sediment tracking. This may require addition of crushed stone or clean out of any structures holding sediment. All materials that have been deposited on the roadway or any structural controls shall be removed. Sediment traps will be checked regularly and cleaned out if sediment has built up in the trap.
- C. Seeded and vegetative ground cover will be regularly checked to see that a good stand is maintained. A ground cover density of 70% or greater must be maintained. Conditions may require reseeding, fertilization, or water. Areas used for storage of equipment or materials also require inspection. Inspections of disturbed areas shall be performed by qualified personnel that are provided by Contractor. Areas used for storage of equipment or materials shall also be inspected for possible storm water pollutant sources, such as oil, hydraulic fluid, fuels, leaks, etc.
- D. Based on the results of these inspections, any required modifications to the plan shall be accomplished within 7 days of inspection. This plan also requires that implementation of the modified plan occur within 7 days of inspection.
- E. A report summarizing the scope of the inspection, name(s), and qualifications of personnel making the inspection shall be made following inspection. The date of the inspection, major observations and actions taken to implement the storm water pollution prevention plan shall be also included and made part of this plan.

3.04 SUMMARY OF PERMIT REQUIREMENTS

- A. It is anticipated that the areas requiring a SWPPP for this project will be limited to staging/laydown locations, outer slopes of perimeter dikes, and any other locations where incidental work or soil disturbances occur outside of the PAs. These areas are anticipated to be less than five acres. These areas are expected to meet the classification for a "Small Construction Site" and, as such, may not require submittal of a Notice of Intent (NOI). If areas exceed five acres, Contractor shall refer to the requirements of the TPDES general permit for Large Construction Sites. As determined by Contractor to be applicable, comply with the following requirement of the TPDES general permit for Small Construction Sites:

1. Contractor shall develop a SWPPP according to the provisions of the general permit that covers the entire staging/laydown area. SWPPP shall be implemented prior to commencing construction activities.
2. Contractor shall sign and certify a completed construction site notice, post the notice at the construction site in a location where it is safely and readily available for viewing by the general public, local, state, and federal authorities prior to commencing construction, and maintain the notice in that location until completion of the construction activity.
3. Contractor shall provide a copy of the signed and certified construction site notice to the operator of any municipal separate storm sewer system receiving the discharge at least two days prior to commencement of construction activities.

3.05 FORMS

- A. The following forms that are referenced in this plan can be downloaded from TCEQ at https://www.tceq.texas.gov/permitting/stormwater/construction/WQ_stormwater_construction_guidance.html
 1. Notice of Intent
 2. Notice of Termination
 3. Inspection Report
 4. Contractor Certification
 5. Owner Certification
 6. Construction Site Notice
- B. Notices of Intent (when required) shall be signed by Contractor and mailed to the appropriate address as indicated on the form a minimum of 7 days prior to commencing construction activities.
- C. In lieu of mailing a hard copy of the NOI, the Contractor can complete the application and apply online in accordance with the instructions included on the NOI form.

END OF SECTION

DIVISION 01 – GENERAL REQUIREMENTS
SECTION 01 16 60 – ENVIRONMENTAL PROTECTION MEASURES

PART 1 – GENERAL

1.01 SUMMARY

This section covers prevention of environmental pollution and damage as the result of construction operations under this Contract and for those measures set forth in the other Specifications. For the purpose of this specification, environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare, unfavorably alter ecological balances of importance to human life, affect other species of importance to man, or degrade the utility of the environment for aesthetic, cultural, or historical purposes. The control of environmental pollution and damage requires consideration of air, water, and land and includes management of visual aesthetics, noise, solid waste, radiant energy and radioactive materials, as well as other pollutants. The environment shall be protected and all natural resources shall be preserved during construction. All Federal, State, and local laws and regulations shall be complied with during construction.

1.02 RELATED SECTIONS

Section 01 16 50 – Storm Water Pollution Prevention Plan

1.03 SUBMITTALS

- A. Prior to construction, Contactor shall provide Environmental Monitoring Plan describing training and credentials for personnel for pollution control and environmental protection/monitoring.
- B. Refer to paragraph 1.08, “Protection of Environmental Resources,” for reporting requirements for required environmental monitoring.
- C. Provide credentials for onsite personnel trained to identify and observe endangered or protected species (paragraph 1.08).

1.04 CONTRACTOR FACILITIES

Contractor's field offices, staging areas, stockpile storage, and temporary buildings shall be placed in areas approved by Owner. Temporary movement or relocation of Contractor facilities shall be made only on approval by Owner. Disposal areas shall not be located in any wetlands, water body, or stream bed. Fuel and lubricate equipment in a manner that protects against spills and evaporation. Provide an impervious spill containment system around fuel and liquid chemical storage tanks to contain the tank contents in the event of a leak or spill. No refueling shall be done onsite unless approved by Owner in advance with acceptable spill protection measures.

1.05 QUALITY CONTROL

Contractor shall establish and maintain quality control for environmental protection of all items set forth herein. Contractor shall record on daily reports any problems in complying with laws, regulations, and ordinances and corrective action taken. Any damage caused by Contractor during construction shall be repaired, replaced, or restored to the satisfaction of Owner.

1.06 TRAINING OF CONTRACTOR PERSONNEL IN POLLUTION CONTROL

Contractor shall train his personnel in all phases of environmental protection. The training shall include methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, and installation and care of facilities (vegetative covers, and instruments required for monitoring purposes) to ensure adequate and continuous environmental pollution control.

1.07 VOLATILE ORGANIC COMPOUNDS (VOC)

Contractors are required to comply with the Local, State, and Federal VOC laws and regulations and shall have an acceptable VOC compliance plan. The plan shall demonstrate that the use of paints, solvents, adhesives, and cleaners comply with local VOC laws and regulations governing VOC materials and that all required permits have been obtained or will be obtained prior to starting work involving VOC's, in the air quality district in which the start of work. An acceptable compliance plan shall contain, as a minimum, a listing of each materials subject to restrictions in the air quality management district in question, the rule governing its use, a description of the actions which Contractor will take, a description of the actions which Contractor will use to comply with the laws and regulations, and any changes in the status of compliance during the life of the Contract. Alternatively, if no materials are subject to the restrictions of the air quality management district where the work will be performed, or if there are no restrictions, the compliance plan shall so state.

1.08 PROTECTION OF ENVIRONMENTAL RESOURCES

A. General: The environmental resources within the Project boundaries and those affected outside the limits of permanent work under this Contract shall be protected during the entire period of this Contract. Contractor shall confine his activities to areas defined by the Drawings and Specifications. Environmental protection shall be as stated in the following subparagraphs.

B. Protection of Land Resources: Prior to the beginning of any construction, Contractor shall identify all land resources to be approved by Owner. Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and landforms without special permission from Owner. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized.

C. Protection of Water Resources: Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters. Special management techniques as set out below shall be implemented to control water pollution by the listed construction activities which are included in this Contract. Contractor is responsible for maintaining area drainage during construction. Water

shall not be allowed to pond on any roadway surface, and runoff from adjacent properties shall not be impeded by Project Work.

D. Protection of Fish and Wildlife Resources: Contractor shall keep construction activities under surveillance, management, and control to minimize interference with, disturbance to and damage of fish and wildlife. Prior to beginning of construction operations, Contractor shall list species that require specific attention and describe measures for their protection. At a minimum, Contractor shall have personnel onsite who are trained to identify and continuously observe the work area for the following endangered or protected species. Performing site observations may require having dedicated biologists or environmental scientists onsite to serve as environmental monitors. All costs for environmental monitoring shall be borne by Contractor. Environmental monitoring and observations shall be documented in Contractor's daily activities reports each day regardless of whether or not species were observed.

1. Ocelot: During all active work at upland placement areas, observations for ocelot shall be conducted around and within upland placement areas during daylight hours.

1.09 CONTROL AND DISPOSAL OF WASTES

- A. Hazardous Waste: Hazardous wastes are defined in 40 CFR 261. Hazardous wastes that are produced as a result of performing Work under this Contract shall be handled, stored, transported, and disposed of according to 40 CFR 262, where applicable. Prevent hazardous wastes from entering the ground, drainage areas, and surface waters. Immediately notify Owner of hazardous material spills.
- B. Sanitary Waste: All sanitary waste shall be collected by a licensed sanitary waste management contractor from the portable units as necessary, or as required by local regulation.
- C. Construction Debris: Contractor shall collect and properly dispose of all trash and construction debris in accordance with all local and state solid waste management regulations and practices. No construction waste material shall be buried within the Project limits. Contractor shall store all waste materials in approved metal dumpsters or other containers approved by Owner. The dumpster shall be emptied as necessary or as required by local and state regulation and the contents hauled away for proper disposal.
- D. Storm Water Pollution Prevention Plan (SWPPP): Refer to Specification Section 01 16 50, "Storm Water Pollution Prevention Plan."

1.10 POST CONSTRUCTION CLEAN UP

Contractor shall clean up areas used for construction to the satisfaction of Owner.

1.11 RESTORATION OF DAMAGE

Contractor shall restore all features damaged or destroyed during construction operations outside the limits of the approved Work areas. Such restoration shall be in accordance with the plan

submitted for approval by Owner. This work will be accomplished at Contractor's expense without compensation.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

DIVISION 01 – GENERAL REQUIREMENTS
SECTION 01 25 00 – MEASUREMENT AND BASIS OF PAYMENT

PART 1 – GENERAL

1.01 SUMMARY

The extended prices stated on Contractor's Bid Form will be considered maximum Contract prices with unit price provisions. Unit price provisions are for Owner's convenience in adjusting extended prices based on quantity adjustments resulting from Owner-initiated Change Orders. The extended prices shall be full compensation for furnishing all labor, materials, tools, equipment, plant, fuel, supplies, superintendence, insurance, incidentals, services, overhead, and profit necessary to complete the construction of the various items of Work. Contractor's Bid Form is not intended to itemize each and every labor, material, or incidental requirement. Any requirement, explicit or implied, as determined by Owner for Project completion and not specifically listed on the Contractor's Bid Form shall be included in items with which they are considered subsidiary. Any item not specifically identified as an Additive/Alternate Bid or Bid Option shall be considered as part of the Base Bid, unless specified otherwise.

1.02 QUANTITIES AND MEASUREMENTS

- A. Quantities: All quantities of Work stated on Contractor's Bid Form are nominal estimates, computed by Engineer, based on the Contract Documents. Contractor shall verify these quantities by preparing his own estimates. In any case, prices stated shall reflect all Work required by the Contract Documents. No quantity adjustment shall be made for work performed outside the specified lines and grades, nor work completed within its specified tolerance.
- B. Measurements: Only length, area, or volume measurements shall be made to compute the quantities of Work stated on Contractor's Bid Form. weight, load size/counts, and production rate/time shall not be valid measurement techniques.
- C. Contract Adjustments: Owner reserves the right to adjust the quantities of Work stated on Contractor's Bid Form as it deems appropriate. Adjustments must be in form of a Change Order to the Contract.

1.03 BASIS OF PAYMENT

- A. Unit Price Provisions:
 - 1. Extended prices stated on the Contractor's Bid Form shall be considered maximum Contract prices (Lump Sum) unless the quantities of work are adjusted by an Owner-initiated Change Order.
 - 2. If quantities of work are adjusted by Owner, the cost or credit to Owner shall be computed in accordance with the unit prices stated on the Contractor's Bid Form.
 - 3. Contractor shall not exceed the estimated quantities (cubic yards) in the contract bid line items without prior specific authorization, and only with a signed modification issued by Owner. Contractor shall specifically notify Owner, in writing, once Contractor reaches approximately 75% of the quantities specified for each contract line item. This

notification will be separate and in addition to other reporting required elsewhere in this contract. Contractor shall notify Owner as soon as it recognizes that the estimated quantities are not sufficient to complete the work indicated and specified.

4. Regardless of actual measured quantities, total payment for construction (Bid Items 3, 4, and Additive Bid Item #1) will not exceed the associate extended prices shown on the Contractor's Bid Form without an Owner initiated change order (for example, to increase the contract quantity).
- B. Lump Sum/Progress Payments: Lump Sum Work items listed on the Contractor's Bid Form will be paid for according to the estimated percentage of Work completed for each item. This amount shall be full compensation for completed in-place Work. Owner will be the sole judge and make the final decision as to the percentage complete of each item and the monetary amount for progress payments to Contractor.
- C. Mobilization/Demobilization (Bid Item 1): Payment for mobilization will not exceed seventy percent (70%) of the amount stated for **Mobilization/Demobilization**. The total lump sum amount for Mobilization/Demobilization shall include all costs in connection with the mobilization and demobilization of all plant and equipment necessary to perform the Work.
- D. Construction Surveying (Bid Item 2): Payment for **Construction Surveying** will be made on a lump-sum basis for costs associated with topographic surveying, preparation of associated quantity computations and drawings, and related work as described in Section 35 20 00, "Construction Surveying."
- E. Degrading North Dike (Bid Item 3) and Degrading 5,250 LF of Interior Dikes (Add #1):
1. Payment for **Degrading North Dike** and **Degrading 5,250 LF of Interior Dikes** will be made for costs associated with degrading perimeter containment dike, degrading interior training dikes, and interior containment dikes; clearing, grubbing, and stripping; excavation; hauling, placing, and compacting fill material; final grading; temporary site drainage and dewatering during construction; geotechnical sampling and testing; erosion control fence; relocation of chain-link security fence; and any other related work.
 2. Payment for dike degrading will be based on computations of quantities removed within the specified templates shown on the drawings and as specified in section 31 24 00, "Embankment Construction," as measured by cubic yards, in place and compacted. Quantity computations shall be performed by Contractor and substantiated with initial/interim/final surveys conducted by Contractor in accordance with Section 35 20 00, "Construction Surveying." Pay volumes shall be based on calculations performed using the average end area method. Average end area calculations shall include appropriate adjustments along the inside of embankment corners and curves to avoid double-counting material where cross sections overlap. The distances between adjacent stations shall not exceed 100 feet, except at Dike Access pads and around sharp corners and curves where the spacing shall not exceed 20 feet. The distances between adjacent stations shall be measured along the project baseline provided by Owner. Volume calculations shall be performed by Contractor and reviewed/approved by Owner. Contractor's surveys and calculations shall be submitted with each payment request. Owner reserves the right to conduct independent surveys and quantity computations to verify Contractor's payment requests.

3. Material placed to construct access ramps, and material outside of the limits and tolerances of the specified construction template, shall not be included in pay quantities. Material placed beyond the specified limits may remain with approval from Owner, but shall not qualify for payment.

F. Dike Construction and Maintenance (Bid Item 4):

1. Payment for **Dike Construction and Maintenance** will be made for costs associated with raising, repairing, and maintaining the perimeter containment dikes; excavation of a drainage swale; clearing, grubbing, and stripping; excavation; hauling, placing, and compacting fill material; final grading; temporary site drainage and dewatering during construction; geotechnical sampling and testing; borrow area prospecting and investigation within Placement Area 8; erosion control fence; construction of earthen ramps for access to dikes; relocation of chain-link security fence; and any other related work.
2. Payment for dike construction will be based on computations of quantities placed within the specified templates shown on the drawings and as specified in section 31 24 00, "Embankment Construction," as measured by cubic yards, in place and compacted. Quantity computations shall be performed by Contractor and substantiated with initial/interim/final surveys conducted by Contractor in accordance with Section 35 20 00, "Construction Surveying." Pay volumes shall be based on calculations performed using the average end area method. Average end area calculations shall include appropriate adjustments along the inside of embankment corners and curves to avoid double-counting material where cross sections overlap. The distances between adjacent stations shall not exceed 100 feet, except at Dike Access pads and around sharp corners and curves where the spacing shall not exceed 20 feet. The distances between adjacent stations shall be measured along the project baseline provided by Owner. Volume calculations shall be performed by Contractor and reviewed/approved by Owner. Contractor's surveys and calculations shall be submitted with each payment request. Owner reserves the right to conduct independent surveys and quantity computations to verify Contractor's payment requests.
3. Material placed to construct access ramps, and material outside of the limits and tolerances of the specified construction template, shall not be included in pay quantities. Material placed beyond the specified limits (e.g., overbuilt dike) may remain with approval from Owner, but shall not qualify for payment.

- G. Aerial Photography (Bid Item 5): Payment for **Post-Construction Aerial Photography** will be made on a lump-sum basis for costs associated with materials, labor, and equipment for obtaining aerial photography at Placement Area 8 in accordance with Section 35 20 00, "Construction Surveying".

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

DIVISION 01 – GENERAL REQUIREMENTS
SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.01 SUMMARY

- A. Owner may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections.
- B. Units of weights and measures used on all submittals are to be the same as those used in the contract drawings.
- C. Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements.
- D. Contractor shall check and approve all items prior to submittal and stamp, sign, and date indicating action taken. Proposed deviations from the contract requirements are to be clearly identified. Include within submittals items such as: Contractor's, manufacturer's, subcontractor's, or fabricator's shop and installation drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; installation procedures; and other such required submittals.
- E. Submittals requiring Owner's review are to be scheduled and approval obtained prior to the acquisition of the material or equipment covered thereby. Pick up and dispose of samples not incorporated into the work in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

1.02 DEFINITIONS

- A. Preconstruction Submittals: Submittals which are required prior to start of construction (work), issuance of contract notice to proceed by Owner, or commencing work on site. These include schedules, tabular list of data, or tabular list including location, features, or other pertinent information regarding products, materials, equipment, or components to be used in the work.
 - 1. Certificates of insurance
 - 2. Surety bonds
 - 3. List of proposed Subcontractors
 - 4. List of proposed products
 - 5. Construction Progress Schedule
 - 6. Network Analysis Schedule
 - 7. Submittal register
 - 8. Schedule of prices
 - 9. Health and safety plan
 - 10. Work plan
 - 11. Quality Control (QC) plan

12. Environmental protection plan

B. Shop Drawings:

1. Drawings, diagrams and schedules specifically prepared to illustrate some portion of the work.
2. Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the Contractor for integrating the product or system into the project.
3. Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be coordinated.

C. Product Data:

1. Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials, systems or equipment for some portion of the work.
2. Samples of warranty language when the contract requires extended product warranties.

D. Samples:

1. Fabricated or unfabricated physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the work can be judged.
2. Color samples from the manufacturer's standard line (or custom color samples if specified) to be used for the project.
3. Field samples and mock-ups constructed on the project site establish standards by which the ensuing work can be judged. Includes assemblies or portions of assemblies which are to be incorporated into the project and those which will be removed at conclusion of the work.

E. Design Data:

1. Design calculations, mix designs, analyses or other data pertaining to a part of work.
2. Design submittals, design substantiation submittals and extensions of design submittals.

F. Test Reports:

1. Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accordance with specified requirements.

2. Report which includes findings of a test required to be performed by the Contractor on an actual portion of the work or prototype prepared for the project before shipment to job site.
3. Report which includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.
4. Investigation reports.
5. Daily logs and checklists.
6. Final acceptance test and operational test procedure.

G. Certificates:

1. Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements. Must be dated after award of project contract and clearly name the project.
2. Documents required of Contractor, or of a manufacturer, supplier, installer or Subcontractor through Contractor, the purpose of which is to further quality of orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.
3. Confined space entry permits.
4. Text of posted operating instructions.

H. Manufacturer's Instructions: Preprinted material describing installation of a product, system or material, including special notices and (MSDS) concerning impedances, hazards and safety precautions.

I. Manufacturer's Field Reports:

1. Documentation of the testing and verification actions taken by manufacturer's representative at the job site, in the vicinity of the job site, or on a sample taken from the job site, on a portion of the work, during or after installation, to confirm compliance with manufacturer's standards or instructions. The documentation must be signed by an authorized official of a testing laboratory or agency and must state the test results; and indicate whether the material, product, or system has passed or failed the test.
2. Factory test reports.

J. Operation and Maintenance Data:

1. Data that is furnished by the manufacturer, or the system provider, to the equipment operating and maintenance personnel, including manufacturer's help and product line

documentation necessary to maintain and install equipment. This data is needed by operating and maintenance personnel for the safe and efficient operation, maintenance and repair of the item.

2. This data is intended to be incorporated in an operations and maintenance manual or control system.

K. Closeout Submittals:

1. Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.
2. Special requirements necessary to properly close out a construction contract. For example, Record Drawings and as-built drawings.

L. Approving Authority: Office or designated person authorized to approve submittal.

M. Work: As used in this section, on- and off-site construction required by contract documents, including labor necessary to produce submittals, except those Pre-Construction Submittals noted above, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction.

1.03 SUBMITTALS

Submit the following in accordance with this section.

A. Preconstruction Submittals: Submittal Register.

1.04 PREPARATION

A. Transmittal Form: Transmit submittals with transmittal form prescribed and supplied by Owner and standard for project. On the transmittal form identify Contractor, indicate date of submittal, and include information prescribed by transmittal form and required in paragraph entitled, "Identifying Submittals," of this section.

B. Identifying Submittals:

1. When submittals are provided by a Subcontractor, the Prime Contractor shall prepare, review and stamp with Contractor's approval all specified submittals prior to submitting to Owner.
2. Identify submittals with the following information permanently adhered to or noted on each separate component of each submittal and noted on transmittal form. Mark each copy of each submittal identically, with the following:
 - a. Project title and location.

- b. Construction contract number.
- c. Date of the drawings and revisions.
- d. Name, address, and telephone number of subcontractor, supplier, manufacturer and any other subcontractor associated with the submittal.
- e. Section number of the specification section by which submittal is required.
- f. When a resubmission, add alphabetic suffix on submittal description, for example, submittal 18 would become 18A, to indicate resubmission.
- g. Product identification and location in project.

C. Format for Shop Drawings:

- 1. Shop drawings are not to be less than 8 1/2 by 11 inches nor more than 30 by 42 inches, except for full size patterns or templates. Prepare drawings to accurate size, with scale indicated, unless other form is required. Drawings are to be suitable for reproduction and be of a quality to produce clear, distinct lines and letters with dark lines on a white background.
- 2. Present 8 1/2 by 11 inches sized shop drawings as part of the bound volume for submittals required by section. Present larger drawings in sets.
- 3. Include on each drawing the drawing title, number, date, and revision numbers and dates, in addition to information required in paragraph entitled, "Identifying Submittals," of this section.
- 4. Number drawings in a logical sequence. Each drawing is to bear the number of the submittal in a uniform location adjacent to the title block. Place the Owner contract number in the margin, immediately below the title block, for each drawing.
- 5. Dimension drawings, except diagrams and schematic drawings; prepare drawings demonstrating interface with other trades to scale. Use the same unit of measure for shop drawings as indicated on the contract drawings. Identify materials and products for work shown.

D. Format of Product Data and Manufacturer's Instructions:

- 1. Present product data submittals for each section as a complete, bound volume. Include table of contents, listing page and catalog item numbers for product data.
- 2. Indicate, by prominent notation, each product which is being submitted; indicate specification section number and paragraph number to which it pertains.

3. Supplement product data with material prepared for project to satisfy submittal requirements for which product data does not exist. Identify this material as developed specifically for project, with information and format as required for submission of Certificates.
4. Include the manufacturer's name, trade name, place of manufacture, and catalog model or number on product data. Also include applicable federal, military, industry and technical society publication references. Should manufacturer's data require supplemental information for clarification, submit as specified for Certificates.
5. Where equipment or materials are specified to conform to industry and technical society reference standards of the organizations such as American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), and Association of Edison Illuminating Companies (AEIC), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the Owner. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.
6. Collect required data submittals for each specific material, product, unit of work, or system into a single submittal and marked for choices, options, and portions applicable to the submittal. Mark each copy of the product data identically. Partial submittals will not be accepted for expedition of construction effort.
7. Submit manufacturer's instructions prior to installation.

E. Format of Samples:

1. Furnish samples in sizes below, unless otherwise specified in respective specification section or unless the manufacturer has prepackaged samples of approximately same size as specified:
 - a. Sample of Equipment or Device: Full size.
 - b. Sample of Materials Less Than 2 by 3 inches: Built up to 8 1/2 by 11 inches.
 - c. Sample of Materials Exceeding 8 1/2 by 11 inches: Cut down to 8 1/2 by 11 inches and adequate to indicate color, texture, and material variations.
 - d. Sample of Linear Devices or Materials: 10 inch length or length to be supplied, if less than 10 inches. Examples of linear devices or materials are conduit and handrails.
 - e. Sample of Non-Solid Materials: Pint. Examples of non-solid materials are sand and paint.

- f. Color Selection Samples: 2 by 4 inches. Where samples are specified for selection of color, finish, pattern, or texture, submit the full set of available choices for the material or product specified. Sizes and quantities of samples are to represent their respective standard unit.
 - g. Sample Panel: 4 by 4 feet.
 - h. Sample Installation: 100 square feet.
- 2. Samples Showing Range of Variation: Where variations in color, finish, pattern, or texture are unavoidable due to nature of the materials, submit sets of samples of not less than three units showing extremes and middle of range. Mark each unit to describe its relation to the range of the variation.
- 3. Reusable Samples: Incorporate returned samples into work only if so specified or indicated. Incorporated samples are to be in undamaged condition at time of use.
- 4. Recording of Sample Installation: Note and preserve the notation of area constituting sample installation but remove notation at final clean up of project.
- 5. When color, texture or pattern is specified by naming a particular manufacturer and style, include one sample of that manufacturer and style, for comparison.
- F. Format of Design Data and Certificates: Provide design data and certificates on 8 1/2 by 11 inches paper. Provide a bound volume for submittals containing numerous pages.
- G. Format of Test Reports and Manufacturer's Field Reports:
 - 1. Provide reports on 8 1/2 by 11 inches paper in a complete bound volume.
 - 2. Indicate by prominent notation, each report in the submittal. Indicate specification number and paragraph number to which it pertains.
- H. Format of Preconstruction Submittals and Closeout Submittals: When submittal includes a document which is to be used in project or become part of project record, other than as a submittal, do not apply Contractor's approval stamp to document, but to a separate sheet accompanying document.

1.05 QUANTITY OF SUBMITTALS

- A. Number of Copies of Shop Drawings: Shop drawings requiring review by Owner or Engineer shall be submitted in digital (PDF) format. Owner may request hard copies of submittals on a case-by-case basis.
- B. Number of Copies of Product Data and Manufacturer's Instructions: Submit in compliance with quantity requirements specified for shop drawings.

C. Number of Samples:

1. Submit two samples, or two sets of samples showing range of variation, of each required item. One approved sample or set of samples will be retained by the Owner and one will be returned to Contractor.
2. Submit one sample panel or provide one sample installation where directed. Include components listed in technical section or as directed.
3. Submit one sample installation, where directed.
4. Submit one sample of non-solid materials.

D. Number of Copies Design Data and Certificates: Submit in compliance with quantity requirements specified for shop drawings.

E. Number of Copies Test Reports and Manufacturer's Field Reports: Submit in compliance with quantity and quality requirements specified for shop drawings other than field test results that will be submitted with QC reports.

F. Number of Copies of Preconstruction Submittals and Closeout Submittals: Unless otherwise specified, submit three sets of administrative submittals.

1.06 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Response from the Owner is not required on information only submittals. The Owner reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications.

1.07 VARIATIONS

A. Variations from contract requirements require approval from the Owner.

B. Considering Variations:

1. Discussion with Owner prior to submission will help ensure functional and quality requirements are met and minimize rejections and re-submittals.
2. Specifically point out variations from contract requirements in transmittal letters. Failure to point out deviations may result in the Owner requiring rejection and removal of such work at no additional cost to the Owner.

C. Proposing Variations:

1. When proposing variation, deliver written request to the Owner, with documentation of the nature and features of the variation and why the variation is desirable and beneficial to

Owner. If lower cost is a benefit, also include an estimate of the cost savings. In addition to documentation required for variation, include the submittals required for the item. Clearly mark the proposed variation in all documentation.

2. Set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Owner reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.
- D. Warranting That Variations Are Compatible: When delivering a variation for approval, Contractor, including its Designer(s) of Record, warrants that this contract has been reviewed to establish that the variation, if incorporated, will be compatible with other elements of work.
 - E. Review Schedule Is Modified: In addition to normal submittal review period, a period of 10 working days will be allowed for consideration by the Owner of submittals with variations.

1.08 SUBMITTAL REGISTER AND DATABASE

- A. Prepare and maintain submittal register, as the work progresses.
- B. Contractor is to track all submittals by maintaining a complete list, including completion of all data columns, including dates on which submittals are received and returned by Owner.
- C. Contractor is required to maintain the submittal register and submit it to Owner for review monthly. The approved submittal register will serve as a scheduling document for submittals and will be used to control submittal actions throughout the contract period. Coordinate the submit dates and need dates with dates in Contractor prepared progress schedule. Submit monthly or until all submittals have been satisfactorily completed, updates to the submittal register showing Contractor action codes and actual dates Owner action codes. Revise the submittal register when the progress schedule is revised and submit both for approval.
- D. Use of Submittal Register: Submit submittal register with QC plan and project schedule. Verify that all submittals required for project are listed and add missing submittals.
- E. Copies Delivered to Owner: Deliver one copy of submittal register updated by Contractor to Owner with each invoice request.

1.09 SCHEDULING

- A. Schedule and submit concurrently submittals covering component items forming a system or items that are interrelated. Include certifications to be submitted with the pertinent drawings at the same time. No delay damages or time extensions will be allowed for time lost in late submittals.
- B. Coordinate scheduling, sequencing, preparing and processing of submittals with performance of work so that work will not be delayed by submittal processing. Allow for potential resubmittal of requirements.

- C. Submittals called for by the contract documents will be listed on the register. If a submittal is called for but does not pertain to the contract work, the Contractor is to include the submittal in the register and annotate it "N/A" with a brief explanation. Approval by the Owner does not relieve the Contractor of supplying submittals required by the contract documents but which have been omitted from the register or marked "N/A."
- D. Re-submit register and annotate monthly by the Contractor with actual submission and approval dates. When all items on the register have been fully reviewed by Owner with no exception taken, no further re-submittal is required.
- E. Carefully control procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."
- F. Except as specified otherwise, allow review period, beginning with receipt by Owner, of 10 working days for submittals for Owner's review. Period of review for submittals with Owner begins when Owner receives submittal from Contractor.
- G. Period of review for each resubmittal is the same as for initial submittal.
- H. Within 15 calendar days of notice to proceed, provide, for review by the Owner, the following schedule of submittals:
 - 1. A schedule of shop drawings and technical submittals required by the specifications and drawings. Indicate the specification or drawing reference requiring the submittal; the material, item, or process for which the submittal is required; the identifying title of the submittal; the Contractor's anticipated submission date and the review need date.
 - 2. A separate schedule of other submittals required under the contract but not listed in the specifications or drawings. Schedule will indicate the contract requirement reference; the type or title of the submittal; the Contractor's anticipated submission date and the review need date if approval is required.
- I. Reviewing, Certifying, Approving Authority: The Contractor is responsible for checking and reviewing and certifying that submittals are in compliance with contract requirements.
- J. Constraints:
 - 1. Conform to provisions of this section, unless explicitly stated otherwise for submittals listed or specified in this contract.
 - 2. Submit complete submittals for each definable feature of work. Submit at the same time components of definable feature interrelated as a system.
 - 3. When acceptability of a submittal is dependent on conditions, items, or materials included in separate subsequent submittals, submittal will be returned without review.

4. Review of a separate material, product, or component does not imply review of assembly in which item functions.

K. Contractor Responsibilities

1. Check and review each submittal; and check and coordinate each submittal with requirements of work and contract documents.
2. Ensure that material is clearly legible.
3. Stamp each sheet of each submittal with certifying statement or approving statement, except that data submitted in bound volume or on one sheet printed on two sides may be stamped on the front of the first sheet only. Contractor will certify submittals forwarded to Owner with the following certifying statement:

"I hereby certify that the (equipment) (material) (article) shown and marked in this submittal is that proposed to be incorporated with contract Number [____], is in compliance with the contract drawings and specification, can be installed in the allocated spaces, and is submitted for Owner review.

Certified by Contractor _____, Date _____" (Signature)

4. Update submittal register as submittal actions occur and maintain the submittal register at project site until final review of all work by Owner.
5. Retain a copy of completed submittals at project site, including Contractor's copy of samples.

1.10 OWNER RESPONSIBILITIES

A. The Owner will:

1. Note date on which submittal was received from Contractor.
2. Review submittals within scheduling period specified and only for general conformance with project design concepts and general compliance with contract documents.
3. Identify returned submittals with one of the actions defined in paragraph entitled, "Review Notations," of this section and with markings appropriate for action indicated.
4. Upon completion of review of submittals, stamp and date reviewed submittals. Two copies of the reviewed submittal will be retained by the Owner and three copies of the submittal will be returned to the Contractor. The Owner may alternatively transmit the reviewed submittals to the Contractor electronically.

- B. Review Notations: Owner review will be completed within 10 calendar days after date of submission. Submittals will be returned to the Contractor with the following notations:

1. Submittals marked "NO EXCEPTION TAKEN" authorize the Contractor to proceed with the work covered.
2. Submittals marked "MAKE CORRECTIONS NOTED" authorize the Contractor to proceed with the work covered provided he makes the noted corrections.
3. Submittals marked "REVISE AND RESUBMIT" indicate noncompliance with the contract requirements or design concept, or that submittal is incomplete. Resubmit with appropriate changes. No work shall proceed for this item until resubmittal is reviewed by Owner.
4. Submittals marked "REJECTED" will indicate submittal has been previously reviewed, is not required, does not have evidence of being reviewed and approved by Contractor, or is not complete. A submittal marked "REJECTED" will be returned with an explanation of the reason it is not reviewed. Resubmit submittals returned for lack of review by Contractor or for being incomplete, with appropriate action, coordination, or change.

1.11 REJECTED SUBMITTALS

- A. Contractor shall make corrections required by Owner. If corrections are made to shop drawings, corrections shall be noted by clouding all corrections or changes. It will be assumed that, if not clouded, no revisions have been made and no "acceptance" is given to unclouded revisions.
- B. If changes are necessary to submittals, Contractor shall make such revisions and submission of the submittals. No item of work requiring a submittal change is to be accomplished until the changed submittals are approved.

1.12 REVIEWED SUBMITTALS

- A. Owner's review of submittals (i.e., submittals marked "NO EXCEPTION TAKEN") is not to be construed as a complete check, and indicates only that the general method of construction, materials, detailing and other information are satisfactory and meet the requirements of design plans and specifications.
- B. Owner's review will not relieve Contractor of the responsibility for any error which may exist, as Contractor under Contractor Quality Control (CQC) requirements of this contract is responsible for dimensions, quantities, the design of adequate connections and details, and the satisfactory construction of all work.
- C. After submittals have been reviewed by Owner, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.13 REVIEWED SAMPLES

- A. Review of a sample is only for the characteristics or use named in such review and is not to be construed to change or modify any contract requirements. Before submitting samples,

Contractor to assure that the materials or equipment will be available in quantities required in the project. No change or substitution will be permitted after a sample has been approved.

- B. Match the reviewed samples for materials and equipment incorporated in the work. If requested, reviewed samples, including those which may be damaged in testing, will be returned to Contractor, at his expense, upon completion of the contract. Samples not reviewed will also be returned to Contractor at its expense, if so requested.
- C. Failure of any materials to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make of that material. Owner reserves the right to reject any material or equipment which previously has proved unsatisfactory in service.
- D. Samples of various materials or equipment delivered on the site or in place may be taken by the Owner for testing. Samples failing to meet contract requirements will automatically void previous reviews. Contractor to replace such materials or equipment to meet contract requirements.
- E. Review of Contractor's samples by Owner does not relieve Contractor of his responsibilities under the contract.

1.14 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required reviews by Owner have not been obtained.

1.15 PROGRESS SCHEDULE

A. Bar Chart:

1. Submit the progress chart, for review by Owner, at the Preconstruction Conference in one reproducible and 4 copies.
2. Prepare the progress chart in the form of a bar chart utilizing form "Construction Progress Chart" or comparable format acceptable to the Owner.
3. Include no less than the following information on the progress chart:
 - a. Break out by major headings for primary work activity.
 - b. A line item break out under each major heading sufficient to track the progress of the work.
 - c. A line item showing contract finalization task which includes punch list, clean-up and demolition, and final construction drawings.

- d. A materials bar and a separate labor bar for each line item. Both bars will show the scheduled percentage complete for any given date within the contract performance period. Labor bar will also show the number of men (man-load) expected to be working on any given date within the contract performance period.
 - e. The estimated cost and percentage weight of total contract cost for each materials and labor bar on the chart.
 - f. Separate line items for mobilization and drawing submittal and approval. (These items are to show no associated costs.)
4. Update the progress schedule in one reproduction and 4 copies every 30 calendar days throughout the contract performance period. Alternatively, Contractor has the option of submitting the project schedule electronically, with at least 2 copies in hard-copy format.

B. Project Network Analysis:

1. Submit the initial progress schedule within 21 calendar days of notice to proceed. Schedule is to be updated and resubmitted monthly beginning 7 calendar days after return of the reviewed initial schedule. Updating to entail complete revision of the graphic and data displays incorporating changes in scheduled dates and performance periods. Redlined updates will only be acceptable for use as weekly status reviews.

Contractor to provide a single point contact from his on-site organization as his Schedule Specialist. Schedule Specialist is to have the responsibility of updating and coordinating the schedule with actual job conditions. Schedule Specialist to participate in weekly status meetings and present current information on the status of purchase orders, shop drawings, off-site fabrication, materials deliveries, Subcontractor activities, anticipated needs for Owner furnished equipment, and any problem which may impact the contract performance period.

Include the following in the project network analysis:

- a. Graphically display with the standard network or arrow diagram capable of illustrating the required data. Drafting to be computer generated on standard 24 by 36 inch (nominal size) drafting sheets or on small 11 by 17 inch minimum sheets with separate overview and detail breakouts. Provide a project network analysis that is legible with a clear, consistent method for continuations and detail referencing. Clearly delineate the critical path on the display. Clearly indicate the contract milestone date on the project network analysis graphic display.
- b. Data are to be presented as a separate printout on paper or, where feasible, may be printed on the same sheet as the graphic display. Data are to be organized in a logical coherent display capable of periodic updating.
- c. Include within the data verbal activity descriptions with a numerical ordering system cross referenced to the graphic display. Additionally, costs (broken down into separate materials and costs), duration, early start date, early finish date, late start date, late

finish date, and float are to be detailed for each activity. A running total of the percent completion based on completed activity costs versus total contract cost is to be indicated. A system for indicating scheduled versus actual activity dates and durations is also to be provided.

- d. Sufficient detail to facilitate the Contractor's control of the job and to allow the Owner to readily follow progress for portions of the work should be shown within the schedule.

1.16 STATUS REPORT ON MATERIALS ORDERS

Within 20 calendar days after notice to proceed, submit, for review by the Owner, an initial material status report on all materials orders. This report will be updated and re-submitted every 30 calendar days as the status on material orders changes.

Report to include list, in chronological order by need date, materials orders necessary for completion of the contract. The following information will be required for each material order listed:

- a. Material name, supplier, and invoice number.
- b. Bar chart line item or CPM activity number affected by the order.
- c. Delivery date needed to allow directly and indirectly related work to be completed within the contract performance period.
- d. Current delivery date agreed on by supplier.
- e. When item d exceeds item c, the effect that delayed delivery date will have on contract completion date.
- f. When item d exceeds item c, a summary of efforts made by the Contractor to expedite the delayed delivery date to bring it in line with the needed delivery date, including efforts made to place the order (or subcontract) with other suppliers.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

DIVISION 31 – EARTHWORK
SECTION 31 24 00 – EMBANKMENT CONSTRUCTION

PART 1 – GENERAL

1.01 SUMMARY

The work covered in this Section consists of furnishing labor, equipment, and other incidentals necessary to perform construction of perimeter dikes with excavated materials at upland confined Placement Areas (PAs), and for other earthwork incidental to the PA dike construction. The work shall be performed in accordance with this specification and shall conform to the lines, grades, notes, and typical sections shown on the plans.

1.02 RELATED SECTIONS

Section 01 14 00 – Work Restrictions
Section 35 20 00 – Construction Surveying

1.03 REFERENCES

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

AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM)

ASTM D698	(2021) Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/cu ft (600 kN-m/cu. m.))
ASTM D1140	(2017) Standard Test Methods for Determining the Amount of Material Finer than 75-µm (No. 200) Sieve in Soils by Washing
ASTM D1556	(2016) Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D2487	(2017e1) Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D3740	(2019) Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM D4318	(2018) Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D5255	(2016) Standard Practice for Certification of Personnel Engaged in the Testing of Soil and Rock
ASTM D6913	(2021) Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis
ASTM D6938	(2017) Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2014) Safety and Health Requirements Manual

ER 1110-1-261 (1999) Quality Assurance of Laboratory Testing Procedures

1.04 SUBMITTALS

Engineer's approval is required for submittals with an "E" designation; submittals not having an "E" designation are for information only. The following shall be submitted in accordance with Section 01 33 00, "Submittal Procedures":

A. Work Plan: At least 21 days prior to commencement of site work, submit a Work Plan for review by Owner. Work Plan shall outline Contractor's approach for accomplishing the dike construction, for the location and construction of any temporary haul roads (as applicable), and for dewatering borrow areas and any other excavations. This Plan shall include, but not be limited to, the following:

1. Planned sequence of construction for dikes and outlet structures (including demolition of existing structures). Include excavation of borrow areas and dike foundation areas. Include plan and cross-sectional schematic drawings showing starting and final work locations and clearing, grubbing, and stripping limits.
2. Show locations of planned ingress/egress routes and any temporary facilities.
3. Methods and types of equipment to be utilized for excavation, handling, placing, and compaction.
4. Plan for locating/identifying and testing borrow areas within the PAs.
5. Planned erosion control measures and other environmental controls, including work exclusion areas.
6. Methods for protecting existing utilities.
7. Material distribution and stockpiling plan.
8. Trenching and shoring plan, as applicable.
9. Planned methods for dewatering including control of surface and ground water in the borrow areas and any other excavations. Describe equipment types and planned durations.
10. Planned methods for demobilization and site control, including measures to address flooding, if an extreme coastal storm or heavy rainfall impacts the work area. Refer to Site storm protection requirements in Section 01 14 00, "Work Restrictions."

If necessary, modify the Plan as required to meet field conditions; any modifications to the plan will require an additional submittal to Owner for review.

B. Daily Activities Reports: Refer to Section 01 06 00, "Special Conditions."

C. Borrow Material Testing: Regular testing is required to verify suitability of the borrow material placed for dike construction (Paragraph 1.05.B). E

D. Compaction Testing: Perform in-place moisture/density testing for cohesive materials placed for construction of perimeter dike(s) (Paragraph 1.05.B). E

1.05 QUALITY ASSURANCE

- A. Excavation: Establish and maintain quality control for excavation operations to assure compliance with Contract requirements, and maintain records of the quality control for construction operations including the following:
1. Lines, grades, and tolerances.
 2. Disposition or stockpiling of materials, including any Unsuitable Materials.
 3. Conditions that may induce seepage or weaken the foundation of dikes.
 4. Stability of excavations.
 5. Drainage condition of the borrow areas and any associated dewatering performed.
- B. Dikes: Establish and maintain field quality control for foundation preparation and dike construction operations to assure compliance with Contract requirements. Contractor's quality control shall include the following:
1. Foundation Preparation: Document work performed to prepare foundations in advance of dike construction, and methods for providing drainage or dewatering of the foundation and partially completed fills.
 2. Borrow material for construction of perimeter dike(s) shall be tested for compliance with the requirements for Perimeter Dike Materials as stated in Paragraph 2.02.C. Testing documentation and results shall be submitted within 10 days of tests. Testing documentation shall be attached to Contractor's Daily Reports (Paragraph 1.04.B). At a minimum, testing frequency shall be as follows:
 - a. Gradation Tests (ASTM D6913 and D1140): One test per 10,000 cubic yards or per change in material.
 - b. Moisture-Density Relationship Tests (ASTM D698): One test per 10,000 cubic yards or per change in material.
 - c. Atterberg Limits (ASTM D4318): One test per 10,000 cubic yards or per change in material.
 - d. "Change in material" shall be determined by Contractor's geotechnical testing agency based on changes in location of material source, or readily observable changes in material type, color, plasticity, and/or grain size distribution.
 3. Layout, drainage control, moisture control, thickness of layers, removal of oversized material, and spreading and compaction for perimeter dikes shall be documented.
 4. Perform in-place moisture/density testing for cohesive materials placed for construction of perimeter dike(s). The in-place moisture/density tests of the cohesive materials shall be determined and reported in accordance with ASTM D1556 or ASTM D6938. At least one in-place moisture/density test shall be performed at a frequency of 1 test per 5,000 sq ft of each 6- to 8-inch thick compacted lift. Nuclear density testing equipment shall not be used during rain.

- C. Construction Surveys: Perform surveys to verify that the dimensions, slopes, lines, and grades conform to specified requirements. Refer to specification Section 35 20 00, "Construction Surveying," for survey requirements.
- D. Testing by Owner: During the life of this Contract, Owner may perform independent quality assurance tests. Contractor shall make the equipment needed to perform these tests available to Owner.
- E. Testing Agencies: Laboratories performing Contractor's tests shall be accredited in accordance with ASTM D3740. Personnel engaged in the testing shall be certified in accordance with ASTM D5255. Owner or Owner's designated representative shall be provided advance notification of field sampling and testing so that he/she may observe the sampling/testing.
- F. Records: A copy of the records of inspections and corrective actions taken shall be included in the daily quality control reports.

1.06 DEFINITIONS

Dike and Embankment: The terms "Embankment" and "Dike" are interchangeable in these specifications and drawings. "Embankment" and "Dike" are defined as the earth fill portions of the dike system, or other fills related to a dike construction.

1.07 SITE CONDITIONS

- A. Surface Drainage: Contractor shall be aware that the project site is subject to ponding during and after rain and high tide events. Surface water shall be directed away from excavations and construction sites to prevent erosion and undermining of foundations. Diversion ditches and grading shall be provided and maintained as necessary during construction. Ponding water and undrained water in the excavation areas in the PAs shall be drained through pumps or other approved available methods. Newly constructed slopes and backfill surfaces shall be protected to prevent slope surface erosion and sloughing. Excavation shall be performed so that the excavated areas and surrounding areas are drained continuously and effectively.
- B. Changes in Dike Alignment: The right is reserved by Owner to make changes in the dike alignments as may be found necessary before completion of the work. If it becomes necessary, through no fault of Contractor, to abandon a line or location on which work has been done, payment for materials placed will be made as specified in the associated payment item.
- C. Subsurface Soil Information: Geotechnical investigation data are provided in Appendix B. These data represent the most recent information available. Variations may exist in the soil conditions between sample locations. In addition, groundwater levels indicated on the soil boring logs were levels found at the time of exploration. The groundwater level in the PAs can vary significantly depending on time of year, the amount precipitation, and tides. Contractor shall also be aware that debris is likely to be encountered during excavation. Contractor shall draw his own conclusions as to the character of the in-situ soil materials, groundwater levels, and amount and type of debris that may be encountered.

PART 2 – PRODUCTS

2.01 GENERAL

Materials for embankment fills shall be secured from the PA interiors as indicated on the Drawings. The intention is to use the most suitable materials obtainable from these sources. Material to be wasted will be specifically designated by Contractor at the time the material is excavated. Materials containing brush, roots, sod or other perishable or organic materials shall not be considered suitable for dike construction. Available soil profiles are provided in Appendix B for borrow excavation references; however, the soil materials may vary from the sampled locations. Actual suitability of the materials shall be subject to testing by Contractor, and to field review by Owner.

2.02 FILL MATERIALS

- A. Location: Fill materials shall be obtained from borrow area locations within the PA interiors as identified and tested by Contractor and approved by Owner. All fill material shall be subject to testing by Contractor prior to placement for perimeter dike construction.
- B. Soil Classification: Materials shall be classified in accordance with ASTM D2487 (Unified Soil Classification System). Cohesionless materials include materials classified as GW, GP, GM, SW, SM, and SP. Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as SW, SP, GM, GW, GP, SM, ML, and MH will be identified as cohesionless only when the fines are nonplastic.
- C. Suitable Materials:
 - 1. Perimeter Dike Material: Perimeter Dikes and Access Dikes including any backfill required beneath dike foundation areas, shall be constructed with fill materials consisting of soil classified as CL, CH, or SC obtained from borrow areas within the PA interiors. Borrow areas for impervious fill materials shall be located, identified, and tested by Contractor and approved by Owner. Perimeter Dike Materials shall meet the following requirements:
 - a. Maximum particle size: 2 inches when tested in accordance with ASTM D6913.
 - b. Minimum percent passing No. 200 Sieve: 30% when tested in accordance with ASTM D1140.
 - c. Minimum Plasticity Index: 15 when tested in accordance with ASTM D4318.
 - 2. Granular Material: Bedding layer for Drop-Outlet Structure discharge pipes shall be constructed with a Granular Material. Refer to Section 31 23 16.30 45, "Drop-Outlet Structure Excavation, Filling, and Backfilling," for Granular Material requirements and application.
- D. Unsuitable Materials: Materials such as rubbish, brush, organic material, timber and metal debris, roots over ½-inch in diameter, rope, plastic, and rocks larger than 6 inches in diameter shall be considered Unsuitable Materials and not be placed as fill.

PART 3 – EXECUTION

3.01 GENERAL

- A. Lines and Grades: The dikes shall be constructed to the lines, grades, and cross sections indicated on the Drawings. Owner reserves the right to increase or decrease the foundation widths and dike slopes, or to make other changes in the dike or berm sections, as may be considered necessary to produce a safe and functional earthen structure.
- B. Conduct of the Work: Contractor shall maintain and protect the newly-constructed or improved dikes in a satisfactory condition during construction until final completion and acceptance of the work under this Contract. If, in the opinion of Owner, Contractor's hauling activities cause horizontal shear planes or slickensides, rutting, quaking, heaving, cracking, or excessive deformation of the dikes or backfill areas, Contractor shall subsequently limit the type, load, or travel speed of the hauling equipment. Contractor may be required to remove, at no additional payment, dike material placed outside of prescribed slope lines. Approved dike or backfill material which is lost in transit or rendered unsuitable after being placed in the dike or backfill and before final acceptance of the work shall be replaced using a satisfactory method at no additional cost to Owner. Any Unsuitable Material shall be excavated and removed from the dike or backfill and disposed, and the excavated area shall be refilled, at no additional cost to Owner.
- C. Volume: The "neat-line volumes" have been used by Owner to prepare the estimates shown on the Bid Proposal Form. The volumes are estimates only and Contractor is responsible for interpreting the volume numbers in preparing his estimate for bidding. "Neat-line volumes" is defined as the unadjusted, raw quantities computed from the dike templates. The percentage for items including overbuilding, compaction, settlement, foundation displacement, or construction waste, is the responsibility and decision of Contractor.
- D. Tolerances: The dikes shall be constructed to the grades, lines, and cross-sections shown on the Drawings. At every point a tolerance of 6 inch above or 2 inches below the prescribed grade will be permitted in the final dressing, provided that excess material is distributed to ensure that the crown of the dikes drain to the PA interiors and that there are no abrupt humps or depressions in the surfaces.
- E. Utilities: Contractor is responsible for movement of construction machinery and equipment over pipes and utilities during construction. For work immediately adjacent to or for excavations exposing a utility or other buried obstruction, excavate by hand. Start hand excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured. Support uncovered lines or other existing work affected by the Contract excavation until approval for backfill is received. Report damage to utility lines immediately to Owner.

3.02 SITE DRAINAGE AND DEWATERING

- A. Drainage: Dike foundation areas, borrow areas, temporary stockpiles, and partially-completed fill shall be kept continuously drained. Contractor shall establish/construct and maintain temporary drainage features (ditches, swales, ponds, basins, etc.) throughout the duration of construction, and grade the construction area to provide positive surface water runoff away from the construction activity. Prior to placement of fill, the areas shall be completely drained of standing water and allowed to dry so that the surface areas are firm enough for the operation of equipment thereon. Once drainage of the work area and sufficient drying of the foundation surfaces have been accomplished, excavation and the dike construction can proceed. It is the responsibility of Contractor to assess the soil and groundwater conditions and to employ necessary methods that will permit construction to proceed.

- B. Dewatering: Surface and groundwater control shall be accomplished in coordination with the required excavation and dike construction to prevent sloughing of excavation slopes, boils, uplift, and heave in the excavation and to eliminate interferences with orderly progress of construction. In the event of heavy rain fall or high tides, the surface and groundwater control may necessitate the use of temporary berms, diversion ditches, and pumps. Methods for care of surface water and for controlling the surface and groundwater levels shall be subject to approval. The borrow areas shall be drained continuously via drainage ditches which shall be connected to either interior or perimeter ditches during and after the completion of the work.

3.03 EXCAVATION

- A. General: Excavation shall consist of removal of material in preparing the foundations to the lines and grades shown on the drawings, removal of material from ditches to the lines and grades shown on the drawings, removal of objectionable materials and obtaining required fill materials from the borrow areas.
- B. Borrow Areas:
1. Borrow areas shall be located/identified and tested by Contractor as required to complete the work. Borrow areas shall be located within the PA interiors subject to the restrictions stated on the drawings. Any other borrow areas need to be approved by the owner and engineer.
 2. The soil profiles shown in Appendix B only represent general selective samples taken during initial subsurface soil investigation. Borrow areas shall be selected and tested by Contractor for conformance with the Perimeter Dike Material requirements stated in this specification. Contractor shall be aware that the PAs have received dredged materials periodically throughout the years. Contractor shall anticipate variable and extremely soft/wet recently-dredged materials. Contractor's Work Plan shall be revised, resubmitted, and approved by Owner prior to use of any supplemental borrow areas.
 3. Prior to performing any material excavation at borrow areas to obtain fill for dike construction, and before connecting new or improved dikes to existing dikes, the following surface preparation shall be performed:
 - a. Clearing and Grubbing: Unless indicated otherwise on the drawings, remove trees, stumps, logs, shrubs, brush and vegetation and other items that would interfere with construction operations. Remove stumps entirely. Grub out roots over 2 inches in diameter to at least 18 inches below existing surface.
 - b. Stripping: Strip Unsuitable Material from the topsoil of the site where excavation or grading is indicated and stockpile separately from other excavated material.
 - c. Unsuitable Material: Remove vegetation, debris, decayed vegetable matter, sod, mulch, and rubbish.
 4. Borrow areas shall be excavated to the extent necessary to obtain Suitable Materials but within the maximum limits stated on the drawings. Borrow areas shall be drained continuously and kept relatively dry during excavation. Interior stockpiles of Suitable Materials located within PAs shall be utilized as borrow materials if the material complies with the Perimeter Dike Material requirements of this specification.

5. The bottom of borrow areas shall be graded relatively smooth, and interior borrow areas shall be graded to drain towards the nearest drop-outlet structure, during and after the borrow excavation is completed.
- C. Disposition and Stockpiling of Excavated Materials: Excavated Suitable Material shall be incorporated in the appropriate zones of the dike templates. When direct placement is not practicable, Suitable Material from the excavation shall be stockpiled in approved areas for subsequent use in other parts of the work for which it is specified herein or as indicated. Suitable Material in excess of the quantity necessary to construct backfills and dike shall be stockpiled for future construction work. No payment will be made for such stockpiling, nor for the reloading and hauling of this material to its final position in the dikes.
- D. Blending Materials: Blending materials from borrow areas may be performed to provide Perimeter Dike Material. If blending is performed, the material shall be mixed to create a relatively homogeneous material with clods less than 2 inches in diameter, and the material shall not contain any Unsuitable Materials as defined in Paragraph 2.02.D. The material shall be sampled and tested to show compliance with the properties in Paragraph 2.02.C.1.

3.04 EMBANKMENT CONSTRUCTION

- A. General: Prior to beginning placement of fill materials on the dike foundation, notify Owner that the foundation is ready to receive fill. No fill shall be placed on the dike foundation until these areas have been observed by Owner or Owner's designated representative and surveyed by Contractor.
- B. Gradation and Distribution: The materials throughout the dikes shall be graded and distributed so that the overall dike is free from lenses, pockets, streaks, and layers of material differing substantially in texture or gradation from surrounding material of the same class. If lenses, pockets, or layers of materials differing substantially in texture or gradation from surrounding material occur in the spread material, the layer shall be mixed by harrowing or another approved method to blend the materials. During the placing and spreading process, continuously maintain a force of workers adequate to remove roots, debris, and oversize stones from the dike materials.
- C. Surface Preparation for New Dikes, Dike Raises, and Tie-Ins: Prior to placing material for new dikes, adding material to improve existing dikes, and prior to connecting new dike sections to existing dikes, the following surface preparation shall be performed:
 1. Clearing and Grubbing: Unless indicated otherwise on the drawings, remove trees, stumps, logs, shrubs, brush and vegetation and other items that would interfere with construction operations. Remove stumps entirely. Grub out matter roots and roots over 2 inches in diameter to at least 18 inches below existing surface.
 2. Stripping: Strip Unsuitable Material from the topsoil of the site where excavation or grading is indicated and stockpile separately from other excavated material.
 3. Unsuitable Material: Remove vegetation, organics, debris, decayed vegetable matter, sod, mulch, and rubbish.
- D. Foundation Preparation for New Perimeter Dikes: Proof roll subgrade with one to two passes of a rubber tired tandem dump truck with a gross weight of 50,000 pounds or equivalent equipment in a systematic manner to ensure testing over all areas at speeds between 2-1/2 to 3-1/2 mph. Repair unstable areas identified during the proof rolling as specified.

- E. Foundation Preparation of Existing Perimeter Dikes: If there are holes, cavities, and depressions in the foundation areas, including where the new dike will interface with existing dike, the foundation areas shall be scarified to a depth of 6 inches to provide bond between the foundation material and the fill; these areas shall then be back-filled with the same materials that is to be placed immediately above the foundation and fully compacted prior to the initial fill. The fill shall be placed in layers ranging from 8 to 12 inches (loose), moistened, and compacted in accordance with the applicable provisions of this specification for the specific material type. Remove and replace Unsuitable Materials or very soft dredged materials with Perimeter Dike Material by methods of displacing or excavation.
- F. Foundation Preparation of Existing Dredged Material: In areas where the perimeter dikes will be raised atop existing dredged material, the dredged material should be improved or replaced with semi-compacted fill. The intent is to prepare about a 3-ft thick layer of semi-compacted material or improved dredged material to bridge the softer dredged material to be able to place compacted fill material.
- G. Equipment Traffic: Equipment traffic on a dike zone shall be routed to distribute the compactive effort as much as practicable. Ruts formed in the surface of a layer of spread material shall be filled before that material is compacted.
- H. Compacted Perimeter Dike Material: Perimeter Dike Material shall be placed in the perimeter dikes and compacted as specified in Paragraph 3.04.K. Layers shall be started full out to the slope stakes and shall be carried substantially horizontal and parallel to the dike centerline with sufficient crown or slope to provide satisfactory drainage during construction.
- I. Benching into Existing Slopes: “Benches” or “steps” shall be cut into the existing perimeter dikes before placing Perimeter Dike Material in horizontal compacted lifts in accordance with 3.04.I. The benches would be on the order of 2 to 4 feet in height and 2 to 6 feet in width. Sloping ground surfaces steeper than 1-Vertical to 6-Horizontal shall be stepped or benched to form a proper bond with the existing surface.
- J. Moisture Control:
 - 1. Compacted Perimeter Dike Material: The moisture content after compaction shall be as uniform as practicable throughout any one layer of impervious materials. Material that is too wet shall be spread on the embankment and permitted to dry, assisted by discing or harrowing, if necessary, until the moisture content is reduced to an amount within the specified limits. When the material is too dry, Contractor will be required to sprinkle each layer of the fill. Harrowing or other approved methods will be required to work the moisture into the material until a uniform distribution of moisture is obtained. The moisture content of Perimeter Dike Material shall be controlled so that hauling, spreading, and compacting equipment can operate with normal procedure without excessive rutting of the fill.
 - 2. Insufficient Moisture for Suitable Bond: If, in the opinion of Owner or Engineer, the top or contact surfaces of a partial fill section become too dry to permit a suitable bond between these surfaces and the additional fill to be placed thereon, loosen the dried materials by scarifying or discing, dampen the loosened material to an acceptable moisture content, and compact this layer to densities comparable to the underlying embankment and in accordance with the applicable requirements of Paragraph 3.04.H.

3. Excessive Moisture for Suitable Bond: If the top or contact surfaces of a partially filled section become too wet to permit suitable bond between these surfaces and the additional fill to be placed thereon, the wet material shall be scarified and permitted to dry, assisted by discing or harrowing, if necessary. The material shall then be compacted in accordance with the applicable requirements of Paragraph 3.04.H.
4. Drying Wet Material: Material that is too wet shall be spread on the dike and permitted to dry, dried in the borrow area prior to bringing it to the dike, or disced or harrowed to promote drying, until the moisture content is reduced to workable condition.
5. Increase Moisture in Dry Materials: Contractor shall take measures to increase the moisture content of material that is too dry. The moisture content of material that is too dry can be adjusted on the dike or in the borrow area prior to bringing it to the dike. Add water to the fill material and by harrowing or other approved methods, then work the moisture into the material until a uniform distribution of moisture within the specified limits is obtained. Water applied on a layer of fill on the dike shall be accurately controlled in amount so that free water will not appear on the surface during or subsequent to rolling. If too much water is added to a part of the dike, the rolling on that section of the dike shall be delayed until the moisture content of the materials is reduced to an amount within the specified limits.
6. Treating Source Material: If it is impracticable to obtain the specified moisture content by wetting or drying the material on the fill, Contractor shall pre-wet or dry the material at the source of excavation or in the borrow area.
7. Test Data: The optimum moisture contents verses maximum density relationship shall be tested in accordance with ASTM D698. Additional testing shall be performed for fill material as presented in Paragraph 1.05.B.

K. Compaction

1. Compaction Equipment: Contractor shall apply appropriate means and methods for compacting fill material to achieve the compaction requirements stated herein.
2. Compacted and Semi-Compacted Requirements:
 - a. Where compaction is specified, material shall be placed or spread in horizontal layers, each layer not more than 8 to 12 inches (loose) and 6 to 8 inches (compacted).
 - b. Where semi-compaction is specified, material shall be placed or spread in horizontal layers, each layer not more than 12 inches in compacted lift thickness.
 - c. After a layer of material has been dumped and spread it shall be harrowed as required to break up and blend the fill materials and to obtain uniform moisture distribution. Harrowing shall be performed with a heavy disc plow, or other approved harrow, to the full depth of the layer. If one pass of the harrow does not accomplish the breaking up and blending of the materials, additional passes of the harrow shall be required.
 - d. When the moisture content and the condition of the layer are satisfactory, the lift shall be compacted to the moisture density criteria presented herein.
 - e. In areas which are not accessible by roller, the fill shall be placed in layers not more than 6 inches in uncompacted depth and compacted with an approved hand operated compactor to a density equal to that obtained in other areas which are accessible to rollers.

- f. After preparation of the previous compacted layer to receive the new layer of fill, the new layer shall be compacted by the controlled movement of the hauling equipment over the area of the fill.
- g. Dumping, spreading, sprinkling, and compacting may be performed at the same time at different points along a section when there is sufficient area to permit these operations to proceed simultaneously.
- h. Compacted material shall be compacted to at least 95 percent of the maximum dry density at a moisture content between 3 percent “dry” and 3 percent “wet” of the optimum moisture content as determined by ASTM D698.
- i. Semi-compacted material shall be compacted to at least 85 percent of the maximum dry density at a moisture content between 3 percent “dry” and 3 percent “wet” of the optimum moisture content as determined by ASTM D698.

3.05 EROSION AND SLIDES

If erosion or sliding of any part of the dikes occur during or after construction, but prior to acceptance, Contractor shall rebuild that portion of the dike without cost to Owner. Where settlement of the dike, due to weak foundation conditions, develops to an extent that will make it inadvisable, in the opinion of Owner, to continue placement of additional materials, Owner may omit further work on these portions of the embankment and to accept it as completed.

3.06 ACCEPTANCE OF WORK

Acceptance of embankment construction will be based on Owner’s review of borrow material tests, compaction tests, Initial and Final Surveys, Post-Construction Aerial Photography, and Owner’s periodic observation of the work during construction. Refer to Section 35 20 00 for Construction Surveying and Aerial Photography requirements.

END OF SECTION

DIVISION 35 – WATERWAY AND MARINE CONSTRUCTION
SECTION 35 20 00 – CONSTRUCTION SURVEYING

PART 1 – GENERAL

1.01 SUMMARY

Construction Surveying includes furnishing materials, labor, and equipment for topographic surveying where required under the Contract Documents.

1.02 RELATED SECTIONS

Section 01 25 00 – Measurement and Basis of Payment
Section 31 24 00 – Embankment Construction

1.03 REFERENCES

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

USACE (2007). Control and Topographic Surveying. EM 1110-1-1005, U.S. Army Corps of Engineers, Washington, DC, misc. paginated.

National Spatial Data Infrastructure, Federal Geographic Data Committee, Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Data Accuracy (FGDC-STD-007.3-1998).

National Spatial Data Infrastructure, Subcommittee on Base Cartographic Data, Federal Geographic Data Committee, Content Standards for Digital Orthoimagery, (FGDC-STD-008-1999).

1.04 SUBMITTALS

Engineer's approval is required for submittals with an "E" designation; submittals not having an "E" designation are for information only. The following shall be submitted in accordance with Section 01 33 00, "Submittal Procedures":

1. Name of Registered Professional Land Surveyor (Paragraph 1.05 A)
2. Surveying Plan (Paragraph 1.05 B); E
3. Survey Submittal Log (Paragraph 3.02 C)
4. Upland Placement Area (PA) Dike Surveys (Paragraph 3.04); E
5. Post-Construction Aerial Photography at each PA (Paragraph 3.05); E

1.05 QUALITY ASSURANCE

- A. General: All survey plots submitted to Engineer shall be sealed by a professional land surveyor registered in the State of Texas, experienced in topographic surveying, and familiar and experienced with the USACE's surveying guidelines in Engineer Manual (EM) 1110-1-1005. Prior to commencing Work, Contractor shall provide name and credentials of professional land surveyor (PLS) who will oversee surveys.

- B. Surveying Plan: Contractor shall provide description of methods and equipment to be applied for required surveys as well as quality control and quality assurance (QA/QC) procedures to be applied.
- C. Surveying Accuracy: Controlling points shall be established within a closed level loop that will meet or exceed horizontal and vertical fourth-order accuracy standards. Elevations shall originate and close on acceptable benchmarks in the project area.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

3.01 GENERAL

Contractor shall provide Initial, Interim, and Final surveys for measurement and acceptance of Work items. Plots showing lines and grades, and quantity computations, shall accompany all payment requisitions. Refer to Table 1 for a general summary of the required surveys.

3.02 SURVEY PLOTS

- A. All construction surveys submitted to Engineer shall be in the form of plan-view and cross-section plots and digital data. All surveys shall be referenced to the project datums shown on the Drawings. Plots shall be transmitted digitally in PDF and AutoCAD format. All plots shall legibly and clearly display the following information:
 - 1. Project and Owner names
 - 2. Professional Land Surveyor's seal, signature, and business affiliation (required on pdf transmittals)
 - 3. Date(s) surveys were performed
 - 4. Location and description of survey control
 - 5. Vertical and horizontal datums
 - 6. Sheet name and number
 - 7. Name of Contractor
 - 8. Drawing scale(s)
 - 9. Submittal title (e.g., "Initial Survey")

Table 1. Summary of Required Surveys.		
Survey	Intended Purpose	Submittal(s) Schedule
Dikes at Upland Placement Areas		
Initial	To establish baseline conditions at perimeter and interior dikes where dike improvements or degrading are required.	Prior to dike improvements or degrading.
Interim	To document partially-completed sections of dike (for example, if dike is being constructed in vertical lifts).	Submit with monthly pay requests if requested payment for partially-completed work.
Final	To document completed condition of dike improvements and degrading and establish final pay volumes.	Upon completion of dike improvements and degrading as work is being completed. Submit with monthly pay requests.
Drainage Swale		
Final	To document completed condition of drainage swale.	Upon completion of drainage swale improvements

B. Survey plots shall include the following:

1. Plan sheets clearly documenting locations, limits, and dimensions of completed Work (as applicable) and locations where cross sections were taken.
2. Cross-section sheets providing an overlay of sequential survey transects (as applicable) along with specified templates. A legend shall be provided indicating the date and survey type (e.g., Initial, Interim, Final, etc.) for each transect shown.
3. Cross-sectional areas for each section calculated by comparing the Initial, Interim, and Final surveys.

C. Digital Data: In addition to plots in pdf format, all survey submittals shall include digital data on labeled CD or DVD. Digital data shall include the following:

1. A submittal log documenting surveys submitted to date with descriptors for survey dates and locations.
2. AutoCAD files
3. 3D ASCII "XYZ" files including station descriptors
4. PDF files with signed Registered PLS seal

3.03 SURVEY TRANSECTS

A. General: The survey transects specified herein apply to all surveys of dikes at upland placement areas, performed by Contractor for acceptance or submittal with monthly pay requests. Survey shots along each transect shall be taken at all significant grade breaks and at a maximum horizontal spacing of 20 ft.

B. Upland Placement Areas: Where dike improvements are specified on the Drawings, survey transects shall consist of cross-sections of the dikes at 100 ft intervals extending 50 ft (min)

beyond the proposed inner and outer toe. Transect spacing shall be reduced to 20 feet around sharp curves and corners. Interval spacing shall be measured along the project baseline provided by Engineer.

- C. Drainage Swale: For the drainage swale, survey transects shall consist of cross-sections of the swale at 100 ft intervals extending 50 ft (min) beyond the proposal tops of swale.

3.04 UPLAND PLACEMENT AREA SURVEYS

- A. Initial Survey(s): For any PAs for which dike improvements are specified on the Drawings, Contractor shall perform a topographic survey (i.e., cross-sections) along the dikes prior to construction of dike improvements. Initial surveys shall be performed prior to clearing and grubbing.
- B. Interim Survey(s): If Contractor requests payment for partially completed sections of dike (e.g., if dikes are being constructed in vertical lifts), Contractor may request payment for partially completed work. Interim surveys are required to document partially completed work.
- C. Final Survey(s): For any PAs for which dike improvements are specified on the Drawings, Contractor shall perform a topographic survey (i.e., cross-sections) along the dikes after construction of dike improvements. Monthly surveys shall be performed during dike improvements for progress payments.

3.05 AERIAL PHOTOGRAPHY

- A. Prior to mobilization and upon completion of all construction activities, a color vertical aerial photograph of each PA shall be provided. The photograph shall be professionally rectified and geo-referenced in compliance with the standards described in FGDC-STD-008-1999. The photograph shall be referenced to the project horizontal datum shown on the drawings. RMS error shall be calculated using the method described in FGDC-STD-007.3-1998, reported in the accompanying metadata, and shall not exceed 2.0 ft.
- B. Submittal shall include a high-resolution aerial photograph in digital (TIF) format (with world file in ASCII format) and metadata specified in FGDC-STD-008-1999. Contractor shall provide notice to Engineer and name / contact information for aerial photography subcontractor a minimum of one week prior to execution of aerial photograph. Horizontal limits of aerial photography shall match or exceed the limits shown on Sheets 01C-01 of the Drawings. Coverage within these limits shall be continuous with no void space or blackout areas, including over water. This requirement may prevent use of drones for collection of the aerial photography.
- C. Aerial photography shall also include a series of low-altitude, high resolution oblique aerial photographs that (at a minimum) cover the constructed project features from a minimum of three directions. At least 10 oblique aerial photographs shall be provided for each PA.

END OF SECTION

Appendix A

**Geotechnical Analyses and Recommendations
Report [Under Separate Cover – Parts 1-5]**

Notice of Award

PLACEMENT AREA 8 - DIKE RELOCATION

TO:

PROJECT DESCRIPTION:

**PLACEMENT AREA 8 -
DIKE RELOCATION**

Dear Sir:

The Brownsville Navigation District ("Owner") has considered the bid submitted by your company for the above referenced project in response to its Invitation for Bids dated _____ and _____, and the Instructions to Bidders.

You are hereby notified that your bid has been accepted by the Brownsville Navigation District in the amount of _____.

You are required by the Instructions to Bidders to execute the Agreement and furnish the required Contractor's Performance Bond, Payment Bond and Certificates of Insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute this Agreement and furnish the bonds and insurance certificates within ten (10) days from the date of this Notice, Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your bid as abandoned and as a forfeiture of your BID BOND.

The Owner will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the Owner.

Dated this ____ day of _____, 20 ____.

OWNER: BROWNSVILLE NAVIGATION DISTRICT, TEXAS.

By: _____

Manuel Martinez,
Acting Director of Engineering Services

Acceptance of Notice

Receipt of the above NOTICE OF AWARD is hereby acknowledged by _____
on this the ____ day of _____, 20 ____.

By: _____

OFFICER'S NAME
Officer's Title

Notice to Proceed

PLACEMENT AREA 8 - DIKE RELOCATION

Dated: _____

TO:

PROJECT DESCRIPTION:
**PLACEMENT AREA 8 - DIKE
RELOCATION**

OWNER's Contract No.: **DPR-191025-60**

CONTRACT FOR: Work includes mobilization/demobilization; upland PA perimeter construction; degrading existing dikes; constructing a drainage swale; care and control of groundwater during construction; observing and protecting endangered/threatened/protected species during the work; multiple topographic surveys for measurement, payment substantiation, and work acceptance purposes; aerial photography; and all other subsidiary work.

Dear Sir:

You are hereby notified that the Contract Time under the above contract will commence to run on _____. By that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 3 of the Agreement the dates of Substantial Completion and completion and readiness for final payment are _____ and _____.

Before you may start any Work at the site, paragraph 2.7 of the Standard General Conditions provides that you and Owner must each deliver to the other (with copies to ENGINEER and other identified additional insureds) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Also before you may start any Work at the site, you must coordinate the BND Engineering Department for any possible modifications to the contract documents.

OWNER: BROWNSVILLE NAVIGATION DISTRICT, TEXAS.

By: _____
Manuel Martinez,
A Director of Engineering Services

Acceptance of Notice

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by _____
on this the _____ day of _____, 20 ____.

By: _____
OFFICER'S NAME
Officer's Title

Affidavit of All Bills Paid

PLACEMENT AREA 8 - DIKE RELOCATION

STATE OF TEXAS §
COUNTY OF CAMERON §

BEFORE ME, the undersigned authority, on this day personally appeared **[Name & Title of Company Officer]** of **[Name of Company]**, and upon oath, after first being duly sworn, deposed and stated:

“My name is **[Name & Title of Company Officer]** of **[Name of Company]**, hereinafter referred to in this affidavit as “Contractor”. Contractor’s business address is [Contractor’s Business Address]. The facts set forth herein are within my personal knowledge and are true and correct, and I am competent and authorized to make this affidavit on behalf of Contractor.

Pursuant to and in accordance with a written construction contract between Contractor and Brownsville Navigation District of Cameron County, Texas, hereinafter referred to in this affidavit as “Owner”, Contractor furnished materials and labor for the construction, renovation, or repair of improvements located on or relating to the project known as the **PLACEMENT AREA 8 - DIKE RELOCATION**, hereinafter referred to as the “Project”, located at the Port of Brownsville, Cameron County, Texas. All work provided for under said written construction contract, together with all changes and supplements thereto, has been fully completed in a good and workmanlike manner, free of defects, and in accordance with the terms and provisions thereof.

Contractor has paid each of its subcontractors, laborers, vendors, lessors of equipment, suppliers, and materialmen in full for all labor and materials provided to Contractor for or in connection with the construction, renovation, or repair of improvements on or relating to the Project. Contractor is not aware of any unpaid bills, payrolls, material bills, claims, demands, or causes of action by any of its subcontractors, laborers, suppliers, or materialmen for or in connection with the furnishing of labor or materials, or both, for construction, renovation, or repair of improvements in connection with the Project.

In consideration of the funds paid to Contractor by Owner in reliance on this affidavit, Contractor waives and releases all of Contractor’s contractual, statutory, and constitutional mechanic’s lien rights connected with the Project, conditioned on the actual payment or collection if payment is made by check or draft. There are no outstanding claims or liens against the Project or any bonds issued in connection therewith.

Contractor further understands that this affidavit is being given pursuant to and in accordance with Section 53.085 of the Texas Property Code and that the intentional, knowing, or

reckless making of a false or misleading statement in this Affidavit constitutes an offense under said Section and is a misdemeanor. A person adjudged guilty of an offense under said Section shall be punished by a fine not to exceed \$4,000 or confinement in jail for a term not to exceed one year or both a fine or confinement. A person may not receive community supervision for the offense. The undersigned further understands that a person signing an affidavit under Section 53.085 of the Texas Property Code may be personally liable for any loss or damage resulting from any false or incorrect information in the affidavit.

Contractor hereby indemnifies and holds harmless Owner from any and all claims, demands or causes of action, and any costs, expenses, and attorney's fees incurred in connection therewith, arising from or connected with, the statements and representations contained herein."

EXECUTED this _____ day of _____, 20__.

NAME OF CONTRACTOR

By: _____
[Name of Company Officer]

Title: _____

CERTIFICATE OF ACKNOWLEDGMENT

Before me, the undersigned authority, on this day personal appeared **[Name of Company Officer]**, who first being duly sworn by me, acknowledged that he/she has the authority to make this Affidavit of All Bills Paid, and further acknowledged to me that he/she executed the same for the purpose and consideration therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE on this the _____ day of _____, 20__.

Notary Public in and for the State of Texas